W970. IONA-1. W.C.R. VOL 2 OF 2.

BEACH PETROLEUM N.L.

(Incorporated in South Australia)

PEP 108
OTWAY BASIN

IONA NO. 1

WELL COMPLETION REPORT
APPENDICES

BY
A. BUFFIN
OCTOBER
1988

APPENDIX 1

DETAILS OF DRILLING RIG

RIG #2

SUPERIOR MODEL 700E SCR

CAPACITY 11,000FT, 3,350M NOMINAL

DRAWWORKS

ONE SUPERIOR MODEL 700E SCR ELECTRIC DRIVEN DRAWWORKS COMPLETE WITH AUXILIARY BRAKE AND SANDREEL. MAXIMUM INPUT H.P. 1000. DRIVEN BY EMD MOTOR.

ONE FOSTER MODEL 37 MAKE-UP SPINNING CATHEAD. MOUNTED ON DRILLERS SIDE.

ONE FOSTER MODEL 24 BREAK-OUT CATHEAD. MOUNTED OFF DRILLERS SIDE.

TRANSMISSION - 2 SPEED TRANSMISSION WITH HIGH CHAIN 1 1/4" TRIPLE 26T TO 24T. TWIN DISC PO218 AIR CLUTCH. LOW CHAIN 1 1/4" TRIPLE 20T TO 39T TWIN DISC PO218 AIR CLUTCH.

ENGINES

FOUR CATERPILLAR MODEL 3412 PCTA DIESEL ENGINES.

MAST

FLOOR MOUNTED CANTILEVER MAST DRECO - MODEL NO: M12713-510 DESIGNED IN ACCORDANCE WITH A.P.I. SPECIFICATION 4E 'DRILLING AND WELL SERVICING STRUCTURES'.

CLEAR WORKING HEIGHT - 127'
BASE WIDTH - 13' 6"
HOOK LOAD
CROSS NOMINAL CAPACITY - 510,000 LBS
HOOK LOAD CAPACITY WITH:

10 LINES STRUNG	410,000 LBS
8 LINES STRUNG	365,000 LBS
6 LINES STRUNG	340,000 LBS
4 LINES STRUNG	306,000 LBS

MAXIMUM WIND LOAD 100 MPH - NO SETBACK
MAXIMUM WIND LOAD 84 MPH - RATED SETBACK

ADJUSTABLE RACKING BOARD WITH CAPACITY FOR 108 STANDS OF 4 1/2" DRILL PIPE, 10 STANDS OF 6 1/2" DRILL COLLARS, 3 STANDS OF 8" DRILL COLLARS DESIGNED TO WITHSTAND AN A.P.I. WINDLOAD OF 84 MPH WITH PIPE RACKED.

CROWN BLOCK

215 TON WITH FIVE 36" SHEAVES, AND ONE 36" FASTLINE SHEAVE GROOVED 1 1/8".

SUBSTRUCTURE

ONE PIECE SUBSTRUCTURE. 14' H X 13' 6" W X 50' L W/ 12' BOP CLEARANCE.
SET-BACK - 200,000 LBS - CASING = 210,000 LBS.

RIG LIGHTING

EXPLOSION PROOF FLUORESCENT.

TRAVELLING BLOCK

ONE 667 CROSBY MCKISSICK 250 TONE COMBINATION BLOCK HOOK WEB WILSON 250 TON HYDRA - HOOK UNIT 5 - 36" SHEAVES.

KELLY DRIVE

ONE 20 HDP VARCO KELLY DRIVE BUSHING.

KELLY

ONE SQUARE KELLY DRIVE 4 1/4" X 40' COMPLETE WITH SCABBARD.

SWIVEL

ONE OILWELL PC-300 TON SWIVEL.

ROTARY TABLE

ONE OILWELL A 20 1/2" ROTARY TABLE TORQUE TUBE DRIVEN FROM DRAWWORKS.

AIR COMPRESSORS & RECEIVERS

TWO LEROI DRESSER MODEL 660A AIR COMPRESSOR PACKAGES C/W 10 H.P. MOTORS RATED AT 600 VOLT 60 HZ 3 PHASE. RECEIVERS EACH 120 GALLON CAPACITY AND FITTED WITH RELIEF VALVES.

INSTRUMENTATION

ONE (1) 6 PEN DRILL SENTRY RECORDER TO RECORD:
WEIGHT (D) 1-MARTIN DECKER SEALTITE
1-CAMERON DEADLINE TYPE
PENETRATION (FEET)
PUMP PRESSURE (0 - 6000 P.S.I.)
ELECTRIC ROTARY TORQUE
ROTARY SPEED (R.P.M.)
PUMP S.P.M. (WITH SELECTOR SWITCH)

INSTRUMENTATION
(Cont)

ONE (1) DRILLERS CONSOLE INCLUDING THE FOLLOWING EQUIPMENT:

MARTIN DECKER WEIGHT INDICATOR TYPE 'D' ELECTRIC ROTARY TORQUE GAUGE.
PIT SCAN.
S.P.M. GAUGE (2 PER CONSOLE).
ROTARY R.P.M. GAUGE.
ONE SET OF 'DOUBLE SHOT'
DEVIATION INSTRUMENT 'TOTCO'.
ONE SET OF MUD TESTING LABORATORY STANDARD KIT (BAROID).

DRILLING LINE

5000' OF 1 1/8" - TIGER BRAND.

MUD PUMPS

TWO GARDNER DENVER MUD PUMPS MODEL NO: PZHVE 750 EACH DRIVEN BY 800 HP EMD MOTOR.

GENERATOR

FOUR BROWN BOVERI 600 VOLT 3 PHASE 60 HZ AC GENERATORS. POWERED BY FOUR CAT 3412 PCTA DIESEL ENGINES.

B.O.P'S AND ACCUMULATOR

ONE HYDRIL 13 5/8" X 3000 P.S.I. SPHERICAL ANNULAR B.O.P.,STUDDED TOP AND FLANGED BOTTOM. HEIGHT 14"
ONE HYDRIL 13 5/8" X 5000 P.S.I. FLANGED DOUBLE GATE B.O.P.
ONE GALAXIE 13 5/8" X 5000 P.S.I. 3000 DOUBLE STUDDED ADAPTOR FLANGES COMPLETE WITH STUDS AND NUTS.
ONE CUP TESTER. GRAY C/W TEST CUPS FOR 9-5/8" AND 13-3/8"
ONE WAGNER MODEL 130 - 160 3 BND 160 GALLON ACCUMULATOR CONSISTING OF:

SIXTEEN 11 GALLON BLADDER TYPE BOTTLES.
ONE 20 H.P. ELECTRIC DRIVEN TRIPLEX PUMP 600 VOLT 60 HZ 3 PHASE MOTOR AND CONTROLS.
ONE WAGNER MODEL A - 60 AUXILIARY AIR PUMP 4.5 GALS/MINUTE.
ONE WAGNER MODEL UM2SCB5S MOUNTED HYDRAULIC CONTROL PANEL WITH FIVE (5) 1" STAINLESS STEEL FITTED SELECTOR VALVES AND TWO (2) STRIPPING CONTROLS AND PRESSURE REDUCING VALVES. THREE (3) 4" HYDRAULIC READOUT GAUGES:

- *ONE FOR ANNULAR PRESSURE*
- *ONE FOR ACCUMULATOR PRESSURE*
- *ONE FOR MANIFOLD PRESSURE*

ONE WAGNER MODEL GMSB - 5A 5 STATION REMOTE DRILLERS CONTROL WITH THREE PRESSURE READBACK GAUGES, INCREASE AND DECREASE CONTROL FOR ANNULAR PRESSURE.

SPOOLS

ONE SET FLANGED ADAPTOR SPOOLS TO MATE 13 5/8" LOT X 5000 P.S.I. A.P.I. B.O.P. FLANGE TO FOLLOWING WELLHEAD FLANGES:

12" X 900 SERIES, HEIGHT 14"
10" X 900 SERIES " "
8" X 900 SERIES " "
B.O.P. SPACER. FLANGE 12" 3000 R57 STUDDED X 6" 3000 R45 FLANGE, HEIGHT 16"
B.O.P. SPACER SPOOL (DRILLING SPOOL) 12" 5000 X 12" 5000 BX160, HEIGHT 14"

KELLY COCKS

ONE GRIFFITH LOWER KELLY COCK 6 1/2" O.D. WITH 4 1/2" X H CONNECTIONS.
ONE GRIFFITH UPPER KELLY COCK 7 3/4" WITH 6 5/8" A.P.I. CONNECTIONS.

DRILL PIPE SAFETY VALVE

ONE GRIFFITH 6 1/2" INSIDE BLOWOUT PREVENTORS (4 1/2" X H)
ONE GRIFFITH 6 1/2" STABBING VALVE (4 1/2" X H)

CHOKE MANIFOLD

ONE MCEVOY CHOKE AND KILL MANIFOLD 3" - 5000 P.S.I.

MUD SYSTEM

ONE PILL TANK CAPACITY 25 BBLS.
TWO MIX TANKS CAPACITY 108 BBLS. (EACH)
ONE RESERVE TANK CAPACITY 120 BBLS.
ONE DESILT TANK CAPACITY 120 BBLS.
ONE DESAND TANK CAPACITY 120 BBLS.
ONE SHAKER TANK CAPACITY 130 BBLS.
ONE SAND TRAP CAPACITY 15 BBLS.

FUEL TANKS

ONE 140 BBLS.
ONE 6000 GALS - 30,000 LITRES.

WATER TANKS

ONE 400 BBLS

MIXING PUMPS

FIVE MISSION MAGNUM 5" X 6" X 14" CENTRIFUGAL PUMPS COMPLETE WITH 50 H.P. 600 VOLT HZ 3 PH EXPLOSION PROOF ELECTRIC MOTORS.

TRIP TANK PUMP

ONE MISSION MAGNUM 2" X 3" CENTRIFUGAL PUMP COMPLETE WITH 20 H.P. 600 VOLT 60 HZ 3 PH EXPLOSION PROOF MOTORS.

WATER TRANSFER PUMPS

THREE MISSION MAGNUM 2" X 3" CENTRIFUGAL PUMPS C/W 20 H.P. 600 VOLT 60 HZ 3 PH EXPLOSION PROOF MOTORS.

MUD AGITATORS

SIX GEOLOGRAPH/PIONEER 40 TD - 15" 'PITBULL' MUD AGITATORS WITH 15 H.P. 600 VOLT 60 HZ 3 PH ELECTRIC MOTORS.

SHALE SHAKER

ONE BRANDT - DUAL TANDEM SHALE SHAKER.

DESANDER

ONE PIONEER T8-6 'SANDMASTER' DESANDER.

DESILTER

ONE PIONEER T12-4 'SILTMASTER' DESILTER.

DRILL PIPE

10000 FT OF 4 1/2" GRADE 'E' 16.60 LBS/FT HARD BANDED DRILL PIPE 326 JOINTS.

DRILL COLLARS

1 - 6 1/2" OD DRILL COLLAR (SHORT) 15'
27 - 6 1/2" OD DRILL COLLARS.
3 ACTUAL 8" OD DRILL COLLARS.
9 ACTUAL JOINTS OF 4 1/2" HEVI-WATE DRILL PIPE.

TWO (2) BIT SUBS - 6-5/8" REG DBL BOX
TWO (2) BIT SUBS - 4-1/2" REG X 4-1/2" XH DBL BOX
ONE (1) XO SUB - 7-5/8" REG X 6-5/8" REG DBL BOX
ONE (1) XO SUB - 4-1/2" XH BOX X 4-1/2" IF PIN
ONE (1) XO SUB - 4-1/2" REG X 4-1/2" XH DBL PIN
TWO (2) XO SUB - 6-5/8" REG PIN X 4-1/2" XH BOX
ONE (1) JUNK SUB - 6-5/8" REG PIN X 6-5/8" REG BOX
ONE (1) JUNK SUB - 4-1/2" REG BOX X 4-1/2" REG PIN
ONE (1) JUNK SUB - 4-1/2" REG BOX X 4-'/2" XH BOX
TWO (2) KELLY SAVER SUB S/W RUBBER 4-1/2" XH PXB
TWO (2) CIRCULAR SUBS - 4-1/2" XH X 1502 HAMMR UNION
TWO (2) 12-1/4" EZI CHANGE S/STAB 6-5/8 REG PXB
TWO (2) 8-1/2" INTEGRAL BLADE STABILIZERS 4-1/2" XH PXB

ELEVATORS

ONE (1) 4-1/2" BJ 250 TON 18 DEGREE TAPER D/P ELEVATORS
ONE (1) 2-7/8" IUS 100 TON TUBING ELEVATORS
ONE (1) 2-7/8" EUI 100 TON TUBING ELEVATORS
ONE (1) 13-3/8" BAASH ROSS 150 TON S/DOOR ELEVATORS
ONE (1) 13-3/8" S/JOINT P.U. ELEVATORS
ONE (1) 9-5/8" WEBB WILSON 150 TON S/DOOR ELEVATORS
ONE (1) 9-5/8" S/JOINT P.U. ELEVATORS
ONE (1) 7" BJ 200 TON S/DOOR ELEVATORS
ONE (1) 7" S/JOINT P.U. ELEVATORS
ALL P.U. ELEVATORS C/W SLINGS & SWIVEL

ONE (1) 8" WEBB WILSON 150 TON S/DOOR ELEVATORS D/C
ONE (1) 5-3/4" WEBB WILSON 150 TON S/DOOR ELEVATORS D/C
ABOVE C/W LIFT NUBBING AND BAILS

ROTARY SLIPS D/P TUBING

TWO (2) 4-1/2" VARCO SDML D/P SLIPS
ONE (1) 3-1/2" VARCO SDML TUBING SLIPS
TWO (2) 8" - 6-1/2" DCS-R DRILL COLLAR SLLIPS

ROTARY TONGS

ONE (1) BJ TYPE 'B' C/W LATCH & LUG JAWS 13-3/8" - 3-1/2"

CASING SLIPS

THREE (3) 13-3/8" - 9-5/8" - 7" VARCO CSML CASING SLIPS

BIT BREAKERS

FOUR (4) 17-1/2" - 12-1/4" - 8-1/2" - 6"

FISHING TOOLS

ONE (1) 8-1/8" BOWEN SERIES 150 F.S. O/SHOT
ONE (1) 10-5/8" BOWEN SERIES 150 F.S. O/SHOT
C/W GRAPPLES & PACKOFFS TO FISH CONTRACTORS DOWN HOLE EQUIPMENT.
ONE (1) 8 O.D. FISHING MAGNET 4-1/2" REG PIN
ONE (1) REVERSE CIRC JUNK BASKET 4-1/2" XH BOX
ONE (1) JUNK BASKET MILL TYPE C/W MILL SHOE 4-1/2" REG PIN
ONE (1) JARS 6-1/2" O.D. GRIFFITHS FISHING 4-1/2" XH PXB
ONE (1) JAR ACCELERATOR GRIFFITHS FISHING 6-1/2" O.D. 4-1/2" XH PXB
ONE (1) BUMPER SUB 6-1/2" O.D. FISHING 4-1/2" XH PXB
ONE (1) 12" JUNK MILL - 6-5/8" REG PIN
ONE (1) 8" JUNK MILL 4-1/2" REG PIN

ROTARY REAMERS

ONE (1) 6-1/2" O.D. DRILCO N.B. ROLLER REAMER C/W TYPE K CUTTERS 8-1/2" HOLE

PUP JOINTS

THREE (3) 5' - 10; - 15; 4-1/2" O.D. GRADE 'G' PUP JOINTS

AUGER

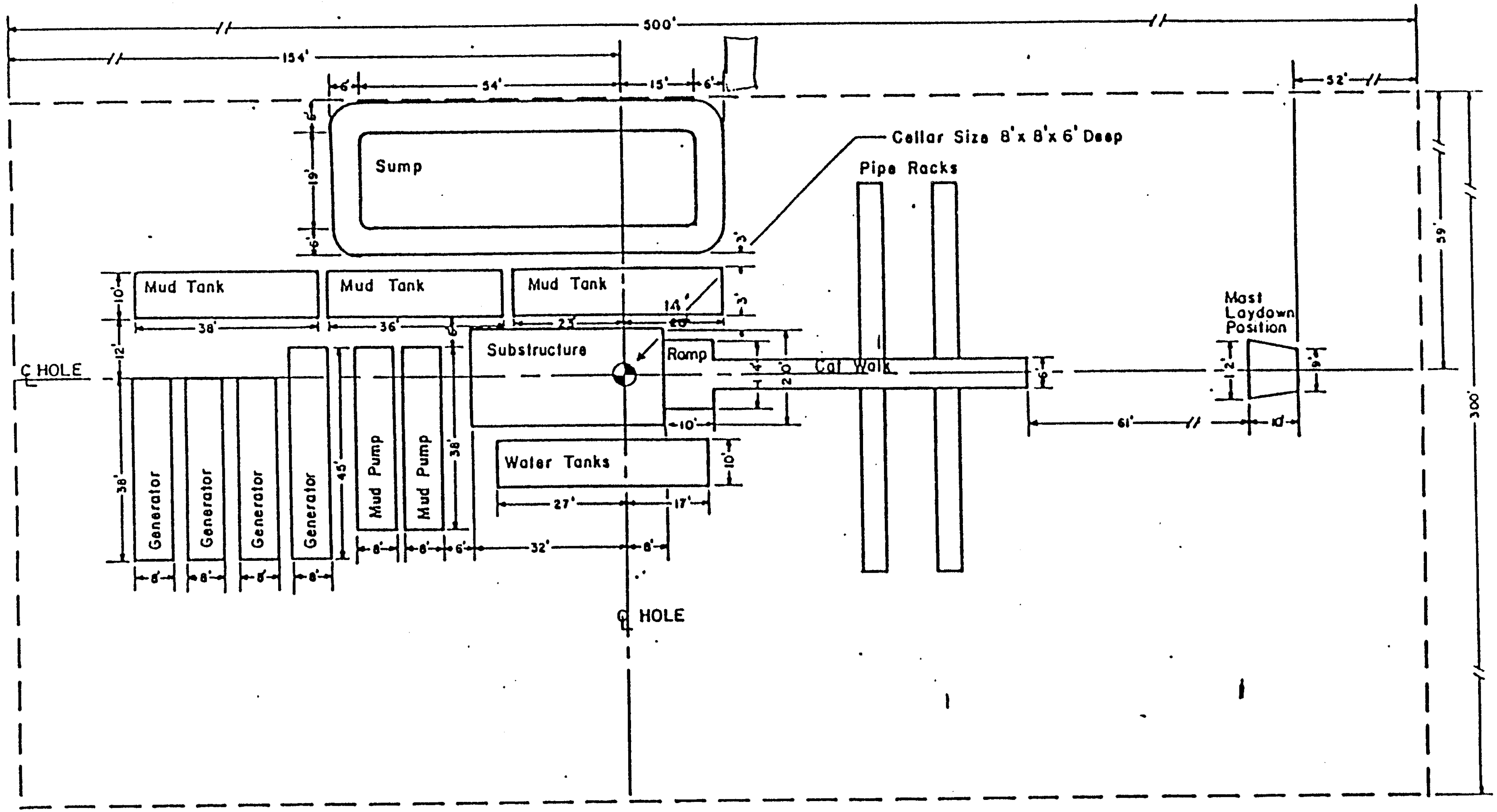
ONE (1) 27-1/2" AUGER 4-1/2" XH BOX

RATHOLE DIGGER

ONE (1) FABRICATED ROTARY TABLE CHAIN DRIVEN

POWER TONG

ONE (1) FARR 13-5/8" - 5-1/2" HYDRAULIC POWER TONS
C/W HYD. POWER PACK & HOSES & TORQUE GUAGE ASSY



Scale: 1" = 30'

Location Size: 300' x 500'

Drilling Services
Rig No. 2

GEARHAI
DRILLING SERVI

APPENDIX 2

SIDE WALL CORE DESCRIPTION

IONA NO. 1

SIDE WALL CORE DESCRIPTION

SWC	Depth (m)	Rec. (mm)	Description
1.	1481m	45mm	SILTSTONE: medium grey, blocky, hard, occasional carbonaceous material, micromicaceous, arenaceous, occasionally grading to:- SANDSTONE: medium to medium dark grey, very fine to fine, hard, rounded, well sorted, tight, no visual porosity, no shows.
2.	1453m	30mm	LITHIC SANDSTONE: medium grey to medium grey green, very fine to medium, friable, angular to subrounded, moderate sorting, tight with pale green, soft, silty kaolinitic? clay matrix, abundant lithics. 100% Bright yellow fluorescence, with a weak pale yellow cut and a very thin pale yellow residual ring. Poor visual porosity.
3.	1441.5m	32mm	LITHIC SANDSTONE: light to medium grey light to medium grey green, fine to occasionally medium, hard, subrounded to rounded, well sorted, tight with a pale green clay matrix, abundant multicoloured lithics, mica. Poor visual porosity, no shows.
4.	1423m	30mm	LITHIC SANDSTONE: medium grey, very fine, friable, well sorted, rounded, tight, poor visual porosity, no shows, with occasional COAL, black, earthy, moderately hard.
5.	1407m	27mm	LITHIC SANDSTONE: grey green, fine to medium, friable, subangular to subrounded, poor to moderate sorting, abundant lithics, tight with green clay matrix. No visual porosity, no shows.
6.	1396.5m	-	No recovery.
7.	1391.5m	31mm	LITHIC SANDSTONE: speckled white to light medium grey to medium grey green, very fine to medium, loose to friable, subrounded, poor sorting, tight with white-light green matrix, multicoloured lithics, occasional coal fragments, occasional mica flakes. Dull pale yellow fluorescence with an occasional bright spot, dull yellow instant cut, very thin residual ring. Poor visual porosity.

8.	1383m	40mm	CLAYSTONE: medium grey, blocky, occasionally fissile, soft to moderate hard, occasionally hard, silty in part, micromicaceous abundant carbonaceous material, trace COAL, black subvibreous, blocky, micropyritic. No shows.
9.	1379m	-	No recovery.
10.	1347.5m	24mm	CLAYSTONE: dark grey, blocky to occasionally fissile, soft, micromicaceous. Very fine thin carbonaceous streaks, very occasional coal fragments, no shows.
11.	1336m	-	No recovery.
12.	1328m	25mm	SANDSTONE: light grey, very fine to fine, loose, subrounded to rounded, very well sorted, poor to moderate white calcareous matrix, occasional coal fragments, occasional mica. Poor visual porosity, no shows.
13.	1324m	28mm	SANDSTONE: light grey, fine, loose to friable, subrounded to rounded, well sorted, poor to moderate white calcareous matrix, occasional mica flakes. Strong yellow fluorescence, weak, pale white instant cut. Poor visual porosity.
14.	1321m	-	No recovery.
15.	1318m	-	No recovery.
16.	1301m	17mm	SANDSTONE: light to medium grey, medium to coarse, loose, angular to occasionally subrounded, moderately sorted, occasional coal fragments, poor matrix. Good visual porosity, no shows.
17.	1297m	17mm	CLAYSTONE: dark to very dark grey, soft, sticky, very arenaceous with abundant fine quartz grains, occasional green staining (glauconite?), carbonaceous material, no shows.
√ 18.	1287m	34mm	CLAYSTONE: light yellow-brown, light to medium grey, moderately hard, massive, micromicaceous, silty in part, occasionally fissile, common very fine carbonaceous material, no shows.
19.	1282m	33mm	CLAYSTONE: black, moderately hard, massive, micromicaceous, abundant fine to granule quartz fragments, abundant green staining, no shows.
20.	1276.5m	30mm	LITHIC SANDSTONE: dark grey green, fine, loose to friable, subrounded, very poor sorting, abundant white to pale green clay matrix, abundant lithics, common micromicaceous with occasional coarse

			mica, trace carbonaceous fragments, abundant glauconite, no visual porosity, no shows.
21.	1254m	30mm	CLAYSTONE: black, moderately hard, massive, occasionally fissile, abundant glauconitic pellets, silty in part, micromicaceous, no shows.
22.	1240m	34mm	CLAYSTONE: black, very hard, massive, silty in part, abundant green staining, abundant glauconitic pellets, abundant fine quartz grains, no shows.
23.	1185m	34mm	SANDSTONE: yellow-green, fine to medium, moderately hard, subangular to subrounded, poor sorting, tight, poor off-white matrix, abundant glauconite, quartz grains with occasional yellow staining, occasional mica. No visual porosity, no shows.
24.	1139m	37mm	SANDSTONE: light yellow green to olive green, a/a, becoming angular to subangular with increased glauconite, no shows.
25.	1135.5m	-	No recovery.
26.	1094m	34mm	SANDSTONE: patchy, medium to dark grey, fine to occasional very coarse, moderately hard, subangular to subrounded, poorly sorted, good dark grey, soft, matrix, occasional carbonaceous material, occasional green staining. Very poor visual porosity, no shows.
27.	1075.5m	45mm	CLAYSTONE: black, massive, micromicaceous, silty in part, carbonaceous in part, no shows.
28.	1054m	25mm	SANDSTONE: with interbedded CLAYSTONE. SANDSTONE: light grey, fine, loose to friable, subangular to subrounded, moderate sorting, occasional black lithics, poor to moderate white matrix, very dispersive. Poor visual porosity, no shows. CLAYSTONE: dark grey, massive, soft, dispersive, with occasional quartz grains, no shows.
29.	1018m	20mm	SANDSTONE: with interbedded CLAYSTONE. SANDSTONE: very light grey, fine, friable, rounded, well sorted, poor white matrix, abundant coal. Poor visual porosity, no shows. CLAYSTONE: a/a.

30.	942m	34mm	SANDSTONE: light grey a/a becoming fine to occasionally medium grained.
31.	858m	35mm	INTERBEDDED SANDSTONE/CLAYSTONE as Core # 29.
32.	820m	35mm	SANDSTONE: with occasional CLAYSTONE as Core # 29.
33.	772m	35mm	INTERBEDDED SANDSTONE/CLAYSTONE as Core # 29.
34.	704m	40mm	INTERBEDDED SANDSTONE/CLAYSTONE SANDSTONE: very dark grey, fine to coarse, friable, angular to subrounded, poor sorting, poor white matrix. Poor visual porosity, no shows. CLAYSTONE: a/a with abundant very coarse to granule quartz grains, subangular, abundant lithics, common pyrite, trace glauconite, common sandstone aggregates, no shows.
35.	664.5m	35mm	SANDSTONE: very dark grey, green to yellow grey green, very dirty, quartz grains displaying abundant staining, medium grained, loose to friable, subangular to subrounded, moderate to well sorted, common coal, common lithics, poor matrix. Moderate visual porosity, no shows.
36.	659.5m	36mm	SANDSTONE: a/a, becoming dark grey, fine grained with a moderate to good grey to brown matrix, poor visual porosity, no shows.
37.	652.5m	33mm	SILTSTONE: black, massive, moderately hard, subangular to subrounded, poor sorting, common multicoloured lithics, trace pyrite, micromicaceous, carbonaceous, occasional coarse quartz grains. No visual porosity, no shows.
38.	634.5m	31mm	SANDSTONE: very dark brown, fine to medium, very occasional coarse grain, with abundant quartz staining, loose to friable, subrounded, poor sorting, poor, dispersive brown clay matrix. Poor visual porosity, no shows.
39.	623m	34mm	SANDSTONE: a/a, becoming dark grey to black with coarse quartz grains, moderate clay matrix, very poor sorting. No visual porosity, no shows.
40.	621m	34mm	SANDSTONE: a/a, with abundant coarse to very coarse quartz grains.

41.	611.5m	-	No recovery.
42.	602m	38mm	CLAYSTONE: blue green to dark blue grey, silty, abundant quartz granules, moderately hard, subrounded, occasional pyrite, occasional micromicaceous, no shows.
43.	586m	37mm	CLAYSTONE: very dark grey with occasional green staining, silty, moderately hard, massive, micromicaceous, no shows.
44.	543m	37mm	INTERBEDDED SANDSTONE/CLAYSTONE. SANDSTONE: yellow brown, very fine, friable, rounded, well sorted, poor matrix, poor to moderate visual porosity, no shows. CLAYSTONE: light grey green with occasional green staining, light brown, massive fissile in part, ~~silty in part~~, moderately hard, micromicaceous, occasional coally laminations, no shows.
45.	485.5m	35mm	SANDSTONE: black, fine grained, friable to loose, subrounded to rounded, good sorting, poor dark brown matrix. Poor to occasionally good visual porosity, no shows.
46.	402.5m	32mm	INTERBEDDED SANDSTONE/CLAYSTONE. SANDSTONE: a/a. CLAYSTONE: dark grey brown, silty in part, moderately hard, massive, micromicaceous, very occasional coally laminations, no shows.
47.	331m	36mm	CLAYSTONE: a/a with abundant fine quartz grading to: SANDSTONE: very dark brown, dirty with stained quartz grains, friable, fine grained, subrounded to well rounded, good sorting, poor to moderate dark grey dark brown matrix, occasional coarse mica grain, occasional coarse quartz. No visual porosity, no shows.
48.	301m	36mm	SANDSTONE: a/a.

APPENDIX 3

DRILLING FLUID RECAP

M-I Australia Pty. Ltd.
Magcobar/IMCO A Dresser/Halliburton Company

WELL SUMMARY

OPERATOR: BEACH PETROLEUM

WELLSITE REP: V.SANTOSTEFANO

CONTRACTOR: GEARHART

CONTRACTOR REP: G. NICOT

RIG: #2

WELL: IONA #1

TOTAL DRILLING DAYS: 11

SPUD DATE: 6.3.88

TOTAL DAYS ON WELL: 17

TOTAL DEPTH DATE: 17.3.88

DRILLING FLUID BY INTERVAL:		MUD COST BY INTERVAL:
SPUD MUD.....	...0 to 247 METRES	....$ 491.04.......
GEL POLYMER .	.247 to 1490 METRES	....$10663.37........
COMPLETION ..	......@ 1490 METRES	....$ 3338.67........
....	........to........	....
TOTAL MUD COST:		....$14493.08........

DRESSER MAGCOBAR ENGINEERS: M. OLEJNICZAK

INTRODUCTION

WELL SUMMARY

INTRODUCTION

Iona #1 was drilled from surface to its 1490 metres T.D. with a fresh water Bentonite mud system.

In the original well programme it was felt that a fresh water mud system was quite adequate for the predominantly unconsolidated sandy sequence above the Eumarella formation, providing that hole erosion was minimised with low hydraulics. In particular, keeping bit nozzle velocity at 250 ft/sec or less.

The 12 1/4" surface hole was drilled with water with up to 3/4% of KCl, used to limit hydration and reduce water consumption through the Gelliband Marl. The 9 5/8" casing was run and cemented at 243.5 metres with cement returns one minute after displacement began indicating a near guage hole.

The 8 1/2" hole was drilled with a fresh water Bentonite Polymer mud with a circulating rate of between 190 and 200 gpm with bit nozzle velocities of 220-230 ft/sec. Filtration was controlled at 6-8 ccs through the Pebble Point formation, relaxed through the Paraate and again lowered from the Nullawarre Greensand to T.D. With this mud system the Skull Creek Mudstone and Belfast Mudstone were extremely sticky while being drilled, and on the first few trips, but subsequently improved. This appeared to be due to sticky clays binding on the bottom hole assembly in near guage hole.

The very good hole stability, and very good hole caliper achieved definitely showed that a fresh water mud can achieve the desired end results. The only minor drawbacks to this combination of a fresh water mud and low hydraulics, are poor samples in sticky dispersive mudstones, and tight hole associated with these as well.

It should also be pointed out that the drill stem test run on this well had a completely successful packer seat in the Belfast Mudstone. Packer seat failures in the past have been numerous both with fresh water muds and KCl muds.

From a cost point of view, this well was estimated at close to $8000.00 for a dry hole mud bill. The final $14493.08 cost far exceeded this, but a look at the cost versus depth curve clearly demonstrates the extra costs as being due to weighting up after testing, and the completion costs.

FORMATION TOPS

HEYTESBURY AND NIRRANDA GROUPS	SURFACE
DILWYN FORMATION	335 METRES
PEMBER MUDSTONE	542 METRES
PEBBLE POINT FORMATION	610 METRES
PARAATE FORMATION	660 METRES
SKULL CREEK MUDSTONE	1003 METRES
NULLAWARRE GREENSAND MEMBER	1138 METRES
BELFAST MUDSTONE MEMBER	1234 METRES
WAARRE FORMATION	1299 METRES
EUMERALLA (REWORKED)	1380 METRES
EUMERALLA FORMATION	1411 METRES
T.D.	1490 METRES

WELL SUMMARY

BEACH PETROLEUM - IONA #1

8 1/2" HOLE CALIPER (AVERAGE EACH 25 METRES)

DEPTH (M)	HOLE SIZE (INS)	DEPTH M)	HOLE SIZE (INS)
275	11	925	8 1/2
300	10 1/4	950	8 1/2
325	10	975	8 1/2
350	10	1000	8 1/2
375	10	1025	8 1/2
400	10	1050	8 1/2
425	9 3/4	1075	8 1/2
450	9 3/4	1100	8 1/2
475	9	1125	8 3/4
500	8 3/4	1150	8 1/2
525	8 3/4	1175	8 1/2
550	8 3/4	1200	8 1/2
575	8 1/2	1225	9
600	9	1250	10 (WASHED OUT)
625	8 1/2	1275	8 1/2
650	8 3/4	1300	8 3/4
675	8 3/4	1325	8 1/2
700	8 1/2	1350	8 1/2
725	8 1/2	1375	8 1/2
750	8 1/2	1400	8 1/2
775	8 1/2	1425	8 1/2
800	8 1/2	1450	8 1/2
825	8 1/2	1475	8 3/4
850	8 1/2		
875	8 1/2		
900	8 1/2		

M-I Australia Pty. Ltd.
Magcobar/IMCO A Dresser/Halliburton Company

WELL SUMMARY

MUD SUMMARY BY INTERVAL

OBSERVATIONS AND RECOMMENDATIONS

SUMMARY BY INTERVAL

INTERVAL: 0-247 METRES 12 1/4" HOLE 9 5/8" CASING

The very dispersive Gellibrand Marl was expected close to surface on this well, so the rathole and mousehole were dug into surface clay with water, and the 12 1/4" hole also spudded in with water at 22.30 hours on 6th March, 1988.

As water was being tanker trucked in, and the sump had been dug quite small, it was decided to reduce water consumption and mud disposal into the sump by reducing clay hydration with the additions of a small amount of Potassium Chloride.

The Gellibrand Marl was reached on the second single drilled, and 4 sacks of Lime and 20 sacks of KCl were quickly added to the circulating system. With this low level of 3/4% KCl, Marl cuttings were still slightly soft and sticky but were sufficient to cause a large build up of cuttings off the shakers.

Drilling continued at a steady controlled rate of approximately 3 singles per hour, through relatively uniform Marl, with the pump rate being increased from 220 gpm to 410 gpm after the first 5 singles.

As drilling progressed, water was added to control the viscosity below 40 seconds in order to reduce the chances of a mud ring forming. Near the 247 metres casing point, the viscosity was gradually allowed to rise, with the Marl cuttings becoming more dispersive, as the salinity was reduced by dilution.

At 247 metres the hole was circulated half an hour with an additional sack of Lime added to increase the viscosity to 52 seconds, and Yield Point to 37 lb/100 sq ft. A wiper trip was run to surface, and the hole circulated another half an hour before pulling out and running the 9 5/8" casing. During these circulations a lot of large cuttings and cavings were carried out by the high yield point mud. The casing was then run in with the last 4 metres having to be washed down, and cemented at 243.5 metres.

During cement displacement, cement returns reached surface one minute after displacement began, indicating a good guage hole.

WELL SUMMARY

INTERVAL: 247-1490 METRES 8 1/2" HOLE 5 1/2" CASING

With the loose sands of the Dilwyn formation anticipated soon after drilling out the casing shoe, approximately 250 bbl of the predominantly native clay mud from the 12 1/4" surface hole was retained, and only the sandtraps and degasser tanks dumped and washed out.

The cement and casing shoe were then drilled out using old mud diluted with water, circulating through the sandtrap, degasser and suction tanks only, and adding some Kwik Dril flocculant at the shaker to improve solids settling.

After drilling 5 metres of new hole to 252 metres, a leak off test was run, giving a 16.2 ppg equivilent, and drilling then continued through Marl, adding water only and using the entire mud system.

The residual cement contamination was deliberately retained for added clay inhibition, and to provide a lightly flocculated mud of a low 34 seconds viscosity for avoiding mud rings, but with a sufficiently high Yield Point of 15 lb/100 sq ft to easily clean the hole.

With the top of the Dilwyn Sand formation reached at 334 metres the pump rate was reduced to 215 gpm to minimise hole washout. Bicarbonate, CMC EHV, Polysal and additional prehydrated Bentonite was added while drilling through the Dilwyn to defolcculate the mud, whilst maintaining Yield Point and reducing water loss. No problems with hole instability or excessive sand returns at surface were experienced indicating a relatively stable, guage hole with these drilling parameters.

After drilling through the Pember Mudstone with a constant 34 viscosity, Yield Point of 10-15 lb/100 sq ft, 8.8 ppg mud weight and filtrate reduced to 7.5 cc's, the Pebble Point Sand target was reached at 610 metres, but there was no show.

Drilling continued through the Paraate Sands with viscosity increased to 40-45 seconds, and the filtrate allowed to relax to around 10 ccs, with additions of prehydrated Bentonite and CMC EHV only. With very little native clay yielding into the mud, a significant amount of Bentonite had to be added. Mud weight rose gradually to 9.0 ppg.

At 976 metres, tripped for a bit change, adding stabilisers and jars, stiffening up the bottom hole assembly. This required reaming back in at 539 metres and from 926 metres to bottom as the old bit had been 3/8" underguage.

While drilling through the Skull Creek Mudstone, there was very little to no sample over the shakers indicating it was very dispersive. At 1120 metres, pulled out for a washout, and had to work tight hole from 1105 metres to 894 metres, and also had to ream running back in at 900 metres, 1013 metres to 1030 metres and 1080 metres. This was most likely due to sticky clay being picked up by the bit and stabiliser from the Skull Creek Mudstone, in the near guage hole.

Drilling continued into the Nullawarre Greensand from 1138 metres, circulating out drill breaks. At 1230 metres tripped for a bit change with hole conditions much improved, only having to work a couple of spots when running back in.

Mud dilution rate was reduced, as orders had come to allow the mud weight to increase to 9.3 ppg for the Warre Sandstone target. Mud properties stabilised, and were held reasonably constant for the rest of the well at:-

mud weight	9.3-9.5 ppg
viscosity	42-45
yield point	12-16
filtrate	6.4-7.2

The top of the Warre Sandstone target was reached at 1299 metres, with a drill break circulating out at 1304 metres. Another 1 1/2 metres was then drilled, and a wiper trip run prior to testing, with tight spots up to 1012 metres. Then pulled out to pick up the test tools, but had to run back in and circulate till nearly midnight as it was too late to test that day. Another 10 stand wiper trip was run just prior to pulling out and running the test tools.

D.S.T. #1 was then run with no problems R.I.H or setting packers, with successful gas to surface and flare. However while attempting to reverse circulate through the choke there were no returns, indicating a formation breakdown, most likely in the Dilwyn Sands. The test string was then circulated out conventionally through the choke with high gas readings and gas cut mud from gas migration from below the test tool. The mud weight was raised to 9.5 ppg, and slow circulation through the choke continued until returns at surface reached a steady 9.4+ ppg for eight hours. After opening the well and confirming the annulus was static, a 10 stand wiper trip was run, the hole circulated out again, and then the test string pulled out of the hole. A wiper trip with a bit was run into bottom and the hole circulated clean of residual gas.

A core barrel was then run in, with tight hole having to be reamed from 448 metres to 1173 metres over eleven hours to get to bottom. A core was then cut from 1305.5 metres to 1314.5 metres, and pulled out with 100% recovery of very loose Warre Sandstone.

Drilling then continued through the remainder of the Warre Sandstone, into the top of the Eumeralla formation at 1411 metres and the well T.D. at 1490 metres. Mud weight was gradually cut back to 9.3 ppg, with other mud properties held reasonably constant to T.D.

A wiper trip to the casing shoe was run, with the first 180 metres pulling tight and swabbing, through the Eumeralla, but the remainder of the trip out, and running back in, going well.

The drill string was then pulled out and began running Gearhart wireline logs. Logging proceeded for the best part of three days, with a wiper trip on the second day with no significant problems, despite extensive running of the S.F.T. tool, indicating very good hole stability. The Gearhart caliper log showed a very close to guage hole nearly all the way, confirming all indications.

With the completion of wireline logging the well completion programme was begun.

WELL COMPLETION

Having completed all wireline logging, a wiper trip was run back to bottom with no problems, circulating out and then laying out drill pipe on the way out.

The 5 1/2" casing was then run in, with a bridge at 1445 metres requiring washing through. While circulating the casing on bottom the mud Yield Point was reduced to 3 lb/100 sq ft with Spersene and Caustic Soda, but maintaining the mud weight at 9.3 ppg.

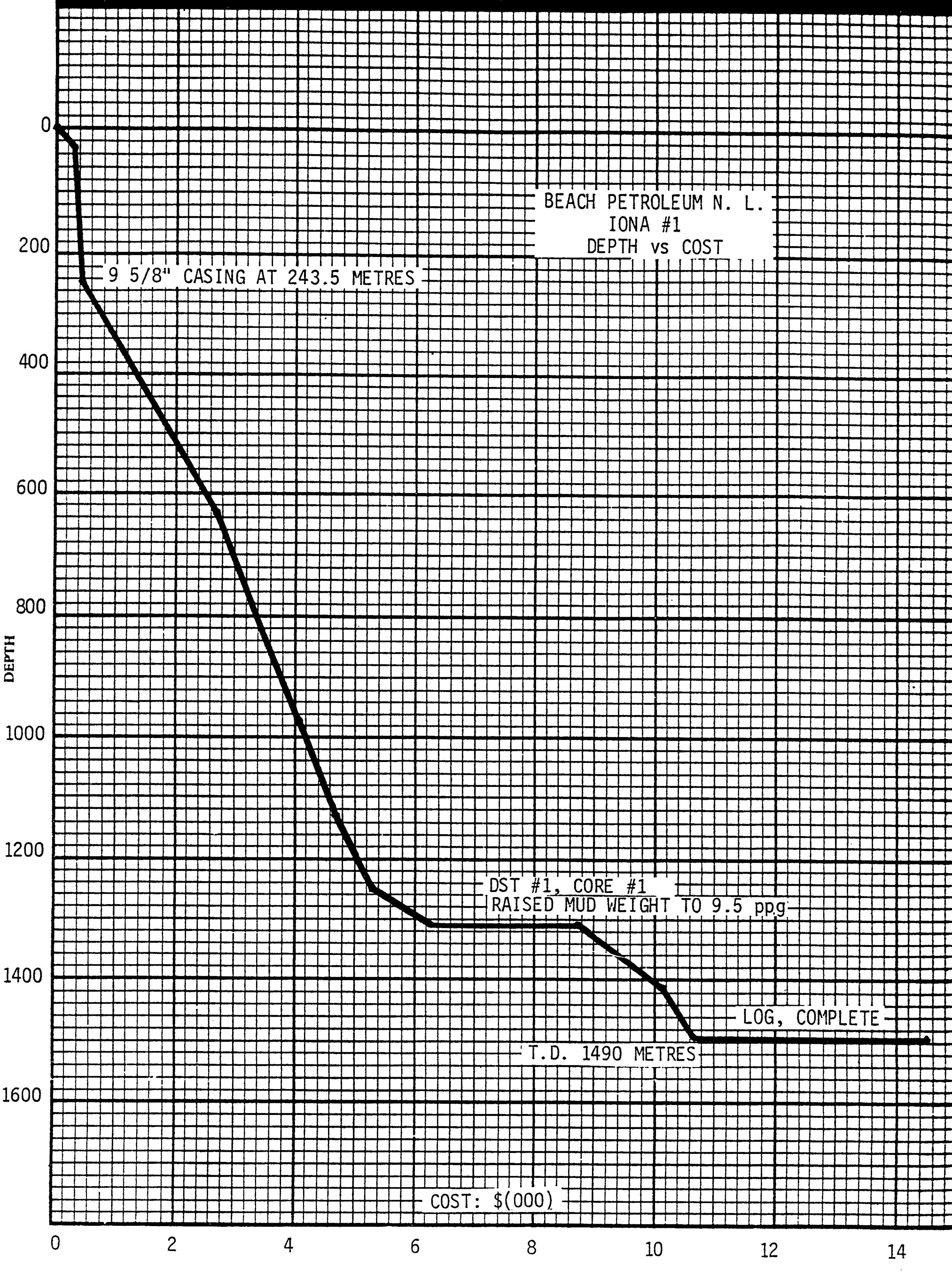
The casing was then cemented with full returns with a Bentonite mix water lead slurry, and a neat tail slurry. Full pressure of 3000 psi could not be held on the plug, after the cement job, as it kept leaking off. However after waiting on cement eleven hours, it held a 2000 psi test.

After cutting casing and nippling up, a casing scraper was run in. A hi-viscosity Polypac sweep of 15 bbls was pumped around to clean out the casing, and it was then displaced with a 9.3 ppg Sodium Chloride brine containing Inhibitor 303, D-I Cide and Sodium Sulphite Oxygen scavenger.

Following the mud engineer's release, a packer was run and set on tubing, and the well left unperforated as a suspended completion.

GRAPHS

WELL SUMMARY



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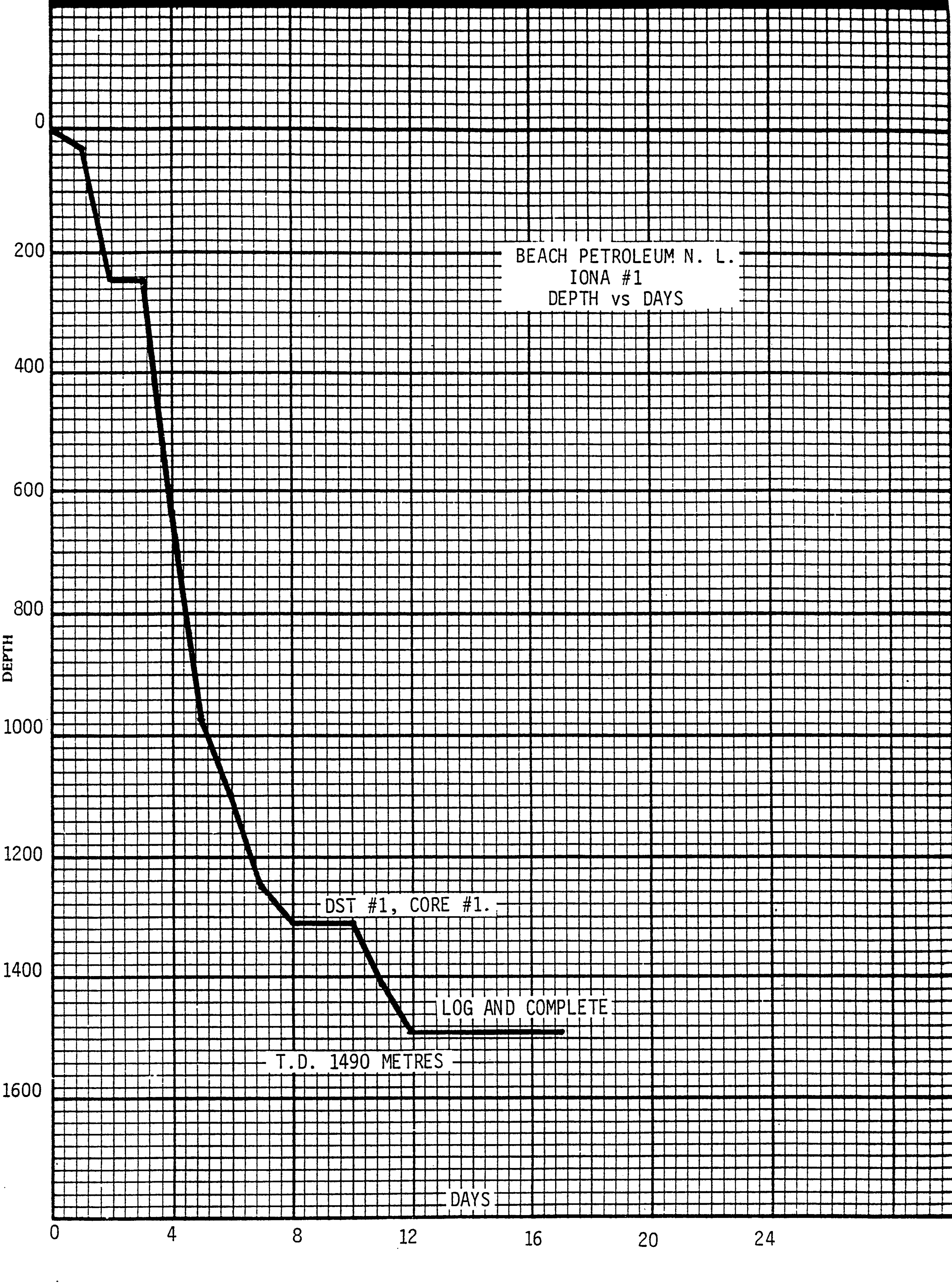
WELL SUMMARY



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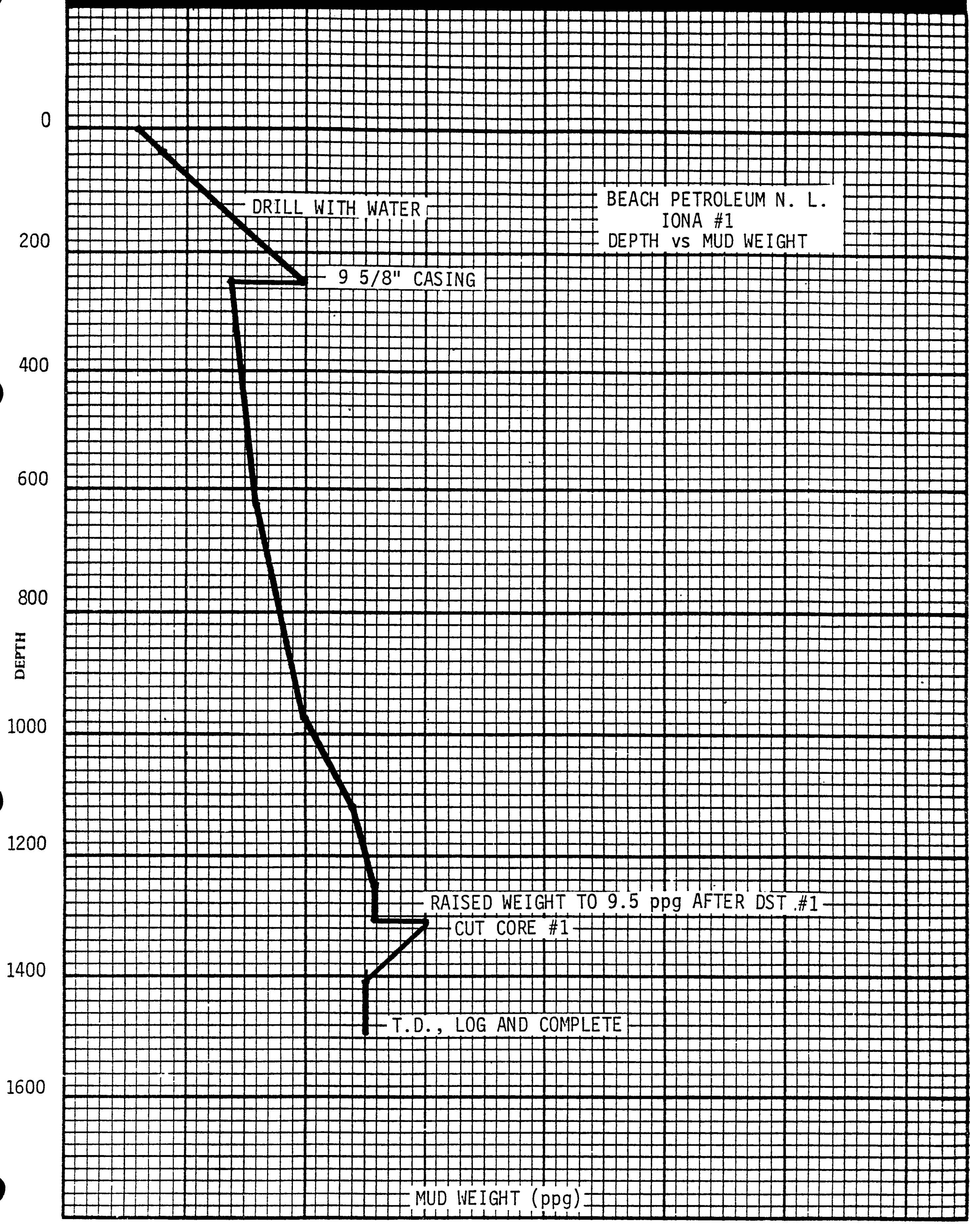
WELL SUMMARY



WELL SUMMARY

BIT AND HYDRAULICS RECORD

BIT & HYDRAULIC RECORD

Contractor	Rig No.	Location	Well
GEARHART	2	PT. CAMPBELL, VICTORIA PEP 108	IONA #1

Operator		Engineer
BEACH PETROLEUM		M. OLEJNICZAK

Pump Name	Size	Liner Size/Stroke	DRILL Collars O.D. x I.D. x Length	Pipe Drill	Tool Joint Type	Wt/Ft	Pump Output Bbls/Stks.	
G.D.	P28	5½,6 x 8	6¼ x 2 7/8	4½	IF	16.61b	.057/.065	

Date	Run No.	Size	Make	Type	Jet Size	Depth Out	Metres Drilled	Hours Run	Weight On Bit	R P M	Pump Pressure	Vert Dev.	Stks/min	Ann Vel Ft./min	Condition T-B-G
	1	12¼	HTC	OSCIGJ	2x18 1x16	247	247	11	5-10	110	350	¼	410	117	1-3-I
	2	8½	REED	S11	3x11	976	729	31.5	15-25	110	500	¼	215	159	7-8-3/8
	3	8½	REED	S13G	3x11	1230	254	21	15-25	90	750	½	191	141	7-8-3/4
	4	8½	REED	S13G	3x11	1305.5	75.5	9½	25-30	90	750	½	191	141	3-6-IN
	C1	8½	CHRIS	RC476	-	1314.5	9	3	2-10	65			191	141	10% WORN
	5	8½	REED	S13G	3x11	1490	175.5	16½	25-30	75	800	3/4	191	141	4-4-I

REMARKS

TABLE 1. Time-Depth curve values

Well : IONA #1
Survey units : METRES
Calibrated sonic interval velocities used from 155.0 to 1325.0

Client : BEACH PETROLEUM N.L.
Datum : 0.0

Datum	One-way	-----VELOCITIES-----		
Depth	time(ms)	Average	RMS	Interval
5.0	2.8	1783	1783	1783
10.0	5.6	1796	1796	1809
15.0	8.3	1803	1803	1817
20.0	11.1	1807	1807	1820
25.0	13.8	1810	1810	1820
30.0	16.6	1812	1812	1821
35.0	19.3	1813	1813	1821
40.0	22.1	1814	1814	1821
45.0	24.8	1815	1815	1821
50.0	27.5	1815	1815	1821
55.0	30.3	1816	1816	1821
60.0	33.0	1816	1816	1821
65.0	35.8	1817	1817	1821
70.0	38.5	1817	1817	1821
75.0	41.3	1817	1817	1821
80.0	44.0	1817	1817	1821
85.0	46.8	1818	1818	1821
90.0	49.5	1818	1818	1821
95.0	52.3	1818	1818	1821
100.0	55.0	1818	1818	1822
105.0	57.7	1818	1819	1825
110.0	60.5	1819	1819	1835
115.0	63.2	1821	1821	1862
120.0	65.8	1824	1824	1887
125.0	68.4	1826	1827	1896
130.0	71.1	1829	1829	1899
135.0	73.7	1832	1832	1901
140.0	76.3	1834	1835	1907
145.0	78.9	1837	1838	1922
150.0	81.5	1842	1842	1975
155.0	83.8	1849	1850	2103
160.0	86.4	1852	1876	2592
165.0	88.0	1875	1906	3106
170.0	90.1	1887	1919	2408
175.0	92.4	1894	1925	2136
180.0	94.9	1896	1926	1974
185.0	97.3	1901	1931	2117
190.0	99.7	1906	1934	2081
195.0	102.1	1910	1938	2084
200.0	104.3	1918	1947	2325
205.0	106.5	1925	1953	2236
210.0	108.9	1929	1957	2092
215.0	111.3	1932	1959	2066
220.0	113.6	1936	1963	2140
225.0	116.0	1939	1965	2081
230.0	118.4	1942	1968	2104
235.0	120.7	1946	1972	2158
240.0	123.2	1948	1973	2017
245.0	125.6	1951	1976	2136
250.0	128.1	1951	1976	1963
255.0	130.4	1956	1980	2220
260.0	132.8	1958	1982	2048
265.0	135.2	1960	1984	2107
270.0	137.5	1963	1987	2133
275.0	139.8	1967	1990	2213
280.0	142.1	1971	1993	2169
285.0	144.2	1976	1999	2351
290.0	146.4	1981	2004	2325
295.0	148.6	1985	2007	2198
300.0	150.9	1988	2011	2236
305.0	153.1	1992	2015	2246
310.0	155.4	1995	2017	2162
315.0	157.7	1997	2019	2151
320.0	160.0	2001	2022	2248
325.0	162.3	2002	2024	2102
330.0	164.6	2005	2027	2246
335.0	166.8	2009	2030	2281
340.0	168.9	2013	2034	2285
345.0	171.2	2015	2036	2173
350.0	173.5	2017	2038	2174
355.0	175.8	2020	2040	2235
360.0	177.8	2024	2045	2420
365.0	180.0	2028	2049	2349
370.0	182.1	2032	2053	2351
375.0	184.3	2035	2055	2260
380.0	186.4	2039	2059	2401
385.0	188.3	2045	2066	2670
390.0	190.4	2049	2070	2394
395.0	192.5	2052	2073	2326
400.0	194.7	2054	2076	2261

TABLE 1. Time-Depth curve values

Well : IONA #1
Survey units : METRES
Calibrated sonic interval velocities used from 155.0 to 1325.0

Client : BEACH PETROLEUM N.L.
Datum : 0.0

Datum Depth	One-way time(ms)	------VELOCITIES------ Average	RMS	Interval	Datum Depth	One-way time(ms)	------VELOCITIES------ Average	RMS	Interval
405.0	197.1	2054	2075	2060	605.0	274.8	2202	2231	2683
410.0	199.4	2056	2077	2210	610.0	277.0	2202	2231	2296
415.0	201.7	2058	2078	2185	615.0	279.0	2204	2233	2434
420.0	203.7	2062	2083	2483	620.0	281.1	2206	2234	2446
425.0	205.7	2067	2088	2576	625.0	283.1	2208	2236	2458
430.0	207.6	2072	2093	2596	630.0	285.1	2209	2237	2434
435.0	209.5	2076	2098	2557	635.0	287.2	2211	2239	2491
[illegible]0.0	211.5	2080	2102	2526	640.0	289.2	2213	2241	2427
445.0	213.5	2084	2106	2487	645.0	291.2	2215	2243	2502
450.0	215.6	2087	2109	2385	650.0	293.2	2217	2245	2536
455.0	217.7	2090	2112	2397	655.0	295.1	2220	2247	2639
460.0	219.7	2093	2116	2468	660.0	297.2	2221	2248	2383
465.0	221.7	2098	2120	2594	665.0	299.3	2222	2250	2402
470.0	223.6	2102	2124	2535	670.0	301.1	2225	2252	2657
475.0	225.7	2104	2127	2389	675.0	303.1	2227	2254	2543
480.0	227.7	2108	2131	2595	680.0	305.1	2229	2256	2512
485.0	229.6	2113	2136	2603	685.0	307.0	2231	2258	2561
490.0	231.5	2116	2140	2573	690.0	309.0	2233	2260	2578
495.0	233.2	2122	2146	2885	695.0	310.9	2236	2263	2645
500.0	234.9	2129	2154	3106	700.0	312.8	2238	2265	2636
505.0	236.5	2135	2162	3027	705.0	314.7	2240	2268	2621
510.0	238.2	2141	2169	3000	710.0	316.7	2242	2269	2514
515.0	240.0	2146	2173	2727	715.0	318.7	2244	2271	2489
[illegible]20.0	242.0	2149	2176	2523	720.0	320.6	2245	2272	2541
525.0	243.9	2153	2181	2658	725.0	322.6	2248	2275	2613
530.0	245.7	2157	2185	2771	730.0	324.5	2250	2277	2624
535.0	247.7	2160	2188	2481	735.0	326.4	2252	2279	2617
540.0	249.6	2164	2192	2655	740.0	328.3	2254	2281	2616
545.0	251.6	2166	2195	2510	745.0	330.1	2257	2284	2831
550.0	253.6	2169	2197	2505	750.0	331.7	2261	2289	3039
555.0	255.5	2172	2200	2519	755.0	333.6	2263	2291	2594
560.0	257.2	2177	2206	2943	760.0	335.4	2266	2294	2829
565.0	259.1	2180	2209	2648	765.0	337.3	2268	2296	2651
570.0	261.1	2183	2212	2553	770.0	339.2	2270	2298	2578
575.0	263.0	2186	2215	2626	775.0	341.1	2272	2299	2596
580.0	264.9	2189	2218	2570	780.0	343.1	2274	2301	2588
585.0	266.8	2192	2221	2644	785.0	345.2	2274	2302	2389
590.0	268.9	2194	2223	2444	790.0	347.2	2275	2303	2469
595.0	270.9	2197	2226	2539	795.0	349.3	2276	2304	2434
[illegible]0.0	272.9	2198	2227	2421	800.0	351.3	2277	2304	2389

TABLE 1. Time-Depth curve values Page 3.

Well : IONA #1
Survey units : METRES
Calibrated sonic interval velocities used from 155.0 to 1325.0

Client : BEACH PETROLEUM N.L.
Datum : 0.0

Datum Depth	One-way time(ms)	-----VELOCITIES-----			Datum Depth	One-way time(ms)	-----VELOCITIES-----		
		Average	RMS	Interval			Average	RMS	Interval
805.0	353.5	2277	2304	2322	1005.0	425.6	2361	2391	2908
810.0	355.5	2278	2305	2472	1010.0	427.3	2363	2394	2963
815.0	357.6	2279	2306	2418	1015.0	429.3	2364	2394	2551
820.0	359.6	2280	2307	2427	1020.0	431.1	2366	2396	2728
825.0	361.6	2282	2308	2605	1025.0	432.8	2368	2399	3038
830.0	363.6	2283	2309	2464	1030.0	434.4	2371	2401	3052
835.0	365.6	2284	2310	2487	1035.0	436.2	2373	2403	2872
840.0	367.6	2285	2311	2460	1040.0	438.0	2374	2405	2725
[illegible]5.0	369.4	2287	2314	2816	1045.0	439.9	2376	2406	2643
850.0	371.2	2290	2316	2740	1050.0	441.8	2377	2407	2647
855.0	373.0	2292	2319	2817	1055.0	443.7	2378	2408	2542
860.0	374.8	2294	2321	2738	1060.0	445.6	2379	2409	2717
865.0	376.7	2296	2323	2730	1065.0	447.5	2380	2410	2556
870.0	378.5	2298	2325	2698	1070.0	449.4	2381	2411	2661
875.0	380.4	2300	2327	2676	1075.0	451.2	2382	2412	2771
880.0	382.1	2303	2330	2922	1080.0	453.2	2383	2413	2524
885.0	383.8	2306	2333	2908	1085.0	455.3	2383	2413	2405
890.0	385.6	2308	2335	2787	1090.0	457.1	2384	2414	2706
895.0	387.5	2310	2337	2716	1095.0	459.0	2385	2415	2616
900.0	389.2	2312	2339	2804	1100.0	460.8	2387	2416	2763
905.0	391.1	2314	2341	2749	1105.0	462.8	2388	2417	2563
910.0	392.8	2317	2344	2949	1110.0	465.0	2387	2416	2301
915.0	394.4	2320	2347	2955	1115.0	467.2	2387	2416	2288
920.0	396.1	2323	2351	3026	1120.0	469.1	2387	2416	2546
[illegible]5.0	398.0	2324	2352	2663	1125.0	471.2	2387	2416	2378
930.0	399.8	2326	2354	2731	1130.0	473.4	2387	2416	2287
935.0	401.6	2328	2356	2784	1135.0	475.6	2386	2415	2278
940.0	403.2	2331	2360	3149	1140.0	477.7	2386	2415	2359
945.0	404.9	2334	2362	2887	1145.0	479.6	2388	2416	2685
950.0	406.6	2336	2365	2949	1150.0	481.1	2390	2419	3203
955.0	408.3	2339	2368	2908	1155.0	482.5	2394	2423	3694
960.0	410.0	2341	2370	2961	1160.0	483.9	2397	2428	3558
965.0	411.7	2344	2373	2953	1165.0	485.2	2401	2432	3714
970.0	413.4	2346	2376	2946	1170.0	486.8	2403	2435	3182
975.0	415.1	2349	2378	2923	1175.0	488.5	2405	2437	2923
980.0	416.9	2351	2381	2901	1180.0	490.2	2407	2439	2946
985.0	418.6	2353	2382	2783	1185.0	492.2	2408	2439	2581
990.0	420.4	2355	2385	2881	1190.0	494.1	2408	2440	2554
995.0	422.1	2357	2387	2869	1195.0	496.1	2409	2440	2577
1000.0	423.9	2359	2389	2777	1200.0	497.6	2412	2443	3243

Well : IONA #1
Survey units : METRES
Client : BEACH PETROLEUM N.L.
Datum : 0.0
Calibrated sonic interval velocities used from 155.0 to 1325.0

Datum Depth	One-way time(ms)	-----VELOCITIES----- Average	RMS	Interval	Datum Depth	One-way time(ms)	-----VELOCITIES----- Average	RMS	Interval
1205.0	499.2	2414	2446	3129	1280.0	523.5	2445	2479	3208
1210.0	500.9	2416	2447	2912	1285.0	525.3	2446	2481	2875
1215.0	502.6	2417	2449	2945	1290.0	527.0	2448	2482	2932
1220.0	504.3	2419	2451	2939	1295.0	528.7	2449	2484	2885
1225.0	505.9	2421	2454	3175	1300.0	530.4	2451	2485	2945
1230.0	507.5	2424	2456	3064	1305.0	532.1	2453	2487	2957
1235.0	509.2	2425	2458	2936	1310.0	533.8	2454	2488	2952
1240.0	510.9	2427	2459	2965	1315.0	535.4	2456	2490	3070
1245.0	512.5	2429	2462	3121	1320.0	537.0	2458	2493	3174
1250.0	514.0	2432	2465	3369	1325.0	538.5	2460	2495	3236
1255.0	515.7	2434	2467	2992	1330.0	540.0	2463	2498	3502
1260.0	517.4	2435	2469	2966	1335.0	541.3	2466	2502	3746
1265.0	518.8	2438	2472	3375	1340.0	542.6	2470	2506	3832
1270.0	520.5	2440	2474	3065	1345.0	543.9	2473	2510	3870
1275.0	522.0	2443	2477	3361	1350.0	545.2	2476	2515	3916

WELL
SUMMARY

MUD CONSUMPTION BY INTERVAL

TOTAL MATERIAL CONSUMPTION

M-I Australia Pty. Ltd.
Magcobar/IMCO A Dresser/Halliburton Company

WELL SUMMARY

OPERATOR: BEACH PETROLEUM

WELL: IONA #1

HOLE SIZE...12 1/4 ..

INTERVAL...0 TO 247 METRES...

CASING SIZE...9 5/8..

PRODUCT	QUANTITY	COST
MAGCOGEL	9 x 100 lb sx	$ 146.34
CAUSTIC SODA	1 x 25 kg sx	$ 22.75
LIME	5 x 25 kg sx	$ 23.75
POTASSIUM CHLORIDE	20 x 50 kg sx	$ 298.20
	INTERVAL COST :	$ 491.04

Magcogel and Caustic Soda actually used for cement mix water, for lead slurry, cementing 9 5/8" casing.

M-I Australia Pty. Ltd.
Magcobar/IMCO A Dresser/Halliburton Company

WELL SUMMARY

OPERATOR: BEACH PETROLEUM WELL: IONA #1

HOLE SIZE....8 1/2"..

INTERVAL.247 TO 1490 METRES. CASING SIZE...5 1/2".

PRODUCT	QUANTITY	COST
BARITE	348 x 50 kg sx	$ 2331.60
MAGCOGEL	104 x 100 lb sx	$ 1691.04
CAUSTIC SODA	24 x 25 kg sx	$ 546.00
BICARBONATE	2 x 40 kg sx	$ 33.96
LIME	8 x 25 kg sx	$ 38.00
KWIK THIK	78 x 25 kg sx	$ 842.40
POLYSAL	70 x 25 kg sx	$ 2712.50
POLYPAC	11 x 25 kg sx	$ 910.25
CMC EHV	24 x 25 kg sx	$ 1285.68
KCL	2 x 50 kg sx	$ 29.82
D.I.-CIDE	6 x 25 lt drum	$ 222.30
KWIK DRIL	1 x 5 lt pail	$ 19.82
	INTERVAL COST :	$10663.37

WELL SUMMARY

OPERATOR: BEACH PETROLEUM WELL: IONA #1

HOLE SIZE....8 1/2"..

INTERVAL...COMPLETION..... CASING SIZE...5 1/2".

PRODUCT	QUANTITY	COST
MAGCOGEL	12 x 100 lb sx	$ 195.12
CAUSTIC SODA	3 x 25 kg sx	$ 68.25
SPERSENE	6 x 25 kg sx	$ 160.50
POLYPAC	2 x 25 kg sx	$ 165.50
SALT	185 x 25 kg sx	$ 1618.75
SALT	20 x 50 kg sx	$ 350.00
D.I.-CIDE	1 x 25 lt drum	$ 37.05
INHIBITOR 303	1 x 205 lt drum	$ 660.00
SODIUM SULPHITE	1 x 50 kg sx	$ 83.50
	INTERVAL COST :	$ 3338.67

WELL SUMMARY

TOTAL MATERIAL CONSUMPTION

OPERATOR: BEACH PETROLEUM

WELL: IONA #1

LOCATION: OTWAY BASIN, VICTORIA

PRODUCT	UNIT	COST	%
BARITE	348 x 50 kg sx	$ 2331.60	16.09
MAGCOGEL	125 x 100 lb sx	$ 2032.50	14.02
CAUSTIC SODA	28 x 25 kg sx	$ 637.00	4.40
BICARBONATE	2 x 40 kg sx	$ 33.96	0.23
LIME	13 x 25 kg sx	$ 61.75	0.43
KWIK THIK	78 x 25 kg sx	$ 842.40	5.81
POLYSAL	70 x 25 kg sx	$ 2712.50	18.72
POLYPAC	13 x 25 kg sx	$ 1075.75	7.42
CMC EHV	24 x 25 kg sx	$ 1285.68	8.87
POTASSIUM CHLORIDE	22 x 50 kg sx	$ 328.02	2.26
D.I.-CIDE	7 x 25 lt drum	$ 259.35	1.79
KWIK DRIL	1 x 5 lt pail	$ 19.82	0.14
SALT (FLOSSY)	185 x 25 kg sx	$ 1618.75	11.17
SALT (FLOSSY)	20 x 50 kg sx	$ 350.00	2.41
INHIBITOR 303	1 x 205 lt drum	$ 660.00	4.55
SODIUM SULPHITE	1 x 50 kg sx	$ 83.50	0.58
SPERSENE	6 x 25 kg sx	$ 160.50	1.11
	TOTAL MATERIAL COST :	$14493.08	100.00

NOTE: This includes 55 sacks of Barite which was old Beach Petroleum stock from Cobden Warehouse, written off at current price for consistency.

WELL SUMMARY

DAILY MUD REPORTS

M-I Drilling Fluids Co.
Magcobar/IMCO A Dresser/Halliburton Company
P. OX 42842 ■ HOUSTON, TEXAS 77242 USA

DRILLING MUD REPORT NO. 1

DATE 6/3/ 19 88
DEPTH 32m
SPUD DATE 6/3/88
PRESENT ACTIVITY DRILLING

ERATOR BEACH PETROLEUM.
CONTRACTOR GEARHART DRILLING
RIG NO. 2
REPORT FOR VINCE SANTOSTEFANO
REPORT FOR GERARD NICOT
SECTION, TOWNSHIP, RANGE PT CAMPBELL
LL NAME AND NO. IONA No 1.
FIELD OR BLOCK NO. PPL 108
COUNTY, PARISH OR OFFSHORE AREA OTWAY BASIN
STATE/PROVINCE VICTORIA

DRILLING ASSEMBLY				CASING	MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE 2 ¼	TYPE OSC1GS	JET SIZE 18/18/16		SURFACE 16" in. @ 7½ m ft.	HOLE 60 bbl.	PITS 430 bbls	PUMP SIZE X IN. 5½ x 8, 6 x 8			ANNULAR VEL (ft/min) (16" 42 DP) (8" DC) 62
LL PIPE SIZE 4½	TYPE 16.6#	LENGTH		INTERMEDIATE in. @ ft.	TOTAL CIRCULATING VOLUME 510 bbl.		PUMP MAKE, MODEL GD PZ8.		ASSUMED EFF 97 %	CIRCULATION PRESSURE (psi)
LL PIPE SIZE 4½	TYPE HWDP	LENGTH		INTERMEDIATE in. @ ft.	IN STORAGE 80 bbls	WEIGHT FRESH	bbl/stk .051/.065		stk/min — / 80	BOTTOMS UP (min) (strk) 2
DRILL COLLAR SIZE 7/6¼ BIM	LENGTH			PRODUCTION OR LINER in. @ ft.	MUD TYPE FLOCCULATED WATER		52 bbl/min		217 gal/min	TOTAL CIRC TIME (min) (strk) 73

	MUD PROPERTIES	
Sample From	☐ F.L. ☐ PIT	☐ F.L. ☒ PIT
ne Sample Taken		24:00
Temperature (°F)		
Depth (ft) (TVD / ft)		
eight ☒ (ppg) ☐ (lb/cu ft) ☐ (sp gr)		8.4
nnel Viscosity (sec/qt) API @ °F		28
Plastic Viscosity cp @ °F		2
eld Point (lb/100 ft²)		2
el Strength (lb/100 ft²) 10 sec/10 min	/	2 / 3
Filtrate API (cm³/30 min)		N.C.
I HTHP Filtrate (cm³/30 min) @ °F		—
ake Thickness (32nd in. API/HTHP)	/	— / —
Solids Content (% by Vol) ☐ calculated ☐ retort		1
quid Content (% by Vol) Oil/Water	/	— / 99
Sand Content (% by Vol)		TRACE
Methylene Blue Capacity ☐ lb/bbl equiv ☐ cm³/cm³ mud		—
☒ Strip ☐ Meter @ °F		9.5
Alkalinity Mud (P_m)		—
Al y Filtrate (P_f/M_f)	/	.3 / .4
hloride (mg/L)		4000
Total Hardness as Calcium (mg/L)		100
% KCL BY WT SOLN		3/4

MUD PROPERTY SPECIFICATIONS

WEIGHT	VISCOSITY	FILTRATE

REMARKS ~~RECOMMENDED TOUR TREATMENT~~

Continued rigging up. Drilled rathole and mousehole through surface clays with water. [illegible] No problems.

Had to repair SCR making 1½ hrs. Spud in hole at 22:30 hrs with

REMARKS

water. Reamed [illegible] [illegible] 2nd singles.

Added 3 sx lime and 20 sxs KCL to mud to reduce hydration, improve cuttings at shakers, cutting back on water consumption and less filling of sump.

NOTE

[illegible] KCL at ≈ 3/4 % made cuttings stiff & slightly firm and sticky. [illegible] decreased with a small [illegible] of [illegible] at shakers.

PRODUCT INVENTORY	Lime	KCL
RTING ENTORY	11	60
RECEIVED		
ED LAST hr	4	20
OSING INVENTORY	7	40
COST LAST hr	19.80	298.2
)		

SOLIDS EQUIPMENT

SHAKER #1 B40, B60 mesh
SHAKER #2 B40, B60 mesh
MUD CLEANER ______ mesh
CENTRIFUGE ______ hours
DESANDER — hours
DESILTER — hours

M-I REPRESENTATIVE	PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
MANFRED OLEJNICZAK			$ 317.20	$ 317.20

NOTICE: THIS REPORT IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON REVERSE SIDE HEREOF.

DRILLING MUD REPORT

M-I Drilling Fluids Co.
Magcobar/IMCO A Dresser/Halliburton Company
P. BOX 42842 ■ HOUSTON, TEXAS 77242 USA

DRILLING MUD REPORT NO. 2

DATE 7/3/ 19 86 DEPTH 24..

SPUD DATE 6/3/86

PRESENT ACTIVITY R.G. UP TO CMT CSG

PERATOR BRIDGE PETROLEUM

CONTRACTOR GEARHART DRILLING

RIG NO. 2

REPORT FOR VINCE SANTO SEVERINO

REPORT FOR GERARD ALLEN

SECTION, TOWNSHIP, RANGE PT CAMPBELL

ELL NAME AND NO. JONA No 1

FIELD OR BLOCK NO. P.E.P. 108

COUNTY, PARISH OR OFFSHORE AREA OTWAY BASIN

STATE/PROVINCE VICTORIA

DRILLING ASSEMBLY			CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE 12¼	TYPE OSC1G3	JET SIZE 12/12/12	SURFACE 16" in. @ 72 m	HOLE 100 bbl	PITS 300 bbl	PUMP SIZE X IN. 5½ x 8 , 6 x 8		ANNULAR VEL (ft/min) DP 77 DC 117
ILL PIPE SIZE 4½	TYPE 16.6#	LENGTH	INTERMEDIATE in. @ ft.	TOTAL CIRCULATING VOLUME 400 bbl		PUMP MAKE, MODEL GD PZ 8	ASSUMED EFF 97 %	CIRCULATION PRESSURE (psi) 450
ILL PIPE ZE 4½	TYPE HWDP	LENGTH 73.95 m	INTERMEDIATE in. @ ft.	IN STORAGE 80 bbl	WEIGHT PREMIX	bbl/stk .057/.065	stk/min 80/80	BOTTOMS UP (min) (strk) 10
DRILL COLLAR SIZE 8/6½ BHA		LENGTH 154.94 m	PRODUCTION OR LINER in. @ ft.	MUD TYPE WATER GEL PREHYD GEL		bbl/min 9.76	gal/min 410	TOTAL CIRC TIME (min) (strk) 41

	MUD PROPERTIES	
Sample From	☐ F.L. ☒ PIT	☐ F.L. ☒ PIT
me Sample Taken	07.00	22.30
Temperature (°F)		
Depth (ft) (TVD / ft)		
eight ☒ (ppg) ☐ (lb/cu ft) ☐ (sp gr)	8.7	9.0
nnel Viscosity (sec/qt) API @ °F	37	52
Plastic Viscosity cp @ °F	5	12
eld Point (lb/100 ft²)	25	37
el Strength (lb/100 ft²) 10 sec/10 min	10/20	25/40
Filtrate API (cm³/30 min) -	NO CONTROL —	
PI HTHP Filtrate (cm³/30 min) @ °F	—	—
ake Thickness (32nd in. API/HTHP)	1	—/
Solids Content (% by Vol) ☒ calculated ☐ retort	2½	4
quid Content (% by Vol) Oil/Water	—/97½	—/96
and Content (% by Vol)	TRACE	TRACE
Methylene Blue Capacity ☐ lb/bbl equiv ☐ cm³/cm³ mud	—	—
H ☒ Strip ☐ Meter @ °F	9.5	9.0
Alkalinity Mud (P_m)	—	—
Alkalinity Filtrate (P_f/M_f)	.3/.4	.15/.2
hloride (mg/L)	2500	2,000
Total Hardness as Calcium (mg/L)	100	50
% KCL	3/4	.3

MUD PROPERTY SPECIFICATIONS

WEIGHT	VISCOSITY	FILTRATE

RAMARKS ~~RECOMMENDED TOUR TREATMENT~~

CONTINUED DRILL 12¼ HOLE THROUGH MARL AT CONTROLLED DRILL RATE OF APPROX 3 SINGLES/HR. INCREASE PUMP RATE AFTER 6 SINGLES TO 80 SPM ON BOTH PUMPS.

RAN SURVEYS AT 32m (0°), 73m (0°)

REMARKS

125m (0°), 207m (½°). AT 247m DECIDED ON TD FOR 12¼ CSG AS POSSIBLE TOP OF [illegible] CLAYS HAD BEEN REACHED AND CAUSE A [illegible] SWELLING [illegible].

CIRC OUT HOLE [illegible], RAN [illegible] CIRC OUT AGAIN ½ HR. DROPPED SURVEY AND POOH RAN 9⅝ CSG, HAD TO CIRCULATE DOWN 4m OF FILL.

NOTE: DILUTED WITH WATER REDUCING MUD VISCOSITY TO GEARHART'S REQUEST THROUGH CASING POINT FOR HOLE CLEANING. CONTINUAL [illegible] SOLIDS AND MORE DILUTION WAS REQUIRED. AS SOLIDS DROPPED. AFTER WIPER TRIP AND RUNNING OF CASING, HAD A LOT OF [illegible] CUTTINGS AT SHAKERS, SUGGESTING SOME FORMATION [illegible].

PRODUCT INVENTORY	LIME	KCL	CAUSTIC	MAGCO GEL											
ARTING VENTORY	7	40	34	139											
RECEIVED															
ED LAST hr	1	—	1	9											
OSING INVENTORY	6	40	33	130											
COST LAST hr	4.75	—	22.75	146.34											
C)				(CMT ONLY)											

SOLIDS EQUIPMENT

SHAKER #1 80 / 60 mesh
SHAKER #2 80 / 80 mesh
MUD CLEANER - mesh
CENTRIFUGE - hours
[illegible]
DESANDER 13 hours
[illegible]
DESILTER 11 hours

M-I REPRESENTATIVE	PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
[illegible]	059-73?03		$173.84	$4??.04

NOTICE: THIS REPORT IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON REVERSE SIDE HEREOF.

M-I Drilling Fluids Co.
Magcobar/IMCO A Dresser/Halliburton Company
P. BOX 42842 ■ HOUSTON, TEXAS 77242 USA

DRILLING MUD REPORT NO. 3

DATE 8/31 19 88 DEPTH 2[illegible]

SPUD DATE 6/3/88 PRESENT ACTIVITY [illegible]

PERATOR BRIN[illegible] PETROLEUM	CONTRACTOR GR[illegible] DRILLING	RIG NO. 2
REPORT FOR V[illegible] SAN[illegible]	REPORT FOR S.D CRAMER	SECTION, TOWNSHIP, RANGE PT CAMPBELL

ELL NAME AND NO. IONA No 1	FIELD OR BLOCK NO. PEP 108	COUNTY, PARISH OR OFFSHORE AREA OTWAY BASIN	STATE/PROVINCE VIC[illegible]

DRILLING ASSEMBLY			CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE	TYPE	JET SIZE	SURFACE in. @ ft.	HOLE 50 bbls	PITS 320 bbl	PUMP SIZE 5 1/2 x 8 X 6 x 8 IN.		ANNULAR VEL (ft/min) DP DC
RILL PIPE SIZE	TYPE	LENGTH	INTERMEDIATE in. @ ft.	TOTAL CIRCULATING VOLUME — bbls		PUMP MAKE, MODEL GD PZ 8	ASSUMED EFF 97 %	CIRCULATION PRESSURE (psi)
RILL PIPE ZE	TYPE	LENGTH	INTERMEDIATE in. @ ft.	IN STORAGE 30 bbl	WEIGHT PREMIX	bbl/stk .057/.065 stk/min		BOTTOMS UP (min) (strk)
DRILL COLLAR SIZE		LENGTH	PRODUCTION OR LINER in. @ ft.	MUD TYPE [illegible] GEL	[illegible]	bbl/min gal/min		TOTAL CIRC TIME (min) (strk)

MUD PROPERTIES		
Sample From	☐ F.L. ☐ PIT	☐ F.L. ☐ PIT
Time Sample Taken		
e Temperature (°F)	NO CIRCULATION	
Depth (ft) (TVD / ft)	– CSG RUN	
eight ☐ (ppg) ☐ (lb/cu ft) ☐ (sp gr)	[illegible] CASING)	
unnel Viscosity (sec/qt) API @ °F		
Plastic Viscosity cp @ °F		
ield Point (lb/100 ft²)		
el Strength (lb/100 ft²) 10 sec/10 min	/	/
Filtrate API (cm³/30 min)		
PI HTHP Filtrate (cm³/30 min) @ °F		
ake Thickness (32nd in. API/HTHP)	/	/
Solids Content (% by Vol) ☐ calculated ☐ retort		
iquid Content (% by Vol) Oil/Water	/	/
and Content (% by Vol)		
Methylene Blue Capacity ☐ lb/bbl equiv ☐ cm³/cm³ mud		
H ☐ Strip ☐ Meter @ °F		
Alkalinity Mud (P_m)		
Al ty Filtrate (P_f/M_f)	/	/
hloride (mg/L)		
Total Hardness as Calcium (mg/L)		

MUD PROPERTY SPECIFICATIONS

WEIGHT	VISCOSITY	FILTRATE

REMARKS ~~RECOMMENDED TOUR TREATMENT~~

CEMENTED 9 5/8 CSG USING [illegible] bbl
[illegible] 2 [illegible]
[illegible] bbl. [illegible]
[illegible]
SURFACE APPROX [illegible]
[illegible]

REMARKS

[illegible]
[illegible] AND [illegible]

[illegible]
[illegible]
[illegible] bbl [illegible]
[illegible]
[illegible] 65/75 [illegible]
AND [illegible]

PRODUCT INVENTORY	[illegible]	CAUSTIC	[illegible]	[illegible]	LIME												
ARTING VENTORY	240	33	10	130	6												
RECEIVED																	
SED LAST hr	18	1	–	–	–												
OSING INVENTORY	222	32	10	130	6												
COST LAST hr [illegible]	?	2275	–	–	–												
S C)																	

SOLIDS EQUIPMENT
SHAKER #1 [illegible] mes
SHAKER #2 [illegible] mes
MUD CLEANER — mes
CENTRIFUGE — hou
DESANDER — hou
DESILTER — hou

M-I REPRESENTATIVE	PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
[illegible]	[illegible] 78713		$ 2275	$ 5172 77

NOTICE: THIS REPORT IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON REVERSE SIDE HEREOF.

DRILLING MUD REPORT

M-I Drilling Fluids Co.
Magcobar/IMCO A Dresser/Halliburton Company
P.[illegible]OX 42842 ■ HOUSTON, TEXAS 77242 USA

DRILLING MUD REPORT NO. 4

DATE 9/3/ 19 87 DEPTH 633m

SPUD DATE 6/3/86 PRESENT ACTIVITY DRILLING

ERATOR [illegible] PETROLEUM

CONTRACTOR GEARHART DRILLING RIG NO. 2

REPORT FOR [illegible]

REPORT FOR S. CROWE

SECTION, TOWNSHIP, RANGE PT CAMPBELL

LL NAME AND NO. TOMA No 1

FIELD OR BLOCK NO. P.E.P 132

COUNTY, PARISH OR OFFSHORE AREA OTWAY BASIN

STATE/PROVINCE VICTORIA

DRILLING ASSEMBLY			CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE 8½	TYPE S11	JET SIZE 3x11	SURFACE 9⅝ in. @ 243m ft.	HOLE 115 bbls	PITS 450 bbls	PUMP SIZE X IN. 5½x8, 6x8		ANNULAR VEL ~~(ft/min)~~. DP 102 DC 151
LL PIPE SIZE 4½	TYPE 16.6 lb	LENGTH	INTERMEDIATE in. @ ft.	TOTAL CIRCULATING VOLUME 565 bbls		PUMP MAKE, MODEL GD PZ8	ASSUMED EFF 97 %	CIRCULATION PRESSURE (psi) 500
LL PIPE E 4½	TYPE HWDP	LENGTH 73.95	INTERMEDIATE in. @ ft.	IN STORAGE 60 bbls	WEIGHT PREMIX	bbl/stk .051/.065	stk/min 90	BOTTOMS UP (min) (strk) 19
DRILL COLLAR SIZE 6¼ BHA		LENGTH 169.36m	PRODUCTION OR LINER in. @ ft.	MUD TYPE F.W. GEL/CMC		5.13 bbl/min	215 gal/min	TOTAL CIRC TIME (min) (strk) 110

	MUD PROPERTIES	
Sample From	☐ F.L. ☒ PIT	☐ F.L. ☒ PIT
me Sample Taken	07.00	24.00
Temperature (°F)		
Depth (ft) (TVD / ft)	350m.	633m
ight ☒ (ppg) ☐ (lb/cu ft) ☐ (sp gr)	8.7	8.8
nnel Viscosity (sec/qt) API @ °F	34	43
Plastic Viscosity cp @ °F	5	13
ld Point (lb/100 ft²)	15	13
l Strength (lb/100 ft²) 10 sec/10 min	5/10	6/17
Filtrate API (cm³/30 min)	8.5	7.5
l HTHP Filtrate (cm³/30 min) @ °F	—	—
ake Thickness (32nd in. API/HTHP)	1/32	1/32
Solids Content (% by Vol) ☐ calculated ☐ retort	3	3½
uid Content (% by Vol) Oil/Water	—/97	—/96½
Sand Content (% by Vol)	TRACE	TRACE
Methylene Blue Capacity ☐ lb/bbl equiv ☐ cm³/cm³ mud	—	—
☒ Strip ☐ Meter @ °F	~~10.0~~ 11.5	9.0
Alkalinity Mud (P_m)	—	—
Alk Filtrate (P_f/M_f)	.6/.65	.15/.4
loride (mg/L)	1600	1250
Total Hardness as Calcium (mg/L)	280	50

MUD PROPERTY SPECIFICATIONS

WEIGHT	VISCOSITY	FILTRATE

REMARKS ~~RECOMMENDED TOUR TREATMENT~~

RIH, PRESSURE TESTED. DRILLED OUT FLOAT COLLAR CEMENT AND CASING SHOE USING DILUTED OLD MUD, RUNNING FLOCCULANT AT SHAKERS ATTEMPTING TO SETTLE OUT SOME SOLIDS WHILE STILL DRILLING [illegible] AND CLAYS.

REMARKS

RAN LEAK OFF TEST AT 252m GIVING 16.2 ppg.

CONTINUED DRILLING THROUGH CLIFTON STILL USING WATER/FLOC MIXTURE, USED FOR DRILLING [illegible], DUMPING SAND TRAP TWICE, RUNNING WATER.

BEGAN GETTING MEPUNGA SANDS FROM 292m. CHANGED TO USING CLOSED MUD SYSTEM ALLOWING REDUCING OF CONTAMINATION TO FLOCCULANT AND. DRILLED INTO TOP PEMBER AT ABOUT 536m WITH CONSTANT 36 VIS, 5/15 PV/YP AND 8.8 ppg MUD WT.

MUD READY FOR LOGGING, [illegible] PRIOR TO [illegible] MUD AND BRING [illegible] INTO 6-8 PPB RANGE FOR [illegible] POINT.

PRODUCT INVENTORY	BARITE	[illegible]	CAUSTIC	[illegible]	[illegible]	[illegible]	[illegible]	SODA ASH	BICARB	[illegible]	[illegible]	[illegible]	KCL
RTING ENTORY	268	222	32	10	130	51	71	25	24	13	28	18	40
RECEIVED													
ED LAST hr	—	18	5	1	39	12	10	—	2	—	—	—	—
OSING INVENTORY	268	204	27	9	91	39	61	24	23	13	28	18	40
OST LAST hr	—	388.8	13.7	19.36	634.4	642.84	32.75	—	42.46	—	—	—	—
(from	([illegible] [illegible])												

SOLIDS EQUIPMENT
SHAKER #1 B60, B80 mesh
SHAKER #2 B40, B40 mesh
MUD CLEANER — mesh
CENTRIFUGE — hours
DESANDER 5 bbl/min @ 12 [illegible] 24 hours
DESILTER 5 bbl/min @ 12 3 24 hours

M-I REPRESENTATIVE MANIKAM DESIKAN

PHONE 03 787103

WAREHOUSE PHONE

DAILY COST $ 2,221.31

CUMULATIVE COST $ 2,743.10

NOTICE: THIS REPORT IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON REVERSE SIDE HEREOF.

M-I Drilling Fluids Co.
Magcobar/IMCO A Dresser/Halliburton Company
P. BOX 42842 ■ HOUSTON, TEXAS 77242 USA

DRILLING MUD REPORT NO. 5

DATE 10/31/ 19 [illegible]
DEPTH [illegible]
SPUD DATE 6/1
PRESENT ACTIVITY [illegible]

ERATOR [illegible]
REPORT FOR [illegible]
CONTRACTOR [illegible]
REPORT FOR [illegible]
RIG NO. 2
SECTION, TOWNSHIP, RANGE [illegible]
LL NAME AND NO. [illegible]
FIELD OR BLOCK NO. [illegible]
COUNTY, PARISH OR OFFSHORE AREA [illegible]
STATE/PROVINCE [illegible]

DRILLING ASSEMBLY			CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE [illegible]	TYPE [illegible]	JET SIZE [illegible]	SURFACE 9⅝ in. @ [illegible] ft.	HOLE [illegible]	PITS [illegible]	PUMP SIZE X IN. [illegible]		ANNULAR VEL (ft/min) DP [illegible] DC [illegible]
LL PIPE SIZE [illegible]	TYPE [illegible]	LENGTH	INTERMEDIATE in. @ ft.	TOTAL CIRCULATING VOLUME [illegible]		PUMP MAKE, MODEL [illegible]	ASSUMED EFF [illegible] %	CIRCULATION PRESSURE (psi) [illegible]
LL PIPE E [illegible]	TYPE [illegible]	LENGTH [illegible]	INTERMEDIATE in. @ ft.	IN STORAGE [illegible]	WEIGHT [illegible]	bbl/stk [illegible]	stk/min [illegible]	BOTTOMS UP (min) (strk) [illegible]
DRILL COLLAR SIZE [illegible]		LENGTH [illegible]	PRODUCTION OR LINER in. @ ft.	MUD TYPE [illegible]		bbl/min [illegible]	gal/min [illegible]	TOTAL CIRC TIME (min) (strk) [illegible]

	MUD PROPERTIES	
Sample From	☐ F.L. ☒ PIT	☐ F.L. ☒ PIT
me Sample Taken	[illegible]	[illegible]
Temperature (°F)		
Depth (ft) (TVD / ft)		[illegible]
eight ☒ (ppg) ☐ (lb/cu ft) ☐ (sp gr)	[illegible]	[illegible]
nnel Viscosity (sec/qt) API @ °F	[illegible]	[illegible]
Plastic Viscosity cp @ °F	[illegible]	[illegible]
eld Point (lb/100 ft²)	[illegible]	[illegible]
el Strength (lb/100 ft²) 10 sec/10 min	[illegible]	[illegible]
Filtrate API (cm³/30 min)	[illegible]	[illegible]
I HTHP Filtrate (cm³/30 min) @ °F	—	-
ake Thickness (32nd in. API/HTHP)	[illegible]	[illegible]
Solids Content (% by Vol) ☐ calculated ☐ retort	[illegible]	[illegible]
quid Content (% by Vol) Oil/Water	[illegible]	[illegible]
and Content (% by Vol)	[illegible]	[illegible]
Methylene Blue Capacity ☐ lb/bbl equiv ☐ cm³/cm³ mud	—	-
☐ Strip ☐ Meter @ °F	[illegible]	[illegible]
Alkalinity Mud (P$_m$)	-	—
Al ty Filtrate (P$_f$/M$_f$)	[illegible]	[illegible]
hloride (mg/L)	[illegible]	[illegible]
Total Hardness as Calcium (mg/L)	[illegible]	[illegible]

MUD PROPERTY SPECIFICATIONS
WEIGHT
VISCOSITY
FILTRATE

RECOMMENDED TOUR TREATMENT

[illegible]

REMARKS

[illegible]

PRODUCT INVENTORY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ARTING VENTORY	[illegible]	200	77	7	91	77	41	25	22	[illegible]	28	[illegible]	[illegible]	6	[illegible]	[illegible]
RECEIVED																
SED LAST hr	[illegible]	—	[illegible]	—	50	[illegible]	—	—	—	—	—	—	—	—	—	—
LOSING INVENTORY	[illegible]	[illegible]	22	7	41	[illegible]	[illegible]	[illegible]	23	[illegible]	[illegible]	[illegible]	[illegible]	6	[illegible]	[illegible]
COST LAST hr	[illegible]	—	[illegible]	—	[illegible]	[illegible]			—	—				—	—	—
C)																

SOLIDS EQUIPMENT
SHAKER #1 [illegible] mes
SHAKER #2 [illegible] mes
MUD CLEANER ___ mes
CENTRIFUGE ___ hou
DESANDER [illegible] hou
DESILTER [illegible] hou

M-I REPRESENTATIVE [illegible]
PHONE [illegible]
WAREHOUSE PHONE
DAILY COST $1,355.46
CUMULATIVE COST [illegible]

NOTICE: THIS REPORT IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON REVERSE SIDE HEREOF

M-I Drilling Fluids Co.
Magcobar/IMCO A Dresser/Halliburton Company
P. BOX 42842 ■ HOUSTON, TEXAS 77242 USA

DRILLING MUD REPORT NO. 6

DATE 11/3/ 19 88 DEPTH 1125m
SPUD DATE 6/?/88 PRESENT ACTIVITY DRILLING

ERATOR BRIDGE PETROLEUM	CONTRACTOR GOODRICH DRILLING	RIG NO. 2
REPORT FOR VINCE SANTOSTEFANO	REPORT FOR S. CROWE	SECTION, TOWNSHIP, RANGE PT. CAMPBELL
LL NAME AND NO. IONA No1	FIELD OR BLOCK NO. P.E.P. 108	COUNTY, PARISH OR OFFSHORE AREA OTWAY BASIN
STATE/PROVINCE VICTORIA		

DRILLING ASSEMBLY			CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE 8½	TYPE S13G	JET SIZE 3x11	SURFACE 9⅝ in. @ 243 m ft.	HOLE 235 bbls	PITS ~~450~~ 400 bbls	PUMP SIZE X IN. 3½x8 , 6x8		ANNULAR VEL ~~(ft/min)~~ DP 70 DC 141
ILL PIPE SIZE 4½	TYPE 16.6/ft	LENGTH	INTERMEDIATE in. @ ft.	TOTAL CIRCULATING VOLUME 635 bbls		PUMP MAKE, MODEL GD PZ8	ASSUMED EFF 97 %	CIRCULATION PRESSURE (psi) 700 ~~500~~
ILL PIPE E 4½	TYPE HWDP	LENGTH 3573m	INTERMEDIATE in. @ ft.	IN STORAGE —	WEIGHT	bbl/stk .057/.065	stk/min —/132	BOTTOMS UP (min) (strk) 35
DRILL COLLAR SIZE 6¼ 8¼		LENGTH 170.91m	PRODUCTION OR LINER in. @ ft.	MUD TYPE F.W. GEL / POLYMER		~~6.8~~ bbl/min 4.55	~~[illegible]~~ 191 gal/min	TOTAL CIRC TIME (min) (strk) 150

MUD PROPERTIES		
Sample From	☐ F.L. ☒ PIT	☐ F.L. ☒ PIT
Time Sample Taken	03.00	24.00
Temperature (°F)		
Depth (ft) (TVD / ft)		1125m
Weight ☒ (ppg) ☐ (lb/cu ft) ☐ (sp gr)	9.15	9.2
nnel Viscosity (sec/qt) API @ °F	50	46
Plastic Viscosity cp @ °F	27	17
eld Point (lb/100 ft²)	18	16
l Strength (lb/100 ft²) 10 sec/10 min	6 / 25	6 / 15
Filtrate API (cm³/30 min)	8.5	6.7
HTHP Filtrate (cm³/30 min) @ °F	—	—
ke Thickness (32nd in. API/HTHP)	2 /32	2 /32
Solids Content (% by Vol) ☒ calculated ☐ retort	5	5
uid Content (% by Vol) Oil/Water	- / 95	- / 95
and Content (% by Vol)	TRACE	TRACE
Methylene Blue Capacity ☒ lb/bbl equiv ☐ cm³/cm³ mud	-	17
☒ Strip ☐ Meter @ °F	9.5	9.5
Alkalinity Mud (Pm)	—	—
y Filtrate (Pf/Mf)	.3 / 1.65	.3 / 1.65
loride (mg/L)	1000	1000
Total Hardness as Calcium (mg/L)	50	40

MUD PROPERTY SPECIFICATIONS

WEIGHT	VISCOSITY	FILTRATE

REMARKS RECOMMENDED TOUR TREATMENT

CONTINUED MUD MAINTAINANCE BY
PREMIXED MUD ADDITIONS, USING THE POLYMERS
AS SPECIFIED [illegible] [illegible] CONSISTENCY. REDUC
WATER LOSS STEADILY. MUD ALKALINITY
REMAINING STEADY WITH NO CAUSTIC ADDITION
INDICATING NO CO₂ AND [illegible]

REMARKS

CONTINUED REAMING TO 976m [illegible] 3 HRS.
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
CIRC [illegible] [illegible]
1126m. [illegible]
[illegible]
[illegible]
[illegible]
A 900m [illegible] [illegible] 1030m [illegible]
CIRC [illegible] [illegible] TO 1125m.
NOTE: [illegible]

PRODUCT INVENTORY	BARITE	[illegible]	[illegible]	[illegible]	GEL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
ARTING ENTORY	278	204	22	9	41	36	61	13	25	23	28	12	4	1	4	
RECEIVED																
ED LAST hr	—	—	—	—	—	1	5	3	—	—	—	2	—	—	—	
OSING INVENTORY	278	204	22	9	41	35	55	10	25	23	28	16	4	1	4	
COST LAST hr	—	—	—	—	—	5357	11375	24825	—	—	—	74.1	—	—	—	
)																

SOLIDS EQUIPMENT
SHAKER #1 B60 / B80 mesh
SHAKER #2 B80 / B60 mesh
MUD CLEANER — mesh
CENTRIFUGE — hours
DESANDER 13 hours
DESILTER 18 hours

M-I REPRESENTATIVE	PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
[illegible]	089-787103		$ 567.67	$ 4668.23

NOTICE: THIS REPORT IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON REVERSE SIDE HEREOF.

M-I Drilling Fluids Co.
Magcobar/IMCO A Dresser/Halliburton Company
P.O. BOX 42842 ■ HOUSTON, TEXAS 77242 USA

DRILLING MUD REPORT NO. 7

DATE 12/3/1988 DEPTH 12[illegible]

SPUD DATE 6/2/88 PRESENT ACTIVITY DRILLING

ERATOR Beach Petroleum	CONTRACTOR Gearhart Drilling	RIG NO. 2
REPORT FOR [illegible] Stefano	REPORT FOR S. Marin	SECTION, TOWNSHIP, RANGE PT. Campbell

LL NAME AND NO. Luna No 1	FIELD OR BLOCK NO. PEP 108	COUNTY, PARISH OR OFFSHORE AREA Otway Basin	STATE/PROVINCE Victoria

DRILLING ASSEMBLY			CASING	MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE 8½	TYPE 513G	JET SIZE 3×11	SURFACE 9⅝ in. @ 2?3 ft.	HOLE 260 bbl	PITS 400 bbl	PUMP SIZE X IN 5½×8, 6×8			ANNULAR VEL (ft/min) DP 90 DC 141
LL PIPE SIZE 4½	TYPE 16.6lb	LENGTH	INTERMEDIATE in. @ ft.	TOTAL CIRCULATING VOLUME 660 bbl		PUMP MAKE, MODEL GD PZ8		ASSUMED EFF 90 %	CIRCULATION PRESSURE (psi) 750
ILL PIPE E 4½	TYPE HWDP	LENGTH 85.44m	INTERMEDIATE in. @ ft.	IN STORAGE —	WEIGHT	bbl/stk .057/.065		stk/min 70	BOTTOMS UP (min) (strk) 45
DRILL COLLAR SIZE 6¼ [illegible]		LENGTH 170.91m	PRODUCTION OR LINER in. @ ft.	MUD TYPE FW Gel/Polymer		4.55 bbl/min		191 gal/min	TOTAL CIRC TIME (min) (strk) 145

	MUD PROPERTIES	
Sample From	☐ F.L. ☑ PIT	☐ F.L. ☑ PIT
ne Sample Taken	13:00	24:00
Temperature (°F)		
Depth (ft) (TVD / ft)	1234m	1250m
ight ☑ (ppg) ☐ (lb/cu ft) ☐ (sp gr)	9.2	9.3
nnel Viscosity (sec/qt) API @ °F	46	44
Plastic Viscosity cp @ °F	17	15
ld Point (lb/100 ft²)	16	15
l Strength (lb/100 ft²) 10 sec/10 min	6/15	4/16
Filtrate API (cm³/30 min)	7.2	7.0
l HTHP Filtrate (cm³/30 min) @ °F	—	—
ke Thickness (32nd in. API/HTHP)	2/32	2/32
Solids Content (% by Vol) ☑ calculated ☐ retort	5½	6
uid Content (% by Vol) Oil/Water	-/94½	-/94
and Content (% by Vol)	Trace	Trace
Methylene Blue Capacity ☑ lb/bbl equiv ☐ cm³/cm³ mud	15	—
☑ Strip ☐ Meter @ °F	9.0	9.0
Alkalinity Mud (P_m)	—	—
Al y Filtrate (P_f/M_f)	.2/.65	.15/.7
loride (mg/L)	900	900
Total Hardness as Calcium (mg/L)	40	40

MUD PROPERTY SPECIFICATIONS

WEIGHT VISCOSITY FILTRATE

Carbide lag at 1244m ⇒ Guage hole

RECOMMENDED TOUR TREATMENT

Gas and sample at 1123m ~~[illegible]~~ and
again at 1142m in top of [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
again at 1159m at 1230m [illegible] [illegible]
Pumped slug and POH [illegible] [illegible]
as per [illegible] [illegible] [illegible] [illegible]

REMARKS

No tight (¾ undergauge, Trip 7).
No problems POH and RIH [illegible]
Also [illegible] made up [illegible] [illegible] [illegible]
and to work [illegible] tight spots at 1070m
and 1100m. Ream 3 to bottom from
1194m. Circulating [illegible]

Mud maintenance. Continued sweeps
Polymer additions to maintain [illegible]
Premix. No Gel added [illegible] [illegible]
[illegible] remains.
Had to rebuild dilution, maintain
[illegible] mud volume by [illegible] mud from
[illegible] and trip tank to allow mud weight to
rise to 9.3ppg as requested by [illegible]

PRODUCT INVENTORY	Barite	[illegible]	Caustic	Kwik Drill	Gel	[illegible]	Polysal	Poly Pac	Soda Ash	Bicarb	Spersene	[illegible]	[illegible]	[illegible]	[illegible]	
RTING ENTORY	223	204	22	9	41	35	45	10	25	25	28	16	40	4	1	
RECEIVED																
ED LAST	20	—	1	—	—	1	10	1	—	—	—	—	—	—	—	
OSING INVENTORY	203	204	21	9	41	34	35	9	25	25	28	16	40	4	1	
COST LAST	134.0 7.88	—	22.75	—	—	63.57	347.5	22.75	—	—	—	—	—	—	—	

SOLIDS EQUIPMENT
SHAKER #1 80 / 80 mesh
SHAKER #2 80 / 80 mesh
MUD CLEANER — mesh
CENTRIFUGE — hours
DESANDER [illegible] 18 hours
DESILTER [illegible] 18 hours

M-I REPRESENTATIVE	PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Marc[illegible] [illegible]	056 [illegible]		$680.57	$5,348.30

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M-I Drilling Fluids Co.

Magcobar/IMCO A Dresser/Halliburton Company

P.O. BOX 42842 ■ HOUSTON, TEXAS 77242 USA

DRILLING MUD REPORT NO. 2

DATE 12/3/ 19 88 DEPTH 1?0? m

SPUD DATE 6/?/88 PRESENT ACTIVITY Wiper Trip

OPERATOR Beach Petroleum	CONTRACTOR Gearhart Drilling	RIG NO. 2
REPORT FOR Vince Santostefano	REPORT FOR S Moir	SECTION, TOWNSHIP, RANGE PPL Onshore
WELL NAME AND NO. Jona No. 1	FIELD OR BLOCK NO. PPL 1??	COUNTY, PARISH OR OFFSHORE AREA Otway Basin STATE/PROVINCE Victoria

DRILLING ASSEMBLY

BIT SIZE	TYPE	JET SIZE
8½	S?3G	3×11

DRILL PIPE SIZE	TYPE	LENGTH
4½	16.6 lb	

DRILL PIPE SIZE	TYPE	LENGTH
4½	Hwdp	25??

DRILL COLLAR SIZE	LENGTH
6¼ Pin	17? ??

CASING

SURFACE 9⅝ in. @ 2?5 m ft.

INTERMEDIATE in. @ ft.

INTERMEDIATE in. @ ft.

PRODUCTION OR LINER in. @ ft.

MUD VOLUME (BBL)

HOLE	PITS
270 bbls	350 bbls

TOTAL CIRCULATING VOLUME 620 bbls

IN STORAGE	WEIGHT
40 bbl	Premix

MUD TYPE F.W. Gel/Polymer

CIRCULATION DATA

PUMP SIZE 5½×8 , 6×8 X IN.

ANNULAR VEL (ft/min) DP 90 DC 105

PUMP MAKE, MODEL GD PZ8

ASSUMED EFF 97 %

CIRCULATION PRESSURE (psi) 700

bbl/stk .057/.065 stk/min 80/

BOTTOMS UP (min) (strk) 50

4.51 bbl/min 171 gal/min

TOTAL CIRC TIME (min) (strk) 140

MUD PROPERTIES

Sample From	☐ F.L. ☒ PIT	☐ F.L. ☒ PIT
Time Sample Taken	07.00	24.00
Flowline Temperature (°F)		
Depth (ft) (TVD / ft)		
Weight ☒ (ppg) ☐ (lb/cu ft) ☐ (sp gr)	9.3	9.3
Funnel Viscosity (sec/qt) API @ °F	4?	48
Plastic Viscosity cp @ °F	15	16
Yield Point (lb/100 ft²)	15	14
Gel Strength (lb/100 ft²) 10 sec/10 min	5/16	3/17
Filtrate API (cm³/30 min)	7.0	6.2
API HTHP Filtrate (cm³/30 min) @ °F	—	—
Cake Thickness (32nd in. API/HTHP)	2/32	2/32
Solids Content (% by Vol) ☒ calculated ☐ retort	6	6
Liquid Content (% by Vol) Oil/Water	-/94	-/94
Sand Content (% by Vol)	Trace	Trace
Methylene Blue Capacity ☒ lb/bbl equiv ☐ cm³/cm³ mud	—	15
pH ☒ Strip ☐ Meter @ °F	9.5	10
Alkalinity Mud (P_m)	—	—
Alkalinity Filtrate (P_f/M_f)	.2/.8	.45/1.2
Chloride (mg/L)	900	900
Total Hardness as Calcium (mg/L)	40	40

MUD PROPERTY SPECIFICATIONS

WEIGHT	VISCOSITY	FILTRATE

RECOMMENDED ~~TOUR TREATMENT~~

Drilled to 1380m. Circ [illegible]. Drill

to [illegible] Circ [illegible] Pull [illegible]

[illegible] to [illegible] [illegible]. [illegible]

[illegible].

Ran [illegible]

[illegible] to [illegible]. [illegible]

REMARKS

Sample ~~[illegible]~~

[illegible]

[illegible]

to run test.

Rig [illegible]. Ran to

[illegible]

[illegible]

Mud [illegible]

[illegible]

[illegible]

· Beach Steel [illegible] Combined

PRODUCT INVENTORY	Barite	[illegible]	Caustic	[illegible]	Gel	[illegible]	[illegible]	Poly [illegible]	Soda Ash	[illegible]	[illegible]	[illegible]	KCl	[illegible]	Pipe Lax	
STARTING INVENTORY	203	20	21	9	41	34	45	9	25	23	22	16	40	41	1	
RECEIVED	(57)															
USED LAST 24 hr	32	—	2	—	—	1	11	1	—	—	—	—	2	—	—	
CLOSING INVENTORY	224	20	19	9	41	33	34	8	25	23	22	16	38	40	1	
COST LAST 24 hr	2546	—	625	—	—	533	4623	3275	—	—	—	—	2982	—	—	

SOLIDS EQUIPMENT

SHAKER #1 ?60 / ?20 mesh

SHAKER #2 80 / 60 mesh

MUD CLEANER — mesh

CENTRIFUGE — hours

DESANDER 10" × 2 ?bbl/m 10 hours

DESILTER 16 × 4" 3 bbl/m 9 hours

M-I REPRESENTATIVE	PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Marc Ald [illegible]	055 ?3?103		$ 392.49	$ 6,2??.2?

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M-I Drilling Fluids Co.

Magcobar/IMCO A Dresser/Halliburton Company

P.O. BOX 42842 ■ HOUSTON, TEXAS 77242 USA

DRILLING MUD REPORT NO. 7

DATE 14/3/ 19 88 DEPTH 1305 m

SPUD DATE 6/3/88 PRESENT ACTIVITY TRIPPING

OPERATOR BEACH PETROLEUM	CONTRACTOR GEARHART DRILLING	RIG NO. 2
REPORT FOR VINCE SANTOSTEFANO	REPORT FOR S MOORE	SECTION, TOWNSHIP, RANGE PT CAMPBELL

WELL NAME AND NO. IONA No 1	FIELD OR BLOCK NO. P.E.P. 108	COUNTY, PARISH OR OFFSHORE AREA OTWAY BASIN	STATE/PROVINCE VICTORIA

DRILLING ASSEMBLY / CASING

BIT SIZE	TYPE	JET SIZE	SURFACE
8½			9⅝ in. @ 243 m ft.
DRILL PIPE SIZE	TYPE	LENGTH	INTERMEDIATE
4½			in. @ ft.
DRILL PIPE SIZE	TYPE	LENGTH	INTERMEDIATE
4½			in. @ ft.
DRILL COLLAR SIZE		LENGTH	PRODUCTION OR LINER
6¼ BHA			in. @ ft.

MUD VOLUME (BBL)

HOLE	PITS
230 bbls	400 bbls
TOTAL CIRCULATING VOLUME	
630 bbls	
IN STORAGE	WEIGHT
80 bbl	PREMIX UNWEIGHTED
MUD TYPE 2½% KCL MUD	
KCL GEL POLYMER	

CIRCULATION DATA

PUMP SIZE X IN. 5½ x 8, 6 x 8		ANNULAR VEL (ft/min) DP 39 DC 45
PUMP MAKE, MODEL GD PZ8	ASSUMED EFF 97 %	CIRCULATION PRESSURE (psi)
bbl/stk .057/.063	stk/min THROUGH 35 KILL	BOTTOMS UP (min) (strk) 110
2.012 bbl/min	84 gal/min	TOTAL CIRC TIME (min) (strk) 340

MUD PROPERTIES

Sample From	☐ F.L. ☒ PIT	☐ F.L. ☐ PIT
Time Sample Taken	06.00	24.00
Temperature (°F)		
Depth (ft) (TVD / ft)		
Weight ☒ (ppg) ☐ (lb/cu ft) ☐ (sp gr)	9.3	9.5
Funnel Viscosity (sec/qt) API @ °F	45	42
Plastic Viscosity cp @ °F	16	18
Yield Point (lb/100 ft²)	13	12
Gel Strength (lb/100 ft²) 10 sec/10 min	3/17	3/15
Filtrate API (cm³/30 min)	6.7	7.2
HTHP Filtrate (cm³/30 min) @ °F	—	—
Cake Thickness (32nd in. API/HTHP)	2/32	2/32
Solids Content (% by Vol) ☐ calculated ☐ retort	5	6
Liquid Content (% by Vol) Oil/Water	-/95	-/94
Sand Content (% by Vol)	Trace	Tr 0.1
Methylene Blue Capacity ☒ lb/bbl equiv ☐ cm³/cm³ mud	—	—
pH ☒ Strip ☐ Meter @ °F	10.0	9.5
Alkalinity Mud (P_m)	—	—
Alkalinity Filtrate (P_f/M_f)	.45/1.2	.3/1.9
Chloride (mg/L)	900	900
Total Hardness as Calcium (mg/L)	40	40

MUD PROPERTY SPECIFICATIONS

WEIGHT	VISCOSITY	FILTRATE

~~RECOMMENDED TOUR TREATMENT~~

P.O.H AND RAN DST TOOLS IN HOLE WITH 1000 FT 2½% KCL WATER CUSHION. RAN DST NO 1, HAD NO PROBLEMS RIH OR SETTING PACKERS AT 1277.5m AND 1270.5m. SUCCESSFUL TEST RUN. PULLED DST TOOL FREE AT 1300HRS

REMARKS

ATTEMPTED TO REVERSE CIRCULATE BUT HAD NO RETURNS. ~~[illegible]~~ RIGGED UP TO CIRCULATE CONVENTIONALLY. SHUT IN WELL - MONITORED PRESSURES. BUILT UP SURFACE MUD WT TO 9.5 PPG. CIRCULATED THROUGH CHOKE AND POOR BOY DEGASSER. RUNNING OTHER DEGASSER ALSO. MAINTAINED MUD WT AT 9.5PPG ~~COND~~ IN, [illegible] RETURN AT DEGASSER. THE RETURN AT 9.4 PPG FOR 2HRS. (GAS BUBBLE BELOW TOOL ~~[illegible]~~ CAUSING GAS MIGRATION UP ANNULUS) CIRC 2HRS. AT 22.00 HRS OPENED AND OBSERVED WELL - STATIC. BEGAN RUNNING STANDS TO STAND WHILE TRIP MONITORED [illegible]. BUILT EXTRA MUD VOLUME [illegible]. [illegible] [illegible].

PRODUCT INVENTORY	BARITE	KWIK THIK	CAUSTIC	KWIK SEAL	GEL	CMC LV	POLYSAL	PAC R	SODA ASH	BICARB	SPERSENE	DI CIDE	KCL	CALCIUM CHLORIDE	[illegible]	
STARTING INVENTORY	223	204	19	9	41	33	34	8	25	23	28	16	32	40	1	
RECEIVED																
USED LAST 24 hr	174	36	3	—	—	3	10	2	—	—	—	—	—	—	—	
CLOSING INVENTORY	5			9	41	30			25	23	28	16	32	40	1	
COST LAST 24 hr	1160.2	3888	1225	—	—	1602.1	3375	1655	—	—	—	—	—	—	—	
E																

SOLIDS EQUIPMENT

SHAKER #1 B80 / B80 mesh

SHAKER #2 B80 / B80 mesh

MUD CLEANER — mesh

CENTRIFUGE — hours

DESANDER — hours

DESILTER — hours

M-I REPRESENTATIVE	PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
MARTIN [illegible]	051-77113.		$ 2336.56	$ 8,522.25

NOTICE: THIS REPORT IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON REVERSE SIDE HEREOF.

M-I Drilling Fluids Co.
Magcobar/IMCO A Dresser/Halliburton Company
P. [illegible]OX 42842 ■ HOUSTON, TEXAS 77242 USA

DRILLING MUD REPORT NO. 10

DATE 15/3/ 19 88
DEPTH 1365 1/2 m
SPUD DATE 6/3/88
PRESENT ACTIVITY R.I.H. [illegible]

PERATOR Beach Petroleum
CONTRACTOR Gearhart Drilling
RIG NO. 2
HEPORT FOR Vinci Sant[illegible]
REPORT FOR S. Maile
SECTION, TOWNSHIP, RANGE PT Campbell
WELL NAME AND NO. Tuna No 1
FIELD OR BLOCK NO. P.E.P. 108
COUNTY, PARISH OR OFFSHORE AREA Otway Basin
STATE/PROVINCE Victoria

DRILLING ASSEMBLY			CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE 8 1/2	TYPE RC4,7E	JET SIZE Core B. open	SURFACE 9 5/8 in. @ 243 m ft.	HOLE 230 bbl	PITS 450 bbls	PUMP SIZE X IN. 5 1/2 x 8, Gar		ANNULAR VEL (ft/min) DP 75 DC 110
ILL PIPE SIZE 4 1/2	TYPE 16.6 lb	LENGTH	INTERMEDIATE in. @ ft.	TOTAL CIRCULATING VOLUME 730 bbls		PUMP MAKE, MODEL GD P26	ASSUMED EFF 97 %	CIRCULATION PRESSURE (psi) [illegible] 160
ILL PIPE E 4 1/2	TYPE Hwdp	LENGTH 85 24	INTERMEDIATE in. @ ft.	IN STORAGE — bbl	WEIGHT	bbl/stk stk/min .057/.065 –/75		BOTTOMS UP (min) (strk)
DRILL COLLAR SIZE 6 1/4 Bno		LENGTH 179 59 m	PRODUCTION OR LINER in. @ ft.	MUD TYPE [illegible]		4.75 bbl/min 200 gal/min		TOTAL CIRC TIME (min) (strk) 155

MUD PROPERTIES		
Sample From	☐ F.L. ☐ PIT	☐ F.L. ☑ PIT
Time Sample Taken	08.00	21.00
[illegible] Temperature (°F)		
Depth (ft) (TVD / ft)		
eight ☑ (ppg) ☐ (lb/cu ft) ☐ (sp gr)	9.5	9.5
unnel Viscosity (sec/qt) API @ °F	42	43
Plastic Viscosity cp @ °F	17	15
eld Point (lb/100 ft²)	12	11
el Strength (lb/100 ft²) 10 sec/10 min	6 /16	4 /13
Filtrate API (cm³/30 min)	7.1	7.0
PI HTHP Filtrate (cm³/30 min) @ °F	—	—
ake Thickness (32nd in. API/HTHP)	2 /32	2 /32
Solids Content (% by Vol) ☑ calculated ☐ retort	6	6
quid Content (% by Vol) Oil/Water	– /94	– /94
and Content (% by Vol)	0.1	Trace
Methylene Blue Capacity ☐ lb/bbl equiv ☐ cm³/cm³ mud	—	—
H ☑ Strip ☐ Meter @ °F	9.0	9.0
Alkalinity Mud (P_m)	—	—
Al[illegible]y Filtrate (P_f/M_f)	.05 /.8	.05 /1.2
hloride (mg/L)	1200	1100
Total Hardness as Calcium (mg/L)	70	80

MUD PROPERTY SPECIFICATIONS
WEIGHT
VISCOSITY
FILTRATE

RECOMMENDED TOUR TREATMENT

Mud maintenance [illegible] Caustic, Bicarb [illegible]
[illegible]
[illegible] Gas Contamination [illegible]
pH – [illegible]
[illegible]

REMARKS

Continued [illegible] Drill Stem
Test Tool, ~~[illegible]~~ without problem. [illegible]
[illegible] ~~[illegible]~~ ~~[illegible]~~ [illegible]
Circulating Bottoms up [illegible]
[illegible]
[illegible]
Ream [illegible]
[illegible]
Okay.

[illegible] Core Barrel.
[illegible]
[illegible]

PRODUCT INVENTORY Barite	Kwik Thik	Caustic	[illegible]	Gel	[illegible]	[illegible]	[illegible]	Soda Ash	Bicarb	[illegible]	[illegible]	KCl	[illegible]	[illegible]	[illegible]
ARTING VENTORY 61	168 ~~38~~	16	9	41	30	24	6	25	23	26	16	38	40	1	6
RECEIVED 360		43			34	80									
ED LAST hr 14	4	–	–	–	–	–	1	–	–	–	–	–	–	–	4
OSING INVENTORY 397	164	59	9	41	64	104	5	25	25	28	16	38	40	1	2
COST LAST hr 93.8	43.2	–	–	–	–	–	32.75	–	–	–	–	–	–	.	
E[illegible])															

SOLIDS EQUIPMENT
SHAKER #1 [illegible] , [illegible] mesh
SHAKER #2 [illegible] , [illegible] mesh
MUD CLEANER — mesh
CENTRIFUGE — hours
DESANDER 2 hours
DESILTER — hours

M-I REPRESENTATIVE [illegible]
PHONE 055 [illegible]
WAREHOUSE PHONE
DAILY COST $219.75
CUMULATIVE COST $ 8,745 60

NOTICE: THIS REPORT IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON REVERSE SIDE HEREOF.

M-I Drilling Fluids Co.
Magcobar/IMCO A Dresser/Halliburton Company
P. BOX 42842 ■ HOUSTON, TEXAS 77242 USA

DRILLING MUD REPORT NO.

DATE 11/3/ 19 88
DEPTH 1414 m
SPUD DATE 6/3/88
PRESENT ACTIVITY DRILLING

ERATOR Beach Petroleum	CONTRACTOR Gearhart Drilling	RIG NO. 2
REPORT FOR [illegible]	REPORT FOR S. Mann	SECTION, TOWNSHIP, RANGE Pt. Campbell

LL NAME AND NO. Iona No1	FIELD OR BLOCK NO. P.E.P. 108	COUNTY, PARISH OR OFFSHORE AREA Otway Basin	STATE/PROVINCE Victoria

DRILLING ASSEMBLY			CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE 8½	TYPE S13G	JET SIZE 3×11	SURFACE 9⅝ in. @ 253m ft.	HOLE 300 bbls	PITS 400 bbls	PUMP SIZE X IN. 5½×6 6×8		ANNULAR VEL (ft/min) DP 90 DC 141
ILL PIPE SIZE 4½	TYPE 16.6#	LENGTH	INTERMEDIATE in. @ ft.	TOTAL CIRCULATING VOLUME 700 bbls		PUMP MAKE, MODEL GD PZ8	ASSUMED EFF 97 %	CIRCULATION PRESSURE (psi) 200
ILL PIPE E 4½	TYPE HWDP	LENGTH 75m	INTERMEDIATE in. @ ft.	IN STORAGE —	WEIGHT	bbl/stk .057/.065	stk/min —/70	BOTTOMS UP (min) (strk) 60
DRILL COLLAR SIZE 6¼ BHA		LENGTH 171m	PRODUCTION OR LINER in. @ ft.	MUD TYPE FW Gel/Polymer		4.55 bbl/min	191 gal/min	TOTAL CIRC TIME (min) (strk) 155

	MUD PROPERTIES	
Sample From	☐ F.L. ☒ PIT	☐ F.L. ☒ PIT
ne Sample Taken	14:00	24:00
Temperature (°F)		
Depth (ft) (TVD / ft)		
eight ☒ (ppg) ☐ (lb/cu ft) ☐ (sp gr)	9.4	9.3
nnel Viscosity (sec/qt) API @ °F	44	44
Plastic Viscosity cp @ °F	14	15
eld Point (lb/100 ft²)	12	13
l Strength (lb/100 ft²) 10 sec/10 min	9/24	6/23
Filtrate API (cm³/30 min)	7.2	6.4
I HTHP Filtrate (cm³/30 min) @ °F	—	—
Cake Thickness (32nd in. API/HTHP)	2/32	1/32
Solids Content (% by Vol) ☒ calculated ☐ retort	5½	5
quid Content (% by Vol) Oil/Water	- / 94½	- / 95
Sand Content (% by Vol)	Trace	Trace
Methylene Blue Capacity ☒ lb/bbl equiv ☐ cm³/cm³ mud	10	—
☒ Strip ☐ Meter @ °F	10.0	9.0
Alkalinity Mud (P_m)	—	—
y Filtrate (P_f/M_f)	.4/1.7	.15/1.3
loride (mg/L)	1150	1150
Total Hardness as Calcium (mg/L)	20	30

MUD PROPERTY SPECIFICATIONS

WEIGHT	VISCOSITY	FILTRATE

RECOMMENDED TOUR TREATMENT

Tagged bottom @ with core barrel. Cleaned out fill to 1309m. Cut core to 1315.5m. P.O.H. and recovered 100%. Pressure test BOP and lay out core barrel. RIH with bit

REMARKS

and continued drilling 8½ hole through Waarre sandstone and into [illegible] formation. Core on at 1414.5m

---

Maintained mud properties and continued to reduce filtrate with premix additions. Allowing mud wt to naturally reduce with additions.

PRODUCT INVENTORY	Barite	[illegible]	Caustic	[illegible]	Gel	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RTING ENTORY	397	164	57	9	41	64	104	5	25	23	28	16	38	40	1	7
RECEIVED																
ED LAST hr	--	2	4	—	15	2	17	2	—	—	—	1	—	—	..	2
LOSING INVENTORY	397	162	53	9	26	62	75	3	25	23	28	15	38	40	1	—
COST LAST hr	—	216	910	—	2439	1074	7675	1155	—	—	—	3705	—	—	—	75
(trc)																

SOLIDS EQUIPMENT
SHAKER #1 [illegible] mesh
SHAKER #2 [illegible] mesh
MUD CLEANER — mesh
CENTRIFUGE — hours
DESANDER [illegible] 10 hours
DESILTER [illegible] 10 hours

M-I REPRESENTATIVE	PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
[illegible]	057 737105		$1481.94	$16,155.54

NOTICE: THIS REPORT IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON REVERSE SIDE HEREOF.

M-I Drilling Fluids Co.
Magcobar/IMCO A Dresser/Halliburton Company
P. BOX 42842 ■ HOUSTON, TEXAS 77242 USA

DRILLING MUD REPORT NO. 12

DATE 17/3/19 86
DEPTH 1470m
SPUD DATE 6/3/86
PRESENT ACTIVITY Logging

PERATOR Beach Petroleum
CONTRACTOR Gearhart Drilling
RIG NO. 2
REPORT FOR [illegible] Sandstrom and
REPORT FOR S. [illegible]
SECTION, TOWNSHIP, RANGE [illegible]
ELL NAME AND NO. Jema No 1
FIELD OR BLOCK NO. PPL 108
COUNTY, PARISH OR OFFSHORE AREA [illegible]
STATE/PROVINCE Victoria

DRILLING ASSEMBLY			CASING	MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE 8½	TYPE S13G	JET SIZE 3×11	SURFACE 9⅝ in. @ 275 ft.	HOLE out of 340 bbl	PITS hole 360 bbl	PUMP SIZE X IN. 5½×8, 6×8		ANNULAR VEL (ft/min) DP 90 DC 141	
ILL PIPE SIZE 4½	TYPE 16.6lb	LENGTH	INTERMEDIATE in. @ ft.	TOTAL CIRCULATING VOLUME 700 bbl		PUMP MAKE, MODEL GD PZ8	ASSUMED EFF 91 %	CIRCULATION PRESSURE (psi) 800	
ILL PIPE ZE 4½	TYPE [illegible]	LENGTH 85m	INTERMEDIATE in. @ ft.	IN STORAGE 20 bbl Trip Tank	WEIGHT 93	bbl/stk .057/.065	stk/min 80/–	BOTTOMS UP (min) (strk) 60	
DRILL COLLAR SIZE 6¼" 6in		LENGTH 170m	PRODUCTION OR LINER in. @ ft.	MUD TYPE FW. Gel/Polymer		4.56 bbl/min	191 gal/min	TOTAL CIRC TIME (min) (strk) 155	

MUD PROPERTIES		
Sample From	☐ F.L. ☐ PIT	☐ F.L. ☒ PIT
me Sample Taken	06:00	18:00
e Temperature (°F)		
Depth (ft) (TVD / ft)		
eight ☒ (ppg) ☐ (lb/cu ft) ☐ (sp gr)	9.5	9.3+
unnel Viscosity (sec/qt) API @ °F	46	46
Plastic Viscosity cp @ °F	15	14
eld Point (lb/100 ft²)	13	13
el Strength (lb/100 ft²) 10 sec/10 min	6/23	6/22
Filtrate API (cm³/30 min)	6.5	6.8
PI HTHP Filtrate (cm³/30 min) @ °F	–	–
ake Thickness (32nd in. API/HTHP)	2/32	2/32
Solids Content (% by Vol) ☐ calculated ☐ retort	5	5
quid Content (% by Vol) Oil/Water	–/95	–/95
Sand Content (% by Vol)	Trace	Trace
Methylene Blue Capacity ☐ lb/bbl equiv ☐ cm³/cm³ mud	–	–
H ☐ Strip ☐ Meter @ °F	9.0	9.0
Alkalinity Mud (P_m)	–	–
ty Filtrate (P_f/M_f)	.15/1.3	.1/1.4
hloride (mg/L)	1100	1050
Total Hardness as Calcium (mg/L)	30	45

MUD PROPERTY SPECIFICATIONS

WEIGHT	VISCOSITY	FILTRATE

RECOMMENDED TOUR TREATMENT

Circ sample. Continued drilling through [illegible] formation to 1470m to circ out [illegible] wiper trip to casing shoe. [illegible] to wash and ream out for 180m as [illegible] and [illegible] 3 bbl [illegible] P.O. [illegible] [illegible]

REMARKS

Ran back to bottom. Circ out. Small gas up to 38 units but dropped back quickly after bottoms up.
Pulled out, [illegible] [illegible] to [illegible] [illegible] to [illegible] Schlumberger.
Rigged up Gearhart and began running logs.
Hole taking small amount of mud.
– (1½ bbl in 3 hrs.)

Mud alkalinity still showing signs of residual ~~[illegible]~~ CO2 contamination but [illegible] all major properties [illegible] unaffected.

PRODUCT INVENTORY	Barite	Kwik Thik	Caustic	[illegible]	Gel	[illegible]	Polysal	Polypac	Soda Ash	Bicarb	[illegible]	[illegible]	KCl	[illegible]	Pipe Lax	[illegible]
ARTING VENTORY	397	162	55	9	26	62	85	3	25	23	28	15	38	40	1	–
RECEIVED																
SED LAST hr	30	–	2	–	–	1	5	–	–	–	–	–	–	–	–	–
LOSING INVENTORY	367	162	53	9	26	61	80	3	25	23	22	15	38	40	1	
COST LAST hr	210	–	455	–	–	555	1935	–	–	–	–	–	–	–	–	–
(tr C)																

SOLIDS EQUIPMENT
SHAKER #1 B80, B120 mesh
SHAKER #2 B80, B80 mesh
MUD CLEANER – mesh
CENTRIFUGE – hours
DESANDER ~~[illegible]~~ 7½ hours
DESILTER 10½ hours

M-I REPRESENTATIVE	PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
052-731183			$ 493.82	$10,649.56

NOTICE: THIS REPORT IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON REVERSE SIDE HEREOF.

M-I Drilling Fluids Co.
Magcobar/IMCO A Dresser/Halliburton Company
P. BOX 42842 ■ HOUSTON, TEXAS 77242 USA

DRILLING MUD REPORT NO. 13

DATE 12/3/1988	DEPTH 1470m	
SPUD DATE 6/3/88	PRESENT ACTIVITY LOGGING/WIPER TRIP	
PERATOR BEACH PETROLEUM	CONTRACTOR GEARHART DRILLING	RIG NO. 2
REPORT FOR VINCE SANTOSTEFANO	REPORT FOR S. MANN.	SECTION, TOWNSHIP, RANGE PT CAMPBELL
ELL NAME AND NO. IONA No 1	FIELD OR BLOCK NO. PEP 108	COUNTY, PARISH OR OFFSHORE AREA OTWAY BASIN
		STATE/PROVINCE VICTORIA

DRILLING ASSEMBLY			CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE	TYPE	JET SIZE	SURFACE 9 5/8 in. @ 243.5m ft.	HOLE 340 bbls	PITS 360 bbls	PUMP SIZE X IN. 5 1/2 x 8, 6 x 8		ANNULAR VEL (ft/min) DP ___ DC ___
RILL PIPE SIZE	TYPE	LENGTH	INTERMEDIATE in. @ ft.	TOTAL CIRCULATING VOLUME bbls		PUMP MAKE, MODEL GD PZ8	ASSUMED EFF 97 %	CIRCULATION PRESSURE (psi)
RILL PIPE ZE	TYPE	LENGTH	INTERMEDIATE in. @ ft.	IN STORAGE —	WEIGHT —	bbl/stk .057/.064 stk/min		BOTTOMS UP (min) (strk)
DRILL COLLAR SIZE		LENGTH	PRODUCTION OR LINER in. @ ft.	MUD TYPE F.W. GEL/POLYMER		bbl/min gal/min		TOTAL CIRC TIME (min) (strk)

	MUD PROPERTIES	
Sample From	☐ F.L. ☑ PIT	☐ F.L. ☐ PIT
me Sample Taken		
Temperature (°F)		
Depth (ft) (TVD / ft)		
eight ☑ (ppg) ☐ (lb/cu ft) ☐ (sp gr)	9.3	
nnel Viscosity (sec/qt) API @ °F	46	
Plastic Viscosity cp @ °F	15	
eld Point (lb/100 ft²)	10	
el Strength (lb/100 ft²) 10 sec/10 min	4 /12	/
Filtrate API (cm³/30 min)	7.5	
PI HTHP Filtrate (cm³/30 min) @ °F	—	
Cake Thickness (32nd in. API/HTHP)	2 /32	/
Solids Content (% by Vol) ☐ calculated ☐ retort	5	
quid Content (% by Vol) Oil/Water	- /95	/
Sand Content (% by Vol)	TRACE	
Methylene Blue Capacity ☐ lb/bbl equiv ☐ cm³/cm³ mud	—	
H ☑ Strip ☐ Meter @ °F	9.5	
Alkalinity Mud (P_m)	.	
ty Filtrate (P_f/M_f)	.05 /.15	/
hloride (mg/L)	1050	
Total Hardness as Calcium (mg/L)	60	

MUD PROPERTY SPECIFICATIONS

WEIGHT	VISCOSITY	FILTRATE

RECOMMENDED TOUR TREATMENT

CONTINUED RUNNING GEARHART LOGS.
CALIPER SHOWED HOLE IN VERY GOOD GAUGE.
LOGS GOING IN WELL.
RAN (1) DLL-MSFL-GR-CAL
(2) SONIC
(3) DENSITY NEUTRON

REMARKS

(4) VELOCITY SURVEY
(5) DIPMETER
(HOLE TOOK 10 1/4 bbls DURING ENTIRE LOGGING).
RIGGED DOWN ~~[illegible]~~, PREP TO RUN IN [illegible]
WIPER TRIP.

COST CORRECTION - [illegible] TOTAL $10,713.26.

PRODUCT INVENTORY	[illegible]	[illegible]	CAUSTIC	[illegible]	GEL	[illegible]	[illegible]	POLYPAC	SODA ASH	BICARB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ARTING ENTORY	367	162	53	9	26	60	21	3	25	23	26	15	32	40	1	—
RECEIVED																
ED LAST hr	17	—	—	—	—	—	—	1	—	—	—	2	—	—	—	—
LOSING INVENTORY	350	162	53	9	26	60	21	2	25	23	26	13	32	40	1	.
COST LAST hr	1139	—	—	—	—	—	—	2275	—	.	—	701	—	—	—	—
ED (fro)																

SOLIDS EQUIPMENT

SHAKER #1 B80, B80 mesh
SHAKER #2 B80, B80 mesh
MUD CLEANER — mesh
CENTRIFUGE — hours
DESANDER / hours
DESILTER / hours

M-I REPRESENTATIVE	PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
MARCUS DE MEDEIROS	057 372103		$ 2707	$ 10,734.61

NOTICE. THIS REPORT IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON REVERSE SIDE HEREOF.

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Completion

OPERATOR Beach Petroleum CONTRACTOR Gearhart Drilling WELL Iona No 1

Magcobar

DATE			20/3/88			21/3/88			22/3/88			23/3/88			24/3/88			25/3/88			26/3/88			TOTAL FOR	
PRODUCT	UNIT	BAL	RECD	USED	BAL	RECD.	USED	BAL	RECD	USED	BAL	RECD	USED	BAL.	RECD.	USED	BAL	RECD	USED	BAL	RECD	USED	BAL	RECD	USED
MAGCOBAR	50kg	415			415			415			415														
MAGCOGEL	100lb	146		12	134			134			134														
SPERSENE	25kg	22		6	22			22			22														
XP-20																									
RESINEX																									
CAUSTIC SODA	25kg	52		3	49			49			49														
Soda Ash	40kg	25			25			25			25														
Bicarbonate	40kg	23			23			23			23														
Lime	25kg	38			38			38			38														
Calcium Chloride	25kg.	40			40			40			40														
Kwik Thik	25kg	162			162			162			162														
Polysal	25kg	81			81			81			81														
Polypac	25kg.	2		1	1		1	NIL			NIL														
CMC (EHV)	25kg	61			61			61			61														
Potassium Chloride	50kg	32			32			32			32														
D.I. - Cide	25L	12			12		1	11			11														
Pipe Lax	205L	1			1			1			1														
Kwik Dril	5L	9			9			9			9														
Sodium Sulphite	50kg	2			2			2		1	1														
Salt	25kg	200			200		160	40		25	15														
Salt	50kg	40			40		20	20			20														
Inhibitor 303	205L	1			1			1		1	NIL														

M-I Drilling Fluids Co.
Magcobar/IMCO A Dresser/Halliburton Company
BOX 42842 ■ HOUSTON, TEXAS 77242 USA

DRILLING MUD REPORT NO. 15

DATE 20/1/19 [illegible]
DEPTH 1470m
SPUD DATE 6/3/88
PRESENT ACTIVITY Running Casing

ERATOR Beach Petroleum
CONTRACTOR [illegible]
RIG NO. 2
REPORT FOR Vince Santoserrano
REPORT FOR S. Mahr
SECTION, TOWNSHIP, RANGE P7 Campbell
LL NAME AND NO. Jono No. 1
FIELD OR BLOCK NO. PEP 108
COUNTY, PARISH OR OFFSHORE AREA Otway Basin
STATE/PROVINCE Victoria

DRILLING ASSEMBLY			CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE	TYPE	JET SIZE	SURFACE 9⅝ in. @ 243.5m ft.	HOLE 31? bbl	PITS 380 bbl	PUMP SIZE X IN. 5½ x 8 , 6 x 8		ANNULAR VEL (ft/min) DP DC
ILL PIPE SIZE	TYPE	LENGTH	INTERMEDIATE in. @ ft.	TOTAL CIRCULATING VOLUME 695 bbl		PUMP MAKE, MODEL [illegible]	ASSUMED EFF 97 %	CIRCULATION PRESSURE (psi)
ILL PIPE E	TYPE	LENGTH	INTERMEDIATE in. @ ft.	IN STORAGE 120 bbl	WEIGHT [illegible]	bbl/stk stk/min .0547/.065		BOTTOMS UP (min) (strk)
DRILL COLLAR SIZE		LENGTH	PRODUCTION OR LINER in. @ ft.	MUD TYPE Fw Gel/Polymer		bbl/min gal/min		TOTAL CIRC TIME (min) (strk)

	MUD PROPERTIES	
Sample From	☐ F.L. ☑ PIT	☐ F.L. ☐ PIT
ne Sample Taken	20:00	
e Temperature (°F)		
Depth (ft) (TVD / ft)		
ight ☑ (ppg) ☐ (lb/cu ft) ☐ (sp gr)	9.3	
nnel Viscosity (sec/qt) API @ °F	36	
Plastic Viscosity cp @ °F	12	
eld Point (lb/100 ft²)	7	
el Strength (lb/100 ft²) 10 sec/10 min	1/5	/
Filtrate API (cm³/30 min)	7.2	
HTHP Filtrate (cm³/30 min) @ °F	—	
Cake Thickness (32nd in. API/HTHP)	2/32	/
Solids Content (% by Vol) ☐ calculated ☐ retort	5	
uid Content (% by Vol) Oil/Water	— / 95	/
Sand Content (% by Vol)	Trace	
thylene Blue Capacity ☐ lb/bbl equiv ☐ cm³/cm³ mud	—	
☑ Strip ☐ Meter @ °F	9.5	
Alkalinity Mud (P_m)	—	
ity Filtrate (P_f/M_f)	.3/1.6	/
oride (mg/L)	1250	
Total Hardness as Calcium (mg/L)	40	

MUD PROPERTY SPECIFICATIONS

WEIGHT	VISCOSITY	FILTRATE

RECOMMENDED TOUR TREATMENT

Reduced mud yield point prior to cementing
casing with spacer and [illegible] to
aid [illegible]

Mixed 120 bbl of 3% gel [illegible]
in reserve tank for [illegible]

REMARKS

Activity Completed [illegible] and [illegible]
Logs [illegible]
[illegible] casing [illegible]
Circ [illegible]
P.O.H [illegible]
[illegible]
Began running in [illegible]
[illegible]

PRODUCT INVENTORY	[illegible]	Kwik Thik	[illegible]	Gel	[illegible]	[illegible]	[illegible]	Bicarb	[illegible]	[illegible]	Lime	[illegible]	[illegible]	[illegible]	[illegible]	
RTING ENTORY	415	162	52	141	61	21	2	23	24	12	33	20	40	1	2	
RECEIVED																
ED LAST hr	—	—	3	12	—	—	1	—	6	—	—	—	—	—	—	
CLOSING INVENTORY	415	162	49	129	61	21	1	23	22	12	33	20	40	1	2	
ST LAST r	—	—	68.25	115.12	—	—	32.15	—	160.5	—	—	—	—	—	—	
ED (f C)																

SOLIDS EQUIPMENT
SHAKER #1 180 / [illegible] mesh
SHAKER #2 180 / [illegible] mesh
MUD CLEANER — mesh
CENTRIFUGE — hours
DESANDER 2 hours
DESILTER 2 hours

M-I REPRESENTATIVE [illegible]
PHONE 052 237141
WAREHOUSE PHONE
DAILY COST $506.42
CUMULATIVE COST $11,661.63

NOTICE: THIS REPORT IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON REVERSE SIDE HEREOF.

M-I Drilling Fluids Co.
Magcobar/IMCO   A Dresser/Halliburton Company
P BOX 42842 ■ HOUSTON, TEXAS 77242 USA

DRILLING MUD REPORT NO. 16

DATE 21/3/19 88   DEPTH 1410
SPUD DATE 6/3/88   PRESENT ACTIVITY Nippling up

ERATOR Beach Petroleum
REPORT FOR Vince Santostefano
CONTRACTOR Gearhart Drilling
REPORT FOR S. Maier
RIG NO. 2
SECTION, TOWNSHIP, RANGE PT Campbell
ELL NAME AND NO. Tann No 1
FIELD OR BLOCK NO. PEP 108
COUNTY, PARISH OR OFFSHORE AREA Otway Basin
STATE/PROVINCE Victoria

DRILLING ASSEMBLY			CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE	TYPE	JET SIZE	SURFACE 9 5/8 in. @ 243.5 ft.	HOLE	PITS	PUMP SIZE X IN.		ANNULAR VEL (ft/min) DP ____ DC ____
ILL PIPE SIZE	TYPE	LENGTH	INTERMEDIATE 5 1/2 in. @ 1475.75m	TOTAL CIRCULATING VOLUME		PUMP MAKE, MODEL	ASSUMED EFF %	CIRCULATION PRESSURE (psi)
ILL PIPE ZE	TYPE	LENGTH	INTERMEDIATE in. @ ft.	IN STORAGE	WEIGHT	bbl/stk	stk/min	BOTTOMS UP (min) (strk)
DRILL COLLAR SIZE		LENGTH	PRODUCTION OR LINER in. @ ft.	MUD TYPE		bbl/min	gal/min	TOTAL CIRC TIME (min) (strk)

	MUD PROPERTIES	
Sample From	☐ F.L. ☒ PIT	☐ F.L. ☐ PIT
me Sample Taken	Brine	Hi-Vis Pill
ine Temperature (°F)		
Dep (ft) (TVD / ft)		
eight ☒ (ppg) ☐ (lb/cu ft) ☐ (sp gr)	9.3	8.3*
unnel Viscosity (sec/qt) API @ °F		70
Plastic Viscosity cp @ °F		
ield Point (lb/100 ft²)		
el Strength (lb/100 ft²) 10 sec/10 min	/	/
Filtrate API (cm³/30 min)		
PI HTHP Filtrate (cm³/30 min) @ °F		
ake Thickness (32nd in. API/HTHP)	/	/
Solids Content (% by Vol) ☐ calculated ☐ retort		
iquid Content (% by Vol) Oil/Water	/	/
Sand Content (% by Vol)		
Methylene Blue Capacity ☐ lb/bbl equiv ☐ cm³/cm³ mud		
H ☒ Strip ☐ Meter @ °F	11.5	
Alkalinity Mud (P_m)		
inity Filtrate (P_f/M_f)	/	/
ide (mg/L)	105,000	
Total Hardness as Calcium (mg/L)		

MUD PROPERTY SPECIFICATIONS

WEIGHT   VISCOSITY   FILTRATE

RECOMMENDED TOUR TREATMENT

Dumped and Cleaned Surface mud Tank
After Cement Job mixed up a 20 bbl Hi-Vis
Pill in Pill Tank, and 180 bbl of 9.3 ppg Brine
in 2 Reserve Tanks for completion fluid
Filled another Tank with water for
washing out lines and pumps

REMARKS

Continued Running 5 1/2" Casing at 19[illegible]
Took [illegible] to wash past Bridge at 1465m
Circulated casing 1 hour [illegible] Reamed
[illegible] Plug [illegible] To [illegible] Cement [illegible]
Casing [illegible] Returns [illegible]
Held 3000 psi on plug – Reduced to 1300
[illegible]
After [illegible] hrs To [illegible]
and Began [illegible]
of B.O.P

PRODUCT INVENTORY	Barite	[illegible]	Caustic	Gel	[illegible]	[illegible]	Polymer	Bicarb	[illegible]	[illegible]	Lime	[illegible]	[illegible]	[illegible]	[illegible]
TARTING IVENTORY	415	162	49	134	61	81	1	23	22	12	38	200	40	1	2
RECEIVED															
SED LAST 4 hr	—	—	—	—	—	—	1	—	—	1	—	160	20	—	—
LOSING INVENTORY	415	162	49	134	61	81	Nil	23	22	11	38	40	20	1	2
OST LAST 4 hr	—	—	—	—	—	—	827 4	—	—	3100	—	(560)	(140)	—	—
SED (DC)												[illegible]	[illegible]	[illegible]	(Nil Cost)

SOLIDS EQUIPMENT
SHAKER #1 [illegible] / [illegible] mes
SHAKER #2 [illegible] / [illegible] mes
MUD CLEANER ____ mes
CENTRIFUGE ____ hou
DESANDER ____ hou
DESILTER ____ hou

EPRESENTATIVE	PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
[illegible]	[illegible] 731103		$ 317 80	$ 12,[illegible]

NOTICE: THIS REPORT IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON REVERSE SIDE HEREOF.

M-I Drilling Fluids Co.
Magcobar/IMCO A Dresser/Halliburton Company
P.O. BOX 42842 ■ HOUSTON, TEXAS 77242 USA

DRILLING MUD REPORT NO.

DATE 22/2/ 19 [illegible]
DEPTH [illegible]
SPUD DATE 6/2/[illegible]
PRESENT ACTIVITY

ATOR [illegible]
CONTRACTOR [illegible]
RIG NO. 2
EPORT FOR [illegible]
REPORT FOR 5 [illegible]
SECTION, TOWNSHIP, RANGE [illegible]
ELL NAME AND NO. [illegible]
FIELD OR BLOCK NO. PEP 108
COUNTY, PARISH OR OFFSHORE AREA Otway Basin
STATE/PROVINCE Victoria

DRILLING ASSEMBLY			CASING	MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	JET SIZE	SURFACE 9 5/8 in. @ 2445 ft.	HOLE	PITS	PUMP SIZE X IN.			ANNULAR VEL (ft/min) DP DC
RILL PIPE SIZE	TYPE	LENGTH	INTERMEDIATE 5 1/2 in. @ 14[illegible] ft.	TOTAL CIRCULATING VOLUME		PUMP MAKE, MODEL	ASSUMED EFF %		CIRCULATION PRESSURE (psi)
RILL PIPE IZE	TYPE	LENGTH	INTERMEDIATE in. @ ft.	IN STORAGE	WEIGHT	bbl/stk		stk/min	BOTTOMS UP (min) (strk)
DRILL COLLAR SIZE		LENGTH	PRODUCTION OR LINER in. @ ft.	MUD TYPE		bbl/min		gal/min	TOTAL CIRC TIME (min) (strk)

	MUD PROPERTIES	
Sample From	☐ F.L. ☐ PIT	☐ F.L. ☐ PIT
Time Sample Taken		
line Temperature (°F)		
(ft) (TVD / ft)		
Weight ☐ (ppg) ☐ (lb/cu ft) ☐ (sp gr)		
unnel Viscosity (sec/qt) API @ °F		
Plastic Viscosity cp @ °F		
ield Point (lb/100 ft²)		
el Strength (lb/100 ft²) 10 sec/10 min	/	/
Filtrate API (cm³/30 min)		
PI HTHP Filtrate (cm³/30 min) @ °F		
ake Thickness (32nd in. API/HTHP)	/	/
Solids Content (% by Vol) ☐ calculated ☐ retort		
iquid Content (% by Vol) Oil/Water	/	/
Sand Content (% by Vol)		
Methylene Blue Capacity ☐ lb/bbl equiv ☐ cm³/cm³ mud		
H ☐ Strip ☐ Meter @ °F		
Alkalinity Mud (P_m)		
Alkalinity Filtrate (P_f/M_f)	/	/
e (mg/L)		
Total Hardness as Calcium (mg/L)		

MUD PROPERTY SPECIFICATIONS		
WEIGHT	VISCOSITY	FILTRATE

RECOMMENDED TOUR TREATMENT

REMARKS

[illegible]

Bailing mud [illegible], [illegible] 16 bbl [illegible]

[illegible]

[illegible] 30 [illegible]

[illegible]

[illegible]

PRODUCT INVENTORY	[illegible]	[illegible]	[illegible]	Gel	CMC	[illegible]	Bicarb	Spersene	[illegible]	Lime	Soda [illegible]	[illegible]	[illegible]	[illegible]		
STARTING INVENTORY	4[illegible]	162	49	134	61	21	23	22	11	38	40	20	1	2		
RECEIVED																
USED LAST 24 hr	—	—	—	—	—	—	—	—	—	—	25	—	1	1		
CLOSING INVENTORY	[illegible]	162	49	134	61	21	23	22	11	38	15	20	NIL	1		
COST LAST 24 hr	—	—	—	—	—	—	—	—	—	—	87[illegible]	—	450	[illegible]		
USED from IADC)											[illegible]		[illegible]			

SOLIDS EQUIPMENT
SHAKER #1 1 me
SHAKER #2 1 me
MUD CLEANER me
CENTRIFUGE hou
DESANDER hou
DESILTER hou

RESENTATIVE	PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
[illegible]	057 [illegible]		$ 571.00	$ 13,051.83

NOTICE: THIS REPORT IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON REVERSE SIDE HEREOF.

M-I Australia Pty. Ltd.
Magcobar/IMCO A Dresser/Halliburton Company

WELL SUMMARY

WELL HISTORY SHEET

MATERIALS INVENTORY

WELL HISTORY

Magcobar

☐ DRILLING FLUID SERVICES ☐

PAGE 1 OF 1

OPERATOR BEACH PETROLEUM	SECTION	TOWNSHIP PT. CAMPBELL	MUD TYPE F.W. GEL/POLYMER	
WELL IONA #1	FIELD		SPUD DATE 6th March, 1988.	
CONTRACTOR GEARHART DRILLING	COUNTY/PARISH OTWAY BASIN		T.D. DATE 17th March, 1988	
ENGINEER M. OLEJNICZAK	STATE VICTORIA		DAYS TO T.D. 11	

	SIZE	DEPTH	BIT SIZE	NO. BITS	ROTATING HOURS	DEGASSER	DESANDER	DESILTER	CENTRIFUGE	SHAKER & SCREENS
CONDUCTOR	16"	9¼								
SURFACE	9 5/8"	243	12¼	1	11		Cont.	Cont.		40/60
INTERMEDIATE										
LINERS										
PRODUCTION	5½	1475.75	8½	4	81.5		Cont.	Cont.		60/80

DATE	MEASURED DEPTH Metres	TVD	MUD WT ppg	VIS SEC	ANGLE AND DIRECTION	FLOW RATE (gpm)	FLOW LINE TEMP ☐°F ☐°C	PV.	YP.	GELS 0/10	PH	API FLUID LOSS	HTHP FLUID LOSS	Pf	Mf	Pm	SALT OR CHLORIDE ☐ ppm ☐ mg/l	CALCIUM (ppm)	SOL %	OIL %	MBT		BARITE	GEL	CAUSTIC	BICARB	LIME	KWIK THIK	POLYSAL	POLYPAC	CMC EHV	KCL	KWIK DRIL	D-I CIDE	SPERSENE	SALT 50KG	SALT 25KG	INHIB303	SOD SULF		MUD COST
6.3	32		8.4	28		219		2	2	2/3	9.5	N.C.	-	.3	.4	-	4000	100	1	-							4					20									317.2
Drilled rathole and mousehole with water. Spud in with water adding KCl and lime.																																									
7.3	247		9.0	52		410		12	37	25/40	9.0	N.C.	-	.15	.2	-	2000	50	4	-	-			9	1		1														173.8
Drilled Marl. Allowed viscosity to increase to casing point. Wiper trip - ran 9 5/8" casing.																																									
8.3	247					No circulation - Old mud in tanks.																			1			18													217.1
CMTD 9 5/8" casing. Nippling up.																																									
9.3	633		8.8	43		215		13	13	6/17	9.0	7.5	-	.15	.4	-	1250	50	3½	-				39	5	2		18	10		12		1								2026.41
Drilled out with mud - water mixture. From 292 metres into sands changed to mud system.																																									
10.3	976		9.0	43		246		15	15	5/18	9.5	10	-	.3	.6	-	900	40	4	-			40	50	5						3										1355.4
Drilling, trip for bit.																																									
11.3	1125		9.2	46		191		17	16	6/15	9.5	6.7	-	.3	.65	-	1000	40	5	-	17								5	3	1			2							569.6
Reamed tight spots. Drilling. Circulate out drill breaks.																																									
12.3	1250		9.3	44		191		15	15	4/16	9.0	7.0	-	.15	.7	-	900	40	6	-	15		20		1				10	1	1										680.57
Drilling . Circulate out drill breaks. Bit change. Drilling																																									
13.3	1305½		9.3	45		191		16	15	3/17	10	6.8	-	.45	1.2	-	900	40	6	-	14		38		2				11	1	1	2									892.4
Drilled to 135.5 circulate out breaks. Wiper trip . P.O.H., R.I.H. and circulate.																																									
14.3	1205½		9.5	42		84		18	12	8/15	9.5	7.2	-	.3	.9	-	900	40	6	-	-		174		3			36	10	2	3										2336.
Ran DST #1. Circulate out through choke raising wt to 9.5 ppg.																																									
15.3	1305½		9.5	43		200		15	11	4/18	9.0	7.0	-	.05	1.2	-	1100	80	6	-	-		14				4	4		1											238.7
P.O.H. with DST tools. Wiper trip. R.I.H. with core barrel.																																									
16.3	1414½		9.3	44		191		15	13	6/23	9.0	6.4	-	.15	1.3	-	1500	30	5	-	10			15	4		2	2	19	2	2			1							1411.
Cut and core - 100%. Continued drilling																																									
17.3	1490		9.3	46		191		14	13	6/22	9.0	6.8	-	.1	1.4	-	1050	60	5	-	-		30		2				5		1										493.8
Drilled to 1490 metres T.D. Wiper trip and logs.																																									
18.3	1490		9.3	46				14	10	4/22	9.5	7.5	-	.15	1.5	-	1050	60	5	-	-		17							1				2							270.7
Logging																																									
19.3	1490		9.3	46		202		15	10	4/22	9.5	7.5	-	.15	1.5	-	1050	60	5	-	-		15		1		2							1							169.8
Wiper trip, continued logging.																																									
20.3	1490		9.3	36				12	3	1/5	9.5	7.3	-	.3	1.6	-	1050	40	5	-	-			12	3					1					6						506.6
Wiper trip. Running 5½" casing.																																									
21.3	1490		9.3	-	Completion brine -					/	11.5						105000													1				1		20	60				1869.8
Ran and cemented 5½" casing. Mixed completion brine.																																									
22.3	1480		9.3							/	11.5																										25	1	1		962.2
Nippled up. Ran in with tubing and scraper. Displaced casing to 9.3 ppg brine.																																									

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OPERATOR BEACH PETROLEUM CONTRACTOR GEARHART DRILLING WELL IONA No 1

DATE			6/3/88			7/3/88			8/3/88			9/3/88			10/3/88			11/3/88			12/3/88			TOTAL FOR	
PRODUCT	UNIT	BAL	RECD	USED	BAL	RECD.	USED	BAL.	RECD.	USED	BAL.	RECD.	USED	BAL.	RECD.	USED	BAL	RECD	USED	BAL	RECD	USED	BAL	RECD	USED
MAGCOBAR	50kg	268			268			268			268			268		40	228			228		20	208	268	60
MAGCOGEL	100lb	139			139		9	130			130		39	91		50	41			41			41	139	98
SPERSENE	25kg	28			28			28			28			28			28			28			28	28	-
XP-20																									
RESINEX																									
CAUSTIC SODA	25kg	34			34		1	33		1	32		5	27		5	22			22		1	21	34	13
SODA ASH	40kg	25			25			25			25			25			25			25			25	25	—
BICARBONATE	40kg	25			25			25			25		2	23			23			23			23	25	2
LIME	25kg	11		4	7		1	6			6			6			6			6			6	11	5
CALCIUM CHLORIDE	25kg	40			40			40			40			40			40			40			40	40	—
KWIK THIK	25kg	240			240			240		18	222		18	204			204			204			204	240	36
POLYSAL	25kg	71			71			71			71		10	61			61		5	56		10	46	71	25
POLYPAC	25kg	13			13			13			13			13			13		3	10		1	9	13	4
CMC (EHV)	25kg	51			51			51			51		12	39		3	36		1	35		1	34	51	17
POTASSIUM CHLORIDE	50kg	60		20	40			40			40			40			40			40			40	60	20
DI-CIDE	25L	18			18			18			18			18			18		2	16			16	18	2
PIPE LAX	205L	1			1			1			1			1			1			1			1	1	—
KWIK DRIL	5L								10		10		1	9			9			9			9	10	1
		TRANSFERRED FROM COMPTON No 1																						TRANSFERRED FROM COMPTON No 1	

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OPERATOR BEACH PETROLEUM CONTRACTOR GEARHART DRILLING WELL TOINA No 1.

DATE			13/3/82			14/3/82			15/3/82			16/3/82			17/3/82			18/3/82			19/3/82			TOTAL FOR W	
PRODUCT	UNIT	BAL.	RECD. BEACH	USED	BAL.	RECD.	USED	BAL.	RECD	USED	BAL.	RECD.	USED	BAL.	RECD.	USED	BAL	RECD.	USED	BAL	RECD	USED	BAL	RECD	USED
MAGCOBAR	50kg	208	55	38	225		174	51	360	14	397			397		30	367		17	350	80	15	415	495	288
MAGCOGEL	100lb.	41			41			41			41		15	26			26			26	120		146	120	15
SPERSENE	25kg	28			28			28			28			28			28			28			28	—	—
XP 20																									
RESINEX																									
CAUSTIC SODA	25kg	21		2	19		3	16	43		59		4	55		2	53			53		1	52	43	12
SODA ASH	40kg	25			25			25			25			25			25			25			25	—	—
BICARBONATE	40kg	23			23			23			23			23			23			23			23	—	—
LIME	25kg	6			6			6		4	2		2	—			—			—	40	2	32	40	8
CALCIUM CHLORIDE	25kg	40			40			40			40			40			40			40			40	—	—
KWIK THIK	25kg	204			204		36	168		4	164		2	162			162			162			162	—	42
POLYSAL	25kg	46		11	35		10	25	80		105		19	86		5	81			81			81	80	45
POLYPAC	25kg	9		1	8		2	6		1	5		2	3			3		1	2			2	—	7
CMC (EHV)	25kg	34		1	33		3	30	34		64		2	62		1	61			61			61	34	7
POTASSIUM CHLORIDE	50kg	40		2	38			38			38			32			38			32			38	—	2
D.I. CIDE	25L	16			16			16			16		1	15			15		2	13		1	12	—	4
PIPE LAX	205L	1			1			1			1			1			1			1			1	—	—
KWIK DRIL	5L	9			9			9			9			9			9			9			9	—	—
SODIUM SULPHITE	50kg																				2		2	2	—
SALT	25kg																				200		200	200	—
SALT	50kg																				40		40	40	—
INHIBITOR 303	205L																				1		1	1	—

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OPERATOR BEACH PETROLEUM COMPLETION CONTRACTOR GEARHART DRILLING WELL IONA No 1

DATE			20/3/22			21/3/22			22/3/28			23/3/22			24/3/28			25/3/88			26/3/22			TOTAL FO	
PRODUCT	UNIT	BAL	RECD	USED	BAL	RECD.	USED	BAL	RECD	USED	BAL	RECD	USED	BAL	RECD.	USED	BAL	RECD	USED	BAL	RECD	USED	BAL	RECD	USED
MAGCOBAR	50kg	415			415			415			415														
MAGCOGEL	100lb	146		12	134			134			134														
SPERSENE	25kg	22		6	22			22			22														
XP-20																									
RESINEX																									
CAUSTIC SODA	25kg	52		3	49			49			49														
SODA ASH	40kg	25			25			25			25														
BICARBONATE	40kg	23			23			23			23														
LIME	25kg	38			38			38			38														
CALCIUM CHLORIDE	25kg.	40			40			40			40														
KWIK THIK	25kg	162			162			162			162														
POLYSAL	25kg	81			81			81			81														
POLYPAC	25kg.	2		1	1		1	NIL			NIL														
CMC (EHV)	25kg	61			61			61			61														
POTASSIUM CHLORIDE	50kg	32			32			32			32														
D.I. - CIDR	25L	12			12		1	11			11														
PIPE LAX	205L	1			1			1			1														
KWIK DRIL	5L	9			9			9			9														
SODIUM SULPHITE	50kg	2			2			2		1	1														
SALT	25kg	200			200		160	40		25	15														
SALT	50kg	40			40		20	20			20														
INHIBITOR 303	205L	1			1			1		1	NIL														

APPENDIX 4

VELOCITY SURVEY

WELL VELOCITY SURVEY

IONA NO. 1

PEP-108

VICTORIA

for

BEACH PETROLEUM N.L.

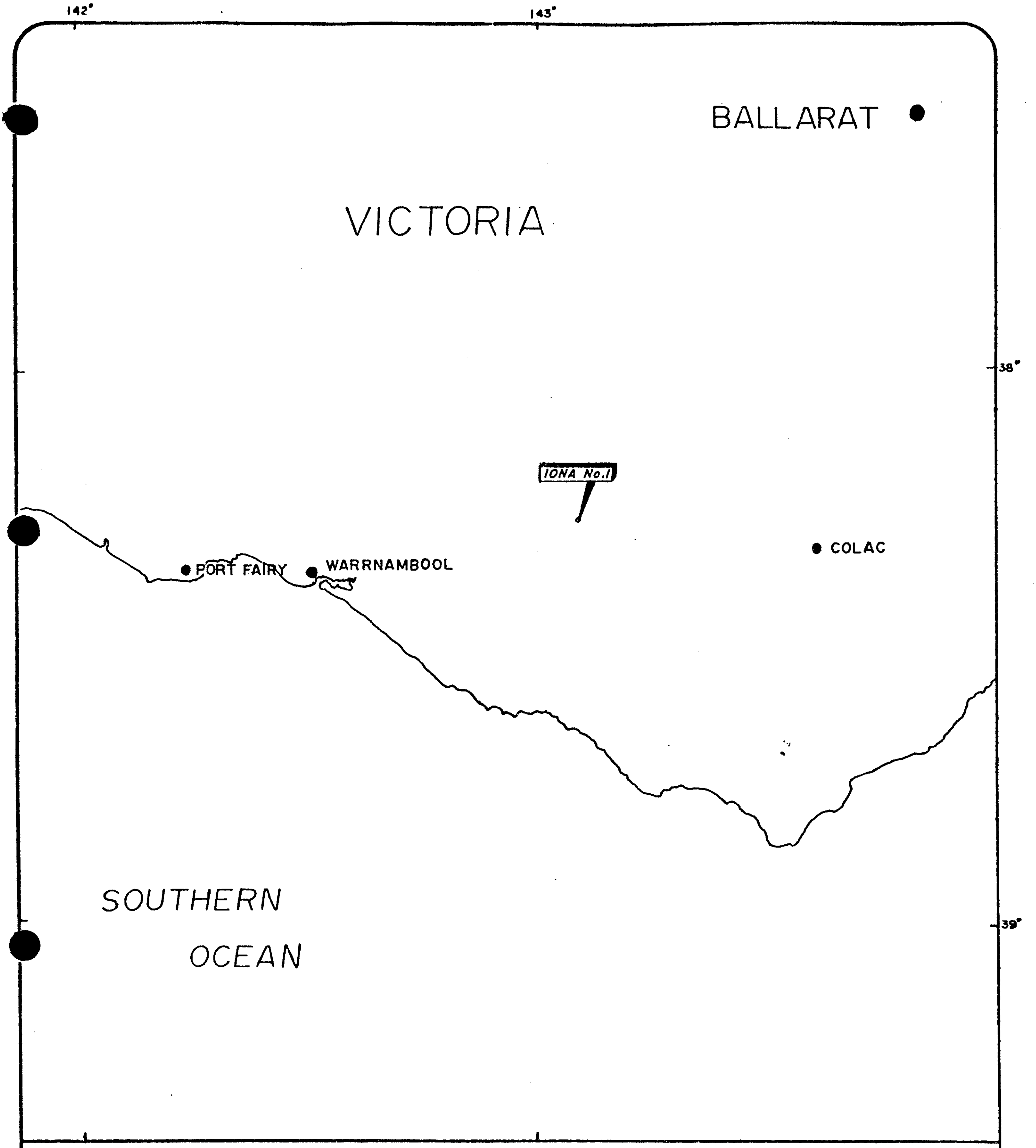
by

VELOCITY DATA PTY. LTD.

Brisbane, Australia

April 5, 1988.

CONTENTS



IONA No.1

BEACH PETROLEUM N.L.

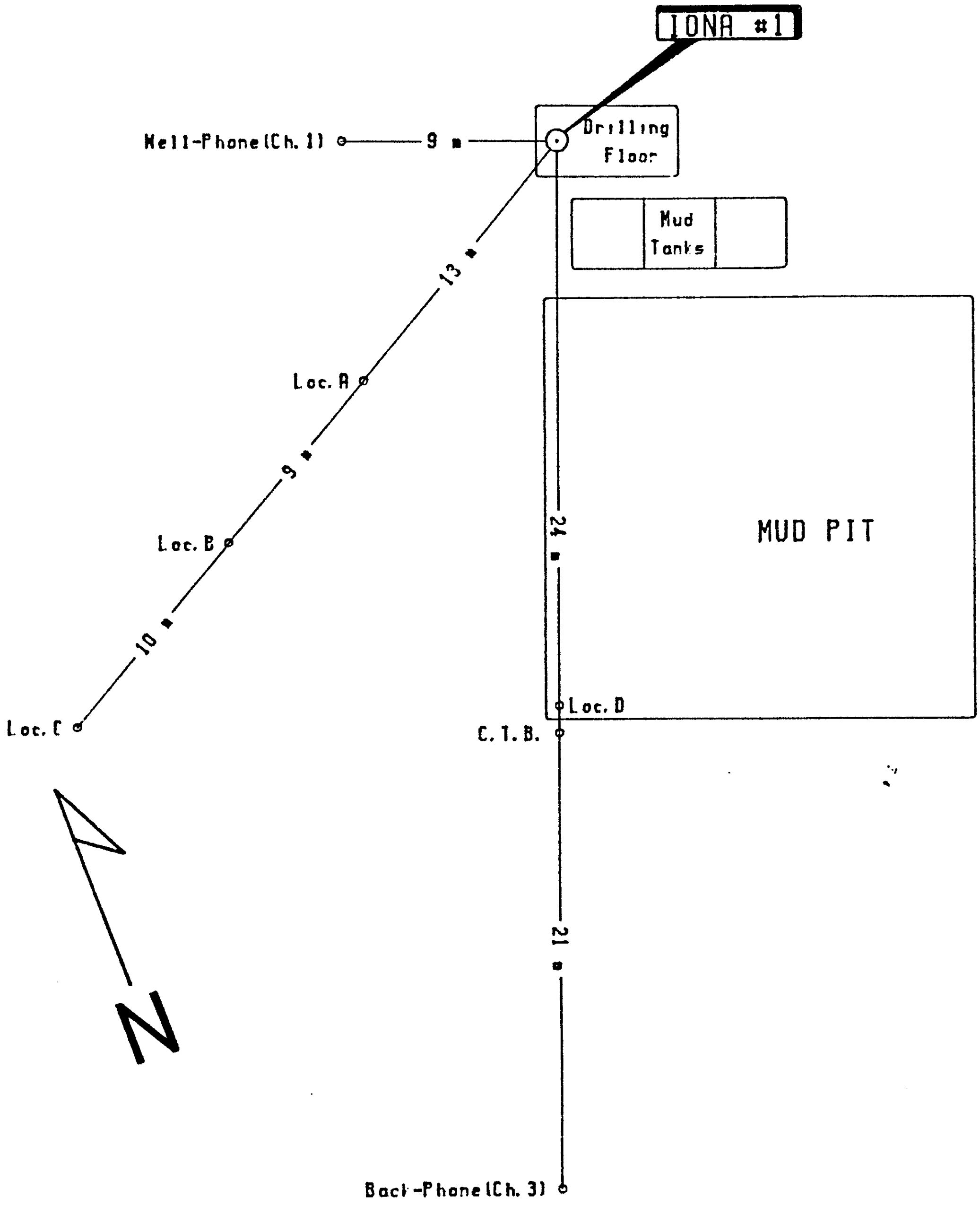
WELL LOCATION MAP

Scale 1:1000000

MILES 0 5 10 20 30 40 MILES

KILOMETRES 0 5 10 20 30 40 50 KILOMETRES

Figure 1



IONA #1

BEACH PETROLEUM N.L.

SHOT POINT LOCATION SKETCH

Figure 2

SUMMARY

Velocity Data Pty. Ltd. conducted a velocity survey for Beach Petroleum N. L. in the Iona No.1 well, PEP-108 Vicoria. The date of the survey was March 18,1988.

The results of the survey, which are considered to be reliable, have been used to calibrate the sonic log.

Explosives were used as an energy source with shots being fired in the mud pit.

GENERAL INFORMATION

Name of Well : Iona No. 1

Location (Figure 1) : PEP-108 Victoria

Coordinates : Latitude 038 34' 30.46"
: Longitude 143 01' 57.33"

Date of Survey : March 18, 1988.

Wireline Logging : Gearhart

Weather : Fine

Operational Base : Brisbane

Operator : G. Young

Client Representative : A. Buffin

EQUIPMENT

Downhole Tool

Veldata Camlock 100 (90 mm)

Sensors:

6 HSI 4.5 Hz 215 ohm, high temperature (300 degrees F) detectors connected in series parallel. Frequency response 8-300 Hz within 3 dB.

Preamplifier:

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

Reference Geophone

Mark Products L1 4.5 Hz

Recording Instrument

VDLS 11/10 software controlled digital recording system utilising SIE OPA-10 floating point amplifiers for digital recording and SIE OPA-4 amplifiers for analog presentation. The system includes a DEC LSI-11 CPU, twin cassette tape unit and printer.

RECORDING

Energy Source	: Explosive; AN-60
Shot Location	: Mud pit
Charge Size	: 0.5 to 2 (125 gm) sticks
Average Shot Depth	: 1.5 metres
Average Shot Offset	: 24.0 metres
Recording Geometry	: Figure 2

Shots were recorded on digital cassette tape and later transcribed to nine track tape (SEG-Y format) in Velocity Data's Brisbane centre. Printouts of the shots used are included with this report. (Enclosure 2)

The sample rate was 1 ms with 0.5 ms sampling over a 200 ms window encompassing the first arrivals. The scale of the graphic display varies with signal strength and is noted on each playout.

The times were picked from the printouts using the numerical value of the signal strength. (Enclosure 2)

PROCESSING

Elevation Data

Elevation of KB	: 131.4 metres above sea level
Elevation of Ground	: 126.5 metres above sea level
Elevation of Seismic Datum	: Sea Level
Depth Surveyed	: 1488.0 metres below KB
Total Depth	: 1490.0 metres below KB
Depth of Casing	: 243.5 metres below KB
Sonic Log Interval	: 246.0 to 1483.3 metres below KB

PROCESSING

Recorded Data

Number of Shots Used	: 28
Number of Levels Recorded	: 22
Data Quality	: Good
Noise Level	: Low
Rejected Shots	: 2

Correction for Instrument Delay and Shot Offset

The 'corrected' times shown on the calculation sheet have been obtained via:

(i) Subtraction of the instrument delay (4 ms) from the recorded arrival times

(ii) geometric correction for non-verticality of ray paths resulting from shot offset.

(iii) shot static correction to correct for the depth of shot below ground level at the well head using a correction velocity of 750 m/sec

(iv) readdition of the instrument delay (4 ms).

The shot static correction velocity was determined from the surface geophone data.

Correction to Datum

The datum correction was determined directly by locking the tool at the datum and recording times from four different offsets. The datum correction used (84.0 msec) is the average of the corrected times for these shots.

PROCESSING

Calibration of Sonic Log - Method

Sonic times were adjusted to checkshot times using a linear correction of the sonic transit times.

These differences arise as the sonic tool measures the local velocity characteristics of the formation with a high frequency signal, whereas the downhole geophone records the bulk velocity character using a signal of significantly lower frequency.

Calibration of Sonic Log - Results (Enclosure 1)

The discrepancies between shot and sonic interval velocities were generally small. The largest adjustment was 55 us/metre on the interval 1235 to 1275 metres below KB.

In aggregate, the shot and sonic interval times differed by 0.2 ms over the logged portion of the well.

PROCESSING

Trace Playouts (Figure 4)

Figure 4A is a plot of all traces used. No filter or gain recovery has been applied.

Figure 4B is a plot to scale in depth and time of selected traces. No filter or gain recovery has been applied.

Figure 4C is a plot to scale in depth and time of selected traces with a 5 Hz - 40 Hz filter and a gain recovery function of t^2 applied.

Figure 4D is a plot of selected surface traces. No filter or gain recovery has been applied.

Wayne Mogg
Geophysicist.

PE906650

This is an enclosure indicator page.
The enclosure PE906650 is enclosed within the
container PE902192 at this location in this
document.

The enclosure PE906650 has the following characteristics:

ITEM_BARCODE = PE906650
CONTAINER_BARCODE = PE902192
NAME = Shot Calculations, 1 of 2
BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Shot Calculations, 1 of 2, Appendix 4, Iona-1
REMARKS =
DATE_CREATED = 18/03/88
DATE_RECEIVED = 15/12/88
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR = VELOCITY DATA PTY LTD
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE906651

This is an enclosure indicator page.
The enclosure PE906651 is enclosed within the container PE902192 at this location in this document.

The enclosure PE906651 has the following characteristics:

ITEM_BARCODE = PE906651
CONTAINER_BARCODE = PE902192
NAME = Shot Calculations, 2 of 2
BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Shot Calculations, 2 of 2, Appendix 4, Iona-1
REMARKS =
DATE_CREATED = 18/03/88
DATE_RECEIVED = 15/12/88
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR = VELOCITY DATA PTY LTD
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE906652

This is an enclosure indicator page.
The enclosure PE906652 is enclosed within the container PE902192 at this location in this document.

The enclosure PE906652 has the following characteristics:

ITEM_BARCODE = PE906652
CONTAINER_BARCODE = PE902192
NAME = Sonic Drift Data
BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Sonic Drift Data, Appendix 4, Iona-1
REMARKS =
DATE_CREATED = 18/03/88
DATE_RECEIVED = 15/12/88
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR = VELOCITY DATA PTY LTD
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

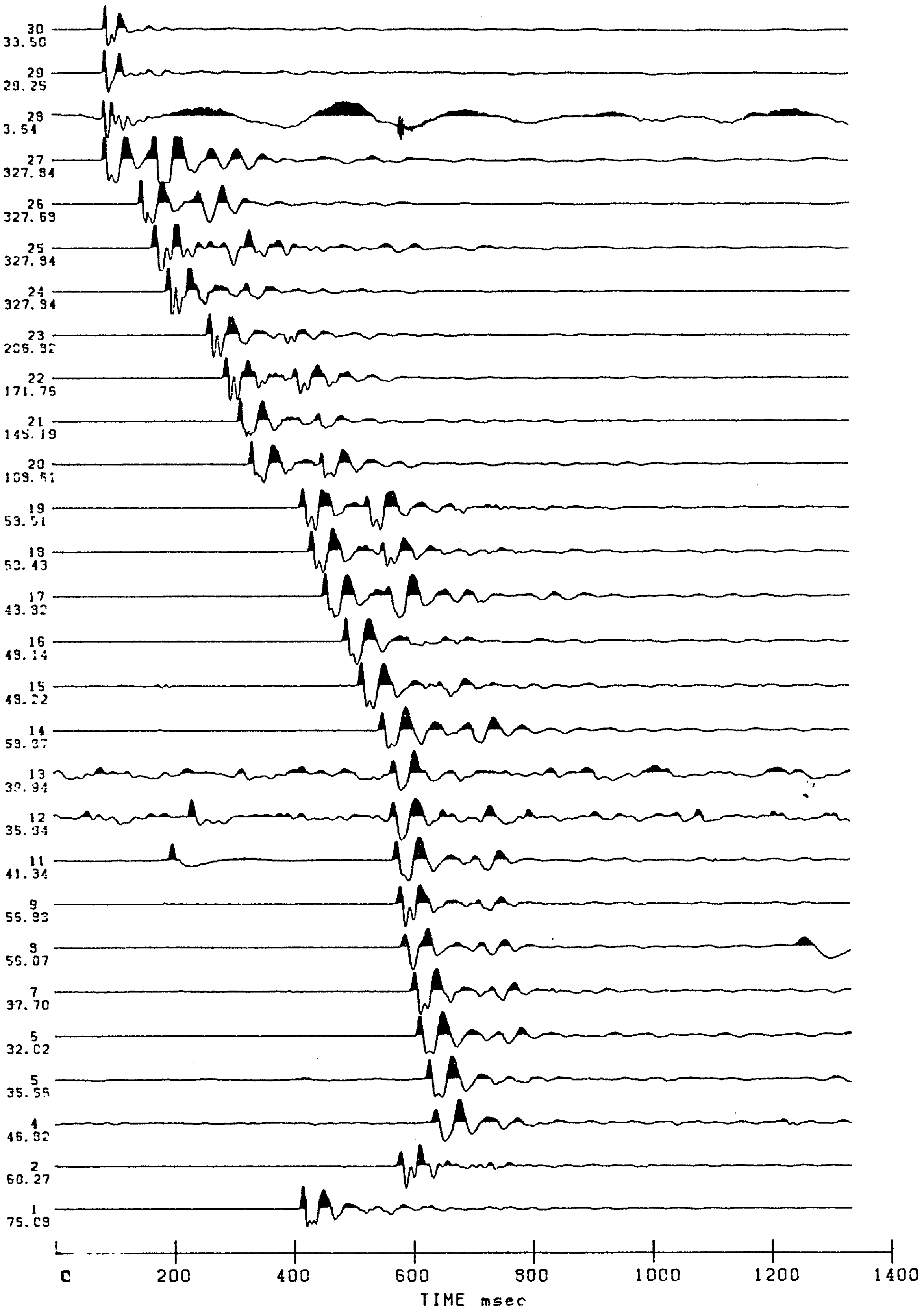
PE906653

This is an enclosure indicator page.
The enclosure PE906653 is enclosed within the container PE902192 at this location in this document.

The enclosure PE906653 has the following characteristics:

ITEM_BARCODE = PE906653
CONTAINER_BARCODE = PE902192
NAME = Sonic Calibrations Data
BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Sonic Calibrations Data, Appendix 4, Iona-1
REMARKS =
DATE_CREATED = 18/03/88
DATE_RECEIVED = 15/12/88
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR = VELOCITY DATA PTY LTD
CLIENT_OP_CO = BEACH PETROLEUM

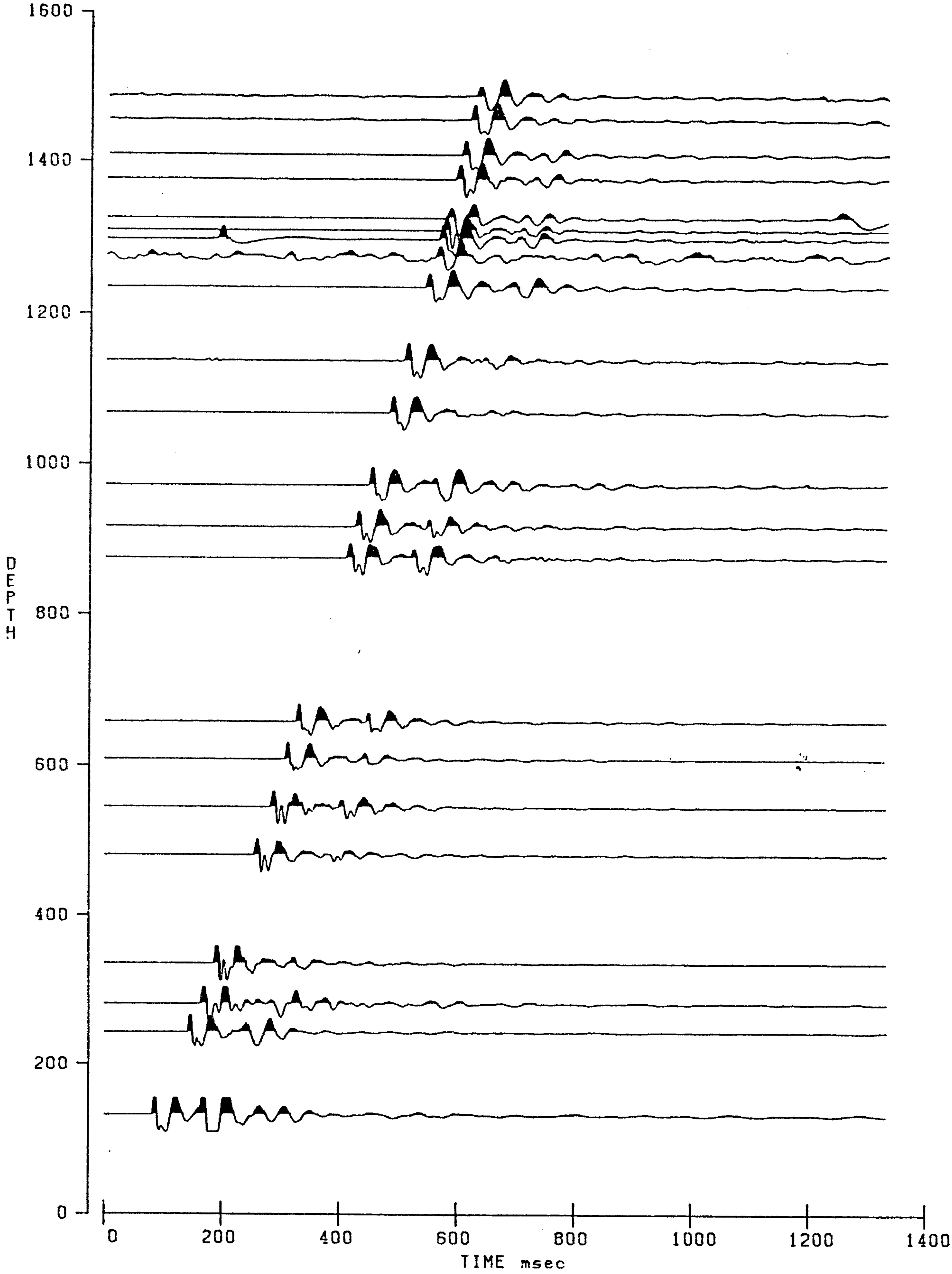
(Inserted by DNRE - Vic Govt Mines Dept)



IONA #1

VELOCITY SURVEY TRACE DISPLAY
Filter OUT-OUT
No gain recovery

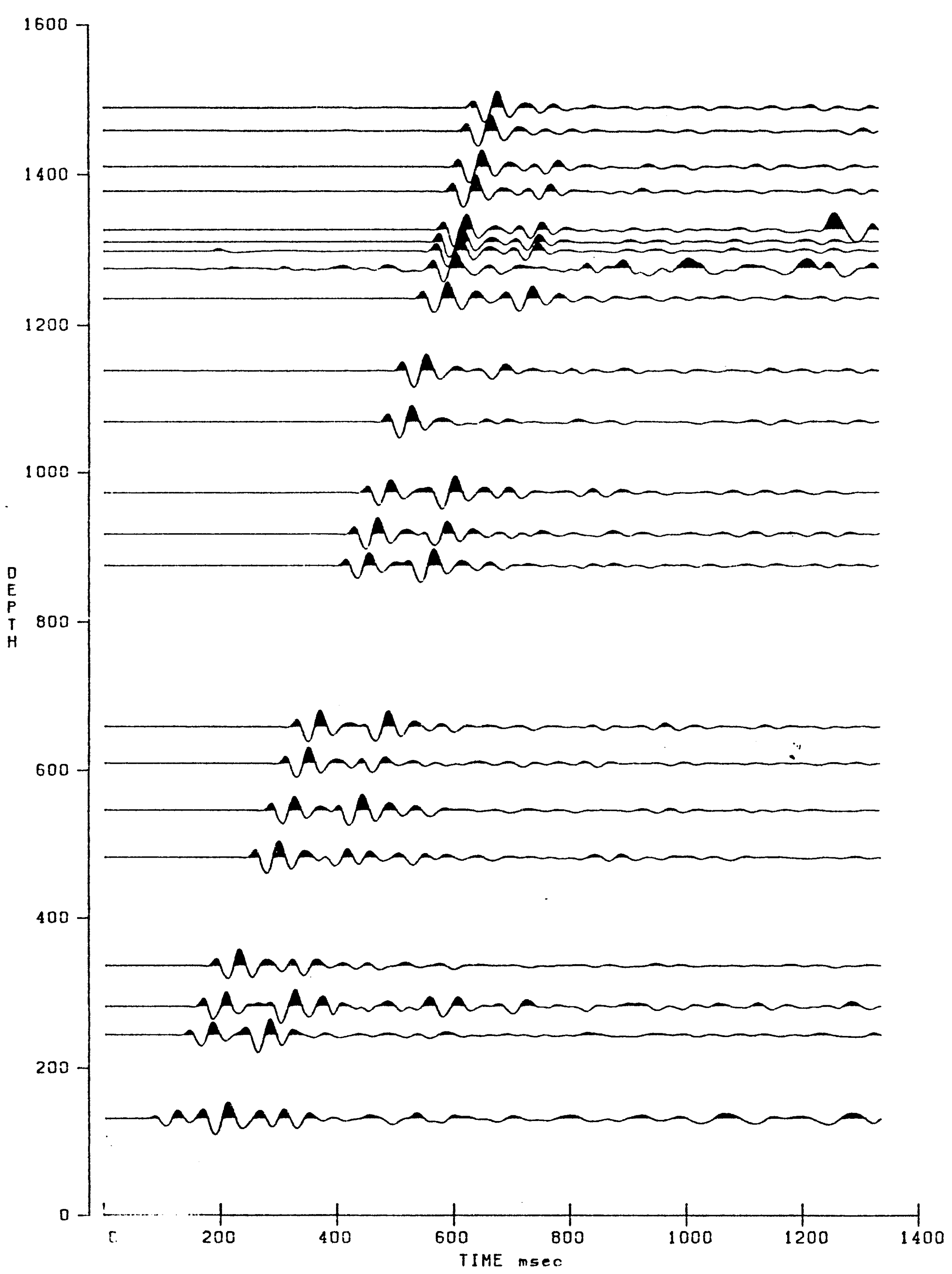
Figure 4A



IONA #1

VELOCITY SURVEY TRACE DISPLAY
Filter OUT-OUT
No gain recovery

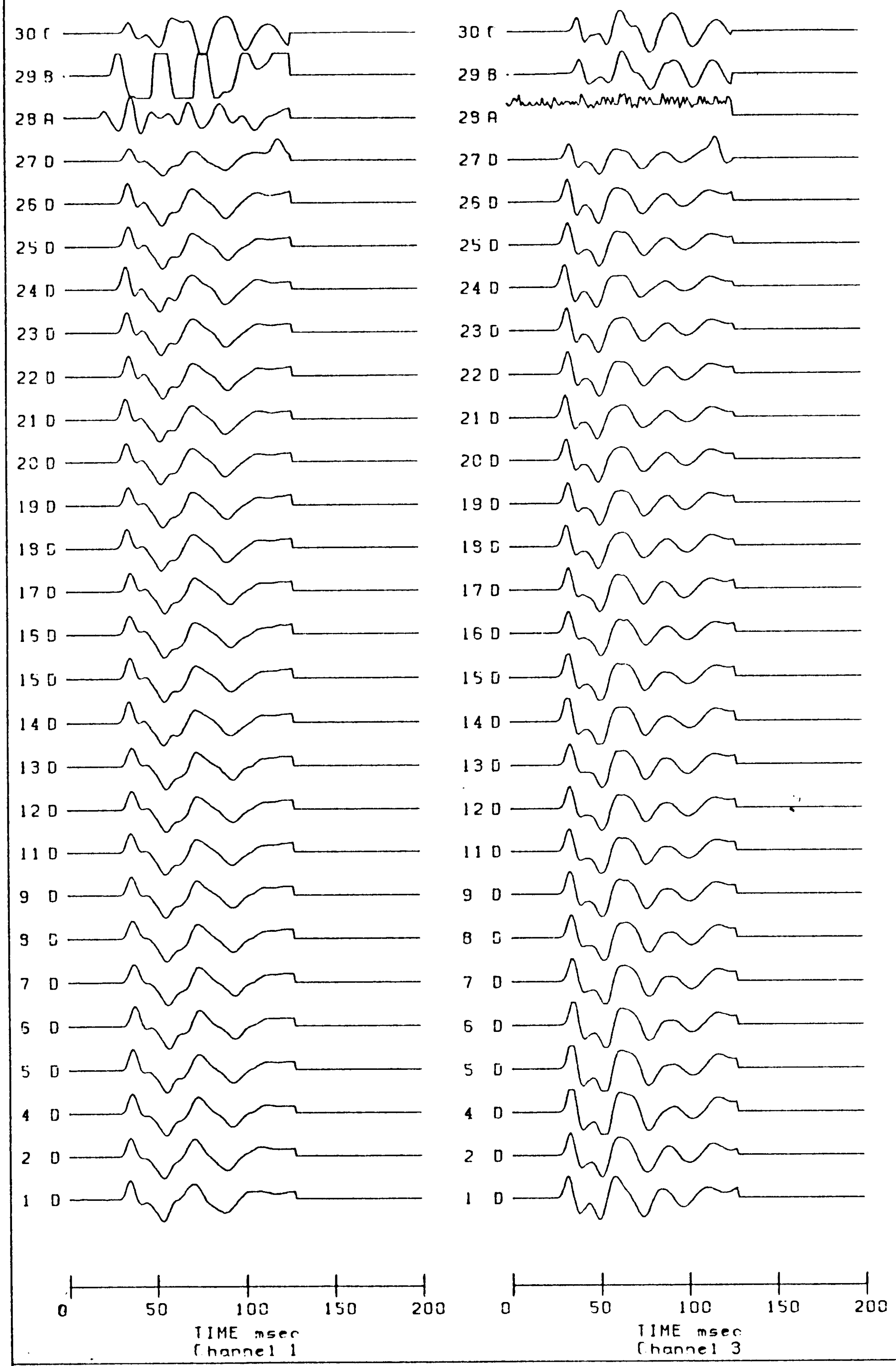
Figure 4B



IONA #1

VELOCITY SURVEY TRACE DISPLAY
Filter 5-40
Gain $T^{2.0}$

Figure 4C



IONA #1

VELOCITY SURVEY TRACE DISPLAY

Auxiliary channels

Filter OUT-OUT

Figure 4D

PE906654

This is an enclosure indicator page.
The enclosure PE906654 is enclosed within the container PE902192 at this location in this document.

The enclosure PE906654 has the following characteristics:

ITEM_BARCODE = PE906654
CONTAINER_BARCODE = PE902192
NAME = Time-Depth Curve
BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = VELOCITY_CHART
DESCRIPTION = Time-Depth Curve, Appendix 4, Iona-1
REMARKS =
DATE_CREATED = 18/03/88
DATE_RECEIVED = 15/12/88
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR = VELOCITY DATA PTY LTD
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

* From Iona W.C.R.

PETROLEUM DIVISION

15 DEC 1988

```
---------------------------------------------------------------------------------
 SONSUM -   WELL SONIC LOG SUMMARY PROGRAM;    File : IONA1CSC
---------------------------------------------------------------------------------

Well name = IONA 1
            ----------------
Log type  = SONIC(CSC)

  THIS LOG HAS BEEN CHECKSHOT CORRECTED.
  KB elevation ...............=     131.4 metres
  SRD elevation ..............=     150.0 metres
  Replacement velocity .......=    1750.0 metres/s
  Two-way offset time used ..=     0.3100 seconds : Time from SRD to top of sonic

                                                  AVERAGE
2-WAY TIME   DEPTH      DEPTH      INTERVAL    VELOCITY
FROM SRD     FROM SRD   FROM KB    VELOCITY    FROM SRD    REFLECTIVITY
seconds      metres     metres     metres/s    metres/s
----------   --------   --------   --------    --------    ------------
    0.312      264.0      245.4     1709.8      1749.7      -0.020115
    0.314      265.6      247.0     1642.4      1749.1      -0.012130
    0.316      267.2      248.6     1603.0      1748.1       0.007342
    0.318      268.9      250.3     1626.7      1747.4      -0.002865
    0.320      270.5      251.9     1617.4      1746.6       0.015030
    0.322      272.2      253.6     1666.8      1746.1      -0.013202
    0.324      273.8      255.2     1623.4      1745.3       0.017728
    0.326      275.5      256.9     1682.0      1744.9      -0.009770
    0.328      277.1      258.5     1649.4      1744.3      -0.003268
    0.330      278.7      260.1     1638.7      1743.7      -0.008159
    0.332      280.4      261.8     1612.2      1742.9       0.038144
    0.334      282.1      263.5     1740.0      1742.9       0.032064
    0.336      284.0      265.4     1855.3      1743.6       0.009247
    0.338      285.8      267.2     1889.9      1744.4      -0.021371
    0.340      287.7      269.1     1810.8      1744.8      -0.001679
    0.342      289.5      270.9     1804.8      1745.2       0.023771
    0.344      291.4      272.8     1892.7      1746.0      -0.008243
    0.346      293.2      274.6     1861.7      1746.7       0.035468
    0.348      295.2      276.6     1998.6      1748.1       0.019458
    0.350      297.3      278.7     2078.0      1750.0      -0.017390
    0.352      299.3      280.7     2006.9      1751.5      -0.003945
    0.354      301.3      282.7     1991.2      1752.8       0.046626
    0.356      303.5      284.9     2185.9      1755.3       0.016605
    0.358      305.7      287.1     2259.7      1758.1       0.063674
    0.360      308.3      289.7     2567.1      1762.6      -0.078499
    0.362      310.5      291.9     2193.4      1765.0       0.055360
    0.364      312.9      294.3     2450.5      1768.7       0.042859
    0.366      315.6      297.0     2669.9      1773.7      -0.035274
    0.368      318.1      299.5     2488.0      1777.5      -0.079478
    0.370      320.2      301.6     2121.6      1779.4      -0.012118
    0.372      322.3      303.7     2070.8      1781.0      -0.007461
    0.374      324.3      305.7     2040.1      1782.3       0.010201
    0.376      326.4      307.8     2082.2      1783.9      -0.084988
    0.378      328.2      309.6     1756.0      1783.8       0.089681
    0.380      330.3      311.7     2102.0      1785.5       0.034333
    0.382      332.5      313.9     2251.5      1787.9      -0.061229
    0.384      334.5      315.9     1991.7      1789.0      -0.002626
    0.386      336.5      317.9     1981.2      1790.0      -0.004853
    0.388      338.5      319.9     1962.1      1790.9       0.019497
    0.390      340.5      321.9     2040.1      1792.1      -0.009165
```

0.392	342.5	323.9	2003.1	1793.2	-0.001509
0.394	344.5	325.9	1997.0	1794.2	0.006653
0.396	346.5	327.9	2023.8	1795.4	0.014436
0.398	348.6	330.0	2083.1	1796.8	0.077143
0.400	351.0	332.4	2431.3	1800.0	-0.026342
0.402	353.3	334.7	2306.5	1802.5	-0.046621
0.404	355.4	336.8	2101.0	1804.0	0.003584
0.406	357.6	339.0	2116.1	1805.6	-0.003182
0.408	359.7	341.1	2102.7	1807.0	0.012889
0.410	361.8	343.2	2157.6	1808.7	-0.012475
0.412	363.9	345.3	2104.5	1810.2	-0.008190
0.414	366.0	347.4	2070.3	1811.4	0.017163
0.416	368.1	349.5	2142.6	1813.0	0.005213
0.418	370.3	351.7	2165.0	1814.7	-0.015454
0.420	372.4	353.8	2099.1	1816.0	-0.002259
0.422	374.5	355.9	2089.7	1817.3	-0.003920
0.424	376.6	358.0	2073.3	1818.5	0.000472
0.426	378.6	360.0	2075.3	1819.8	0.007301
0.428	380.8	362.2	2105.8	1821.1	-0.026643
0.430	383.0	364.4	2221.1	1823.0	-0.010326
0.432	385.1	366.5	2175.7	1824.6	-0.011039
0.434	387.3	368.7	2128.2	1826.0	-0.018285
0.436	389.3	370.7	2051.8	1827.0	0.000540
0.438	391.4	372.8	2054.0	1828.1	0.066197
0.440	393.7	375.1	2345.2	1830.4	-0.041256
0.442	395.9	377.3	2159.4	1831.9	-0.102027
0.444	397.6	379.0	1759.5	1831.6	0.073634
0.446	399.7	381.1	2039.2	1832.5	0.028117
0.448	401.8	383.2	2157.2	1833.9	0.026200
0.450	404.1	385.5	2273.3	1835.9	-0.025130
0.452	406.3	387.7	2161.9	1837.3	-0.007486
0.454	408.4	389.8	2129.7	1838.6	-0.022602
0.456	410.4	391.8	2035.6	1839.5	-0.038829
0.458	412.3	393.7	1883.4	1839.7	0.071568
0.460	414.5	395.9	2173.8	1841.1	-0.006984
0.462	416.6	398.0	2143.6	1842.5	-0.002304
0.464	418.8	400.2	2133.8	1843.7	-0.003014
0.466	420.9	402.3	2121.0	1844.9	-0.006824
0.468	423.0	404.4	2092.2	1846.0	0.025148
0.470	425.2	406.6	2200.1	1847.5	0.027677
0.472	427.5	408.9	2325.4	1849.5	-0.029401
0.474	429.7	411.1	2192.6	1850.9	-0.030559
0.476	431.8	413.2	2062.5	1851.8	0.040597
0.478	434.0	415.4	2237.1	1853.4	0.040334
0.480	436.4	417.8	2425.1	1855.8	-0.011539
0.482	438.8	420.2	2369.8	1857.9	-0.029596
0.484	441.0	422.4	2233.6	1859.5	-0.001506
0.486	443.3	424.7	2226.9	1861.0	-0.003032
0.488	445.5	426.9	2213.4	1862.5	-0.001580
0.490	447.7	429.1	2206.4	1863.9	-0.000625
0.492	449.9	431.3	2203.6	1865.2	0.005295
0.494	452.1	433.5	2227.1	1866.7	0.002720
0.496	454.4	435.8	2239.3	1868.2	0.008027
0.498	456.6	438.0	2275.5	1869.8	-0.034147
0.500	458.8	440.2	2125.2	1870.9	0.013904
0.502	460.9	442.3	2185.2	1872.1	-0.010755
0.504	463.1	444.5	2138.7	1873.2	0.003591
0.506	465.2	446.6	2154.1	1874.3	0.028008
0.508	467.5	448.9	2278.2	1875.9	0.018655
0.510	469.9	451.3	2364.8	1877.8	-0.039271

0.512	472.1	453.5	2186.1	1879.0	-0.013579
0.514	474.2	455.6	2127.5	1880.0	0.009084
0.516	476.4	457.8	2166.5	1881.1	0.029136
0.518	478.7	460.1	2296.6	1882.7	-0.009650
0.520	480.9	462.3	2252.7	1884.1	0.002068
0.522	483.2	464.6	2262.0	1885.6	0.006943
0.524	485.5	466.9	2293.6	1887.1	0.008238
0.526	487.8	469.2	2331.7	1888.8	-0.002615
0.528	490.1	471.5	2319.6	1890.4	-0.034547
0.530	492.3	473.7	2164.7	1891.5	0.022217
0.532	494.5	475.9	2263.0	1892.9	0.003352
0.534	496.8	478.2	2278.3	1894.3	-0.027228
0.536	499.0	480.4	2157.5	1895.3	0.040929
0.538	501.3	482.7	2341.6	1896.9	0.003631
0.540	503.7	485.1	2358.7	1898.7	0.001234
0.542	506.0	487.4	2364.5	1900.4	0.017210
0.544	508.5	489.9	2447.3	1902.4	0.068022
0.546	511.3	492.7	2804.6	1905.7	-0.060012
0.548	513.8	495.2	2487.0	1907.8	-0.043291
0.550	516.1	497.5	2280.6	1909.2	0.019789
0.552	518.4	499.8	2372.7	1910.8	0.003652
0.554	520.8	502.2	2390.1	1912.6	-0.015666
0.556	523.1	504.5	2316.4	1914.0	-0.005893
0.558	525.4	506.8	2289.2	1915.4	0.016736
0.560	527.8	509.2	2367.2	1917.0	0.019281
0.562	530.3	511.7	2460.2	1918.9	-0.020174
0.564	532.6	514.0	2362.9	1920.5	0.067644
0.566	535.3	516.7	2705.8	1923.3	-0.050233
0.568	537.8	519.2	2447.0	1925.1	0.004706
0.570	540.2	521.6	2470.1	1927.0	-0.012905
0.572	542.6	524.0	2407.2	1928.7	0.001872
0.574	545.1	526.5	2416.2	1930.4	0.011845
0.576	547.5	528.9	2474.1	1932.3	-0.019456
0.578	549.9	531.3	2379.7	1933.8	-0.001825
0.580	552.3	533.7	2371.0	1935.4	-0.046286
0.582	554.5	535.9	2161.2	1936.1	-0.015429
0.584	556.5	537.9	2095.6	1936.7	-0.017409
0.586	558.6	540.0	2023.8	1937.0	0.051054
0.588	560.8	542.2	2241.6	1938.0	-0.044208
0.590	562.9	544.3	2051.8	1938.4	0.068609
0.592	565.2	546.6	2354.1	1939.8	0.011816
0.594	567.6	549.0	2410.4	1941.4	-0.008638
0.596	570.0	551.4	2369.1	1942.8	0.024390
0.598	572.5	553.9	2487.6	1944.6	0.011829
0.600	575.0	556.4	2547.1	1946.6	-0.003585
0.602	577.6	559.0	2528.9	1948.6	-0.006295
0.604	580.1	561.5	2497.3	1950.4	-0.006320
0.606	582.5	563.9	2465.9	1952.1	0.009710
0.608	585.0	566.4	2514.3	1953.9	-0.002829
0.610	587.5	568.9	2500.1	1955.7	-0.006736
0.612	590.0	571.4	2466.6	1957.4	-0.006006
0.614	592.4	573.8	2437.2	1959.0	-0.001193
0.616	594.9	576.3	2431.4	1960.5	-0.015249
0.618	597.2	578.6	2358.3	1961.8	-0.011889
0.620	599.5	580.9	2302.9	1962.9	-0.008202
0.622	601.8	583.2	2265.4	1963.9	0.005141
0.624	604.1	585.5	2288.8	1964.9	0.039206
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0.630	611.4	592.8	2361.7	1969.4	0.031276

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0.636	618.9	600.3	2449.3	1974.3	-0.009913
0.638	621.3	602.7	2401.2	1975.6	-0.015609
0.640	623.6	605.0	2327.4	1976.7	0.010151
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0.644	628.5	609.9	2497.9	1979.6	0.043393
0.646	631.2	612.6	2724.5	1981.9	-0.003385
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0.656	645.2	626.6	3081.4	1994.4	0.033211
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1.258	1461.5	1442.9	3126.6	2337.8	-0.002524
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1.262	1467.9	1449.3	3300.7	2340.6	0.007346
1.264	1471.3	1452.7	3349.6	2342.2	-0.004021
1.266	1474.6	1456.0	3322.8	2343.7	-0.006449
1.268	1477.9	1459.3	3280.2	2345.2	-0.028534
1.270	1481.0	1462.4	3098.2	2346.4	0.050090
1.272	1484.4	1465.8	3424.9	2348.1	-0.009442
1.274	1487.8	1469.2	3360.8	2349.7	-0.029115
1.276	1491.0	1472.4	3170.7	2351.0	-0.010644
1.278	1494.1	1475.5	3103.9	2352.1	-0.008739
1.280	1497.1	1478.5	3050.1	2353.2	-0.007307
1.282	1500.1	1481.5	3005.9	2354.2	0.026973
1.284	1503.3	1484.7	3172.5	2355.5	-0.001459

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1.112    1249.2    1230.6    2684.0    2262.9     0.003899
1.114    1251.9    1233.3    2705.0    2263.7    -0.021807
1.116    1254.5    1235.9    2589.6    2264.3    -0.002546
1.118    1257.1    1238.5    2576.4    2264.9     0.001218
1.120    1259.7    1241.1    2582.7    2265.4    -0.007237
1.122    1262.2    1243.6    2545.6    2265.9     0.003203
1.124    1264.8    1246.2    2561.9    2266.5     0.002714
1.126    1267.4    1248.8    2575.9    2267.0     0.004491
1.128    1270.0    1251.4    2599.1    2267.6     0.033516
1.130    1272.7    1254.1    2779.4    2268.5    -0.040320
1.132    1275.3    1256.7    2563.9    2269.0    -0.002268
1.134    1277.9    1259.3    2552.3    2269.5     0.006701
1.136    1280.5    1261.9    2586.8    2270.1    -0.009501
1.138    1283.0    1264.4    2538.1    2270.6     0.008488
1.140    1285.6    1267.0    2581.5    2271.1    -0.000706
1.142    1288.1    1269.5    2577.9    2271.6     0.017108
1.144    1290.8    1272.2    2667.7    2272.3     0.002115
1.146    1293.5    1274.9    2679.0    2273.1    -0.043984
1.148    1296.4    1277.8    2925.5    2274.2    -0.017196
1.150    1299.2    1280.6    2826.6    2275.1     0.038779
1.152    1302.3    1283.7    3054.6    2276.5    -0.006477
1.154    1305.3    1286.7    3015.3    2277.8     0.011962
1.156    1308.4    1289.8    3088.3    2279.2    -0.022906
1.158    1311.4    1292.8    2950.0    2280.3     0.035592
1.160    1314.5    1295.9    3167.8    2281.9    -0.003613
1.162    1317.7    1299.1    3144.9    2283.4    -0.060535
1.164    1320.5    1301.9    2787.0    2284.2     0.000574
1.166    1323.2    1304.6    2790.2    2285.1    -0.034488
1.168    1325.8    1307.2    2604.2    2285.6     0.016423
1.170    1328.5    1309.9    2691.2    2286.3     0.020327
1.172    1331.3    1312.7    2802.9    2287.2    -0.041060
1.174    1333.9    1315.3    2581.8    2287.7     0.045349
1.176    1336.8    1318.2    2827.0    2288.6    -0.034842
1.178    1339.4    1320.8    2636.7    2289.2     0.010137
1.180    1342.1    1323.5    2690.7    2289.5    -0.007367
1.182    1344.7    1326.1    2651.3    2290.5     0.089798
1.184    1347.9    1329.3    3174.5    2292.0     0.013767
1.186    1351.2    1332.6    3263.1    2293.6    -0.009135
1.188    1354.4    1335.8    3204.0    2295.2    -0.041791
1.190    1357.3    1338.7    2947.0    2296.3     0.000839
1.192    1360.3    1341.7    2951.9    2297.4    -0.000573
1.194    1363.2    1344.6    2948.5    2298.5    -0.004071
1.196    1366.1    1347.5    2924.6    2299.5    -0.002974
1.198    1369.1    1350.5    2907.3    2300.5     0.018509
1.200    1372.1    1353.5    3016.9    2301.7     0.026617
1.202    1375.2    1356.6    3181.9    2303.2    -0.012173
1.204    1378.4    1359.8    3105.4    2304.5    -0.015879
1.206    1381.4    1362.8    3008.3    2305.7    -0.024022
1.208    1384.2    1365.6    2867.2    2306.6     0.043927
1.210    1387.4    1368.8    3130.6    2308.0    -0.013701
1.212    1390.4    1371.8    3046.0    2309.2    -0.003801
1.214    1393.4    1374.8    3022.9    2310.4     0.008846
1.216    1396.5    1377.9    3076.9    2311.6     0.117282
1.218    1400.4    1381.8    3894.5    2314.2    -0.176261
1.220    1403.1    1384.5    2727.3    2314.9     0.038514
1.222    1406.1    1387.5    2945.8    2315.9     0.048665
1.224    1409.3    1390.7    3247.2    2317.5    -0.011052
1.226    1412.5    1393.9    3176.2    2318.9     0.036059
1.228    1415.9    1397.3    3413.9    2320.6    -0.062167
1.230    1418.9    1400.3    3014.2    2321.8     0.017024
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APPENDIX 5

PALYNOLOGY - AGE DATING

PALYNOLOGY OF BEACH IONA-1,
OTWAY BASIN, VICTORIA

BY

ROGER MORGAN

FOR BEACH PETROLEUM MAY, 1988.

PALYNOLOGY OF BEACH IONA-1,

OTWAY BASIN, VICTORIA

BY

ROGER MORGAN

CONTENTS PAGE

I SUMMARY

331.0m (swc) : upper N. asperus Zone : latest Eocene to earliest Oligocene : nearshore marine : immature : usually Nirranda SubGroup

middle and lower N. asperus Zones not seen : hiatus or condensation likely

402.5m (swc) : P. asperopolus Zone : latest Early Eocene : marginal marine : immature : usually Dilwyn Formation

543.0m (swc) : upper M. diversus Zone : Early Eocene : nearshore marine : immature : usually Dilwyn Formation

middle and lower M. diversus Zones : not seen : hiatus or condensation

586.0m (swc) : upper L. balmei Zone : Paleocene : marginally marine : immature : usually Pember

602.0m (swc)-621.0m (swc) : lower L. balmei Zone : Paleocene : nearshore marine : immature : usually Pember/Pebble Point

652.0m (swc)-664.5m (swc) : upper T. longus Zone (M. druggii Dinoflagellate Zone) : Maastrichtian : marginal marine : immature : usually Timboon Sandstone

704.0m (swc) : lower T. longus Zone : mid Maastrichtian : brackish : immature : usually Paaratte Formation

772.0m (swc) : T. lillei Zone : early Maastrichtian - late Campanian : brackish : immature : usually Paaratte Formation

858.0m (swc)-1054.0m (swc) : N. senectus Zone (1018-1054 N. aceras Dinoflagellate Zone) : Campanian : nearshore marine : immature : usually Paaratte Formation/upper Belfast

1075.5m (swc)-1254.0m (swc) : T. pachyexinus Zone (1075.5m N. aceras Dinoflagellate Zone, 1240-54m I. cretaceum Dinoflagellate Zone, O. porifera Zone not seen, possibly lost by hiatus) : Santonian : offshore marine : immature : usually Belfast Mudstone

1276.5m (swc) : upper C. triplex Zone (C. striatoconus Dinoflagellate Zone) : Coniacian : nearshore marine : immature : usually Belfast/Flaxmans

1287.0m (swc)-1347.5m (swc) : lower C. triplex Zone (P. infusorioides Dinoflagellate Zone) : Turonian : very nearshore to offshore, mixed : immature : usually Flaxmans Formation

A. distocarinatus Zone : not seen : missing Cenomanian may be apparent if caving of drilling mud and its penetration into swcs is major, but more likely due to hiatus

1383.0m (swc)-1481.0m (swc) : P. pannosus Zone : late Albian : non-marine to slightly brackish : marginally mature for oil : usually Eumeralla Formation

II INTRODUCTION

Andrew Buffin of Beach Petroleum submitted 25 swc samples from Iona-1 for palynological analysis for the completion report on March 29th. Results were faxed on 12th May 1988. This report details the final interpretation of results of these samples.

Palynomorph occurrence data are shown as Appendix I and form the basis for the assignment of the samples to thirteen spore-pollen units of late Albian to earliest Oligocene age. The Tertiary spore-pollen zonation is that of Stover and Evans (1973) and Stover and Partridge (1973) as modified by Partridge (1976) and shown on figure 1. The zones of Harris (1965) are not preferred as they only span part of the interval and are less widely used. The Cretaceous spore-pollen zonation is essentially that of Playford and Dettmann(1969), but has been significantly modified and improved by various authors since, and most recently discussed in Helby et. al. (1987), as shown on figure 1.

No formal dinoflagellate zonation has been published for the Tertiary of the Bass or Gippsland Basins although Harris (1985) has recently published some zones for part of the Eocene of the Otway and St. Vincent Basins. Partridge (1976) published a table showing zone names in the Gippsland Basin but charts defining these zones were never published, although they are informally available. Very few Tertiary dinoflagellates were seen, and they are discussed within the Partridge (1976) framework, as it is more precise and more widely used. Cretaceous dinoflagellates were not seen.

Maturity data was generated in the form of Spore Colour Index, and is plotted on figure 2 Maturity profile of Beach Iona-1. The oil and gas windows on figure 2 follow the

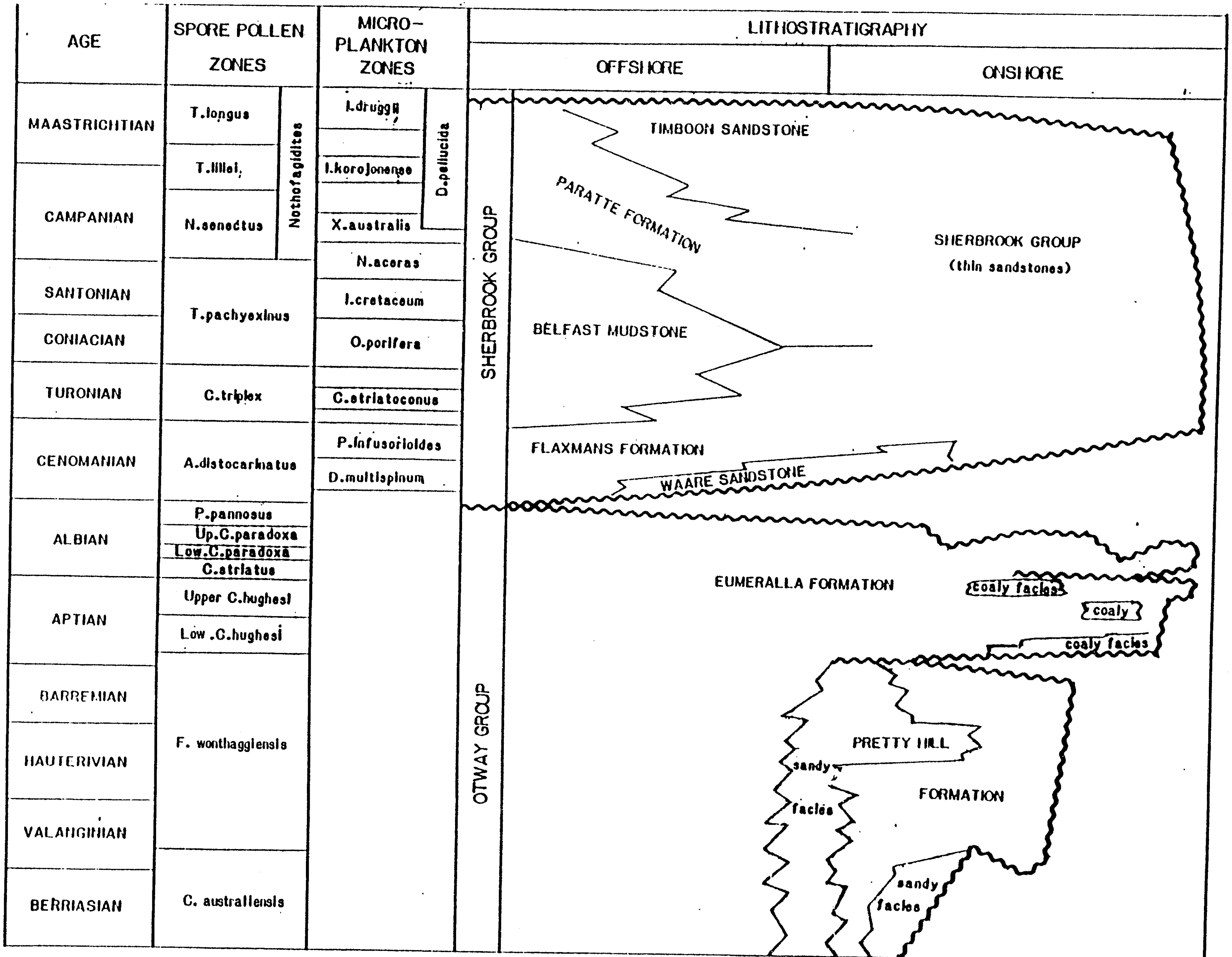

FIGURE 1. CRETACEOUS REGIONAL FRAMEWORK, OTWAY BASIN

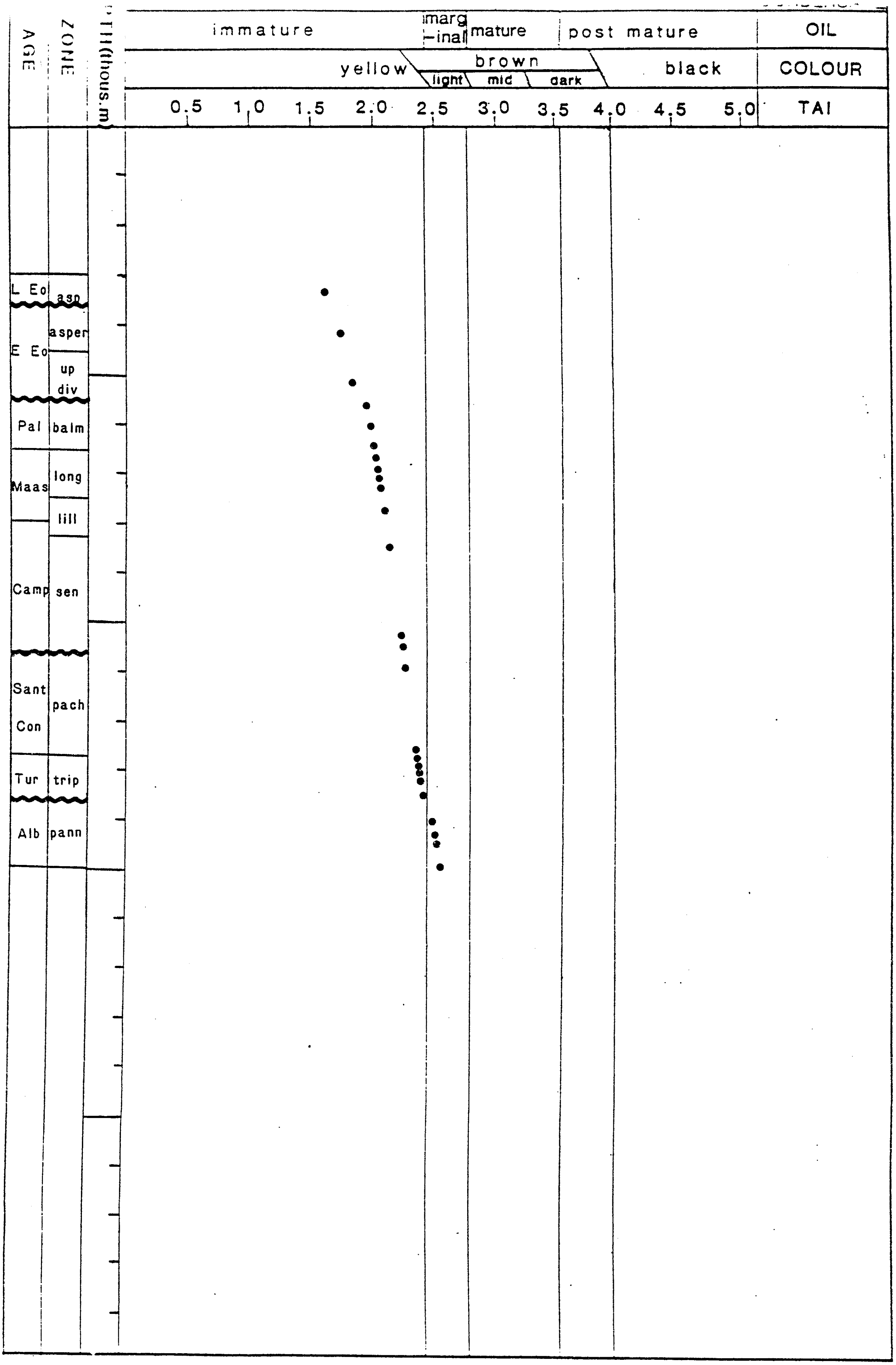

FIGURE 2 MATURITY PROFILE, IONA-1

general concensus of geochemical literature. The oil window corresponds to spore colours of light-mid brown (Staplin Spore Colour Index of 2.7) to dark brown (3.6). These correspond to vitrinite reflectance values of 0.6% to 1.3%. Geochemists, however, have not reached universal agreement on these values, and argue variations on kerogen type, basin type and even basin history. The maturity interpretation is spore colours as basic data. However, the range in thus open to reinterpretation using the basic interpretation philosophies is not great, and probably would not move the oil window by more than 200 metres.

III PALYNOSTRATIGRAPHY

A. 331.0m (swc) : upper N. asperus Zone

Assignment to the upper Nothofagidites asperus Zone is indicated by oldest Foveotriletes crater without older indicators. Youngest Polycolpites esobalteus and Proteacidites asperopolus suggest a point near the base of the subzone. Oldest Tricolpites simatus and T. thomasii are consistent with the assignment. Nothofagidites spp. are dominant. Minor reworking (M. tenuis, G. rudata) was seen.

Nearshore marine environments are suggested by the rare microplankton. Micrhystridium spp. are frequent,with a few low diversity dinoflagellates. These features are normally seen in the Niranda Sub Group.

Colourless fossils indicate immaturity for hydrocarbon generation.

B. middle and lower N. asperus Zones : not seen

The absence of these zones suggests an important unconformity in the gap 331-402.5m.

C. 402.5m (swc) : P. asperopolus Zone

Asssignment to the Proteacidites asperopolus Zone is indicated at the top by youngest frequent Haloragacidites harrisii, youngest Malvacipollis diversus, and the scarcity of Nothofagidites spp. At the base, assignment is indicated by oldest Myrtaceidites tenuis and Proteacidites asperopolus. Proteacidites spp. are common, and Dilwynites granulatus and H. harrisii frequent.

Marginal marine environments are indicated by the scarce very low diversity dinoflagellates.

These features are normally seen in the Dilwyn Formation.

Immaturity for hydrocarbon generation is indicated by the colourless palynomorphs.

D. 543.0m (swc) : upper M. diversus Zone

Assignment to the upper Malvacipollis diversus Zone is indicated at the top by the absence of younger indicators, and at the base by oldest Proteacidites pachypolus. H. harrisii and Proteacidites spp. are frequent, and M. diversus is consistent.

Nearshore marine environments are indicated by the moderate content (30%) of moderate diversity (10 species) dinoflagellates. Spores and pollen are clearly dominant and diverse. Of the dinoflagellates, the Kenleyia spp. are consistent with the spore-pollen zonal assignment.

These features are normally seen in the Dilwyn Formation.

Light yellow spore colours indicate immaturity for hydrocarbon generation.

E. middle and lower M. diversus Zones : not seen

The apparent absence of these Early Eocene Zones suggests a hiatus in the gap 543-586m, although condensation is also possible.

F. 586.0m (swc) : upper L. balmei Zone

Assignment to the upper Lygistepollenites balmei Zone is indicated at the top by youngest L. balmei and Gambierina rudata, and at the base by oldest Proteacidites grandis and P. incurvatus. Proteacidites spp. are common, with frequent Gleicheniidites circinidites.

Marginally marine environments are indicated by the scarce (2%) microplankton, dominated by Paralecaniella indentata with low diversity dinoflagellates (4 species). Spores and pollen are common and diverse, and leaf fragments comprise 50% of the residue.

These features are normally seen in the Pember Member of the Dilwyn Formation.

Yellow spore colours indicate immaturity for hydrocarbon generation.

G. 602.0m (swc)-621.0m (swc) : lower L. balmei Zone

Assignment is indicated by the absence of younger or older indicators from an assemblage containing L. balmei. Proteacidites is common, with G. circinidites and P. mawsonii frequent. Gambierina edwardsii and G. rudata were seen at 621m.

Nearshore marine environments are indicated by the relatively rare dinoflagellates (5%) and their moderate diversity (about 10 species). Deflandrea speciosa is the most common, and confirms the Paleocene age. Spores and pollen are common and diverse and indicate the substantial land derived contribution to the microflora.

These features are normally seen in the Pebble Point Formation and its correlatives.

Yellow spore colours indicate immaturity for hydrocarbon generation.

H. 652.0m (swc)-664.5m (swc) : upper T. longus Zone

Assignment to the upper part of the Tricolpites longus Zone is clearly indicated by the youngest occurrences of Tricolpites confessus, T. longus, T. waipawensis, Tricolporites lillei and Triporopollenites sectilis, and confirmed by the dinoflagellates. At the base, oldest Stereisporites punctatus indicates the assignment, and is confirmed by the dinoflagellates. Proteacidites spp. dominate these assemblages, with frequent G. rudata and Nothofagidites.

Assignment to the Manumiella druggii Dinoflagellate Zone is indicated by the presence of M. conorata in all samples, and confirmed by oldest Canninginopsis bretonica at the interval base.

Marginal marine environments are indicated by the low dinoflagellate contents (2-5%) and their very low diversity (3-5 species). Micrhystridium are frequent at 652.5m. The dominant terrestrial contribution is seen in the dominant and diverse spores and pollen.

These spore colours indicate immaturity for hydrocarbon generation.

I. 704.0m (swc) : lower T. longus Zone

Assignment is indicated at the top on the absence of younger indicators, and at the base on oldest Tetracolporites verrucosus. Proteacidites spp. are common, with Nothofagidites endurus and Phyllocladidites mawsonii frequent.

Brackish environments are indicated by the total dominance of high diversity spores and pollen, and trace quantities of a single species of dinoflagellate (Isabelidinium pellucidum).

These features are normally seen in the topmost Paaratte Formation and its correlatives.

Yellow spore colours indicate immaturity for hydrocarbons.

J. 772.0m (swc) : T. lillei Zone

Assignment to the Tricolporites lillei Zone is indicated at the top by the absence of younger indicators and at the base by oldest T. lillei. Proteacidites spp. are common, and N. endurus and P. mawsonii are frequent. Minor Permian reworking was seen.

Brackish environments are indicated by the extremely rare dinoflagellates amongst the common and diverse spores and pollen.

These features are normally seen in the upper Paaratte Formation.

Yellow spore colours indicate immaturity for hydrocarbons.

K. 858.0m (swc)-1054.0m (swc) : N. senectus Zone

Assignment to the Nothofagidites senectus Zone is indicated at the top by the absence of younger indicators, and at the base by oldest N. senectus. This may be picked slightly too low, as other caving (Eocene) is seen at 1054m and so base ranges may be unreliable. Proteacidites spp. are the most common, with Nothofagidites and P. mawsonii frequent.

Age diagnostic dinoflagellates include Nelsoniella aceras at 1018m and below, without younger indicators. Heterosphaeridium laterobrachius was also seen at 1018m. These indicate assignment of the interval 1018-1054n to the N. aceras Dinoflagellate Zone (correlative with the lower N. senectus and underlying topmost T. pachyexinus Spore-pollen Zone).

Despite their age significance, dinoflagellates are scarce and of low diversity, while spores and pollen are common and diverse. Nearshore marine environments are therefore indicated.

These features are normally seen in the lower Paaratte Formation and upper Belfast Mudstone.

Yellow spore-colours indicate immaturity for hydrocarbons.

L. 1075.5m (swc)-1254. 0m (swc) : T. pachyexinus Zone

Assignment to the Tricolporites pachyexinus Zone (=T. apoxyexinus Zone) at the top on the absence of younger indicators and at the base on oldest Ornamentifera sentosa. Proteacidites, M. antarcticus and Cyathidites are intermittently common. The assignment is confirmed by the associated dinoflagellates.

Age diagnostic dinoflagellates are present in all samples. At 1075.5m, oldest N. aceras indicates assignment to N. aceras Dinoflagellate Zone. At 1240 and 1254m, the presence of Isabelidinium cretaceum without younger elements, indicates assignment to the I. cretaceum Zone. The absence of samples contining Odontochitina porifera without I. cretaceum, suggests a minor hiatus removing Othe O. porifera Dinoflagellate Zone, somewhere in the interval 1254 - 1276.5m.

Offshore marine environments are indicated at 1240 - 1254m by the relatively high dinoflagellate contents (30 - 40%) and their moderate to high diversity (12 - 18 species). At 1075.5m, nearshore environments are suggested on the low content (5%) and diversity (8 species) of dinoflagellates.

These features are normally seen in the Belfast Mudstone.
Mid yellow spore colours indicate immaturity for hydrocarbons.

M. 1276.5m (swc) : upper C. triplex Zone.

Assignment to the Clavifera triplex Zone (= P. mawsonii Zone) is indicated at the top and base on the absence of younger and older indicators. Dinoflagellates confirm the assignment. Amosopollis cruciformis is common, with frequent M. antarcticus. Minor Permian reworking was seen.

The age diagnostic dinoflagellate Conosphaeridium striatoconus indicates assignment to the C. striatoconus Dinoflagellate Zone.

Nearshore marine environments are indicated by the low content (5%) and moderate diversity (10 species) of dinoflagellates

These features are usually seen in the Flaxmans Formation.

Mid yellow spore colours indicate immaturity for hydrocarbons.

N. 1287.0m (swc) - 1347.5m (swc) : lower C. triplex Zone.

Assignment is indicated at the top on youngest Appendicisporites distocarinatus, and at the base on oldest Phyllocladidites mawsonii. This base may be picked too low, as younger (and lighter coloured) elements are seen caved at 1347.5m but spore colours of critical specimens appear consistent with being in place. Amosopollis cruciformis, M. antarcticus and F. similis are intermittently common. Reworking from the Permian, Triassic and Jurassic are all seen at 1347.5m, suggesting a location above a sizable unconformity. At 1287.0m, however, Permian and Triassic reworking are again seen, with the Permian reworking very common, comprising 5% of the assemblage. This suggests the possibility of turbidites, although massive reworking in a more normal situation is not precluded.

Alternating environments are suggested. At 1347.5m, very nearshore environments are suggested, with trace quantities of dinoflagellates showing low diversity (6 species). At 1297 m. offshore environments are suggested, with dominant dinoflagellates (60%) of high diversity (20 species). At 1287 m. very nearshore environments are again suggested, with 5%

dinoflagellates of low diversity (8 species). These alternating environments could suggest turbidites, with the offshore environments real, and the nearshore ones artificially produced by turbidite flow of shallow derived sediment. The passage of a particularly deep interdistributary bay could alternatively account for the sequence.

The age of this sequence suggest a normal Flaxmans Formation. The unusual reworking and environmental data are not normal.

Mid yellow spore colours indicate immaturity for hydrocarbons.

O. A. distocarinatus Zone : not seen.

The apparent absence of this zone suggests a hiatus in the gap 1347.5 - 1383m. Condensation is also possible, as is the presence of the Zone (masked by caving), as suggested above. Mud penetration was a problem in processing, due to the shattering of these small diameter sidewall cores.

P. 1383.0 (swc) - 1481.0m (swc) : P. pannosus Zone.

Assignment to the Phimopollenites pannosus Zone is indicated at the top by youngest Coptospora paradoxa and at the base by oldest P. pannosus. Cyathidites, F. similis and A. australis are intermittently common. Minor Permian, Triassic and Jurassic reworking were intermittently seen.

Mostly non-marine environments are indicated by the absence of saline microplankton (except isolated caved late Cretaceous forms) presence of freshwater types and the dominance and diversity of spores and pollen. At 1423m, a single spiny acritarch appears, and suggests slightly brackish environments.

These features are normally seen at the top of the Eumeralla Formation.

Light brown spore colours indicate marginal maturity for oil, but immaturity for gas/condensate.

IV CONCLUSIONS

A. The palynology is generally compatible with the lithostratigraphy and suggests unconformities in the gaps.

331 - 402.5 (probably at the Nirranda Group/Dilwyn boundary, removing much of the Middle and Late Eocene).
543 - 586 (intra Dilwyn Formation - frequently condensed or absent in the Gippsland and Otway Basins).
1256 - 1276.5 (at the Belfast/Flaxmans boundary, confirmed by logs).
1347.5 - 1383 (at the Flaxmans/Eumeralla boundary).

B. The top Late Cretaceous is picked palynologically slightly higher than the original log pick. Two sidewall core samples suggest this location, and reworking is unlikely cause of palynological error. This duplicates a similar observation in Henke - 1 and suggests a terminal Cretaceous unit of Pebble Point like lithology. Close swc sampling across this boundary in future will provide a test, although the change is sufficiently obvious that it should be detectable in cuttings.

C. The lower C. triplex sequence (Flaxmans Formation) is unusual, featuring wildly alternating environments (offshore to very nearshore), heavy Permian reworking (5%) at 1287m, and multiple clean sands. These features occur in turbidite sand sequences, but are not necessarily restricted to them.

D. An unpublished dinoflagellate (Canninginopsis bretonica) is recorded here (659.5m, 664.5m) for the first time in the Otway Basin. Until now, it was known only from

Western Australia (Perth and Carnarvon Basins) and from the offshore Gippsland Basin (Pisces - 1). By correlation via nannofossil and planktonic foraminiferal zones seen in Western Australia, the Maastrichtian age of the T. longus Zone is confirmed.

E. Some mud contamination of swcs is noted. This is more frequent with small diameter swcs used in this well, where shattering and consequent mud penetration occur. Larger diameter swcs are more expensive, but provide generally better samples.

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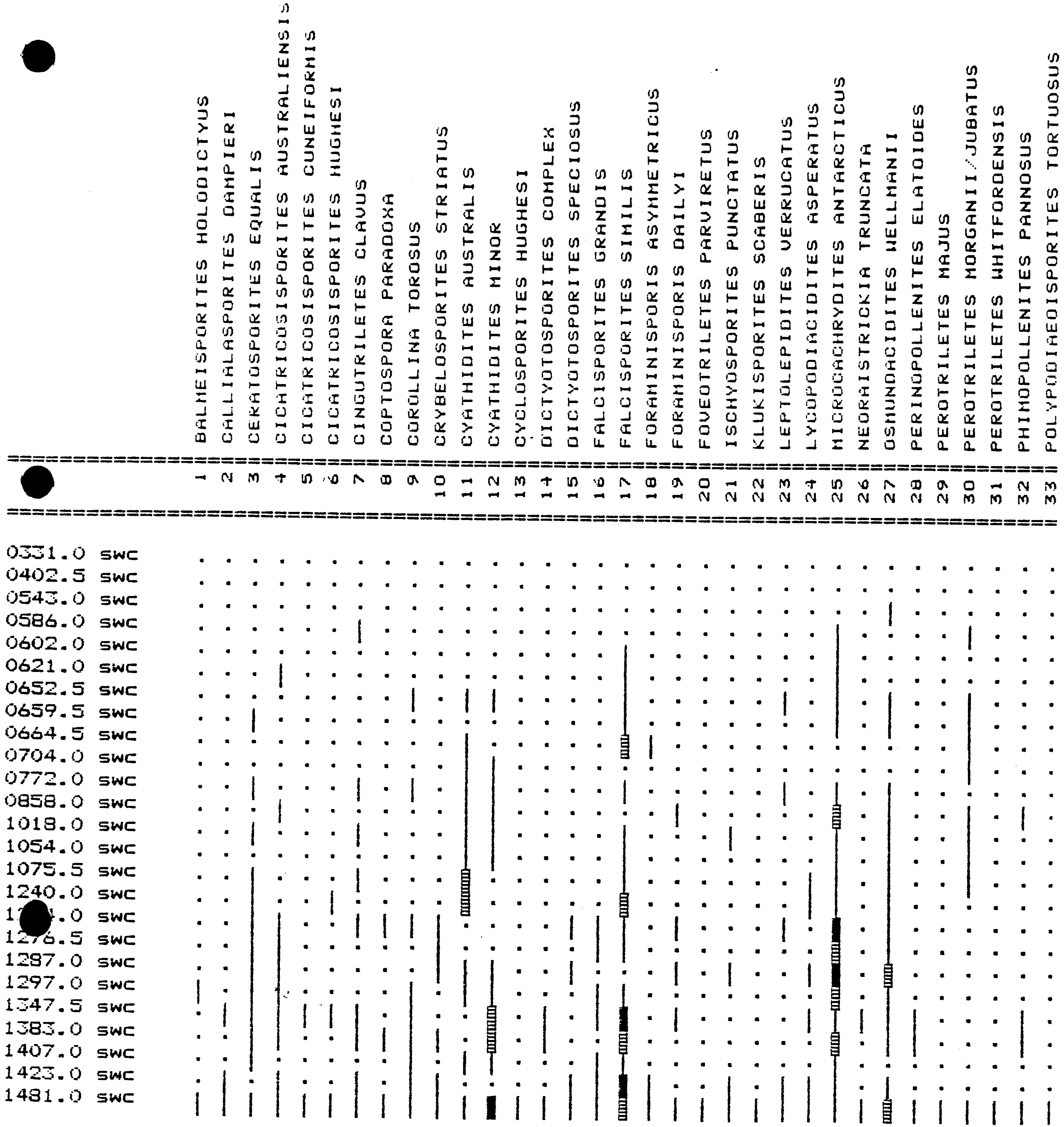
IONA #1 PALYNOLOGICAL DATA

RANGE CHART OF GRAPHIC ABUNDANCES BY LOWEST APPEARANCE (by group)

Key to Symbols

│ = Very Rare
▯ = Rare
▥ = Few
▮ = Common
█ = Abundant
? = Questionably Present
. = Not Present



BALMEISPORITES HOLODICTYUS 1
CALLIALASPORITES DAMPIERI 2
CERATOSPORITES EQUALIS 3
CICATRICOSISPORITES AUSTRALIENSIS 4
CICATRICOSISPORITES CUNEIFORMIS 5
CICATRICOSISPORITES HUGHESI 6
CINGUTRILETES CLAVUS 7
COPTOSPORA PARADOXA 8
COROLLINA TOROSUS 9
CRYBELOSPORITES STRIATUS 10
CYATHIDITES AUSTRALIS 11
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PERINOPOLLENITES ELATOIDES 28
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PHIMOPOLLENITES PANNOSUS 32
POLYPODIAEDISPORITES TORTUOSUS 33
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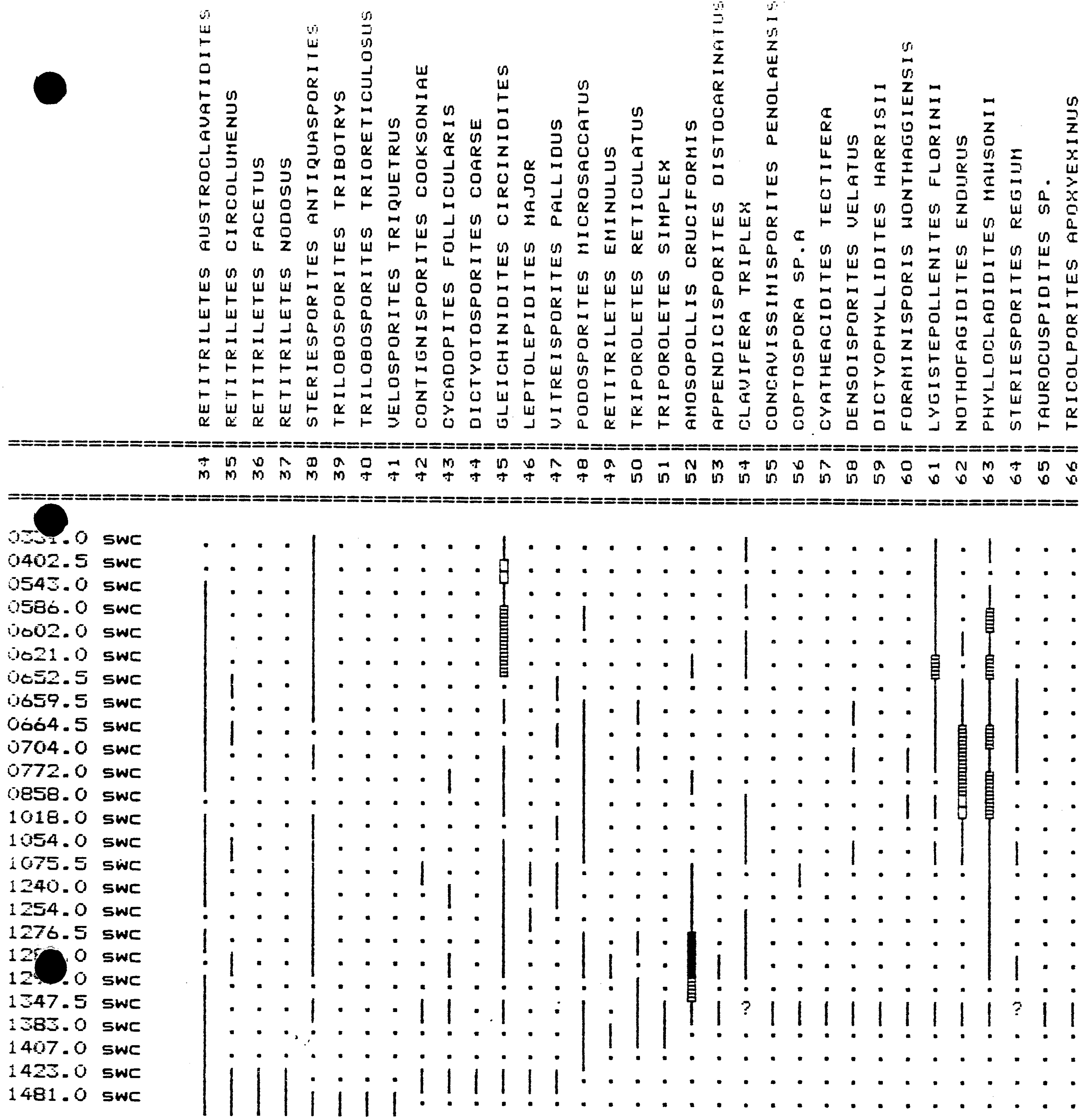
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TRILOBOSPORITES TRIORETICULOSUS
VELOSPORITES TRIQUETRUS
CONTIGNISPORITES COOKSONIAE
CYCADOPITES FOLLICULARIS
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VITREISPORITES PALLIDUS
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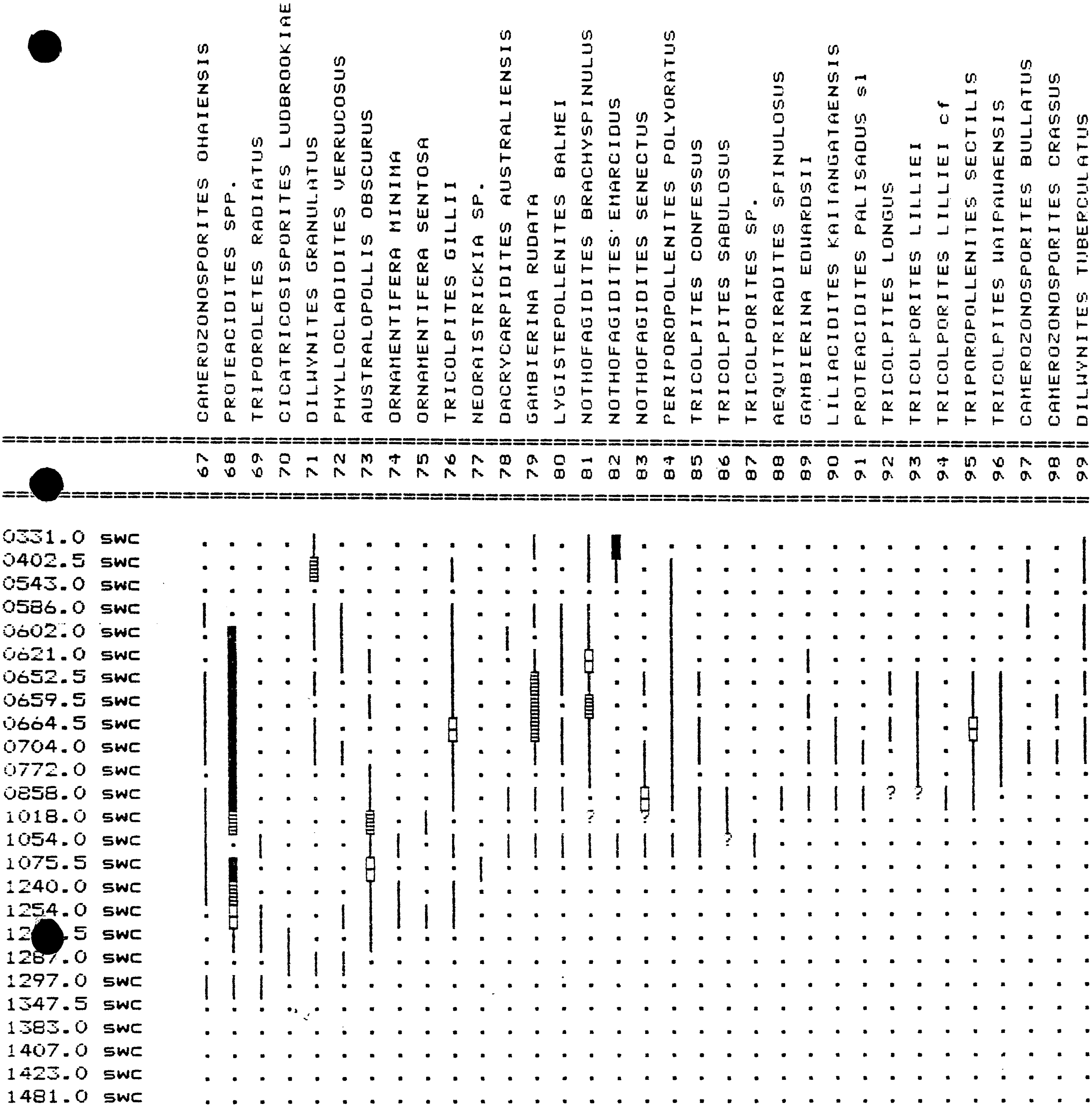
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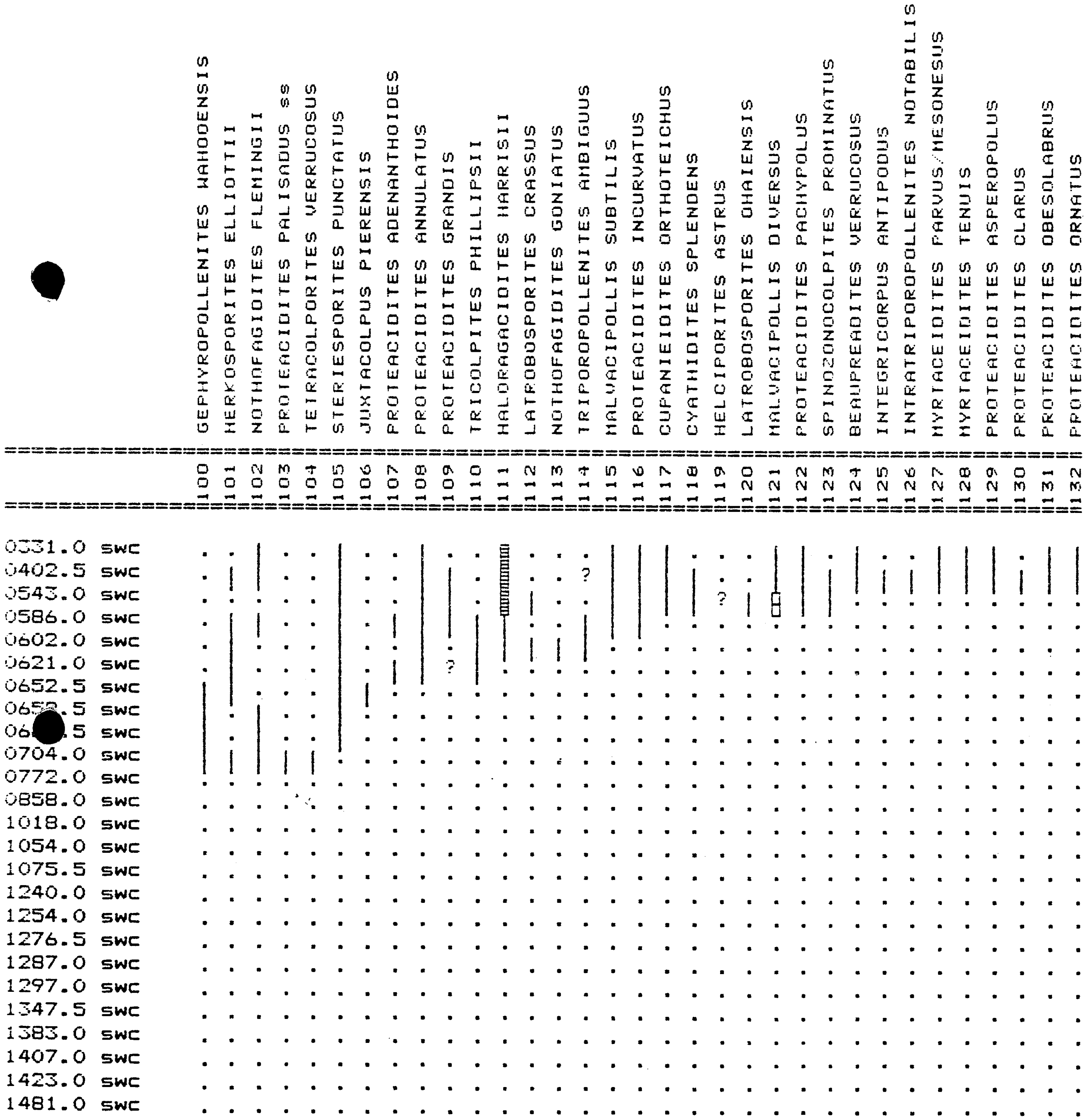
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131 PROTEACIDITES OBESOLABRUS
132 PROTEACIDITES ORNATUS
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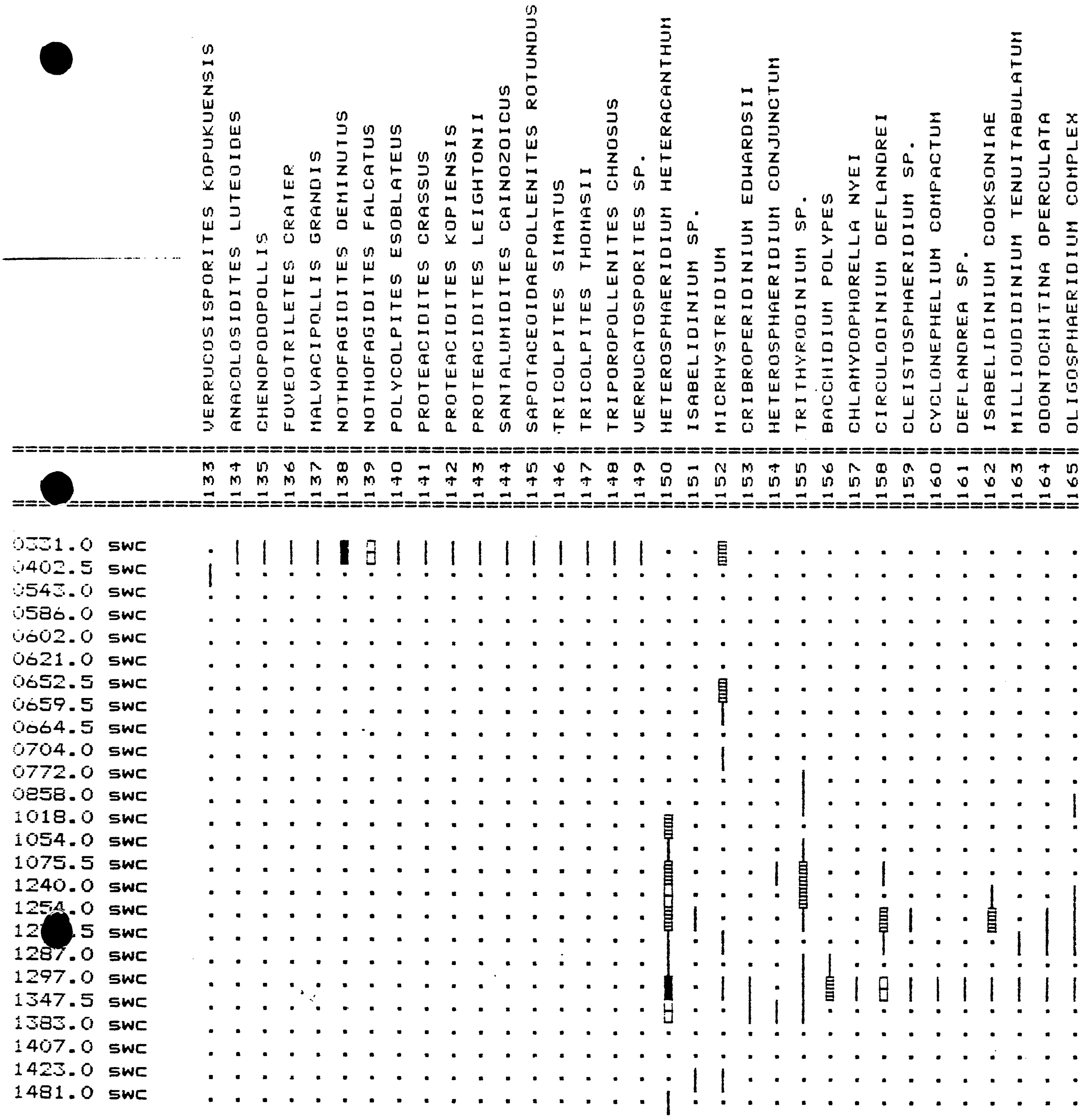
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NOTHOFAGIDITES FALCATUS
POLYCOLPITES ESOBLATEUS
PROTEACIDITES CRASSUS
PROTEACIDITES KOPIENSIS
PROTEACIDITES LEIGHTONII
SANTALUMIDITES CAINOZOICUS
SAPOTACEOIDAEPOLLENITES ROTUNDUS
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MICRHYSTRIDIUM
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BACCHIDIUM POLYPES
CHLAMYDOPHORELLA NYEI
CIRCULODINIUM DEFLANDREI
CLEISTOSPHAERIDIUM SP.
CYCLONEPHELIUM COMPACTUM
DEFLANDREA SP.
ISABELIDINIUM COOKSONIAE
MILLIOUDIDINIUM TENUITABULATUM
ODONTOCHITINA OPERCULATA
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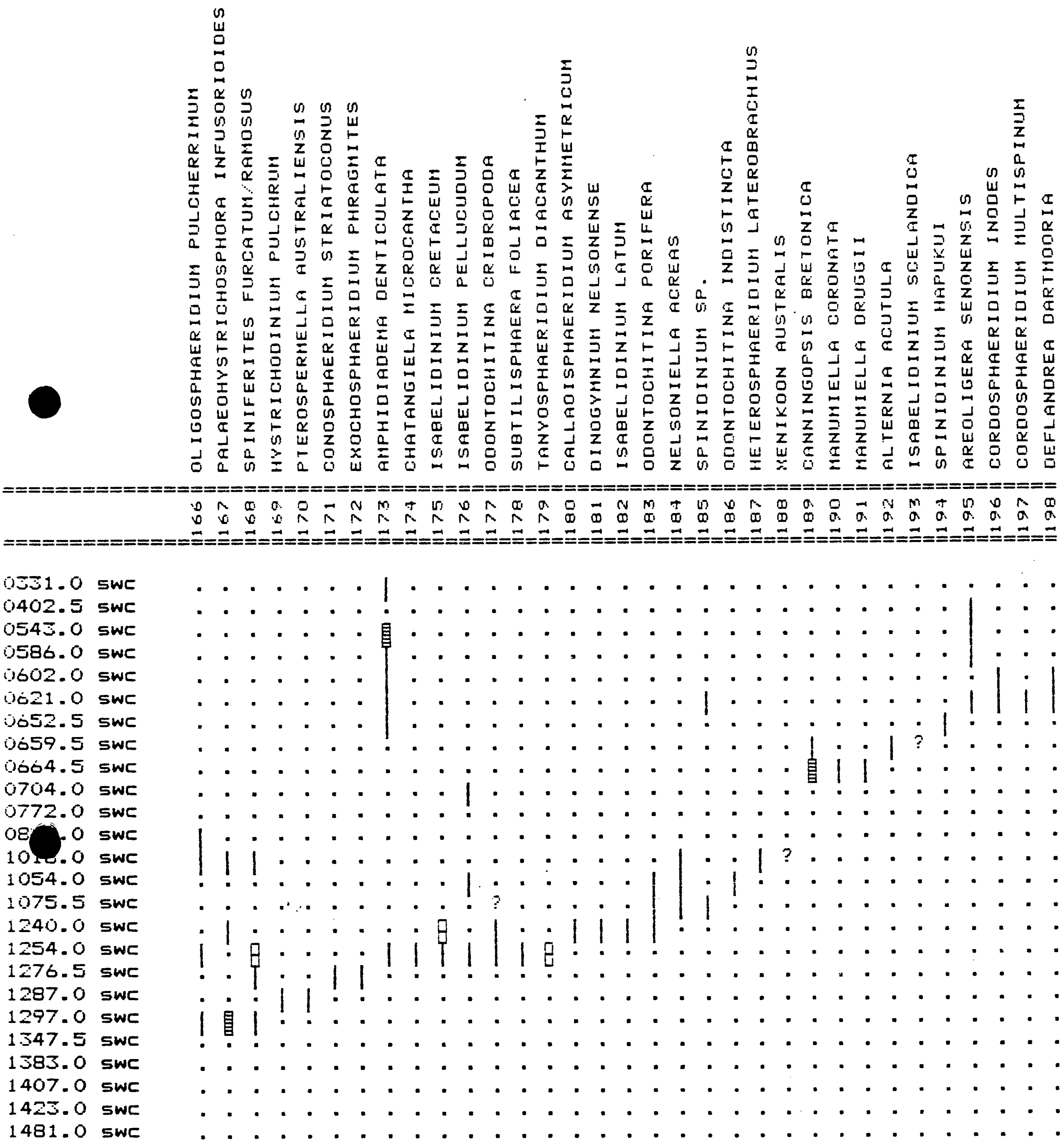
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PTEROSPERMELLA AUSTRALIENSIS
CONOSPHAERIDIUM STRIATOCONUS
EXOCHOSPHAERIDIUM PHRAGMITES
AMPHIDIADEMA DENTICULATA
CHATANGIELA MICROCANTHA
ISABELIDINIUM CRETACEUM
ISABELIDINIUM PELLUCUDUM
ODONTOCHITINA CRIBROPODA
SUBTILISPHAERA FOLIACEA
TANYOSPHAERIDIUM DIACANTHUM
CALLAOISPHAERIDIUM ASYMMETRICUM
DINOGYMNIUM NELSONENSE
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SPINIDINIUM SP.
ODONTOCHITINA INDISTINCTA
HETEROSPHAERIDIUM LATEROBRACHIUS
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MANUMIELLA CORONATA
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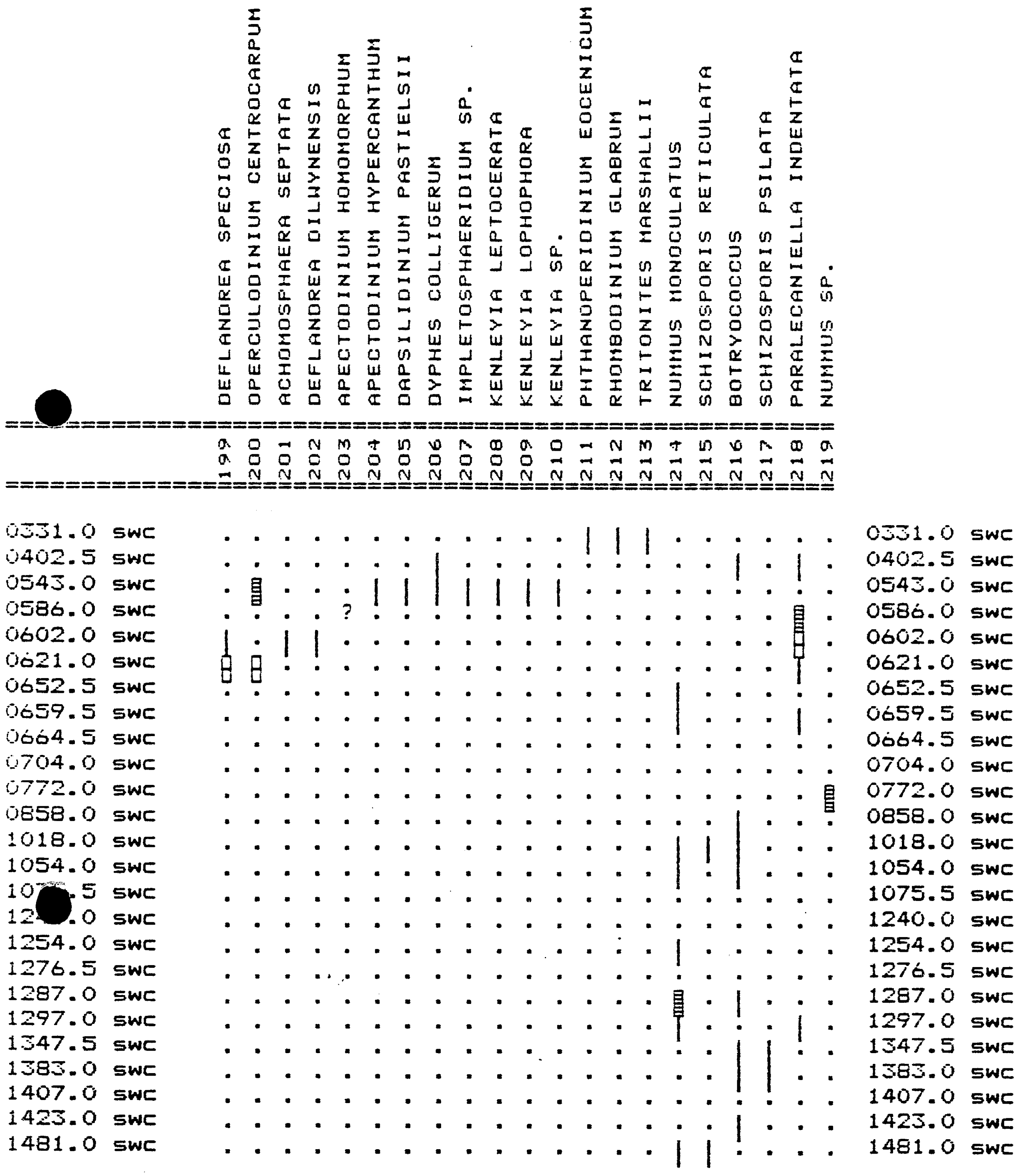
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178	SUBTILISPHAERA FOLIACEA
[illegible]	TANYOSPHAERIDIUM DIACANTHUM
65	TAUROCUSPIDITES SP.
104	TETRACOLPORITES VERRUCOSUS
85	TRICOLPITES CONFESSUS
76	TRICOLPITES GILLII
92	TRICOLPITES LONGUS
110	TRICOLPITES PHILLIPSII
86	TRICOLPITES SABULOSUS
146	TRICOLPITES SIMATUS
147	TRICOLPITES THOMASII
96	TRICOLPITES WAIPAWAENSIS
66	TRICOLPORITES APOXYEXINUS
93	TRICOLPORITES LILLIEI
94	TRICOLPORITES LILLIEI cf
87	TRICOLPORITES SP.
39	TRILOBOSPORITES TRIBOTRYS
40	TRILOBOSPORITES TRIORETICULOSUS
69	TRIPOROLETES RADIATUS
50	TRIPOROLETES RETICULATUS
[illegible]	TRIPOROLETES SIMPLEX
114	TRIPOROPOLLENITES AMBIGUUS
148	TRIPOROPOLLENITES CHNOSUS
95	TRIPOROPOLLENITES SECTILIS
155	TRITHYRODINIUM SP.
213	TRITONITES MARSHALLII
41	VELOSPORITES TRIQUETRUS
149	VERRUCATOSPORITES SP.
133	VERRUCOSISPORITES KOPUKUENSIS
47	VITREISPORITES PALLIDUS
188	XENIKOON AUSTRALIS

APPENDIX 6

VITRINITE REFLECTANCE - TOC

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1211.5 Meters

Comments : S.F.T. PRESSURE TEST NO.10 AT 1211.5 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
51	19/03/88	20:30:40	0.1028	710.30	+126.8
52	19/03/88	20:30:42	0.1033	710.83	+126.8
53	19/03/88	20:30:50	0.1056	710.83	+126.8
54	19/03/88	20:31:00	0.1083	711.68	+126.9
55	19/03/88	20:31:10	0.1111	712.51	+126.8
56	19/03/88	20:31:20	0.1139	713.17	+126.8
57	19/03/88	20:31:30	0.1167	713.78	+127.1
58	19/03/88	20:31:40	0.1194	714.37	+127.6
59	19/03/88	20:31:50	0.1222	714.69	+127.3
60	19/03/88	20:32:00	0.1250	715.32	+128.4
61	19/03/88	20:33:00	0.1417	716.30	+126.5
62	19/03/88	20:34:00	0.1583	717.20	+126.3
63	19/03/88	20:35:00	0.1750	717.79	+126.2
64	19/03/88	20:36:00	0.1917	718.15	+126.0
65	19/03/88	20:37:00	0.2083	718.41	+125.9
66	19/03/88	20:38:00	0.2250	718.60	+125.8
67	19/03/88	20:39:00	0.2417	718.75	+125.6
68	19/03/88	20:40:00	0.2583	718.89	+125.5
69	19/03/88	20:41:00	0.2750	718.99	+125.4
70	19/03/88	20:42:00	0.2917	719.08	+125.3
71	19/03/88	20:43:00	0.3083	719.18	+125.2
72	19/03/88	20:44:00	0.3250	719.27	+125.1
73	19/03/88	20:45:00	0.3417	719.36	+125.0
74	19/03/88	20:46:00	0.3583	719.45	+124.9
75	19/03/88	20:47:00	0.3750	719.54	+124.8
76	19/03/88	20:48:00	0.3917	719.64	+124.8
77	19/03/88	20:49:00	0.4083	719.74	+124.7
78	19/03/88	20:50:00	0.4250	719.84	+124.6
79	19/03/88	20:51:00	0.4417	719.97	+124.6
80	19/03/88	20:51:30	0.4500	1,599.48	+124.6
81	19/03/88	20:52:00	0.4583	1,970.39	+124.6
82	19/03/88	20:52:30	0.4667	1,944.51	+124.6
83	19/03/88	20:53:00	0.4750	1,944.52	+124.4
84	19/03/88	20:53:30	0.4833	1,944.36	+124.5

K.K. No.	Depth (m)	$\bar{R}_v$max	Range	N	Description Including Exinite Fluorescence
					Belfast Mudstone
x8277	1240 SWC 22	0.43	0.30-0.54	15	Sparse phytoplankton and liptodetrinite, greenish yellow and yellow to orange, rare ?Botryococcus related telalginite, bright yellow. (Glauconitic claystone. Dom abundant, I>E>V. Inertinite common, exinite and vitrinite sparse. Diffuse organic matter common. Glauconite dominant. Iron oxide rare. Pyrite abundant, mostly framboidal.)
					Waarre Formation
x8278	1287 SWC 18	0.44	0.32-0.56	26	Rare phytoplankton, greenish yellow and yellow to orange, rare sporinite, yellow. (Carbonate>calcareous claystone>>glauconitic claystone. Dom common, I>V>E. Inertinite common, vitrinite sparse, exinite rare. Glauconite rare. Iron oxide common. Carbonate has isolated saccharoidal texture. Pyrite sparse to common.)
					Eumeralla Formation
x8279	1383 SWC 8	0.42	0.40-0.46	6	Rare to spare phytoplankton and liptodetrinite, greenish yellow and yellow to orange, rare sporinite, yellow, rare resinite, green. (Claystone>calcareous sandstone>coal. Coal rare, V. Vitrite. Dom spare to common, I>E>V. Inertinite and exinite sparse, vitrinite rare. Inertinite consists of very fine inertodetrinite. Iron oxide rare. Pyrite major.)
x8280	1423 SWC 4	0.41	0.33-0.48	27	Rare phytoplankton and liptodetrinite, greenish yellow and yellow to orange, rare cutinite, yellow. (Siltstone>>coal. Coal sparse, V. Vitrite. Dom common, V>I>E. Vitrinite sparse to common, inertinite sparse, exinite rare to sparse. Rare canneloid shale grains in siltstone, probably reworked. Rare thucholites. Weak brown fluorescence from desmocollinite. Rare yellow oil droplets. Iron oxide rare. Pyrite sparse.)
x8281	1481 SWC 1	0.47	0.37-0.53	4	Rare phytoplankton and liptodetrinite, greenish yellow and yellow to orange. (Calcareous claystone>siltstone. Dom common, I>E>V. Inertinite common, exinite rare to sparse, vitrinite rare. Dom mainly consists of very fine inertodetrinite. Rare thucholites. Iron oxide rare to sparse. Pyrite rare.)
	$\bar{R}_I$	0.95	0.84-1.04	6	

VITRINITE REFLECTANCE WORKSHEET

WELL NAME Iona # 1 SAMPLE NO. X 8277 DEPTH 1[illegible]40m TYPE Swc.

FGV = First Generation Vitrinite **I = Inertinite**

Ro %	No. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type
.10				.46				.82				1.18				1.54				1.90			
.11				.47				.83				1.19				1.55				1.91			
.12				.48	3			.84				1.20				1.56				1.92			
.13				.49	2			.85				1.21				1.57				1.93			
.14				.50		FGY		.86				1.22				1.58				1.94			
.15				.51				.87				1.23				1.59				1.95			
.16				.52				.88				1.24				1.60				1.96			
.17				.53				.89				1.25				1.61				1.97			
.18				.54	1			.90				1.26				1.62				1.98			
.19				.55				.91				1.27				1.63				1.99			
.20				.56				.92				1.28				1.64				2.00			
.21				.57				.93				1.29				1.65							
.22				.58				.94				1.30				1.66							
.23				.59				.95				1.31				1.67							
.24				.60				.96				1.32				1.68							
.25				.61				.97				1.33				1.69							
.26				.62				.98				1.34				1.70							
.27				.63				.99				1.35				1.71							
.28				.64				1.00				1.36				1.72							
.29				.65				1.01				1.37				1.73							
.30	1			.66				1.02				1.38				1.74							
.31				.67				1.03				1.39				1.75							
.32	1			.68				1.04				1.40				1.76							
.33				.69				1.05				1.41				1.77							
.34	1			.70				1.06				1.42				1.78							
.35				.71				1.07				1.43				1.79							
.36				.72				1.08				1.44				1.80							
.37				.73				1.09				1.45				1.81							
.38	1			.74				1.10				1.46				1.82							
.39				.75				1.11				1.47				1.83							
.40				.76				1.12				1.48				1.84							
.41	2			.77				1.13				1.49				1.85							
.42				.78				1.14				1.50				1.86							
.43				.79				1.15				1.51				1.87							
.44	1			.80				1.16				1.52				1.88							
.45	2			.81				1.17				1.53				1.89							

Organic matter Comp.(%)

Exinite	Alginite
0.2	0
Vitrinite	**Inertinite**
0.1	1.8

Keiraville Konsultants Pty Ltd.

VITRINITE REFLECTANCE WORKSHEET

WELL NAME: Iona # 1 SAMPLE NO. X8278 DEPTH 1278 m TYPE Swc.

FGV = First Generation Vitrinite   I = Inertinite

Ro %	No. Read	Pop Rnge	Pop Type	Ro %	NO. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type	Ro %	NO. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type
.10				.46	2	│		.82				1.18				1.54				1.90			
.11				.47		│		.83				1.19				1.55				1.91			
.12				.48		│		.84				1.20				1.56				1.92			
.13				.49	1	│		.85				1.21				1.57				1.93			
.14				.50	2	│		.86				1.22				1.58				1.94			
.15				.51	1	│		.87				1.23				1.59				1.95			
.16				.52		│		.88				1.24				1.60				1.96			
.17				.53	1	│		.89				1.25				1.61				1.97			
.18				.54	1	│		.90				1.26				1.62				1.98			
.19				.55	1	│		.91				1.27				1.63				1.99			
.20				.56	2	↓		.92				1.28				1.64				2.00			
.21				.57				.93				1.29				1.65							
.22				.58				.94				1.30				1.66							
.23				.59				.95				1.31				1.67							
.24				.60				.96				1.32				1.68							
.25				.61				.97				1.33				1.69							
.26				.62				.98				1.34				1.70							
.27				.63				.99				1.35				1.71							
.28				.64				1.00				1.36				1.72							
.29				.65				1.01				1.37				1.73							
.30				.66				1.02				1.38				1.74							
.31				.67				1.03				1.39				1.75							
.32	1	↑		.68				1.04				1.40				1.76							
.33		│		.69				1.05				1.41				1.77							
.34	1	│		.70				1.06				1.42				1.78							
.35		│		.71				1.07				1.43				1.79							
.36	1	│		.72				1.08				1.44				1.80							
.37	4	│		.73				1.09				1.45				1.81							
.38		│		.74				1.10				1.46				1.82							
.39		│		.75				1.11				1.47				1.83							
.40	4	│		.76				1.12				1.48				1.84							
.41	1	│		.77				1.13				1.49				1.85							
.42	1	│		.78				1.14				1.50				1.86							
.43	1	│		.79				1.15				1.51				1.87							
.44		│		.80				1.16				1.52				1.88							
.45	1	│		.81				1.17				1.53				1.89							

Organic matter Comp.(%)

Exinite	Alginite
<0.1	0
Vitrinite	**Inertinite**
0.4	1.0

Keiraville Konsultants Pty Ltd.

VITRINITE REFLECTANCE WORKSHEET

WELL NAME Jona #1 SAMPLE NO. X 8279 DEPTH 1[illegible]3m TYPE SWC.

FGV = First Generation Vitrinite I = Inertinite

Ro %	No. Read	Pop Rnge	Pop Type	Ro %	NO. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type	Ro %	NO. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type
.10				.46	1	↓		.82				1.18				1.54				1.90			
.11				.47				.83				1.19				1.55				1.91			
.12				.48				.84				1.20				1.56				1.92			
.13				.49				.85				1.21				1.57				1.93			
.14				.50				.86				1.22				1.58				1.94			
.15				.51				.87				1.23				1.59				1.95			
.16				.52				.88				1.24				1.60				1.96			
.17				.53				.89				1.25				1.61				1.97			
.18				.54				.90				1.26				1.62				1.98			
.19				.55				.91				1.27				1.63				1.99			
.20				.56				.92				1.28				1.64				2.00			
.21				.57				.93				1.29				1.65							
.22				.58				.94				1.30				1.66							
.23				.59				.95				1.31				1.67							
.24				.60				.96				1.32				1.68							
.25				.61				.97				1.33				1.69							
.26				.62				.98				1.34				1.70							
.27				.63				.99				1.35				1.71							
.28				.64				1.00				1.36				1.72							
.29				.65				1.01				1.37				1.73							
.30				.66.				1.02				1.38				1.74							
.31				.67				1.03				1.39				1.75							
.32				.68				1.04				1.40				1.76							
.33				.69				1.05				1.41				1.77							
.34				.70				1.06				1.42				1.78							
.35				.71				1.07				1.43				1.79							
.36				.72				1.08				1.44				1.80							
.37				.73				1.09				1.45				1.81							
.38				.74				1.10				1.46				1.82							
.39				.75				1.11				1.47				1.83							
.40	1	↑		.76				1.12				1.48				1.84							
.41	2			.77				1.13				1.49				1.85							
.42	2			.78				1.14				1.50				1.86							
.43				.79				1.15				1.51				1.87							
.44		FGV		.80				1.16				1.52				1.88							
.45				.81				1.17				1.53				1.89							

Organic matter Comp.(%)

Exinite	Alginite
0.2	0
Vitrinite	Inertinite
<0.1	0.3

Keiraville Konsultants Pty Ltd.

VITRINITE REFLECTANCE WORKSHEET

WELL NAME Iona #1 SAMPLE NO. X 8280 DEPTH 14[illegible]3 m TYPE SWC.

FGV = First Generation Vitrinite I = Inertinite

Ro %	No. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type
.10				.46	3			.82				1.18				1.54				1.90			
.11				.47	1			.83				1.19				1.55				1.91			
.12				.48	1			.84				1.20				1.56				1.92			
.13				.49				.85				1.21				1.57				1.93			
.14				.50				.86				1.22				1.58				1.94			
.15				.51				.87				1.23				1.59				1.95			
.16				.52				.88				1.24				1.60				1.96			
.17				.53				.89				1.25				1.61				1.97			
.18				.54				.90				1.26				1.62				1.98			
.19				.55				.91				1.27				1.63				1.99			
.20				.56				.92				1.28				1.64				2.00			
.21				.57				.93				1.29				1.65							
.22				.58				.94				1.30				1.66							
.23				.59				.95				1.31				1.67							
.24				.60				.96				1.32				1.68							
.25				.61				.97				1.33				1.69							
.26				.62				.98				1.34				1.70							
.27				.63				.99				1.35				1.71							
.28				.64				1.00				1.36				1.72							
.29				.65				1.01				1.37				1.73							
.30				.66				1.02				1.38				1.74							
.31				.67				1.03				1.39				1.75							
.32				.68				1.04				1.40				1.76							
.33	1			.69				1.05				1.41				1.77							
.34	1			.70				1.06				1.42				1.78							
.35	1			.71				1.07				1.43				1.79							
.36	3			.72				1.08				1.44				1.80							
.37	1			.73				1.09				1.45				1.81							
.38	1			.74				1.10				1.46				1.82							
.39	3			.75				1.11				1.47				1.83							
.40		FGV		.76				1.12				1.48				1.84							
.41	4			.77				1.13				1.49				1.85							
.42	2			.78				1.14				1.50				1.86							
.43	1			.79				1.15				1.51				1.87							
.44	1			.80				1.16				1.52				1.88							
.45	3			.81				1.17				1.53				1.89							

Organic matter Comp. (%)

Exinite	Alginite
0.1	0
Vitrinite	**Inertinite**
0.6	6.3

Keiraville Konsultants Pty Ltd.

VITRINITE REFLECTANCE WORKSHEET

WELL NAME: IONA - 1 SAMPLE NO. X 8281 DEPTH 1481 m TYPE SWC.

FGV = First Generation Vitrinite I = Inertinite

Ro %	No. Read	Pop Rnge	Pop Type	Ro %	NO. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type	Ro %	NO. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type	Ro %	No. Read	Pop Rnge	Pop Type
.10				.46	|			.82				1.18				1.54				1.90			
.11				.47				.83				1.19				1.55				1.91			
.12				.48				.84	|	↑		1.20				1.56				1.92			
.13				.49		FGV		.85				1.21				1.57				1.93			
.14				.50				.86	|			1.22				1.58				1.94			
.15				.51				.87				1.23				1.59				1.95			
.16				.52	|			.88				1.24				1.60				1.96			
.17				.53	|	↓		.89				1.25				1.61				1.97			
.18				.54				.90				1.26				1.62				1.98			
.19				.55				.91				1.27				1.63				1.99			
.20				.56				.92	|			1.28				1.64				2.00			
.21				.57				.93				1.29				1.65							
.22				.58				.94				1.30				1.66							
.23				.59				.95				1.31				1.67							
.24				.60				.96	INE	RTIN	ITE	1.32				1.68							
.25				.61				.97				1.33				1.69							
.26				.62				.98				1.34				1.70							
.27				.63				.99				1.35				1.71							
.28				.64				1.00				1.36				1.72							
.29				.65				1.01				1.37				1.73							
.30				.66				1.02	|			1.38				1.74							
.31				.67				1.03				1.39				1.75							
.32				.68				1.04	2	↓		1.40				1.76							
.33				.69				1.05				1.41				1.77							
.34				.70				1.06				1.42				1.78							
.35				.71				1.07				1.43				1.79							
.36				.72				1.08				1.44				1.80							
.37	|	↑		.73				1.09				1.45				1.81							
.38				.74				1.10				1.46				1.82							
.39				.75				1.11				1.47				1.83							
.40				.76				1.12				1.48				1.84							
.41				.77				1.13				1.49				1.85							
.42				.78				1.14				1.50				1.86							
.43				.79				1.15				1.51				1.87							
.44				.80				1.16				1.52				1.88							
.45				.81				1.17				1.53				1.89							

Organic matter Comp.(%)

Exinite	Alginite
0·1	0
Vitrinite	**Inertinite**
<0·1	1·0

Keiraville Konsultants Pty Ltd.

APPENDIX 7

DST #1

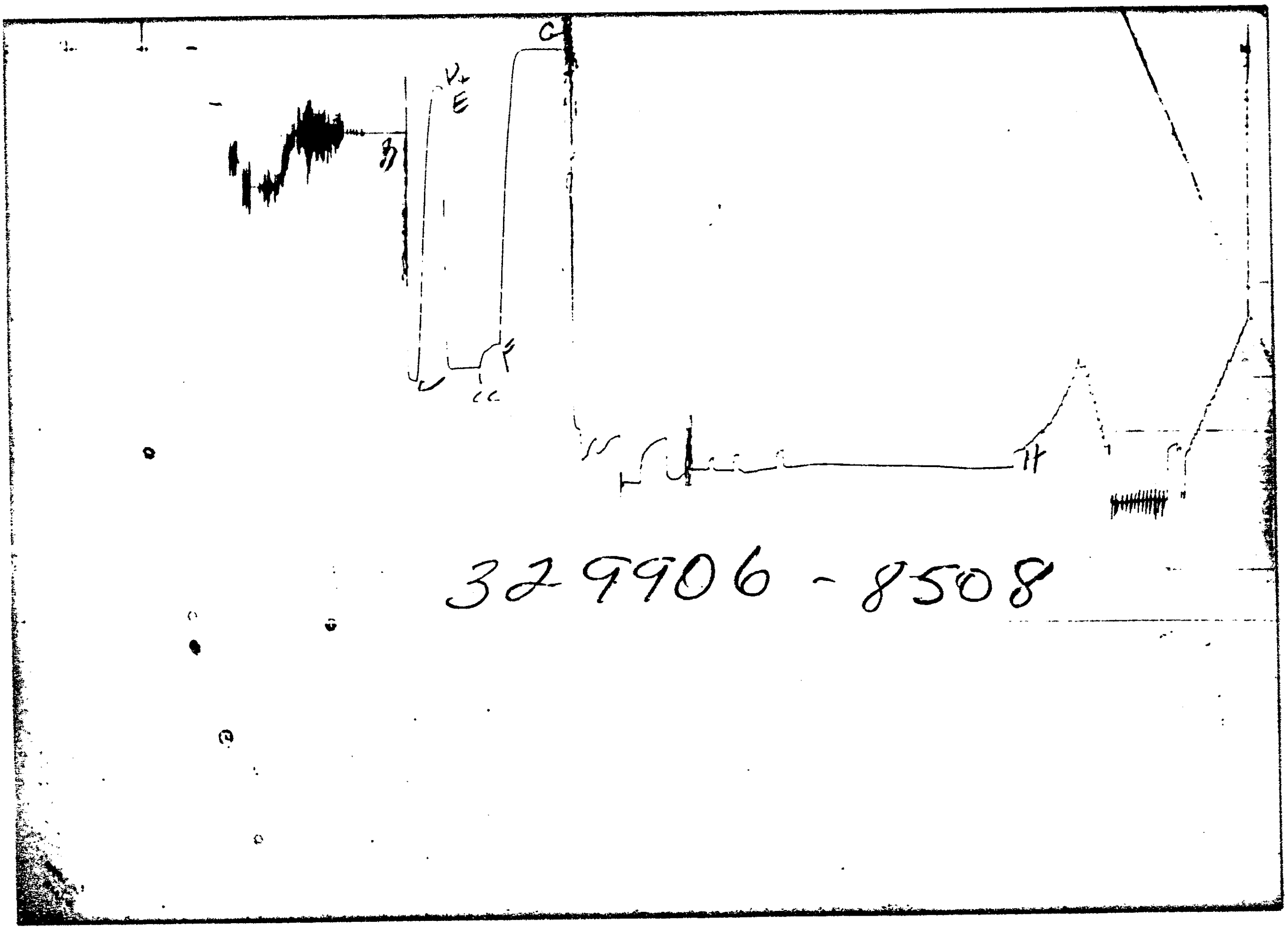
IONA	1	1	4241.0 - 4282.0	BEACH PETROLEUM N/L
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME

LEGAL LOCATION SEC. - TWP. - RNG.	SEE REMARKS	FIELD AREA	IONA	COUNTY	VICTORIA	STATE	AUSTRALIA SM

HALLIBURTON SERVICES

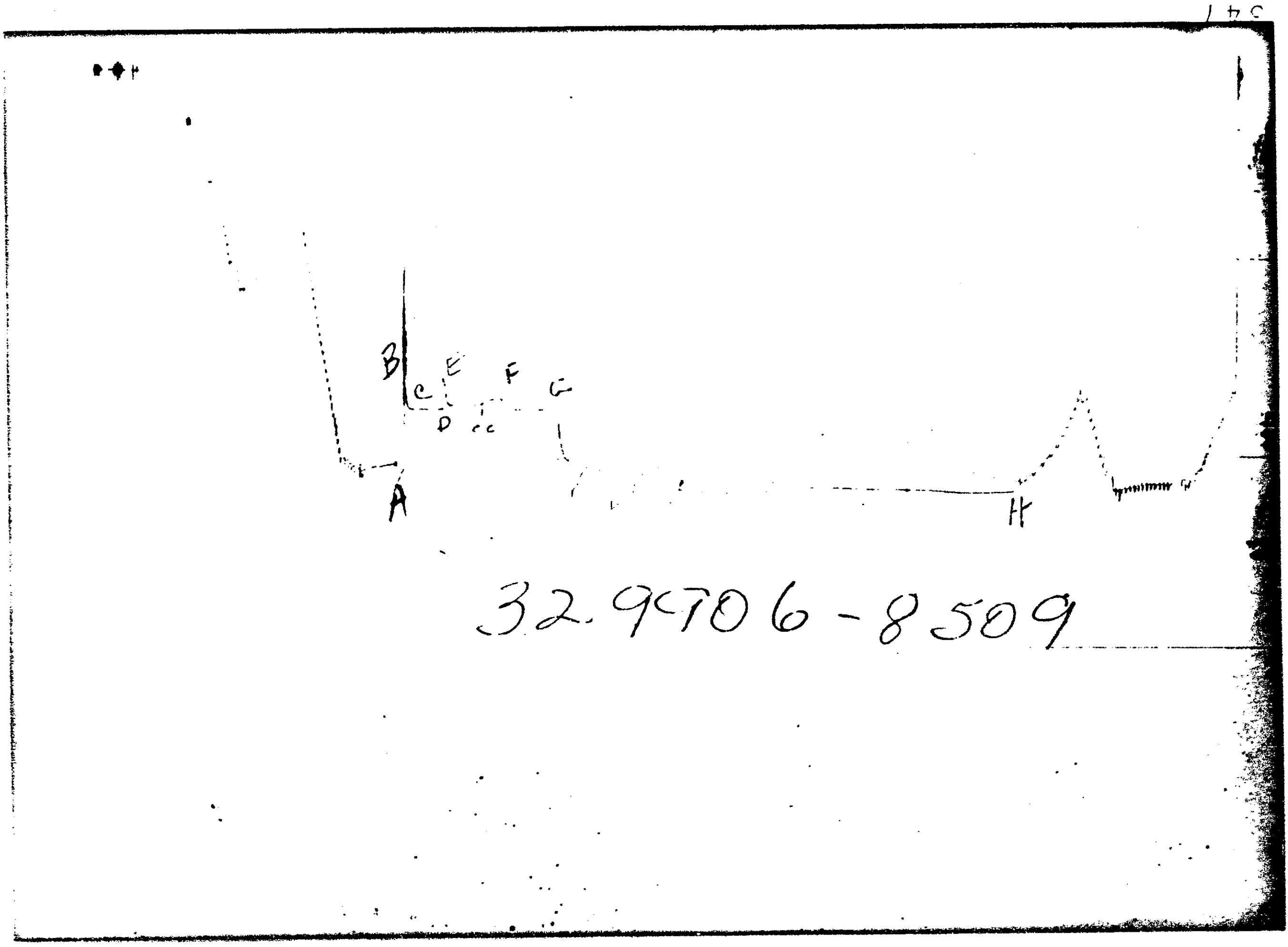
TICKET NO. 32990600
05-APR-88
MOOMBA

FORMATION TESTING SERVICE REPORT



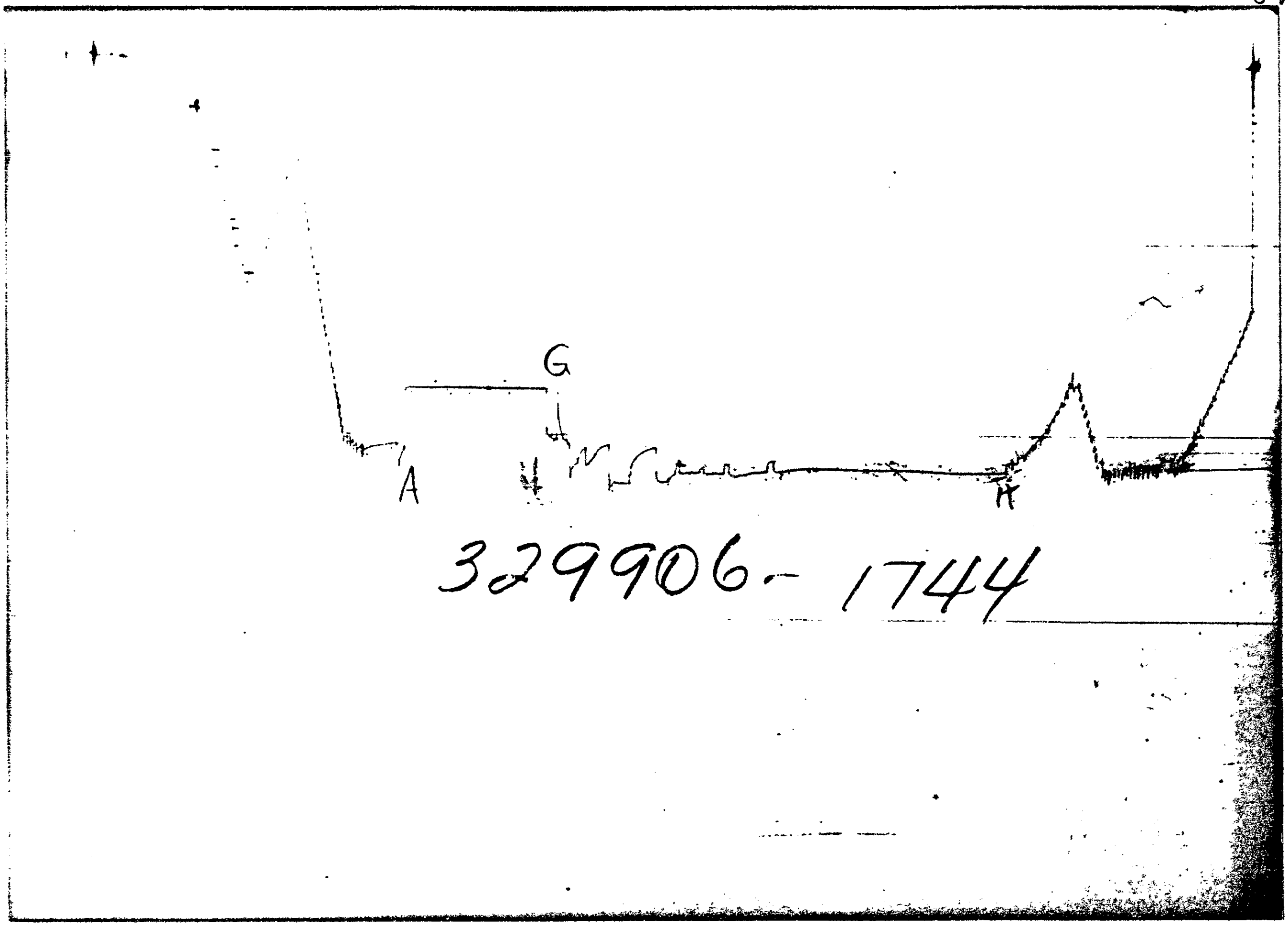
GAUGE NO: 8508 DEPTH: 4198.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW	450	447.9	15.0	14.6	F
C	FINAL FIRST FLOW	1705	1724.4			
C	INITIAL FIRST CLOSED-IN	1705	1724.4	31.0	31.2	C
D	FINAL FIRST CLOSED-IN	197	205.4			
E	INITIAL SECOND FLOW		234.1	70.0	70.1	F
F	FINAL SECOND FLOW		1531.2			
F	INITIAL SECOND CLOSED-IN		1531.2	55.0	55.2	C
G	FINAL SECOND CLOSED-IN		5.1			
H	HYDROSTATIC AFTER REV.	2147	2176.8			



GAUGE NO: 8509   DEPTH: 4218.0   BLANKED OFF: NO   HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2029	2037.5			
B	INITIAL FIRST FLOW	1598	1644.5	15.0	14.6	F
C	FINAL FIRST FLOW	1742	1756.7			
C	INITIAL FIRST CLOSED-IN	1742	1756.7	31.0	31.2	C
D	FINAL FIRST CLOSED-IN	1767	1757.7			
E	INITIAL SECOND FLOW	1559	1595.6	70.0	70.1	F
F	FINAL SECOND FLOW	1689	1703.0			
F	INITIAL SECOND CLOSED-IN	1689	1703.0	55.0	55.2	C
G	FINAL SECOND CLOSED-IN	1742	1757.4			
H	HYDROSTATIC AFTER REV.	2160	2119.3			



GAUGE NO: 1744 DEPTH: 4279.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2035	2048.4			
B	INITIAL FIRST FLOW			15.0		F
C	FINAL FIRST FLOW					
C	INITIAL FIRST CLOSED-IN			31.0		C
D	FINAL FIRST CLOSED-IN					
E	INITIAL SECOND FLOW			70.0		F
F	FINAL SECOND FLOW					
F	INITIAL SECOND CLOSED-IN			55.0	17.8	C
G	FINAL SECOND CLOSED-IN		1755.6			
H	HYDROSTATIC AFTER REV.	2170	2138.8			

EQUIPMENT & HOLE DATA

FORMATION TESTED: WAARRE
NET PAY (ft): 10.0
GROSS TESTED FOOTAGE: 41.0
ALL DEPTHS MEASURED FROM: R KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 8.500
ELEVATION (ft): 415.0
TOTAL DEPTH (ft): 4282.0
PACKER DEPTH(S) (ft): 4233, 4241
FINAL SURFACE CHOKE (in): 0.50000
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.30
MUD VISCOSITY (sec): 45
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 128 @ 4278.0 ft

TICKET NUMBER: 32990600
DATE: 3-14-88 TEST NO: 1
TYPE DST: OPEN HOLE
HALLIBURTON CAMP: MOOMBA
TESTER: P. LARKINS
WITNESS: V. STANTOSTEFANO
DRILLING CONTRACTOR: GEARHART RIG #2

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm

SAMPLER DATA

Psig AT SURFACE:
cu.ft. OF GAS:
cc OF OIL:
cc OF WATER:
cc OF MUD:
TOTAL LIQUID cc:

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F
GAS/OIL RATIO (cu.ft. per bbl):
GAS GRAVITY:

CUSHION DATA

TYPE	AMOUNT	WEIGHT
KCL (BBL)	10.0	8.40

RECOVERED:

MEASURED FROM TESTER VALVE

REMARKS:

LEGAL LOCATION: LAT. 28 DEGREES, 24', 30 46"
LONG. 143 DEGREES, 01', 57 33"

GAUGE # 1744 APPEARS TO HAVE BEEN PLUGGED OFF WITH DEBRIS....NO VALID READINGS AVAILABLE OTHER THAN HYDROSTATICS.

TYPE & SIZE MEASURING DEVICE: CHOKE MANIFOLD

TICKET NO: 32990600

TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
3-14-88					
0330					MADE UP TOOLS AND RAN IN HOLE
0941					SET PACKERS 25,000#
0947					TOOL OPENED
0948					STRONG BLOW IN BUCKET
0949	1/4	200			
0950	1/4	1100			
0951	1/4	1200			
0952	1/4	1300			
0955	1/4	1300			
0958	1/4				MUD TO SURFACE
1000	1/4	1250			
1001	1/4				GAS TO SURFACE...WATER CUT
1002	1/4	1300			CLOSED DCIP FOR INITIAL SHUT IN
1033	3/8	200			OPENED DCIP
1034	3/8	500			
1036	3/8	1250			
1040	3/8	1040			
1050	3/8	1480			
10507?	3/8	1490			
1100	3/8	1490			
1116	1/2	1350			CHANGE CHOKE, LIT FLARE
1120	1/2	1310			ORANGE YELLOW FLAME
1125	1/2	1300			
1130	1/2	1300			
1143	1/2	1300			CLOSED DCIP FOR FINAL SHUT IN
1238					PULLED PACKER FREE, STARTED
					TO REVERSE OUT...KILLED WELL
3-15-88					
0500					TOOLS OUT OF HOLE

TICKET NO: 32990600
CLOCK NO: 30368 HOUR: 24

GAUGE NO: 8508
DEPTH: 4198.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		FIRST FLOW			
B 1	0.0	447.9			
2	1.0	1573.5	1125.6		
3	2.0	1678.2	104.7		
4	3.0	1707.3	29.1		
5	4.0	1711.7	4.4		
6	5.0	1714.3	2.6		
7	6.0	1716.5	2.2		
8	7.0	1719.0	2.5		
9	8.0	1719.7	0.8		
10	9.0	1721.4	1.7		
11	10.0	1722.6	1.2		
12	11.0	1723.5	0.9		
13	12.0	1724.0	0.5		
14	13.0	1724.7	0.6		
15	14.0	1724.8	0.1		
C 16	14.6	1724.4	-0.4		
		FIRST CLOSED-IN			
C 1	0.0	1724.4			
D 2	31.2	205.4	-1519.0	9.9	0.167
		SECOND FLOW			
E 1	0.0	234.1			
2	5.0	1627.4	1393.3		
3	10.0	1660.6	33.2		
4	15.0	1658.1	-2.6		
5	20.0	1657.3	-0.8		
6	25.0	1656.1	-1.2		
7	30.0	1654.5	-1.6		
8	35.0	1654.0	-0.5		
9	40.0	1653.4	-0.6		
10	45.0	1653.4	0.0		
$\boxed{1}$ 11	45.4	1653.4	0.0		
12	50.0	1578.1	-75.3		
13	55.0	1562.2	-15.8		
14	60.0	1545.5	-16.8		
15	65.0	1535.2	-10.3		
F 16	70.1	1531.2	-4.0		
		SECOND CLOSED-IN			
F 1	0.0	1531.2			
G 2	55.2	5.1	-1526.0	33.4	0.404

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$

LEGEND:
$\boxed{1}$ CHOKE CHANGE
REMARKS:

TICKET NO: 32990600

CLOCK NO: 30363 HOUR: 24

GAUGE NO: 8509

DEPTH: 4218.0

FIRST FLOW

REF	MINUTES	PRESSURE	ΔP	$\frac{t\times\Delta t}{t+\Delta t}$	$\log\frac{t+\Delta t}{\Delta t}$
B 1	0.0	1644.5			
2	1.0	1645.0	0.5		
3	2.0	1645.0	0.0		
4	3.0	1667.9	22.8		
5	4.0	1707.3	39.4		
6	5.0	1735.9	28.6		
7	6.0	1748.0	12.1		
8	7.0	1750.9	2.9		
9	8.0	1753.3	2.3		
10	9.0	1754.4	1.2		
11	10.0	1755.4	0.9		
12	11.0	1756.1	0.8		
13	12.0	1756.7	0.5		
14	13.0	1756.7	0.0		
15	14.0	1756.7	0.0		
C 16	14.6	1756.7	0.0		

FIRST CLOSED-IN

REF	MINUTES	PRESSURE	ΔP	$\frac{t\times\Delta t}{t+\Delta t}$	$\log\frac{t+\Delta t}{\Delta t}$
C 1	0.0	1756.7			
D 2	31.2	1757.7	1.0	9.9	0.167

SECOND FLOW

REF	MINUTES	PRESSURE	ΔP	$\frac{t\times\Delta t}{t+\Delta t}$	$\log\frac{t+\Delta t}{\Delta t}$
E 1	0.0	1595.6			
2	5.0	1708.1	112.5		
3	10.0	1735.1	27.0		
4	15.0	1736.7	1.6		
5	20.0	1735.6	-1.0		
6	25.0	1735.2	-0.4		
7	30.0	1735.2	0.0		
8	35.0	1735.2	0.0		
9	40.0	1733.3	-2.0		
10	45.0	1733.0	-0.3		
☐1 11	45.4	1733.0	0.0		
12	50.0	1717.5	-15.5		
13	55.0	1709.0	-8.5		
14	60.0	1705.0	-4.0		
15	65.0	1702.2	-2.7		
F 16	70.1	1703.0	0.8		

SECOND CLOSED-IN

REF	MINUTES	PRESSURE	ΔP	$\frac{t\times\Delta t}{t+\Delta t}$	$\log\frac{t+\Delta t}{\Delta t}$
F 1	0.0	1703.0			
2	1.0	1748.0	45.0	1.0	1.943
3	2.0	1751.2	48.2	2.0	1.635
4	3.0	1752.9	49.9	2.9	1.459
5	4.0	1753.9	50.9	3.8	1.346

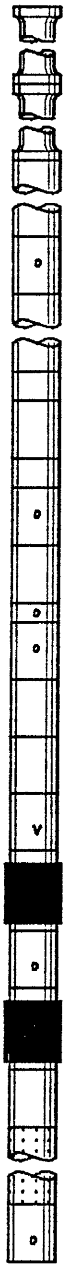
SECOND CLOSED-IN - CONTINUED

REF	MINUTES	PRESSURE	ΔP	$\frac{t\times\Delta t}{t+\Delta t}$	$\log\frac{t+\Delta t}{\Delta t}$
6	5.0	1755.4	52.3	4.7	1.254
7	6.0	1756.0	53.0	5.6	1.177
8	7.0	1756.0	53.0	6.5	1.115
9	8.0	1756.0	53.0	7.3	1.065
10	9.0	1756.7	53.7	8.1	1.018
11	10.0	1756.8	53.8	8.9	0.976
12	12.0	1757.8	54.8	10.5	0.905
13	14.0	1757.8	54.8	12.0	0.848
14	16.0	1757.8	54.8	13.5	0.798
15	18.0	1757.3	54.3	14.9	0.756
16	20.0	1757.3	54.3	16.2	0.719
17	22.0	1757.3	54.3	17.5	0.686
18	24.0	1757.3	54.3	18.7	0.656
19	26.0	1757.3	54.3	19.9	0.629
20	28.0	1757.3	54.3	21.1	0.604
21	30.0	1757.3	54.3	22.2	0.582
22	35.0	1757.3	54.3	24.8	0.534
23	40.0	1757.3	54.3	27.2	0.494
24	45.0	1757.3	54.3	29.4	0.460
25	50.0	1757.3	54.3	31.4	0.430
G 26	55.2	1757.4	54.4	33.4	0.404

LEGEND:
☐1 CHOKE CHANGE

REMARKS:

TICKET NO. 32990600



		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE	4.500	3.826	3552.0	
4	FLEX WEIGHT	4.500	2.764	182.3	
3	DRILL COLLARS	6.500	2.812	370.1	
50	IMPACT REVERSING SUB	6.250	3.000	1.0	4105.0
3	DRILL COLLARS	6.500	2.812	90.8	
5	CROSSOVER	5.250	2.400	1.0	
80	AP RUNNING CASE	5.000	2.250	4.1	4198.0
	CROSSOVER	5.000	2.375	1.0	
12	DUAL CIP VALVE	5.000	0.870	4.9	
202	SAMPLE CHAMBER	5.000	2.250	4.1	
33	DRAIN VALVE	5.250	2.500	1.0	
60	HYDROSPRING TESTER	5.000	0.750	5.3	4216.0
80	AP RUNNING CASE	5.000	2.250	4.1	4218.0
15	JAR	5.000	1.000	5.0	
16	VR SAFETY JOINT	5.000	1.000	2.8	
70	OPEN HOLE PACKER	6.750	1.530	5.8	4233.0
18	DISTRIBUTOR VALVE	5.000	1.750	2.0	
70	OPEN HOLE PACKER	6.750	1.530	5.8	4241.0
	ANCHOR PIPE SAFETY JOINT	5.000	2.370	4.0	
20	FLUSH JOINT ANCHOR	5.000	2.370	31.0	
81	BLANKED-OFF RUNNING CASE	5.000		4.1	4279.0
	TOTAL DEPTH				4282.0

EQUIPMENT DATA

APPENDIX 8

SFT DATA

BEACH PETROLEUM N.L.

IONA # 1

19TH MARCH 1988

************ LOGGING INFORMATION **************

Company Name : BEACH PETROLEUM N.L.

Well Name : IONA #1

Operator's Name : R RUSSELL/G GRAHAM

Witness's Name : A BUFFIN/G COSMA

Pressure Gauge Type : H.P.

Pressure Gauge Serial# : 487

Panel Serial# : 00

Temperature Tool Serial# : 070

Number of Data Logged :

Depth Units (Feet/Meters): Meters

Pressure Units (PSI/KPa) : PSIA

Temp. Units (Deg.F/Deg.C): Deg.F

INDEX

BEACH PETROLEUM N.L. **IONA #1**

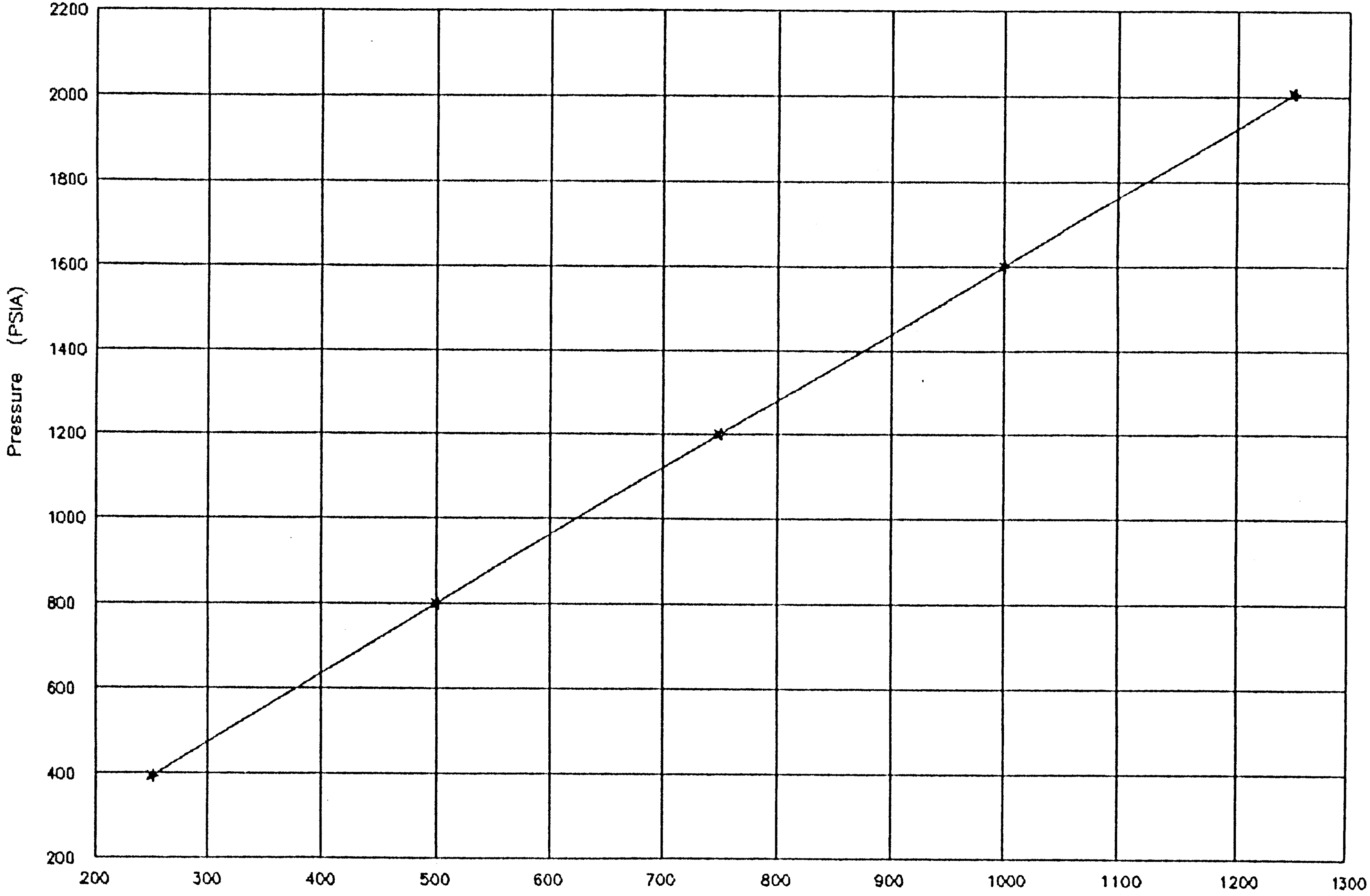
TEST	DEPTH (M)	TIME (MIN/SEC)	HYDROSTATIC PRESSURE (A) PSI	FORMATION PRESSURE (A) PSI	COMMENTS
	250 m	-	392.6	-	Hyd. Grad
	500 m	-	800.1	-	Hyd. Grad
	750 m	-	1200.6	-	Hyd. Grad
	1000 m	-	1600.3	-	Hyd. Grad
	1250 m	-	2005.3	-	Hyd. Grad
1	1406.5m	34:00	2253.47	-	Tight form
2	1390.0m	23:10	2223.62	-	Tight form
3	1370.5m	81:50	2247.62	1831.72	Valid
4	1342.5m	95:30	2211.00	1767.77	Valid
5	1337.5m	43:50	2207.77	1760.78	Valid
6	1324.0m	159:10	2208.05	1745.52	Sample taken
7	1321.5m	49:00	2065.80	1744.98	Valid
8	1316.0m	59:00	2104.62	1745.36	Valid
9	1306.0m	75:30	2091.33	1742.64	Valid
10	1211.5m	29:00	1941.84	719.97	Valid
11	1188.0m	45:00	1908.01	-	Invalid
12	1336.0m	82:00	2142.50	-	Valid

STATIC GRADIENT

Company : BEACH PETROLEUM N.L.
Well : IONA #1
Comments : S.F.T. PRESSURE TEST GRADIENT

Eq. Type: H.P.
Gauge No: 487

From : 07:29:00 19/03/88
To : 08:56:30 19/03/88



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STATIC GRADIENT - PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : Measured

Comments : S.F.T. PRESSURE TEST (GRADIENT)

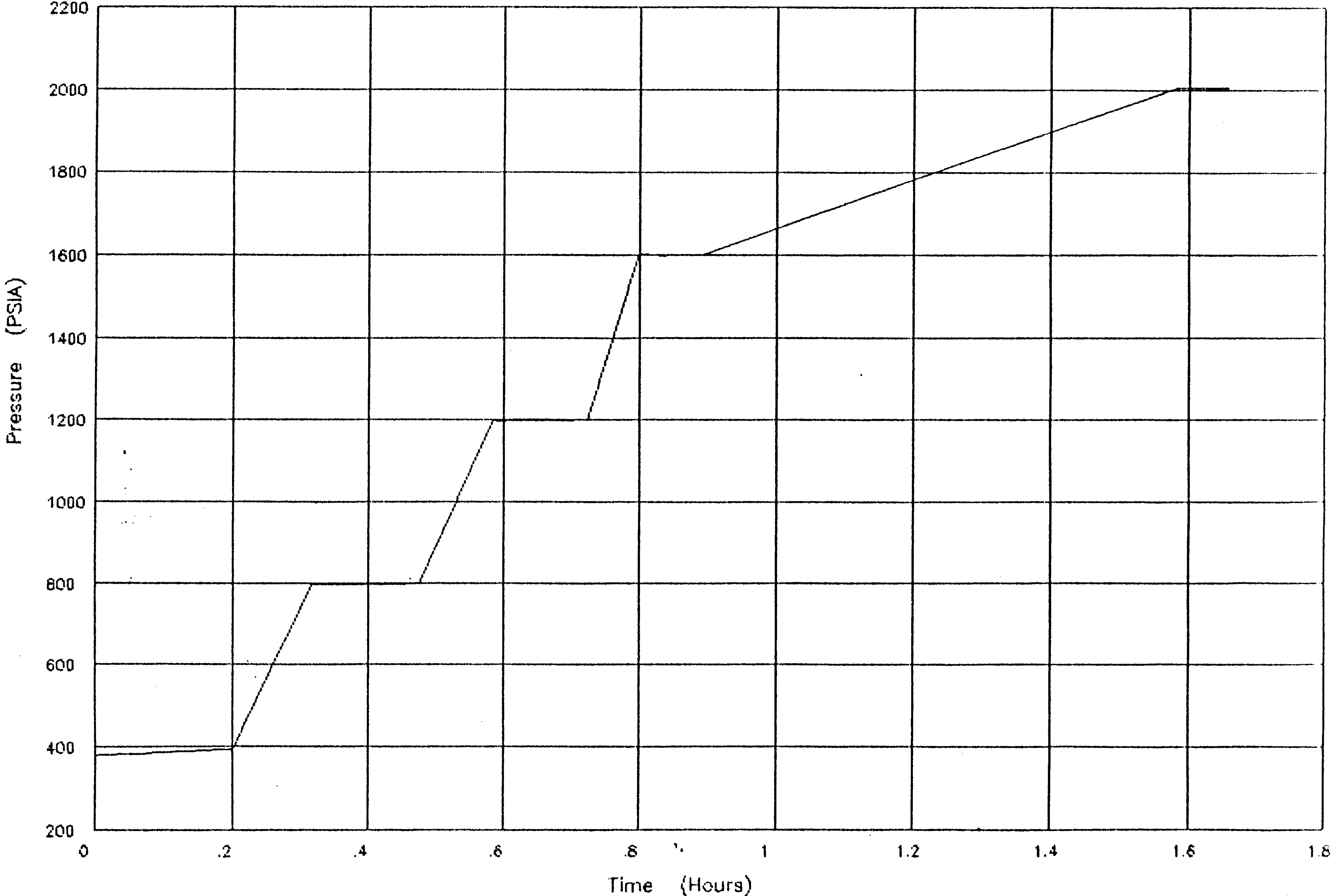
Seq.#	Date	Time	Temp (Deg.F)	Depth (Meter)	Pressure (PSIA)	Gradient (PSIA/Meter)
1	19/03/88	07:29:00	+71.30	250.0	392.61	
2	19/03/88	07:45:30	+80.40	500.0	800.13	1.630
3	19/03/88	08:00:30	+88.20	750.0	1,200.64	1.602
4	19/03/88	08:10:30	+92.60	1,000.0	1,600.35	1.599
5	19/03/88	08:56:30	+113.20	1,250.0	2,005.30	1.620

PRESSURE vs TIME - (LINEAR)

Company : BEACH PETROLEUM N.L.
Well : IONA #1
Comments : S.F.T.PRESSURE TEST (GRADIENT WHILE R.I.H.)

Eq. Type: H.P.
Gauge No: 487

From : 07:17:00 19/03/88
To : 08:56:30 19/03/88



PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : Measured

Comments : S.F.T.PRESSURE TEST (GRADIENT WHILE R.I.H.)

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)	Depth (Meter)
1	19/03/88	07:17:00	0.0000	378.55	+65.9	250.0
2	19/03/88	07:17:30	0.0083	379.36	+65.9	250.0
3	19/03/88	07:18:00	0.0167	380.13	+66.1	250.0
4	19/03/88	07:18:30	0.0250	380.63	+66.2	250.0
5	19/03/88	07:19:00	0.0333	381.00	+66.3	250.0
6	19/03/88	07:19:30	0.0417	381.29	+66.5	250.0
7	19/03/88	07:20:00	0.0500	381.54	+66.7	250.0
8	19/03/88	07:20:30	0.0583	381.75	+66.9	250.0
9	19/03/88	07:21:00	0.0667	381.96	+67.1	250.0
10	19/03/88	07:21:30	0.0750	383.65	+67.3	250.0
11	19/03/88	07:22:00	0.0833	385.57	+667.5	250.0
12	19/03/88	07:22:30	0.0917	386.04	+67.8	250.0
13	19/03/88	07:23:00	0.1000	386.30	+68.1	250.0
14	19/03/88	07:23:30	0.1083	386.63	+68.3	250.0
15	19/03/88	07:24:00	0.1167	387.05	+68.8	250.0
16	19/03/88	07:24:30	0.1250	387.50	+68.8	250.0
17	19/03/88	07:25:00	0.1333	387.98	+69.1	250.0
18	19/03/88	07:25:30	0.1417	388.50	+69.4	250.0
19	19/03/88	07:26:00	0.1500	389.05	+69.7	250.0
20	19/03/88	07:26:30	0.1583	389.61	+70.0	250.0
21	19/03/88	07:27:00	0.1667	390.19	+70.2	250.0
22	19/03/88	07:27:30	0.1750	390.79	+70.5	250.0
23	19/03/88	07:28:00	0.1833	391.39	+70.8	250.0
24	19/03/88	07:28:30	0.1917	392.00	+71.1	250.0
25	19/03/88	07:29:00	0.2000	392.61	+71.3	250.0
26	19/03/88	07:36:00	0.3167	798.33	+74.9	500.0
27	19/03/88	07:37:00	0.3333	798.22	+75.2	500.0
28	19/03/88	07:37:30	0.3417	798.00	+75.5	500.0
29	19/03/88	07:38:00	0.3500	797.86	+75.8	500.0
30	19/03/88	07:38:30	0.3583	797.73	+76.1	500.0
31	19/03/88	07:39:00	0.3667	797.64	+76.4	500.0
32	19/03/88	07:39:30	0.3750	797.63	+76.7	500.0
33	19/03/88	07:40:00	0.3833	797.68	+77.0	500.0
34	19/03/88	07:40:30	0.3917	797.79	+77.4	500.0
35	19/03/88	07:41:00	0.4000	797.90	+77.7	500.0
36	19/03/88	07:41:30	0.4083	798.06	+78.0	500.0
37	19/03/88	07:42:00	0.4167	798.24	+78.3	500.0
38	19/03/88	07:42:30	0.4250	798.47	+78.6	500.0
39	19/03/88	07:43:00	0.4333	798.67	+78.9	500.0
40	19/03/88	07:43:30	0.4417	798.91	+79.2	500.0
41	19/03/88	07:44:00	0.4500	799.15	+79.5	500.0
42	19/03/88	07:44:30	0.4583	799.44	+79.8	500.0
43	19/03/88	07:45:00	0.4667	799.44	+79.8	500.0
44	19/03/88	07:45:30	0.4750	800.13	+80.4	500.0
45	19/03/88	07:52:00	0.5833	1,198.95	+83.2	750.0
46	19/03/88	07:52:30	0.5917	1,197.87	+83.5	750.0
47	19/03/88	07:53:00	0.6000	1,197.87	+83.8	750.0
48	19/03/88	07:53:30	0.6083	1,198.22	+84.1	750.0
49	19/03/88	07:54:00	0.6167	1,198.11	+84.4	750.0
50	19/03/88	07:54:30	0.6250	1,198.10	+84.7	750.0

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : Measured

Comments : S.F.T.PRESSURE TEST (GRADIENT WHILE R.I.H.)

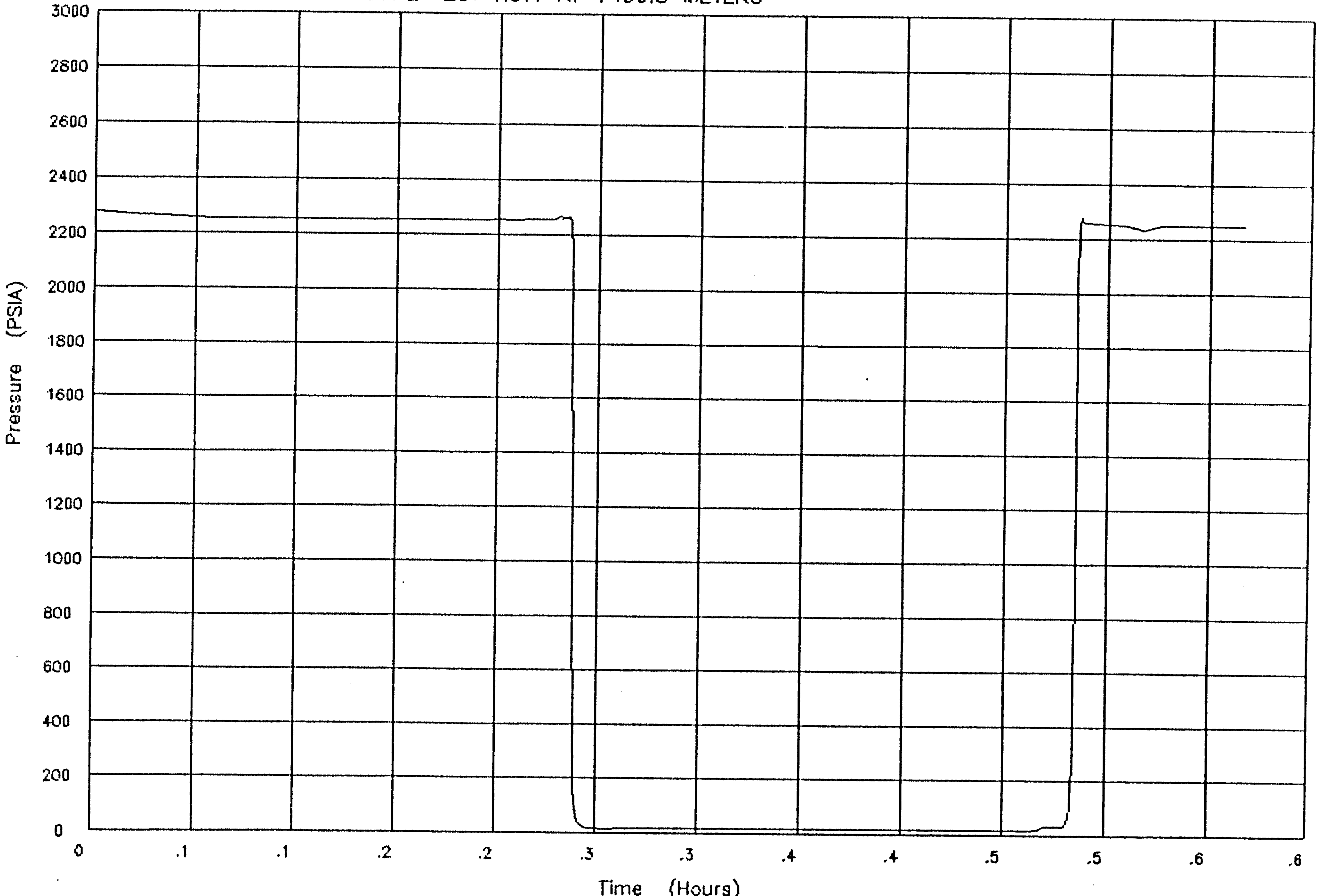
Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)	Depth (Meter)
51	19/03/88	07:55:00	0.6333	1,198.13	+85.0	750.0
52	19/03/88	07:55:30	0.6417	1,198.10	+85.3	750.0
53	19/03/88	07:56:00	0.6500	1,198.31	+85.6	750.0
54	19/03/88	07:56:30	0.6583	1,198.41	+85.9	750.0
55	19/03/88	07:57:00	0.6667	1,198.46	+86.2	750.0
56	19/03/88	07:57:30	0.6750	1,198.67	+86.5	750.0
57	19/03/88	07:58:00	0.6833	1,198.95	+86.8	750.0
58	19/03/88	07:58:30	0.6917	1,199.33	+87.1	750.0
59	19/03/88	07:59:00	0.7000	1,199.68	+87.3	750.0
60	19/03/88	07:59:30	0.7083	1,199.99	+87.6	750.0
61	19/03/88	08:00:00	0.7167	1,200.35	+87.9	750.0
62	19/03/88	08:00:30	0.7250	1,200.64	+88.2	750.0
63	19/03/88	08:05:00	0.8000	1,602.93	+89.3	1000.0
64	19/03/88	08:05:30	0.8083	1,601.64	+89.6	1000.0
65	19/03/88	08:06:00	0.8167	1,600.56	+89.9	1000.0
66	19/03/88	08:06:30	0.8250	1,599.87	+90.2	1000.0
67	19/03/88	08:07:00	0.8333	1,598.67	+90.5	1000.0
68	19/03/88	08:07:30	0.8417	1,599.51	+90.8	1000.0
69	19/03/88	08:08:00	0.8500	1,600.07	+91.1	1000.0
70	19/03/88	08:08:30	0.8583	1,600.18	+91.4	1000.0
71	19/03/88	08:09:00	0.8667	1,600.20	+91.7	1000.0
72	19/03/88	08:09:30	0.8750	1,600.27	+92.0	1000.0
73	19/03/88	08:10:00	0.8833	1,600.27	+92.3	1000.0
74	19/03/88	08:10:30	0.8917	1,600.35	+92.6	1000.0
75	19/03/88	08:52:00	1.5833	2,005.79	+112.9	1250.0
76	19/03/88	08:53:00	1.6000	2,005.57	+113.0	1250.0
77	19/03/88	08:53:30	1.6083	2,005.58	+113.0	1250.0
78	19/03/88	08:54:00	1.6167	2,005.55	+113.0	1250.0
79	19/03/88	08:54:30	1.6250	2,005.45	+113.1	1250.0
80	19/03/88	08:55:00	1.6333	2,005.42	+113.1	1250.0
81	19/03/88	08:55:30	1.6417	2,005.39	+113.1	1250.0
82	19/03/88	08:56:00	1.6500	2,005.34	+113.1	1250.0
83	19/03/88	08:56:30	1.6583	2,005.30	+113.2	1250.0

PRESSURE vs TIME (LINEAR)

Company : BEACH PETROLEUM N.L.
Well : IONA #1
Comments : S.F.T. PRESSURE TEST NO.1 AT 1406.5 METERS

Eq. Type: H.P.
Gauge No: 487

From : 09:02:30 19/03/88
To : 09:36:30 19/03/88



PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth :1406.5Meters

Comments : S.F.T. PRESSURE TEST NO.1 AT 1406.5 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
1	19/03/88	09:02:30	0.0000	2,274.91	+113.5
2	19/03/88	09:03:00	0.0083	2,271.31	+113.5
3	19/03/88	09:03:30	0.0167	2,267.23	+113.6
4	19/03/88	09:04:00	0.0250	2,263.39	+113.6
5	19/03/88	09:04:30	0.0333	2,259.99	+113.7
6	19/03/88	09:05:00	0.0417	2,256.68	+113.8
7	19/03/88	09:05:30	0.0500	2,254.00	+113.8
8	19/03/88	09:06:00	0.0583	2,252.74	+113.9
9	19/03/88	09:07:00	0.0750	2,252.59	+114.1
10	19/03/88	09:08:00	0.0917	2,252.29	+114.3
11	19/03/88	09:09:00	0.1083	2,251.87	+114.5
12	19/03/88	09:10:00	0.1250	2,251.69	+114.7
13	19/03/88	09:11:00	0.1417	2,251.74	+114.9
14	19/03/88	09:12:00	0.1583	2,251.75	+115.1
15	19/03/88	09:13:00	0.1750	2,251.78	+115.3
16	19/03/88	09:14:00	0.1917	2,252.91	+115.3
17	19/03/88	09:14:42	0.2033	2,253.44	+115.3
18	19/03/88	09:14:44	0.2039	2,253.34	+115.3
19	19/03/88	09:14:46	0.2044	2,253.30	+115.3
20	19/03/88	09:14:48	0.2050	2,253.29	+115.3
21	19/03/88	09:14:50	0.2056	2,253.27	+115.3
22	19/03/88	09:14:52	0.2061	2,253.25	+115.3
23	19/03/88	09:14:54	0.2067	2,253.25	+115.3
24	19/03/88	09:14:56	0.2072	2,253.25	+115.3
25	19/03/88	09:14:58	0.2078	2,253.23	+115.3
26	19/03/88	09:15:00	0.2083	2,252.51	+115.3
27	19/03/88	09:15:02	0.2089	2,253.21	+115.3
28	19/03/88	09:15:04	0.2094	2,253.21	+115.3
29	19/03/88	09:15:06	0.2100	2,253.22	+115.3
30	19/03/88	09:15:08	0.2106	2,253.24	+115.3
31	19/03/88	09:15:10	0.2111	2,253.27	+115.3
32	19/03/88	09:15:12	0.2117	2,253.29	+115.3
33	19/03/88	09:15:14	0.2122	2,253.35	+115.3
34	19/03/88	09:15:16	0.2128	2,253.41	+115.3
35	19/03/88	09:15:18	0.2133	2,253.42	+115.3
36	19/03/88	09:15:20	0.2139	2,253.52	+115.3
37	19/03/88	09:15:22	0.2144	2,253.60	+115.3
38	19/03/88	09:15:30	0.2167	2,253.56	+115.3
39	19/03/88	09:15:40	0.2194	2,253.51	+115.3
40	19/03/88	09:15:50	0.2222	2,253.48	+115.3
41	19/03/88	09:16:00	0.2250	2,253.47	+115.3
42	19/03/88	09:16:10	0.2278	2,254.79	+115.3
43	19/03/88	09:16:20	0.2306	2,265.46	+115.3
44	19/03/88	09:16:22	0.2311	2,265.46	+115.3
45	19/03/88	09:16:24	0.2317	2,259.04	+115.3
46	19/03/88	09:16:26	0.2322	2,259.78	+115.3
47	19/03/88	09:16:28	0.2328	2,260.77	+115.3
48	19/03/88	09:16:30	0.2333	2,261.60	+115.3
49	19/03/88	09:16:32	0.2339	2,262.11	+115.3
50	19/03/88	09:16:34	0.2344	2,262.43	+115.3

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1406.5 Meters

Comments : S.F.T. PRESSURE TEST NO.1 AT 1406.5 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
51	19/03/88	09:16:36	0.2350	2,262.80	+115.3
52	19/03/88	09:16:38	0.2356	2,263.01	+115.3
53	19/03/88	09:16:40	0.2361	2,239.06	+115.3
54	19/03/88	09:16:42	0.2367	2,135.96	+115.3
55	19/03/88	09:16:44	0.2372	1,924.41	+115.3
56	19/03/88	09:16:46	0.2378	1,182.51	+115.3
57	19/03/88	09:16:48	0.2383	409.17	+115.3
58	19/03/88	09:16:50	0.2389	171.99	+115.3
59	19/03/88	09:16:52	0.2394	103.87	+115.3
60	19/03/88	09:16:54	0.2400	73.51	+115.3
61	19/03/88	09:16:56	0.2406	56.57	+115.3
62	19/03/88	09:16:58	0.2411	45.97	+115.3
63	19/03/88	09:17:00	0.2417	38.67	+115.3
64	19/03/88	09:17:02	0.2422	33.37	+115.3
65	19/03/88	09:17:04	0.2428	29.43	+115.3
66	19/03/88	09:17:06	0.2433	26.39	+115.3
67	19/03/88	09:17:08	0.2439	24.00	+115.3
68	19/03/88	09:17:10	0.2444	22.05	+115.3
69	19/03/88	09:17:12	0.2450	20.44	+115.3
70	19/03/88	09:17:14	0.2456	19.12	+115.3
71	19/03/88	09:17:16	0.2461	18.22	+115.3
72	19/03/88	09:17:18	0.2467	17.77	+115.3
73	19/03/88	09:17:20	0.2472	17.37	+115.3
74	19/03/88	09:17:22	0.2478	17.25	+115.3
75	19/03/88	09:17:24	0.2483	17.20	+115.3
76	19/03/88	09:17:26	0.2489	17.03	+115.3
77	19/03/88	09:17:28	0.2494	16.85	+115.3
78	19/03/88	09:17:30	0.2500	16.67	+115.3
79	19/03/88	09:17:32	0.2506	16.50	+115.3
80	19/03/88	09:17:34	0.2511	16.32	+115.3
81	19/03/88	09:17:36	0.2517	16.17	+115.3
82	19/03/88	09:17:38	0.2522	16.13	+115.3
83	19/03/88	09:17:40	0.2528	16.17	+115.3
84	19/03/88	09:17:42	0.2533	16.18	+115.3
85	19/03/88	09:17:44	0.2539	16.21	+115.3
86	19/03/88	09:17:46	0.2544	16.23	+115.3
87	19/03/88	09:17:48	0.2550	16.24	+115.3
88	19/03/88	09:17:50	0.2556	16.25	+115.3
89	19/03/88	09:17:52	0.2561	16.27	+115.3
90	19/03/88	09:17:54	0.2567	16.28	+115.3
91	19/03/88	09:17:56	0.2572	16.28	+115.3
92	19/03/88	09:17:58	0.2578	16.29	+115.3
93	19/03/88	09:18:00	0.2583	16.29	+115.3
94	19/03/88	09:18:02	0.2589	16.31	+115.3
95	19/03/88	09:18:04	0.2594	16.32	+115.3
96	19/03/88	09:18:06	0.2600	16.33	+115.3
97	19/03/88	09:18:08	0.2606	16.33	+115.3
98	19/03/88	09:18:10	0.2611	16.34	+115.3
99	19/03/88	09:18:12	0.2617	16.36	+115.3
100	19/03/88	09:18:14	0.2622	16.35	+115.3

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1406.5 Meters

Comments : S.F.T. PRESSURE TEST NO.1 AT 1406.5 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
101	19/03/88	09:18:16	0.2628	16.37	+115.3
102	19/03/88	09:18:18	0.2633	16.37	+115.3
103	19/03/88	09:18:20	0.2639	16.38	+115.3
104	19/03/88	09:18:22	0.2644	16.38	+115.3
105	19/03/88	09:18:24	0.2650	16.39	+115.3
106	19/03/88	09:18:26	0.2656	16.39	+115.3
107	19/03/88	09:18:28	0.2661	16.40	+115.3
108	19/03/88	09:18:30	0.2667	16.41	+115.3
109	19/03/88	09:18:32	0.2672	16.40	+115.3
110	19/03/88	09:18:34	0.2678	16.42	+115.3
111	19/03/88	09:18:36	0.2683	16.42	+115.3
112	19/03/88	09:18:40	0.2694	16.43	+115.3
113	19/03/88	09:18:50	0.2722	16.45	+115.3
114	19/03/88	09:19:00	0.2750	16.47	+115.3
115	19/03/88	09:19:10	0.2778	16.50	+115.3
116	19/03/88	09:19:20	0.2806	16.52	+115.3
117	19/03/88	09:19:30	0.2833	16.54	+115.3
118	19/03/88	09:19:40	0.2861	16.56	+115.3
119	19/03/88	09:19:50	0.2889	16.60	+115.3
120	19/03/88	09:20:00	0.2917	16.62	+115.3
121	19/03/88	09:20:10	0.2944	16.64	+115.3
122	19/03/88	09:20:20	0.2972	16.66	+115.3
123	19/03/88	09:20:30	0.3000	16.68	+115.3
124	19/03/88	09:20:40	0.3028	16.70	+115.3
125	19/03/88	09:20:50	0.3056	16.72	+115.3
126	19/03/88	09:21:00	0.3083	16.74	+115.3
127	19/03/88	09:21:10	0.3111	16.76	+115.3
128	19/03/88	09:21:20	0.3139	16.79	+115.3
129	19/03/88	09:21:30	0.3167	16.80	+115.3
130	19/03/88	09:21:40	0.3194	16.82	+115.3
131	19/03/88	09:21:50	0.3222	16.84	+115.3
132	19/03/88	09:22:00	0.3250	17.24	+116.7
133	19/03/88	09:22:10	0.3278	17.28	+116.7
134	19/03/88	09:22:20	0.3306	17.31	+116.8
135	19/03/88	09:22:30	0.3333	17.33	+116.8
136	19/03/88	09:22:40	0.3361	17.35	+116.8
137	19/03/88	09:22:50	0.3389	17.38	+116.8
138	19/03/88	09:23:00	0.3417	17.40	+116.8
139	19/03/88	09:23:10	0.3444	17.45	+116.8
140	19/03/88	09:23:20	0.3472	17.46	+116.9
141	19/03/88	09:23:30	0.3500	17.48	+116.9
142	19/03/88	09:23:40	0.3528	17.50	+116.9
143	19/03/88	09:23:50	0.3556	17.52	+116.9
144	19/03/88	09:24:00	0.3583	17.54	+116.9
145	19/03/88	09:24:10	0.3611	17.57	+117.0
146	19/03/88	09:24:20	0.3639	17.59	+117.0
147	19/03/88	09:24:30	0.3667	17.60	+117.0
148	19/03/88	09:24:40	0.3694	17.63	+117.0
149	19/03/88	09:24:50	0.3722	17.65	+117.0
150	19/03/88	09:25:00	0.3750	17.69	+117.1

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1406.5 Meters

Comments : S.F.T. PRESSURE TEST NO.1 AT 1406.5 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
151	19/03/88	09:25:10	0.3778	17.71	+117.1
152	19/03/88	09:25:20	0.3806	17.73	+117.1
153	19/03/88	09:25:30	0.3833	17.75	+117.1
154	19/03/88	09:25:40	0.3861	17.77	+117.1
155	19/03/88	09:25:50	0.3889	17.78	+117.1
156	19/03/88	09:26:00	0.3917	17.81	+117.2
157	19/03/88	09:26:10	0.3944	17.82	+117.2
158	19/03/88	09:26:20	0.3972	17.84	+117.2
159	19/03/88	09:26:30	0.4000	17.86	+117.2
160	19/03/88	09:26:40	0.4028	17.89	+117.2
161	19/03/88	09:26:50	0.4056	17.94	+117.2
162	19/03/88	09:27:00	0.4083	17.96	+117.2
163	19/03/88	09:27:10	0.4111	17.97	+117.3
164	19/03/88	09:27:20	0.4139	17.99	+117.3
165	19/03/88	09:27:30	0.4167	18.00	+117.3
166	19/03/88	09:27:40	0.4194	18.02	+117.3
167	19/03/88	09:27:50	0.4222	18.04	+117.3
168	19/03/88	09:28:00	0.4250	18.06	+117.3
169	19/03/88	09:28:10	0.4278	18.07	+117.3
170	19/03/88	09:28:20	0.4306	18.09	+117.4
171	19/03/88	09:28:30	0.4333	18.10	+117.4
172	19/03/88	09:28:40	0.4361	18.12	+117.4
173	19/03/88	09:28:50	0.4389	18.14	+117.4
174	19/03/88	09:29:00	0.4417	18.16	+117.4
175	19/03/88	09:29:10	0.4444	18.19	+117.4
176	19/03/88	09:29:20	0.4472	18.21	+117.4
177	19/03/88	09:29:30	0.4500	18.22	+117.5
178	19/03/88	09:29:40	0.4528	18.23	+117.5
179	19/03/88	09:29:50	0.4556	18.25	+117.5
180	19/03/88	09:30:00	0.4583	18.30	+117.5
181	19/03/88	09:30:10	0.4611	18.32	+117.5
182	19/03/88	09:30:20	0.4639	18.34	+117.5
183	19/03/88	09:30:26	0.4656	18.34	+117.5
184	19/03/88	09:30:28	0.4661	20.52	+123.1
185	19/03/88	09:30:30	0.4667	20.68	+122.4
186	19/03/88	09:30:32	0.4672	21.30	+123.0
187	19/03/88	09:30:34	0.4678	21.66	+122.5
188	19/03/88	09:30:36	0.4683	23.00	+122.6
189	19/03/88	09:30:38	0.4689	25.02	+122.9
190	19/03/88	09:30:40	0.4694	27.15	+122.6
191	19/03/88	09:30:42	0.4700	29.71	+122.8
192	19/03/88	09:30:44	0.4706	31.91	+120.8
193	19/03/88	09:30:46	0.4711	32.19	+117.5
194	19/03/88	09:31:08	0.4772	32.19	+117.5
195	19/03/88	09:31:10	0.4778	32.39	+117.6
196	19/03/88	09:31:12	0.4783	32.39	+117.6
197	19/03/88	09:31:14	0.4789	32.40	+117.6
198	19/03/88	09:31:16	0.4794	32.41	+117.6
199	19/03/88	09:31:18	0.4800	32.42	+117.6
200	19/03/88	09:31:20	0.4806	33.78	+117.6

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1406.5 Meters

Comments : S.F.T. PRESSURE TEST NO.1 AT 1406.5 METERS

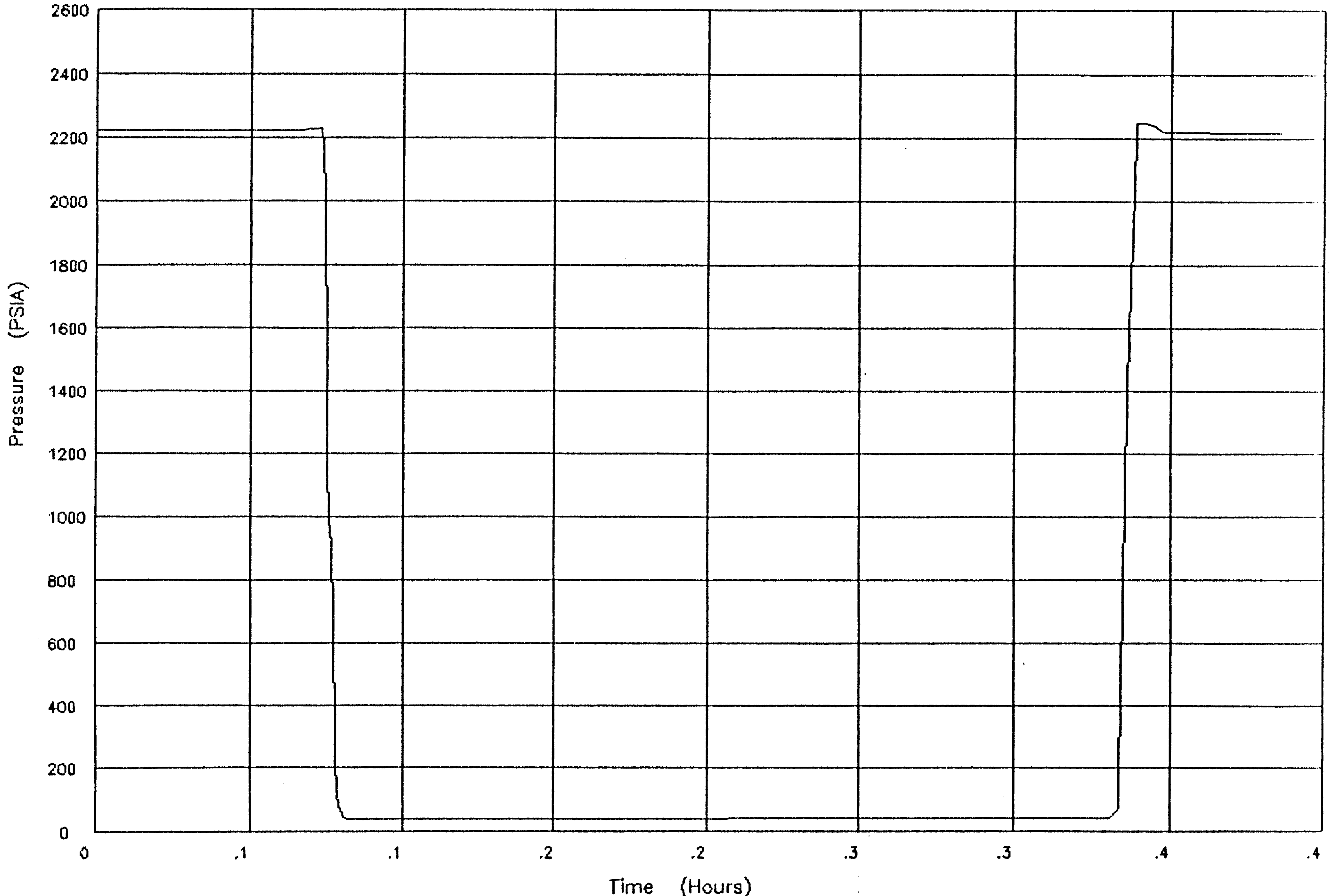
Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
201	19/03/88	09:31:22	0.4811	36.93	+117.6
202	19/03/88	09:31:24	0.4817	43.77	+117.6
203	19/03/88	09:31:26	0.4822	53.87	+117.6
204	19/03/88	09:31:28	0.4828	69.94	+117.6
205	19/03/88	09:31:30	0.4833	99.17	+117.6
206	19/03/88	09:31:32	0.4839	164.18	+117.6
207	19/03/88	09:31:34	0.4844	381.87	+117.6
208	19/03/88	09:31:36	0.4850	1,183.59	+117.6
209	19/03/88	09:31:38	0.4856	2,044.81	+117.6
210	19/03/88	09:31:40	0.4861	2,223.11	+117.6
211	19/03/88	09:31:42	0.4867	2,276.13	+117.6
212	19/03/88	09:31:44	0.4872	2,266.16	+117.6
213	19/03/88	09:31:46	0.4878	2,261.93	+117.6
214	19/03/88	09:31:48	0.4883	2,258.65	+117.6
215	19/03/88	09:31:50	0.4889	2,256.82	+117.6
216	19/03/88	09:32:30	0.5000	2,251.63	+117.6
217	19/03/88	09:33:00	0.5083	2,250.13	+117.6
218	19/03/88	09:33:30	0.5167	2,232.37	+117.6
219	19/03/88	09:34:00	0.5250	2,250.32	+117.6
220	19/03/88	09:35:00	0.5417	2,250.28	+117.8
221	19/03/88	09:35:30	0.5500	2,250.26	+117.9
222	19/03/88	09:36:00	0.5583	2,250.26	+117.9
223	19/03/88	09:36:30	0.5667	2,250.28	+117.9

PRESSURE vs TIME - (LINEAR)

Company : BEACH PETROLEUM N.L.
Well : IONA #1
Comments : S.F.T. PRESSURE TEST NO.2 AT 1390 METERS

Eq. Type: H.P.
Gauge No: 487

From : 09:54:20 19/03/88
To : 10:17:30 19/03/88



PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1390 Meters

Comments : S.F.T. PRESSURE TEST NO.2 AT 1390 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
1	19/03/88	09:54:20	0.0000	2,222.51	+119.1
2	19/03/88	09:54:30	0.0028	2,222.45	+119.1
3	19/03/88	09:54:40	0.0056	2,222.39	+119.1
4	19/03/88	09:54:50	0.0083	2,222.40	+119.1
5	19/03/88	09:55:00	0.0111	2,222.68	+119.2
6	19/03/88	09:55:30	0.0194	2,223.34	+119.2
7	19/03/88	09:55:40	0.0222	2,224.72	+119.1
8	19/03/88	09:55:50	0.0250	2,224.37	+119.1
9	19/03/88	09:56:00	0.0278	2,223.93	+119.1
10	19/03/88	09:56:10	0.0306	2,223.65	+119.1
11	19/03/88	09:56:20	0.0333	2,223.55	+119.1
12	19/03/88	09:56:30	0.0361	2,223.55	+119.1
13	19/03/88	09:56:40	0.0389	2,223.51	+119.1
14	19/03/88	09:56:50	0.0417	2,223.54	+119.1
15	19/03/88	09:57:00	0.0444	2,223.75	+119.1
16	19/03/88	09:57:10	0.0472	2,223.67	+119.1
17	19/03/88	09:57:20	0.0500	2,223.76	+119.1
18	19/03/88	09:57:30	0.0528	2,223.78	+119.1
19	19/03/88	09:57:40	0.0556	2,223.79	+119.1
20	19/03/88	09:57:50	0.0583	2,223.79	+119.1
21	19/03/88	09:58:00	0.0611	2,223.69	+119.1
22	19/03/88	09:58:10	0.0639	2,223.62	+119.1
23	19/03/88	09:58:20	0.0667	2,224.78	+119.1
24	19/03/88	09:58:30	0.0694	2,227.63	+119.1
25	19/03/88	09:58:36	0.0711	2,228.95	+119.1
26	19/03/88	09:58:38	0.0717	2,229.67	+119.1
27	19/03/88	09:58:40	0.0722	2,229.81	+119.1
28	19/03/88	09:58:42	0.0728	2,229.98	+119.1
29	19/03/88	09:58:44	0.0733	2,222.76	+119.1
30	19/03/88	09:58:46	0.0739	2,134.38	+119.1
31	19/03/88	09:58:48	0.0744	1,943.19	+119.1
32	19/03/88	09:58:50	0.0750	1,110.80	+119.1
33	19/03/88	09:58:52	0.0756	978.90	+119.1
34	19/03/88	09:58:54	0.0761	956.39	+119.1
35	19/03/88	09:58:56	0.0767	872.47	+119.1
36	19/03/88	09:58:58	0.0772	554.23	+119.1
37	19/03/88	09:59:00	0.0778	222.45	+119.1
38	19/03/88	09:59:02	0.0783	128.28	+119.1
39	19/03/88	09:59:04	0.0789	89.11	+119.1
40	19/03/88	09:59:06	0.0794	68.22	+119.1
41	19/03/88	09:59:08	0.0800	55.38	+119.1
42	19/03/88	09:59:10	0.0806	46.44	+119.1
43	19/03/88	09:59:12	0.0811	40.09	+119.1
44	19/03/88	09:59:14	0.0817	37.16	+119.1
45	19/03/88	09:59:16	0.0822	37.21	+119.1
46	19/03/88	09:59:18	0.0828	37.25	+119.1
47	19/03/88	09:59:20	0.0833	37.31	+119.1
48	19/03/88	09:59:22	0.0839	37.35	+119.1
49	19/03/88	09:59:24	0.0844	37.39	+119.1
50	19/03/88	09:59:26	0.0850	37.44	+119.1

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1390 Meters

Comments : S.F.T. PRESSURE TEST NO.2 AT 1390 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
51	19/03/88	09:59:28	0.0856	37.49	+119.1
52	19/03/88	09:59:30	0.0861	37.54	+119.1
53	19/03/88	09:59:32	0.0867	37.57	+119.1
54	19/03/88	09:59:34	0.0872	37.62	+119.1
55	19/03/88	09:59:36	0.0878	37.65	+119.1
56	19/03/88	09:59:38	0.0883	37.67	+119.1
57	19/03/88	09:59:40	0.0889	37.71	+119.1
58	19/03/88	09:59:42	0.0894	37.74	+119.1
59	19/03/88	09:59:44	0.0900	37.77	+119.1
60	19/03/88	09:59:46	0.0906	37.81	+119.1
61	19/03/88	09:59:48	0.0911	37.83	+119.1
62	19/03/88	09:59:50	0.0917	37.86	+119.1
63	19/03/88	09:59:52	0.0922	37.88	+119.1
64	19/03/88	09:59:54	0.0928	37.91	+119.1
65	19/03/88	09:59:56	0.0933	37.94	+119.1
66	19/03/88	09:59:58	0.0939	37.96	+119.1
67	19/03/88	10:00:00	0.0944	37.98	+119.1
68	19/03/88	10:00:02	0.0950	38.00	+119.1
69	19/03/88	10:00:04	0.0956	38.03	+119.1
70	19/03/88	10:00:06	0.0961	38.03	+119.1
71	19/03/88	10:00:08	0.0967	38.06	+119.1
72	19/03/88	10:00:10	0.0972	38.08	+119.1
73	19/03/88	10:00:12	0.0978	38.10	+119.1
74	19/03/88	10:00:14	0.0983	38.12	+119.1
75	19/03/88	10:00:16	0.0989	38.13	+119.1
76	19/03/88	10:00:18	0.0994	38.15	+119.1
77	19/03/88	10:00:20	0.1000	38.17	+119.1
78	19/03/88	10:00:22	0.1006	38.18	+119.1
79	19/03/88	10:00:24	0.1011	38.20	+119.1
80	19/03/88	10:00:26	0.1017	38.22	+119.1
81	19/03/88	10:00:28	0.1022	38.22	+119.1
82	19/03/88	10:00:30	0.1028	38.25	+119.1
83	19/03/88	10:00:32	0.1033	38.26	+119.1
84	19/03/88	10:00:34	0.1039	38.27	+119.1
85	19/03/88	10:00:36	0.1044	38.29	+119.1
86	19/03/88	10:00:38	0.1050	38.29	+119.1
87	19/03/88	10:00:40	0.1056	38.32	+119.1
88	19/03/88	10:00:42	0.1061	38.32	+119.1
89	19/03/88	10:00:50	0.1083	38.35	+119.1
90	19/03/88	10:01:00	0.1111	38.35	+119.1
91	19/03/88	10:01:10	0.1139	38.58	+119.6
92	19/03/88	10:01:20	0.1167	38.62	+119.6
93	19/03/88	10:01:30	0.1194	38.67	+119.6
94	19/03/88	10:01:40	0.1222	38.70	+119.6
95	19/03/88	10:01:50	0.1250	38.74	+119.7
96	19/03/88	10:02:00	0.1278	38.78	+119.7
97	19/03/88	10:02:10	0.1306	38.82	+119.7
98	19/03/88	10:02:20	0.1333	38.86	+119.7
99	19/03/88	10:02:30	0.1361	38.89	+119.7
100	19/03/88	10:02:40	0.1389	38.93	+119.7

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1390 Meters

Comments : S.F.T. PRESSURE TEST NO.2 AT 1390 METERS

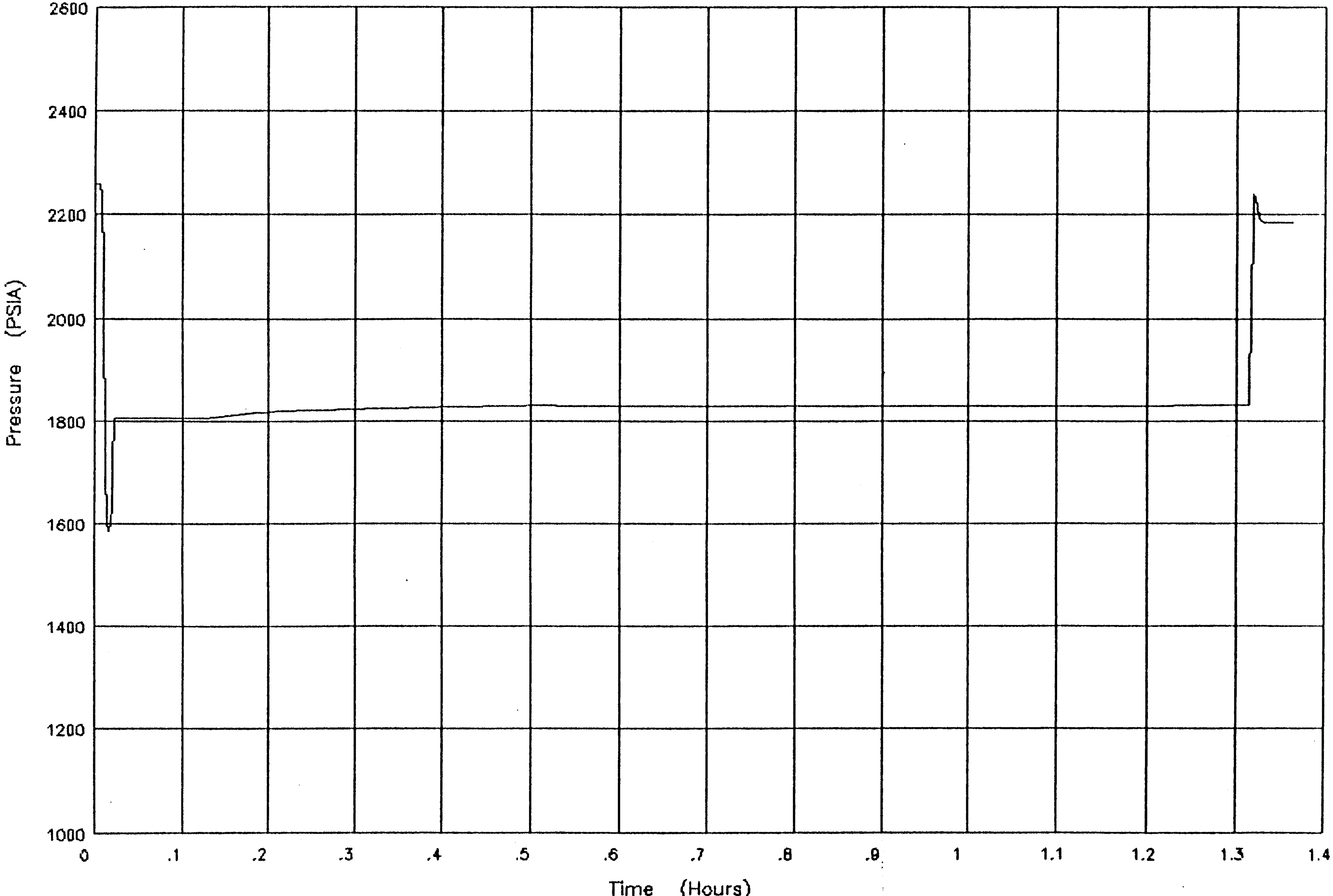
Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
101	19/03/88	10:02:50	0.1417	38.95	+119.7
102	19/03/88	10:03:00	0.1444	38.98	+119.7
103	19/03/88	10:03:10	0.1472	39.01	+119.7
104	19/03/88	10:03:20	0.1500	39.04	+119.8
105	19/03/88	10:03:30	0.1528	39.07	+119.8
106	19/03/88	10:03:40	0.1556	39.10	+119.8
107	19/03/88	10:03:50	0.1583	39.13	+119.8
108	19/03/88	10:04:00	0.1611	39.15	+119.8
109	19/03/88	10:04:10	0.1639	39.18	+119.8
110	19/03/88	10:04:20	0.1667	39.21	+119.8
111	19/03/88	10:04:30	0.1694	39.23	+119.8
112	19/03/88	10:05:00	0.1778	39.31	+119.9
113	19/03/88	10:05:30	0.1861	39.38	+119.9
114	19/03/88	10:06:00	0.1944	39.45	+119.9
115	19/03/88	10:06:30	0.2028	39.51	+119.9
116	19/03/88	10:07:00	0.2111	39.57	+120.0
117	19/03/88	10:07:30	0.2194	39.63	+120.0
118	19/03/88	10:08:00	0.2278	39.69	+120.0
119	19/03/88	10:08:30	0.2361	39.75	+120.1
120	19/03/88	10:09:00	0.2444	39.80	+120.1
121	19/03/88	10:09:30	0.2528	39.85	+120.1
122	19/03/88	10:10:00	0.2611	39.90	+120.1
123	19/03/88	10:10:30	0.2694	39.95	+120.2
124	19/03/88	10:11:00	0.2778	40.00	+120.2
125	19/03/88	10:11:30	0.2861	40.05	+120.2
126	19/03/88	10:12:00	0.2944	40.09	+120.2
127	19/03/88	10:12:30	0.3028	40.14	+120.2
128	19/03/88	10:13:00	0.3111	40.18	+120.3
129	19/03/88	10:14:00	0.3278	40.26	+120.3
130	19/03/88	10:14:10	0.3306	40.28	+120.3
131	19/03/88	10:14:20	0.3333	69.71	+120.3
132	19/03/88	10:14:30	0.3361	1,453.57	+120.3
133	19/03/88	10:14:40	0.3389	2,250.10	+120.3
134	19/03/88	10:14:50	0.3417	2,247.99	+120.3
135	19/03/88	10:15:00	0.3444	2,242.24	+120.3
136	19/03/88	10:15:10	0.3472	2,219.77	+120.3
137	19/03/88	10:15:20	0.3500	2,219.94	+120.3
138	19/03/88	10:15:30	0.3528	2,219.93	+120.3
139	19/03/88	10:15:40	0.3556	2,222.14	+120.0
140	19/03/88	10:15:50	0.3583	2,222.12	+120.3
141	19/03/88	10:16:00	0.3611	2,221.68	+120.4
142	19/03/88	10:16:10	0.3639	2,219.73	+120.4
143	19/03/88	10:16:20	0.3667	2,219.70	+120.4
144	19/03/88	10:16:30	0.3694	2,219.68	+120.4
145	19/03/88	10:16:40	0.3722	2,219.67	+120.4
146	19/03/88	10:16:50	0.3750	2,219.65	+120.4
147	19/03/88	10:17:00	0.3778	2,219.65	+120.4
148	19/03/88	10:17:10	0.3806	2,219.63	+120.4
149	19/03/88	10:17:30	0.3861	2,219.61	+120.4

PRESSURE vs TIME (LINEAR)

Company : BEACH PETROLEUM N.L.
Well : IONA #1
Comments : S.F.T.PRESSURE TEST NO.3 AT 1370.5 METERS

Eq. Type: H.P.
Gauge No: 487

From : 10:31:50 19/03/88
To : 11:53:40 19/03/88



PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1370.5 Meters

Comments : S.F.T.PRESSURE TEST NO.3 AT 1370.5 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
1	19/03/88	10:31:50	0.0000	2,257.38	+121.2
2	19/03/88	10:32:00	0.0028	2,257.54	+121.2
3	19/03/88	10:32:10	0.0056	2,257.62	+121.2
4	19/03/88	10:32:20	0.0083	2,233.20	+121.2
5	19/03/88	10:32:30	0.0111	1,815.52	+121.2
6	19/03/88	10:32:40	0.0139	1,605.87	+121.2
7	19/03/88	10:32:50	0.0167	1,586.26	+121.2
8	19/03/88	10:33:00	0.0194	1,625.05	+121.2
9	19/03/88	10:33:10	0.0222	1,805.90	+121.2
10	19/03/88	10:33:20	0.0250	1,806.40	+121.2
11	19/03/88	10:33:30	0.0278	1,806.48	+121.2
12	19/03/88	10:33:40	0.0306	1,806.50	+121.2
13	19/03/88	10:33:50	0.0333	1,806.52	+121.2
14	19/03/88	10:34:00	0.0361	1,806.52	+121.2
15	19/03/88	10:34:10	0.0389	1,806.53	+121.2
16	19/03/88	10:34:20	0.0417	1,806.53	+121.2
17	19/03/88	10:34:30	0.0444	1,806.53	+121.2
18	19/03/88	10:34:40	0.0472	1,806.60	+121.4
19	19/03/88	10:34:50	0.0500	1,806.60	+121.4
20	19/03/88	10:35:00	0.0528	1,806.61	+121.4
21	19/03/88	10:35:10	0.0556	1,806.62	+121.4
22	19/03/88	10:35:20	0.0583	1,806.62	+121.4
23	19/03/88	10:35:30	0.0611	1,806.63	+121.5
24	19/03/88	10:35:40	0.0639	1,806.63	+121.5
25	19/03/88	10:35:50	0.0667	1,806.64	+121.5
26	19/03/88	10:36:00	0.0694	1,806.64	+121.5
27	19/03/88	10:36:10	0.0722	1,806.64	+121.5
28	19/03/88	10:36:20	0.0750	1,806.65	+121.5
29	19/03/88	10:36:30	0.0778	1,806.68	+121.6
30	19/03/88	10:36:40	0.0806	1,806.72	+121.6
31	19/03/88	10:36:50	0.0833	1,806.79	+121.6
32	19/03/88	10:37:00	0.0861	1,806.78	+121.6
33	19/03/88	10:37:30	0.0944	1,806.80	+121.6
34	19/03/88	10:38:00	0.1028	1,806.83	+121.6
35	19/03/88	10:38:30	0.1111	1,807.09	+121.7
36	19/03/88	10:39:00	0.1194	1,806.98	+121.7
37	19/03/88	10:39:30	0.1278	1,807.47	+121.8
38	19/03/88	10:40:00	0.1361	1,808.51	+121.8
39	19/03/88	10:40:30	0.1444	1,809.71	+121.8
40	19/03/88	10:41:00	0.1528	1,811.33	+121.8
41	19/03/88	10:41:30	0.1611	1,813.03	+121.9
42	19/03/88	10:42:00	0.1694	1,814.68	+121.9
43	19/03/88	10:42:30	0.1778	1,816.17	+121.9
44	19/03/88	10:43:00	0.1861	1,817.40	+122.0
45	19/03/88	10:43:30	0.1944	1,818.32	+122.0
46	19/03/88	10:44:00	0.2028	1,819.38	+122.0
47	19/03/88	10:44:30	0.2111	1,820.33	+122.1
48	19/03/88	10:45:00	0.2194	1,820.96	+122.1
49	19/03/88	10:45:30	0.2278	1,821.58	+122.1
50	19/03/88	10:46:00	0.2361	1,822.42	+122.1

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1370.5 Meters

Comments : S.F.T.PRESSURE TEST NO.3 AT 1370.5 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
51	19/03/88	10:47:00	0.2528	1,822.83	+122.2
52	19/03/88	10:48:00	0.2694	1,823.24	+122.2
53	19/03/88	10:49:00	0.2861	1,823.61	+122.3
54	19/03/88	10:50:00	0.3028	1,824.36	+122.3
55	19/03/88	10:51:00	0.3194	1,824.96	+122.4
56	19/03/88	10:52:00	0.3361	1,825.37	+122.4
57	19/03/88	10:53:00	0.3528	1,826.15	+122.5
58	19/03/88	10:54:00	0.3694	1,826.73	+122.5
59	19/03/88	10:55:00	0.3861	1,827.27	+122.5
60	19/03/88	10:56:00	0.4028	1,828.18	+122.6
61	19/03/88	10:57:00	0.4194	1,828.82	+122.6
62	19/03/88	10:58:00	0.4361	1,829.46	+122.7
63	19/03/88	10:59:00	0.4528	1,830.33	+122.7
64	19/03/88	11:00:00	0.4694	1,830.88	+122.7
65	19/03/88	11:01:00	0.4861	1,831.11	+122.8
66	19/03/88	11:02:00	0.5028	1,831.34	+122.8
67	19/03/88	11:03:00	0.5194	1,831.65	+122.8
68	19/03/88	11:04:00	0.5361	1,831.07	+122.8
69	19/03/88	11:05:00	0.5528	1,830.81	+122.9
70	19/03/88	11:06:00	0.5694	1,830.64	+122.9
71	19/03/88	11:07:00	0.5861	1,830.55	+122.9
72	19/03/88	11:08:00	0.6028	1,830.57	+123.0
73	19/03/88	11:09:00	0.6194	1,830.63	+123.0
74	19/03/88	11:10:00	0.6361	1,830.71	+123.0
75	19/03/88	11:11:00	0.6528	1,830.78	+123.1
76	19/03/88	11:12:00	0.6694	1,830.77	+123.1
77	19/03/88	11:13:00	0.6861	1,830.81	+123.1
78	19/03/88	11:14:00	0.7028	1,830.81	+123.2
79	19/03/88	11:15:00	0.7194	1,830.73	+123.2
80	19/03/88	11:16:00	0.7361	1,830.61	+123.2
81	19/03/88	11:17:00	0.7528	1,830.65	+123.3
82	19/03/88	11:18:00	0.7694	1,830.72	+123.3
83	19/03/88	11:19:00	0.7861	1,830.75	+123.3
84	19/03/88	11:20:00	0.8028	1,830.84	+123.3
85	19/03/88	11:21:00	0.8194	1,830.80	+123.4
86	19/03/88	11:22:00	0.8361	1,830.65	+123.4
87	19/03/88	11:23:00	0.8528	1,830.55	+123.4
88	19/03/88	11:24:00	0.8694	1,830.47	+123.5
89	19/03/88	11:25:00	0.8861	1,830.48	+123.5
90	19/03/88	11:26:00	0.9028	1,830.43	+123.5
91	19/03/88	11:27:00	0.9194	1,830.40	+123.5
92	19/03/88	11:28:00	0.9361	1,830.40	+123.6
93	19/03/88	11:29:00	0.9528	1,830.39	+123.6
94	19/03/88	11:30:00	0.9694	1,830.41	+123.6
95	19/03/88	11:31:00	0.9861	1,830.49	+123.7
96	19/03/88	11:32:00	1.0028	1,830.57	+123.7
97	19/03/88	11:33:00	1.0194	1,830.57	+123.7
98	19/03/88	11:34:00	1.0361	1,830.61	+123.7
99	19/03/88	11:35:00	1.0528	1,830.64	+123.8
100	19/03/88	11:36:00	1.0694	1,830.82	+123.8

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1370.5 Meters

Comments : S.F.T.PRESSURE TEST NO.3 AT 1370.5 METERS

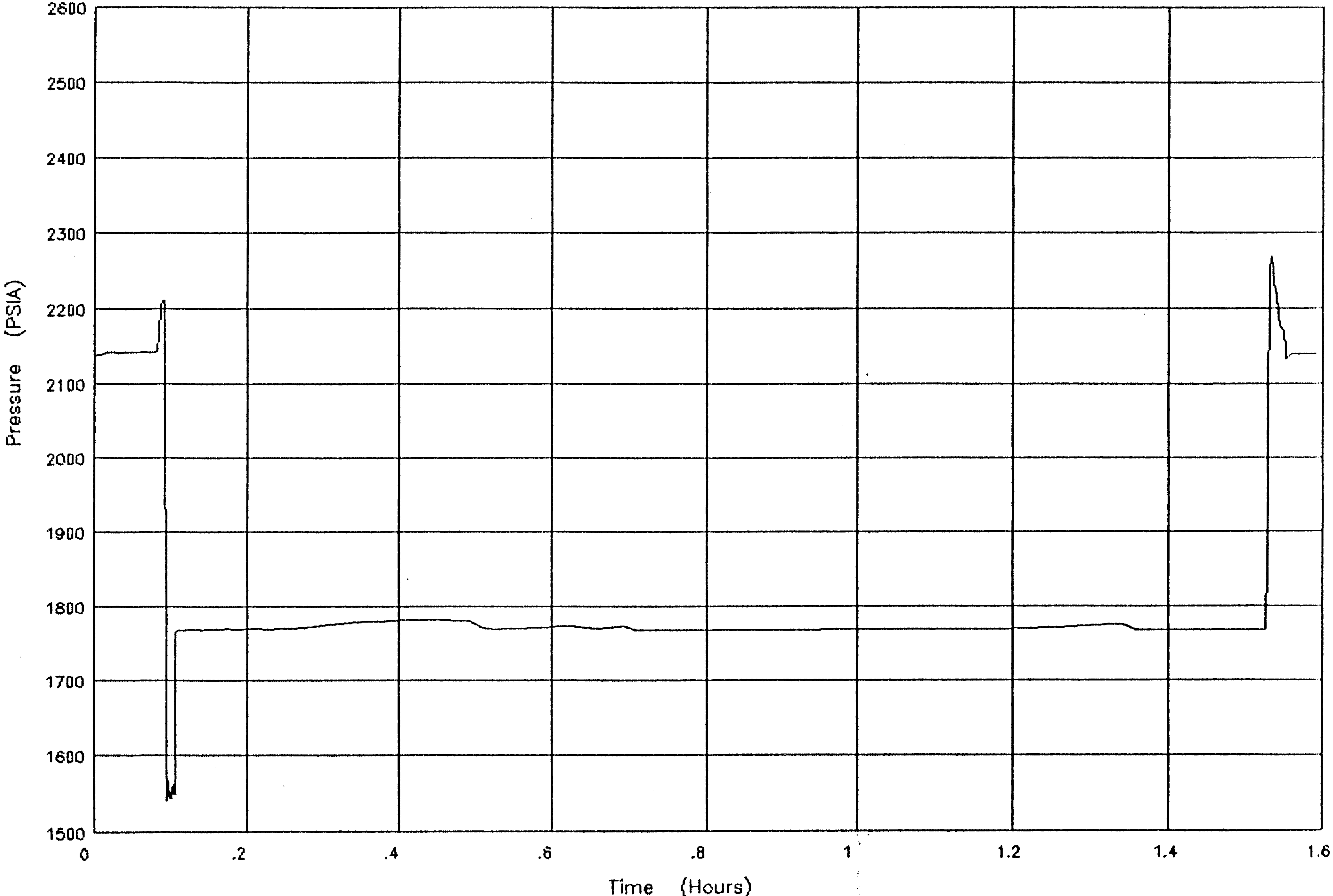
Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
101	19/03/88	11:37:00	1.0861	1,830.97	+123.8
102	19/03/88	11:38:00	1.1028	1,831.01	+123.8
103	19/03/88	11:39:00	1.1194	1,831.03	+123.8
104	19/03/88	11:40:00	1.1361	1,831.03	+123.9
105	19/03/88	11:41:00	1.1528	1,831.03	+123.9
106	19/03/88	11:42:00	1.1694	1,831.04	+123.9
107	19/03/88	11:43:00	1.1861	1,831.07	+124.0
108	19/03/88	11:44:00	1.2028	1,831.10	+124.0
109	19/03/88	11:45:00	1.2194	1,831.16	+124.0
110	19/03/88	11:46:00	1.2361	1,831.26	+124.0
111	19/03/88	11:47:00	1.2528	1,831.48	+124.1
112	19/03/88	11:48:00	1.2694	1,831.64	+124.1
113	19/03/88	11:49:00	1.2861	1,831.71	+124.1
114	19/03/88	11:50:00	1.3028	1,831.72	+124.1
115	19/03/88	11:50:10	1.3056	1,831.73	+124.1
116	19/03/88	11:50:30	1.3111	1,831.73	+124.1
117	19/03/88	11:50:40	1.3139	1,831.72	+124.1
118	19/03/88	11:50:50	1.3167	1,966.81	+124.1
119	19/03/88	11:51:00	1.3194	2,239.27	+124.1
120	19/03/88	11:51:10	1.3222	2,218.81	+124.1
121	19/03/88	11:51:20	1.3250	2,189.95	+124.1
122	19/03/88	11:51:30	1.3278	2,187.01	+124.1
123	19/03/88	11:51:40	1.3306	2,184.04	+124.1
124	19/03/88	11:51:50	1.3333	2,183.85	+124.1
125	19/03/88	11:52:00	1.3361	2,183.74	+124.1
126	19/03/88	11:52:10	1.3389	2,183.94	+124.1
127	19/03/88	11:52:20	1.3417	2,183.91	+124.1
128	19/03/88	11:52:30	1.3444	2,183.89	+124.1
129	19/03/88	11:52:40	1.3472	2,183.89	+124.1
130	19/03/88	11:52:50	1.3500	2,183.92	+124.2
131	19/03/88	11:53:00	1.3528	2,183.95	+124.2
132	19/03/88	11:53:10	1.3556	2,183.93	+124.2
133	19/03/88	11:53:20	1.3583	2,183.88	+124.2
134	19/03/88	11:53:30	1.3611	2,183.87	+124.2
135	19/03/88	11:53:40	1.3639	2,183.91	+124.2

PRESSURE vs TIME (LINEAR)

Company : BEACH PETROLEUM N.L.
Well : IONA #1
Comments : S.F.T. PRESSURE TEST NO.4 AT 1342.5 METERS

Eq. Type: H.P.
Gauge No: 487

From : 12:00:30 19/03/88
To : 13:36:00 19/03/88



PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1342.5 Meters

Comments : S.F.T. PRESSURE TEST NO.4 AT 1342.5 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
1	19/03/88	12:00:30	0.0000	2,137.07	+124.4
2	19/03/88	12:01:00	0.0083	2,138.57	+124.4
3	19/03/88	12:01:30	0.0167	2,141.87	+124.4
4	19/03/88	12:02:00	0.0250	2,141.57	+124.4
5	19/03/88	12:02:30	0.0333	2,141.15	+124.4
6	19/03/88	12:03:00	0.0417	2,141.47	+124.4
7	19/03/88	12:03:30	0.0500	2,141.52	+124.5
8	19/03/88	12:04:00	0.0583	2,141.41	+124.5
9	19/03/88	12:04:50	0.0722	2,141.38	+124.5
10	19/03/88	12:05:00	0.0750	2,141.36	+124.5
11	19/03/88	12:05:10	0.0778	2,141.51	+124.5
12	19/03/88	12:05:20	0.0806	2,142.93	+124.5
13	19/03/88	12:05:30	0.0833	2,158.37	+124.5
14	19/03/88	12:05:40	0.0861	2,193.40	+124.5
15	19/03/88	12:05:46	0.0878	2,210.63	+124.5
16	19/03/88	12:05:48	0.0883	2,210.71	+124.5
17	19/03/88	12:05:50	0.0889	2,210.71	+124.5
18	19/03/88	12:05:52	0.0894	2,210.56	+124.5
19	19/03/88	12:05:54	0.0900	2,210.75	+124.5
20	19/03/88	12:05:56	0.0906	2,211.00	+124.5
21	19/03/88	12:05:58	0.0911	2,207.46	+124.5
22	19/03/88	12:06:00	0.0917	2,119.11	+124.5
23	19/03/88	12:06:02	0.0922	2,023.16	+124.5
24	19/03/88	12:06:04	0.0928	1,837.81	+124.5
25	19/03/88	12:06:06	0.0933	1,539.41	+124.5
26	19/03/88	12:06:08	0.0939	1,554.12	+124.5
27	19/03/88	12:06:10	0.0944	1,544.07	+124.5
28	19/03/88	12:06:12	0.0950	1,566.27	+124.5
29	19/03/88	12:06:14	0.0956	1,564.62	+124.5
30	19/03/88	12:06:16	0.0961	1,558.97	+124.5
31	19/03/88	12:06:18	0.0967	1,549.31	+124.5
32	19/03/88	12:06:20	0.0972	1,543.28	+124.5
33	19/03/88	12:06:22	0.0978	1,551.93	+124.5
34	19/03/88	12:06:24	0.0983	1,550.24	+124.5
35	19/03/88	12:06:26	0.0989	1,549.14	+124.5
36	19/03/88	12:06:28	0.0994	1,558.99	+124.5
37	19/03/88	12:06:30	0.1000	1,552.92	+124.5
38	19/03/88	12:06:32	0.1006	1,547.84	+124.5
39	19/03/88	12:06:34	0.1011	1,544.49	+124.5
40	19/03/88	12:06:36	0.1017	1,551.44	+124.5
41	19/03/88	12:06:38	0.1022	1,562.43	+124.5
42	19/03/88	12:06:40	0.1028	1,556.51	+124.5
43	19/03/88	12:06:42	0.1033	1,551.68	+124.5
44	19/03/88	12:06:44	0.1039	1,555.96	+124.5
45	19/03/88	12:06:46	0.1044	1,557.42	+124.5
46	19/03/88	12:06:48	0.1050	1,548.89	+124.5
47	19/03/88	12:06:50	0.1056	1,709.17	+124.5
48	19/03/88	12:06:52	0.1061	1,766.04	+124.5
49	19/03/88	12:06:54	0.1067	1,766.65	+124.5
50	19/03/88	12:06:56	0.1072	1,766.94	+124.5

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1342.5 Meters

Comments : S.F.T. PRESSURE TEST NO.4 AT 1342.5 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
51	19/03/88	12:06:58	0.1078	1,767.12	+124.5
52	19/03/88	12:07:00	0.1083	1,767.22	+124.5
53	19/03/88	12:07:02	0.1089	1,767.29	+124.5
54	19/03/88	12:07:04	0.1094	1,767.32	+124.5
55	19/03/88	12:07:06	0.1100	1,767.34	+124.5
56	19/03/88	12:07:08	0.1106	1,767.37	+124.5
57	19/03/88	12:07:10	0.1111	1,767.40	+124.5
58	19/03/88	12:07:12	0.1117	1,767.39	+124.5
59	19/03/88	12:07:14	0.1122	1,767.41	+124.5
60	19/03/88	12:07:16	0.1128	1,767.42	+124.5
61	19/03/88	12:07:18	0.1133	1,767.42	+124.5
62	19/03/88	12:07:20	0.1139	1,767.43	+124.5
63	19/03/88	12:07:22	0.1144	1,767.43	+124.5
64	19/03/88	12:07:24	0.1150	1,767.44	+124.5
65	19/03/88	12:07:26	0.1156	1,767.45	+124.5
66	19/03/88	12:07:28	0.1161	1,767.46	+124.5
67	19/03/88	12:07:30	0.1167	1,767.48	+124.5
68	19/03/88	12:07:32	0.1172	1,767.48	+124.5
69	19/03/88	12:07:34	0.1178	1,767.50	+124.5
70	19/03/88	12:07:36	0.1183	1,767.50	+124.5
71	19/03/88	12:07:38	0.1189	1,767.69	+124.5
72	19/03/88	12:07:40	0.1194	1,768.14	+124.5
73	19/03/88	12:07:42	0.1200	1,769.30	+124.5
74	19/03/88	12:07:50	0.1222	1,768.56	+124.5
75	19/03/88	12:08:10	0.1278	1,768.84	+124.6
76	19/03/88	12:08:20	0.1306	1,768.41	+124.6
77	19/03/88	12:08:30	0.1333	1,768.38	+124.6
78	19/03/88	12:08:40	0.1361	1,768.34	+124.6
79	19/03/88	12:08:50	0.1389	1,768.43	+124.6
80	19/03/88	12:09:00	0.1417	1,768.28	+124.7
81	19/03/88	12:09:10	0.1444	1,768.32	+124.7
82	19/03/88	12:09:30	0.1500	1,768.49	+124.7
83	19/03/88	12:10:00	0.1583	1,768.69	+124.7
84	19/03/88	12:10:30	0.1667	1,768.47	+124.7
85	19/03/88	12:11:00	0.1750	1,769.41	+124.7
86	19/03/88	12:11:30	0.1833	1,768.88	+124.7
87	19/03/88	12:12:00	0.1917	1,769.06	+124.7
88	19/03/88	12:12:30	0.2000	1,769.52	+124.8
89	19/03/88	12:13:00	0.2083	1,769.96	+124.8
90	19/03/88	12:13:30	0.2167	1,769.61	+124.8
91	19/03/88	12:14:00	0.2250	1,769.24	+124.8
92	19/03/88	12:14:30	0.2333	1,768.94	+124.8
93	19/03/88	12:15:00	0.2417	1,769.82	+124.8
94	19/03/88	12:15:30	0.2500	1,769.92	+124.8
95	19/03/88	12:16:00	0.2583	1,770.41	+124.9
96	19/03/88	12:17:00	0.2750	1,770.96	+124.9
97	19/03/88	12:18:00	0.2917	1,772.90	+124.9
98	19/03/88	12:19:00	0.3083	1,775.13	+124.9
99	19/03/88	12:20:00	0.3250	1,776.80	+125.0
100	19/03/88	12:21:00	0.3417	1,778.54	+125.0

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1342.5 Meters

Comments : S.F.T. PRESSURE TEST NO.4 AT 1342.5 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
101	19/03/88	12:22:00	0.3583	1,779.34	+125.0
102	19/03/88	12:23:00	0.3750	1,779.92	+125.1
103	19/03/88	12:24:00	0.3917	1,780.92	+125.1
104	19/03/88	12:25:00	0.4083	1,781.31	+125.1
105	19/03/88	12:26:00	0.4250	1,781.26	+125.1
106	19/03/88	12:27:00	0.4417	1,781.44	+125.1
107	19/03/88	12:28:00	0.4583	1,781.39	+125.2
108	19/03/88	12:29:00	0.4750	1,781.15	+125.2
109	19/03/88	12:30:00	0.4917	1,780.70	+125.2
110	19/03/88	12:31:00	0.5083	1,771.41	+125.2
111	19/03/88	12:32:00	0.5250	1,769.18	+125.3
112	19/03/88	12:33:00	0.5417	1,769.71	+125.3
113	19/03/88	12:34:00	0.5583	1,770.16	+125.3
114	19/03/88	12:35:00	0.5750	1,770.71	+125.3
115	19/03/88	12:36:00	0.5917	1,771.50	+125.3
116	19/03/88	12:37:00	0.6083	1,772.73	+125.4
117	19/03/88	12:38:00	0.6250	1,773.24	+125.4
118	19/03/88	12:39:00	0.6417	1,770.48	+125.4
119	19/03/88	12:40:00	0.6583	1,770.43	+125.4
120	19/03/88	12:41:00	0.6750	1,771.04	+125.4
121	19/03/88	12:42:00	0.6917	1,772.85	+125.5
122	19/03/88	12:43:00	0.7083	1,767.84	+125.5
123	19/03/88	12:44:00	0.7250	1,767.90	+125.5
124	19/03/88	12:45:00	0.7417	1,767.97	+125.5
125	19/03/88	12:46:00	0.7583	1,767.84	+125.5
126	19/03/88	12:47:00	0.7750	1,767.91	+125.6
127	19/03/88	12:48:00	0.7917	1,767.96	+125.6
128	19/03/88	12:49:00	0.8083	1,768.02	+125.6
129	19/03/88	12:50:00	0.8250	1,767.99	+125.6
130	19/03/88	12:51:00	0.8417	1,767.97	+125.6
131	19/03/88	12:52:00	0.8583	1,768.05	+125.7
132	19/03/88	12:53:00	0.8750	1,768.06	+125.7
133	19/03/88	12:54:00	0.8917	1,768.09	+125.7
134	19/03/88	12:55:00	0.9083	1,768.18	+125.7
135	19/03/88	12:56:00	0.9250	1,768.22	+125.7
136	19/03/88	12:57:00	0.9417	1,768.27	+125.8
137	19/03/88	12:58:00	0.9583	1,768.32	+125.8
138	19/03/88	12:59:00	0.9750	1,768.48	+125.8
139	19/03/88	13:00:00	0.9917	1,768.45	+125.8
140	19/03/88	13:01:00	1.0083	1,768.54	+125.8
141	19/03/88	13:02:00	1.0250	1,768.55	+125.8
142	19/03/88	13:03:00	1.0417	1,768.56	+125.9
143	19/03/88	13:04:00	1.0583	1,768.67	+125.9
144	19/03/88	13:05:00	1.0750	1,769.13	+125.9
145	19/03/88	13:06:00	1.0917	1,768.93	+125.9
146	19/03/88	13:07:00	1.1083	1,768.67	+125.9
147	19/03/88	13:08:00	1.1250	1,768.74	+126.0
148	19/03/88	13:09:00	1.1417	1,768.83	+126.0
149	19/03/88	13:10:00	1.1583	1,768.92	+126.0
150	19/03/88	13:11:00	1.1750	1,768.94	+126.0

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1342.5 Meters

Comments : S.F.T. PRESSURE TEST NO.4 AT 1342.5 METERS

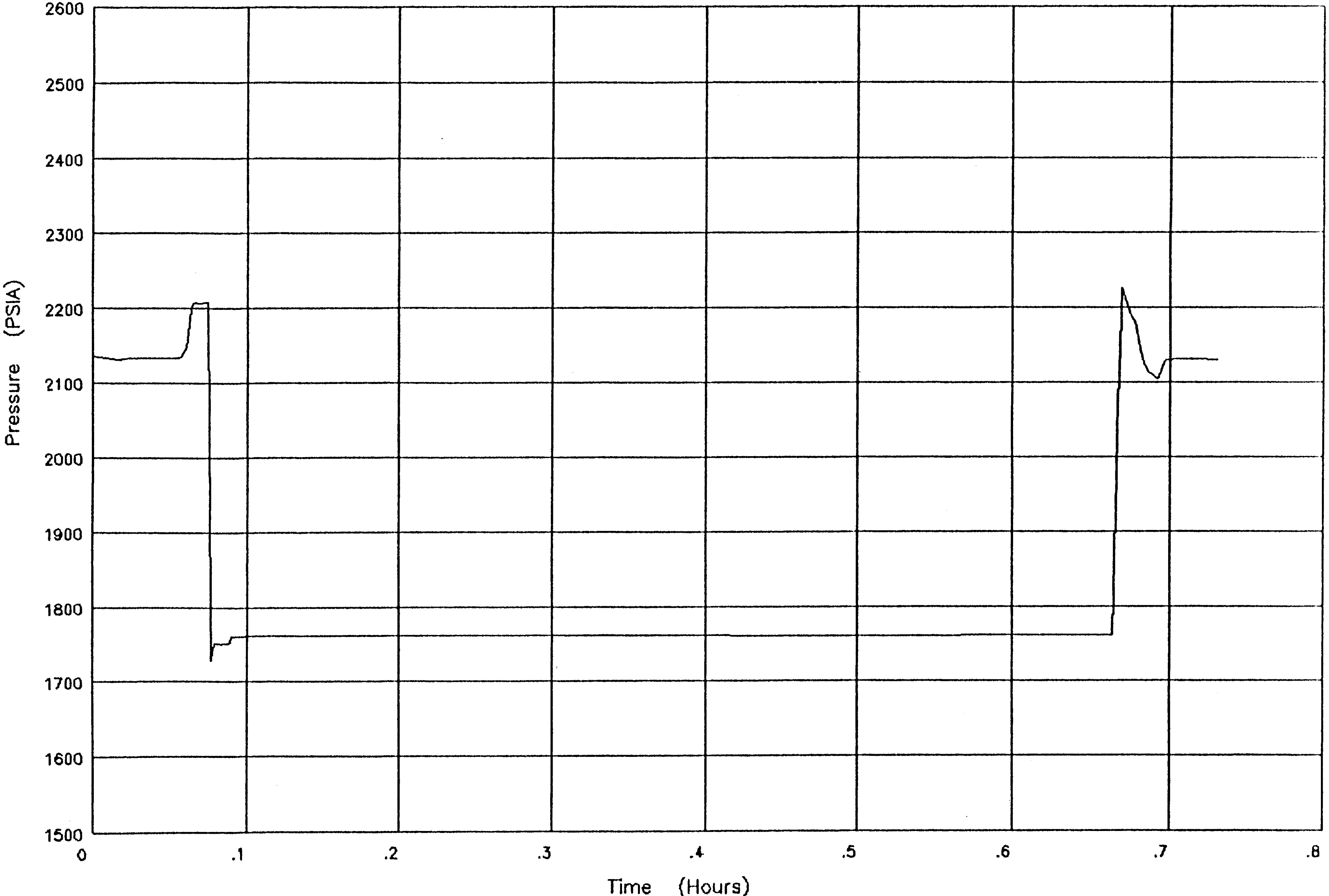
Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
151	19/03/88	13:12:00	1.1917	1,769.06	+126.0
152	19/03/88	13:13:00	1.2083	1,769.70	+126.1
153	19/03/88	13:14:00	1.2250	1,770.04	+126.1
154	19/03/88	13:15:00	1.2417	1,770.52	+126.1
155	19/03/88	13:16:00	1.2583	1,771.14	+126.1
156	19/03/88	13:17:00	1.2750	1,772.03	+126.1
157	19/03/88	13:18:00	1.2917	1,773.10	+126.2
158	19/03/88	13:19:00	1.3083	1,774.06	+126.2
159	19/03/88	13:20:00	1.3250	1,774.94	+126.2
160	19/03/88	13:21:00	1.3417	1,775.55	+126.2
161	19/03/88	13:22:00	1.3583	1,767.74	+126.2
162	19/03/88	13:23:00	1.3750	1,767.73	+126.2
163	19/03/88	13:24:00	1.3917	1,767.73	+126.3
164	19/03/88	13:25:00	1.4083	1,767.73	+126.3
165	19/03/88	13:26:00	1.4250	1,767.74	+126.3
166	19/03/88	13:27:00	1.4417	1,767.75	+126.3
167	19/03/88	13:28:00	1.4583	1,767.75	+126.3
168	19/03/88	13:29:00	1.4750	1,767.76	+126.4
169	19/03/88	13:30:00	1.4917	1,767.77	+126.4
170	19/03/88	13:31:00	1.5083	1,767.77	+126.4
171	19/03/88	13:32:00	1.5250	1,767.77	+126.4
172	19/03/88	13:32:10	1.5278	1,831.33	+126.4
173	19/03/88	13:32:20	1.5306	2,247.05	+126.4
174	19/03/88	13:32:30	1.5333	2,269.21	+126.4
175	19/03/88	13:32:40	1.5361	2,232.58	+126.4
176	19/03/88	13:32:50	1.5389	2,219.38	+126.4
177	19/03/88	13:33:00	1.5417	2,201.61	+126.4
178	19/03/88	13:33:10	1.5444	2,177.24	+126.4
179	19/03/88	13:33:20	1.5472	2,172.82	+126.4
180	19/03/88	13:33:30	1.5500	2,165.50	+126.4
181	19/03/88	13:33:40	1.5528	2,133.25	+126.4
182	19/03/88	13:34:00	1.5583	2,138.85	+126.4
183	19/03/88	13:34:10	1.5611	2,139.36	+126.5
184	19/03/88	13:34:20	1.5639	2,139.43	+126.5
185	19/03/88	13:34:30	1.5667	2,139.55	+126.5
186	19/03/88	13:34:40	1.5694	2,139.44	+126.5
187	19/03/88	13:34:50	1.5722	2,139.37	+126.5
188	19/03/88	13:35:00	1.5750	2,139.37	+126.5
189	19/03/88	13:35:30	1.5833	2,139.30	+126.5
190	19/03/88	13:36:00	1.5917	2,139.31	+126.5

PRESSURE vs TIME - (LINEAR)

Company : BEACH PETROLEUM N.L.
Well : IONA #1
Comments : S.F.T. PRESSURE TEST NO.5 AT 1337.5 METERS

Eq. Type: H.P.
Gauge No: 487

From : 13:38:30 19/03/88
To : 14:22:20 19/03/88



PRESSURE VS TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth :1337.5Meters

Comments : S.F.T. PRESSURE TEST NO.5 AT 1337.5 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
1	19/03/88	13:38:30	0.0000	2,135.35	+126.5
2	19/03/88	13:39:00	0.0083	2,133.20	+126.5
3	19/03/88	13:39:30	0.0167	2,131.52	+126.6
4	19/03/88	13:40:00	0.0250	2,133.16	+126.6
5	19/03/88	13:40:30	0.0333	2,133.56	+126.6
6	19/03/88	13:41:00	0.0417	2,133.15	+126.6
7	19/03/88	13:41:30	0.0500	2,133.14	+126.6
8	19/03/88	13:41:40	0.0528	2,133.18	+126.6
9	19/03/88	13:41:50	0.0556	2,133.24	+126.6
10	19/03/88	13:42:00	0.0583	2,136.46	+126.6
11	19/03/88	13:42:10	0.0611	2,148.67	+126.6
12	19/03/88	13:42:20	0.0639	2,196.62	+126.6
13	19/03/88	13:42:24	0.0650	2,206.16	+126.6
14	19/03/88	13:42:26	0.0656	2,206.16	+126.6
15	19/03/88	13:42:28	0.0661	2,206.24	+126.6
16	19/03/88	13:42:30	0.0667	2,207.24	+126.6
17	19/03/88	13:42:32	0.0672	2,207.24	+126.6
18	19/03/88	13:42:34	0.0678	2,206.45	+126.6
19	19/03/88	13:42:36	0.0683	2,206.32	+126.6
20	19/03/88	13:42:38	0.0689	2,206.38	+126.6
21	19/03/88	13:42:40	0.0694	2,206.51	+126.6
22	19/03/88	13:42:42	0.0700	2,206.58	+126.6
23	19/03/88	13:42:44	0.0706	2,206.58	+126.6
24	19/03/88	13:42:46	0.0711	2,206.80	+126.6
25	19/03/88	13:42:48	0.0717	2,206.80	+126.6
26	19/03/88	13:42:50	0.0722	2,207.32	+126.6
27	19/03/88	13:42:52	0.0728	2,207.32	+126.6
28	19/03/88	13:42:54	0.0733	2,207.62	+126.6
29	19/03/88	13:42:56	0.0739	2,207.67	+126.6
30	19/03/88	13:42:58	0.0744	2,207.77	+126.6
31	19/03/88	13:43:00	0.0750	2,207.77	+126.6
32	19/03/88	13:43:02	0.0756	2,026.07	+126.6
33	19/03/88	13:43:04	0.0761	1,926.50	+126.6
34	19/03/88	13:43:06	0.0767	1,810.31	+126.6
35	19/03/88	13:43:08	0.0772	1,727.37	+126.6
36	19/03/88	13:43:10	0.0778	1,741.84	+126.6
37	19/03/88	13:43:12	0.0783	1,741.84	+126.6
38	19/03/88	13:43:14	0.0789	1,751.03	+126.6
39	19/03/88	13:43:16	0.0794	1,751.19	+126.6
40	19/03/88	13:43:18	0.0800	1,750.59	+126.6
41	19/03/88	13:43:20	0.0806	1,750.59	+126.6
42	19/03/88	13:43:22	0.0811	1,750.21	+126.6
43	19/03/88	13:43:24	0.0817	1,750.38	+126.6
44	19/03/88	13:43:26	0.0822	1,750.43	+126.6
45	19/03/88	13:43:28	0.0828	1,750.33	+126.6
46	19/03/88	13:43:30	0.0833	1,749.23	+126.6
47	19/03/88	13:43:32	0.0839	1,749.23	+126.6
48	19/03/88	13:43:34	0.0844	1,750.85	+126.6
49	19/03/88	13:43:36	0.0850	1,750.91	+126.6
50	19/03/88	13:43:38	0.0856	1,750.77	+126.6

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1337.5 Meters

Comments : S.F.T. PRESSURE TEST NO.5 AT 1337.5 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
51	19/03/88	13:43:40	0.0861	1,750.69	+126.6
52	19/03/88	13:43:42	0.0867	1,750.69	+126.6
53	19/03/88	13:43:44	0.0872	1,750.60	+126.6
54	19/03/88	13:43:46	0.0878	1,750.57	+126.6
55	19/03/88	13:43:48	0.0883	1,751.98	+126.6
56	19/03/88	13:43:50	0.0889	1,751.98	+126.6
57	19/03/88	13:43:52	0.0894	1,760.58	+126.6
58	19/03/88	13:43:54	0.0900	1,760.61	+126.6
59	19/03/88	13:43:56	0.0906	1,760.65	+126.6
60	19/03/88	13:43:58	0.0911	1,760.66	+126.6
61	19/03/88	13:44:00	0.0917	1,760.68	+126.6
62	19/03/88	13:44:02	0.0922	1,760.70	+126.6
63	19/03/88	13:44:04	0.0928	1,760.69	+126.6
64	19/03/88	13:44:06	0.0933	1,760.71	+126.6
65	19/03/88	13:44:08	0.0939	1,760.72	+126.6
66	19/03/88	13:44:10	0.0944	1,760.73	+126.6
67	19/03/88	13:44:12	0.0950	1,760.73	+126.6
68	19/03/88	13:44:14	0.0956	1,760.74	+126.6
69	19/03/88	13:44:16	0.0961	1,760.74	+126.6
70	19/03/88	13:44:18	0.0967	1,760.74	+126.6
71	19/03/88	13:44:20	0.0972	1,760.75	+126.6
72	19/03/88	13:44:22	0.0978	1,760.76	+126.6
73	19/03/88	13:44:24	0.0983	1,760.76	+126.6
74	19/03/88	13:44:26	0.0989	1,760.76	+126.6
75	19/03/88	13:44:28	0.0994	1,760.78	+126.6
76	19/03/88	13:44:30	0.1000	1,760.78	+126.6
77	19/03/88	13:44:32	0.1006	1,760.78	+126.6
78	19/03/88	13:44:40	0.1028	1,760.78	+126.6
79	19/03/88	13:44:50	0.1056	1,760.79	+126.6
80	19/03/88	13:45:00	0.1083	1,760.81	+126.6
81	19/03/88	13:45:10	0.1111	1,760.81	+126.6
82	19/03/88	13:45:20	0.1139	1,760.84	+126.7
83	19/03/88	13:45:30	0.1167	1,760.86	+126.7
84	19/03/88	13:45:40	0.1194	1,760.86	+126.7
85	19/03/88	13:45:50	0.1222	1,760.87	+126.7
86	19/03/88	13:46:00	0.1250	1,760.88	+126.7
87	19/03/88	13:46:10	0.1278	1,760.89	+126.7
88	19/03/88	13:46:20	0.1306	1,760.89	+126.7
89	19/03/88	13:46:30	0.1333	1,760.90	+126.7
90	19/03/88	13:47:00	0.1417	1,760.90	+126.7
91	19/03/88	13:47:30	0.1500	1,760.89	+126.7
92	19/03/88	13:48:00	0.1583	1,760.89	+126.7
93	19/03/88	13:48:30	0.1667	1,760.88	+126.7
94	19/03/88	13:49:00	0.1750	1,760.87	+126.7
95	19/03/88	13:49:30	0.1833	1,760.87	+126.7
96	19/03/88	13:50:00	0.1917	1,760.86	+126.7
97	19/03/88	13:50:30	0.2000	1,760.85	+126.7
98	19/03/88	13:51:00	0.2083	1,760.84	+126.6
99	19/03/88	13:51:30	0.2167	1,760.84	+126.6
100	19/03/88	13:52:00	0.2250	1,760.84	+126.6

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1337.5 Meters

Comments : S.F.T. PRESSURE TEST NO.5 AT 1337.5 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
101	19/03/88	13:52:30	0.2333	1,760.83	+126.6
102	19/03/88	13:53:00	0.2417	1,760.83	+126.6
103	19/03/88	13:53:30	0.2500	1,760.82	+126.6
104	19/03/88	13:54:00	0.2583	1,760.83	+126.6
105	19/03/88	13:54:30	0.2667	1,760.82	+126.6
106	19/03/88	13:55:00	0.2750	1,760.82	+126.6
107	19/03/88	13:56:00	0.2917	1,760.82	+126.6
108	19/03/88	13:57:00	0.3083	1,760.81	+126.6
109	19/03/88	13:58:00	0.3250	1,760.81	+126.6
110	19/03/88	13:59:00	0.3417	1,760.80	+126.6
111	19/03/88	14:00:00	0.3583	1,760.79	+126.6
112	19/03/88	14:01:00	0.3750	1,760.79	+126.5
113	19/03/88	14:02:00	0.3917	1,760.78	+126.5
114	19/03/88	14:03:00	0.4083	1,760.78	+126.5
115	19/03/88	14:04:00	0.4250	1,760.77	+126.5
116	19/03/88	14:05:00	0.4417	1,760.77	+126.5
117	19/03/88	14:06:00	0.4583	1,760.76	+126.5
118	19/03/88	14:07:00	0.4750	1,760.76	+126.5
119	19/03/88	14:08:00	0.4917	1,760.76	+126.5
120	19/03/88	14:09:00	0.5083	1,760.76	+126.5
121	19/03/88	14:10:00	0.5250	1,760.76	+126.5
122	19/03/88	14:11:00	0.5417	1,760.76	+126.4
123	19/03/88	14:12:00	0.5583	1,760.76	+126.4
124	19/03/88	14:13:00	0.5750	1,760.77	+126.4
125	19/03/88	14:14:00	0.5917	1,760.78	+126.4
126	19/03/88	14:15:00	0.6083	1,760.78	+126.4
127	19/03/88	14:16:00	0.6250	1,760.79	+126.4
128	19/03/88	14:17:00	0.6417	1,760.78	+126.4
129	19/03/88	14:18:00	0.6583	1,760.79	+126.4
130	19/03/88	14:18:10	0.6611	1,760.78	+126.4
131	19/03/88	14:18:20	0.6639	1,760.78	+126.4
132	19/03/88	14:18:30	0.6667	2,031.77	+126.4
133	19/03/88	14:18:40	0.6694	2,225.77	+126.4
134	19/03/88	14:18:50	0.6722	2,209.62	+126.4
135	19/03/88	14:19:00	0.6750	2,188.82	+126.4
136	19/03/88	14:19:10	0.6778	2,180.93	+126.4
137	19/03/88	14:19:20	0.6806	2,145.61	+126.4
138	19/03/88	14:19:30	0.6833	2,126.18	+126.4
139	19/03/88	14:19:40	0.6861	2,114.21	+126.4
140	19/03/88	14:19:50	0.6889	2,109.17	+126.4
141	19/03/88	14:20:00	0.6917	2,104.51	+126.4
142	19/03/88	14:20:10	0.6944	2,115.80	+126.4
143	19/03/88	14:20:20	0.6972	2,130.28	+126.4
144	19/03/88	14:20:30	0.7000	2,130.28	+126.4
145	19/03/88	14:20:40	0.7028	2,130.61	+126.4
146	19/03/88	14:20:50	0.7056	2,130.59	+126.4
147	19/03/88	14:21:00	0.7083	2,130.61	+126.4
148	19/03/88	14:21:10	0.7111	2,130.63	+126.4
149	19/03/88	14:21:20	0.7139	2,130.63	+126.4
150	19/03/88	14:21:30	0.7167	2,130.62	+126.4

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1337.5 Meters

Comments : S.F.T. PRESSURE TEST NO.5 AT 1337.5 METERS

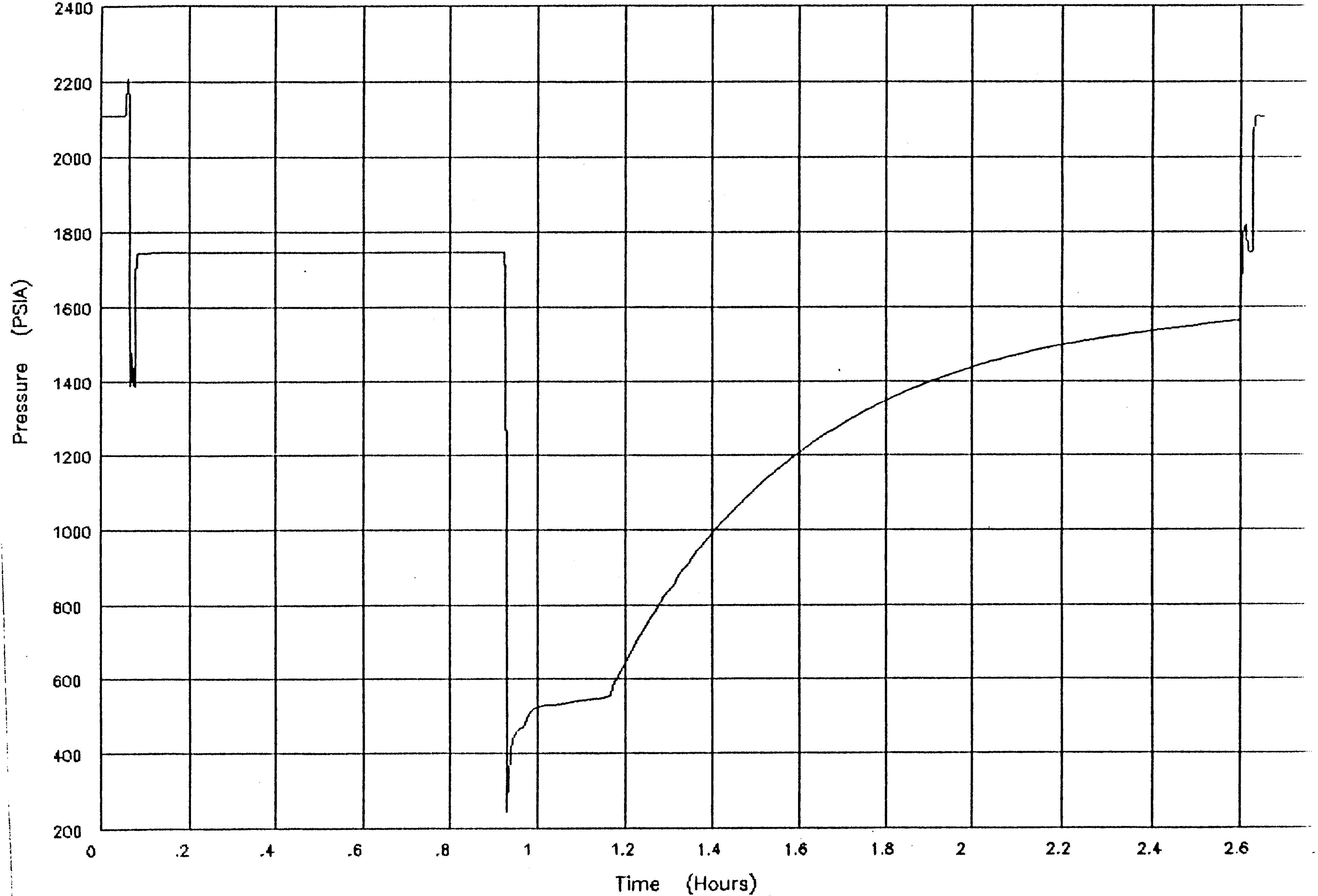
Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
151	19/03/88	14:21:40	0.7194	2,130.61	+126.4
152	19/03/88	14:21:50	0.7222	2,130.60	+126.4
153	19/03/88	14:22:00	0.7250	2,130.59	+126.4
154	19/03/88	14:22:10	0.7278	2,130.57	+126.4
155	19/03/88	14:22:20	0.7306	2,130.55	+126.4

PRESSURE vs TIME - (LINEAR)

Company : BEACH PETROLEUM N.L.
Well : IONA #1
Comments : S.F.T. PRESSURE TEST NO.6 AT 1324 METERS

Eq. Type: H.P.
Gauge No: 487

From : 14:28:00 19/03/8
To : 17:07:10 19/03/8



COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1324 Meters

Comments : S.F.T. PRESSURE TEST NO.6 AT 1324 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
1	19/03/88	14:28:00	0.0000	2,110.19	+126.4
2	19/03/88	14:28:30	0.0083	2,110.20	+126.4
3	19/03/88	14:29:00	0.0167	2,110.08	+126.4
4	19/03/88	14:29:30	0.0250	2,109.76	+126.4
5	19/03/88	14:30:00	0.0333	2,109.56	+126.4
6	19/03/88	14:30:50	0.0472	2,109.18	+126.4
7	19/03/88	14:31:00	0.0500	2,109.12	+126.4
8	19/03/88	14:31:10	0.0528	2,109.19	+126.4
9	19/03/88	14:31:20	0.0556	2,111.15	+126.4
10	19/03/88	14:31:30	0.0583	2,141.74	+126.4
11	19/03/88	14:31:38	0.0606	2,200.51	+126.4
12	19/03/88	14:31:40	0.0611	2,200.51	+126.4
13	19/03/S8	14:31:42	0.0617	2,208.05	+126.4
14	19/03/88	14:31:44	0.0622	2,208.05	+126.4
15	19/03/88	14:31:46	0.0628	2,206.99	+126.4
16	19/03/88	14:31:48	0.0633	2,133.21	+126.4
17	19/03/88	14:31:50	0.0639	2,031.81	+126.4
18	19/03/88	14:31:52	0.0644	1,961.97	+126.4
19	19/03/88	14:31:54	0.0650	1,741.19	+126.4
20	19/03/88	14:31:56	0.0656	1,433.99	+126.4
21	19/03/88	14:31:58	0.0661	1,388.19	+126.4
22	19/03/88	14:32:00	0.0667	1,388.19	+126.4
23	19/03/88	14:32:02	0.0672	1,413.09	+126.4
24	19/03/88	14:32:04	0.0678	1,419.57	+126.4
25	19/03/88	14:32:06	0.0683	1,464.04	+126.4
26	19/03/88	14:32:08	0.0689	1,476.48	+126.4
27	19/03/88	14:32:10	0.0694	1,457.26	+126.4
28	19/03/88	14:32:12	0.0700	1,451.35	+126.4
29	19/03/88	14:32:14	0.0706	1,437.43	+126.4
30	19/03/88	14:32:16	0.0711	1,437.43	+126.4
31	19/03/88	14:32:18	0.0717	1,437.23	+126.4
32	19/03/88	14:32:20	0.0722	1,437.23	+126.4
33	19/03/88	14:32:22	0.0728	1,424.47	+126.4
34	19/03/88	14:32:24	0.0733	1,422.53	+126.4
35	19/03/88	14:32:26	0.0739	1,415.45	+126.4
36	19/03/88	14:32:28	0.0744	1,399.96	+126.4
37	19/03/88	14:32:30	0.0750	1,392.06	+126.4
38	19/03/88	14:32:32	0.0756	1,392.09	+126.4
39	19/03/88	14:32:34	0.0761	1,391.78	+126.4
40	19/03/88	14:32:36	0.0767	1,385.54	+126.4
41	19/03/88	14:32:38	0.0772	1,442.65	+126.4
42	19/03/88	14:32:40	0.0778	1,442.65	+126.4
43	19/03/88	14:32:42	0.0783	1,645.96	+126.4
44	19/03/88	14:32:44	0.0789	1,681.09	+126.4
45	19/03/88	14:32:46	0.0794	1,702.61	+126.4
46	19/03/88	14:32:48	0.0800	1,702.61	+126.4
47	19/03/88	14:32:50	0.0806	1,725.18	+126.4
48	19/03/88	14:32:52	0.0811	1,731.29	+126.4
49	19/03/88	14:32:54	0.0817	1,735.33	+126.4
50	19/03/88	14:32:56	0.0822	1,738.10	+126.4

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1324 Meters

Comments : S.F.T. PRESSURE TEST NO.6 AT 1324 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
51	19/03/88	14:32:58	0.0828	1,738.10	+126.4
52	19/03/88	14:33:00	0.0833	1,741.14	+126.4
53	19/03/88	14:33:02	0.0839	1,741.79	+126.4
54	19/03/88	14:33:04	0.0844	1,742.26	+126.4
55	19/03/88	14:33:06	0.0850	1,742.67	+126.4
56	19/03/88	14:33:08	0.0856	1,743.01	+126.4
57	19/03/88	14:33:10	0.0861	1,743.31	+126.4
58	19/03/88	14:33:12	0.0867	1,743.55	+126.4
59	19/03/88	14:33:14	0.0872	1,743.74	+126.4
60	19/03/88	14:33:16	0.0878	1,743.91	+126.4
61	19/03/88	14:33:18	0.0883	1,743.91	+126.4
62	19/03/88	14:33:20	0.0889	1,744.15	+126.4
63	19/03/88	14:33:22	0.0894	1,744.25	+126.4
64	19/03/88	14:33:24	0.0900	1,744.33	+126.4
65	19/03/88	14:33:26	0.0906	1,744.39	+126.4
66	19/03/88	14:33:28	0.0911	1,744.47	+126.4
67	19/03/88	14:33:30	0.0917	1,744.49	+126.4
68	19/03/88	14:33:32	0.0922	1,744.55	+126.4
69	19/03/88	14:33:34	0.0928	1,744.58	+126.4
70	19/03/88	14:33:36	0.0933	1,744.62	+126.4
71	19/03/88	14:33:38	0.0939	1,744.64	+126.4
72	19/03/88	14:33:40	0.0944	1,744.64	+126.4
73	19/03/88	14:33:50	0.0972	1,744.64	+126.4
74	19/03/88	14:34:00	0.1000	1,744.77	+126.4
75	19/03/88	14:34:10	0.1028	1,744.85	+126.4
76	19/03/88	14:34:20	0.1056	1,744.91	+126.4
77	19/03/88	14:34:30	0.1083	1,744.94	+126.4
78	19/03/88	14:34:40	0.1111	1,744.98	+126.4
79	19/03/88	14:34:50	0.1139	1,745.02	+126.5
80	19/03/88	14:35:00	0.1167	1,745.06	+126.6
81	19/03/88	14:35:10	0.1194	1,745.06	+126.5
82	19/03/88	14:35:30	0.1250	1,745.10	+126.5
83	19/03/88	14:36:00	0.1333	1,745.12	+126.5
84	19/03/88	14:36:30	0.1417	1,745.14	+126.4
85	19/03/88	14:37:00	0.1500	1,745.18	+126.5
86	19/03/88	14:37:30	0.1583	1,745.19	+126.5
87	19/03/88	14:38:00	0.1667	1,745.16	+126.5
88	19/03/88	14:38:30	0.1750	1,745.19	+126.4
89	19/03/88	14:39:00	0.1833	1,745.22	+126.5
90	19/03/88	14:39:30	0.1917	1,745.23	+126.5
91	19/03/88	14:40:00	0.2000	1,745.23	+126.5
92	19/03/88	14:40:30	0.2083	1,745.26	+126.5
93	19/03/88	14:41:00	0.2167	1,745.26	+126.5
94	19/03/88	14:41:30	0.2250	1,745.28	+126.5
95	19/03/88	14:42:00	0.2333	1,745.27	+126.5
96	19/03/88	14:42:30	0.2417	1,745.28	+126.5
97	19/03/88	14:43:00	0.2500	1,745.29	+126.5
98	19/03/88	14:43:30	0.2583	1,745.29	+126.5
99	19/03/88	14:44:00	0.2667	1,745.32	+126.5
100	19/03/88	14:44:30	0.2750	1,745.31	+126.5

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1324 Meters

Comments : S.F.T. PRESSURE TEST NO.6 AT 1324 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
101	19/03/88	14:45:00	0.2833	1,745.30	+126.5
102	19/03/88	14:46:00	0.3000	1,745.27	+126.5
103	19/03/88	14:47:00	0.3167	1,745.30	+126.6
104	19/03/88	14:48:00	0.3333	1,745.25	+126.5
105	19/03/88	14:49:00	0.3500	1,745.23	+126.5
106	19/03/88	14:50:00	0.3667	1,745.23	+126.5
107	19/03/88	14:51:00	0.3833	1,745.19	+126.5
108	19/03/88	14:52:00	0.4000	1,745.26	+126.5
109	19/03/88	14:53:00	0.4167	1,745.15	+126.5
110	19/03/88	14:54:00	0.4333	1,745.18	+126.5
111	19/03/88	14:55:00	0.4500	1,745.19	+126.5
112	19/03/88	14:56:00	0.4667	1,745.20	+126.5
113	19/03/88	14:57:00	0.4833	1,745.19	+126.5
114	19/03/88	14:58:00	0.5000	1,745.18	+126.5
115	19/03/88	14:59:00	0.5167	1,745.18	+126.5
116	19/03/88	15:00:00	0.5333	1,745.16	+126.5
117	19/03/88	15:01:00	0.5500	1,745.13	+126.6
118	19/03/88	15:02:00	0.5667	1,745.15	+126.5
119	19/03/88	15:03:00	0.5833	1,745.13	+126.5
120	19/03/88	15:04:00	0.6000	1,745.15	+126.5
121	19/03/88	15:05:00	0.6167	1,745.15	+126.6
122	19/03/88	15:06:00	0.6333	1,745.16	+126.5
123	19/03/88	15:07:00	0.6500	1,745.16	+126.6
124	19/03/88	15:08:00	0.6667	1,745.13	+126.6
125	19/03/88	15:09:00	0.6833	1,745.16	+126.6
126	19/03/88	15:10:00	0.7000	1,745.13	+126.6
127	19/03/88	15:11:00	0.7167	1,745.12	+126.6
128	19/03/88	15:12:00	0.7333	1,745.13	+126.6
129	19/03/88	15:13:00	0.7500	1,745.11	+126.6
130	19/03/88	15:14:00	0.7667	1,745.10	+126.6
131	19/03/88	15:15:00	0.7833	1,745.12	+126.6
132	19/03/88	15:16:00	0.8000	1,745.12	+126.6
133	19/03/88	15:17:00	0.8167	1,745.13	+126.6
134	19/03/88	15:18:00	0.8333	1,745.12	+126.6
135	19/03/88	15:19:00	0.8500	1,745.09	+126.6
136	19/03/88	15:20:00	0.8667	1,745.11	+126.6
137	19/03/88	15:21:00	0.8833	1,745.11	+126.7
138	19/03/88	15:22:00	0.9000	1,745.12	+126.7
139	19/03/88	15:23:00	0.9167	1,745.52	+126.7
140	19/03/88	15:23:10	0.9194	1,745.52	+126.7
141	19/03/88	15:23:20	0.9222	1,745.52	+126.7
142	19/03/88	15:23:30	0.9250	1,682.14	+126.7
143	19/03/88	15:23:40	0.9278	1,128.24	+126.7
144	19/03/88	15:23:50	0.9306	244.71	+126.7
145	19/03/88	15:24:00	0.9333	340.07	+126.7
146	19/03/88	15:24:10	0.9361	377.37	+126.7
147	19/03/88	15:24:20	0.9389	404.92	+126.7
148	19/03/88	15:24:30	0.9417	433.90	+126.7
149	19/03/88	15:25:00	0.9500	458.90	+126.7
150	19/03/88	15:25:30	0.9583	467.79	+126.7

PRESSURE VS TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1324 Meters

Comments : S.F.T. PRESSURE TEST NO.6 AT 1324 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
151	19/03/88	15:26:00	0.9667	470.40	+126.7
152	19/03/88	15:26:30	0.9750	495.01	+126.7
153	19/03/88	15:27:00	0.9833	512.46	+126.7
154	19/03/88	15:27:30	0.9917	520.55	+126.7
155	19/03/88	15:28:00	1.0000	525.36	+126.7
156	19/03/88	15:28:30	1.0083	527.28	+126.7
157	19/03/88	15:29:00	1.0167	528.59	+126.7
158	19/03/88	15:29:30	1.0250	529.47	+126.7
159	19/03/88	15:30:00	1.0333	529.60	+126.7
160	19/03/88	15:31:00	1.0500	532.22	+126.7
161	19/03/88	15:32:00	1.0667	536.52	+126.7
162	19/03/88	15:33:00	1.0833	539.47	+126.7
163	19/03/88	15:34:00	1.1000	541.85	+126.7
164	19/03/88	15:35:00	1.1167	543.47	+126.7
165	19/03/88	15:36:00	1.1333	545.83	+126.7
166	19/03/88	15:37:00	1.1500	549.46	+126.8
167	19/03/88	15:38:00	1.1667	555.73	+126.8
168	19/03/88	15:38:30	1.1750	586.25	+126.8
169	19/03/88	15:39:00	1.1833	606.64	+126.8
170	19/03/88	15:39:30	1.1917	625.93	+126.8
171	19/03/88	15:40:00	1.2000	645.31	+126.8
172	19/03/88	15:40:30	1.2083	664.40	+126.8
173	19/03/88	15:41:00	1.2167	682.63	+126.9
174	19/03/88	15:41:30	1.2250	700.32	+126.8
175	19/03/88	15:42:00	1.2333	717.50	+126.8
176	19/03/88	15:42:30	1.2417	734.22	+126.8
177	19/03/88	15:43:00	1.2500	750.76	+126.8
178	19/03/88	15:43:30	1.2583	767.03	+126.8
179	19/03/88	15:44:00	1.2667	777.66	+126.8
180	19/03/88	15:44:30	1.2750	798.32	+126.8
181	19/03/88	15:45:00	1.2833	813.31	+126.8
182	19/03/88	15:45:30	1.2917	828.04	+126.9
183	19/03/88	15:46:00	1.3000	837.70	+126.9
184	19/03/88	15:46:30	1.3083	851.79	+126.9
185	19/03/88	15:47:00	1.3167	865.60	+126.9
186	19/03/88	15:47:30	1.3250	883.93	+126.9
187	19/03/88	15:48:00	1.3333	897.14	+126.9
188	19/03/88	15:48:30	1.3417	905.84	+126.9
189	19/03/88	15:49:00	1.3500	918.66	+126.9
190	19/03/88	15:49:30	1.3583	931.10	+126.9
191	19/03/88	15:50:00	1.3667	947.29	+126.9
192	19/03/88	15:50:30	1.3750	955.20	+126.9
193	19/03/88	15:51:00	1.3833	966.88	+126.9
194	19/03/88	15:51:30	1.3917	978.36	+126.9
195	19/03/88	15:52:00	1.4000	989.58	+126.9
196	19/03/88	15:52:30	1.4083	1,004.19	+126.9
197	19/03/88	15:53:00	1.4167	1,011.32	+126.9
198	19/03/88	15:53:30	1.4250	1,021.92	+126.9
199	19/03/88	15:54:00	1.4333	1,032.42	+126.9
200	19/03/88	15:54:30	1.4417	1,042.58	+126.9

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1324 Meters

Comments : S.F.T. PRESSURE TEST NO.6 AT 1324 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
201	19/03/88	15:55:00	1.4500	1,052.56	+126.9
202	19/03/88	15:55:30	1.4583	1,062.36	+126.9
203	19/03/88	15:56:00	1.4667	1,071.96	+127.0
204	19/03/88	15:56:30	1.4750	1,081.40	+127.0
205	19/03/88	15:57:00	1.4833	1,090.67	+127.0
206	19/03/88	15:57:30	1.4917	1,099.76	+127.0
207	19/03/88	15:58:00	1.5000	1,108.68	+127.0
208	19/03/88	15:58:30	1.5083	1,117.54	+127.0
209	19/03/88	15:59:00	1.5167	1,126.27	+127.0
210	19/03/88	15:59:30	1.5250	1,134.85	+127.0
211	19/03/88	16:00:00	1.5333	1,143.24	+127.0
212	19/03/88	16:00:30	1.5417	1,151.45	+127.0
213	19/03/88	16:01:00	1.5500	1,159.49	+127.0
214	19/03/88	16:01:30	1.5583	1,167.40	+127.0
215	19/03/88	16:02:00	1.5667	1,175.29	+127.0
216	19/03/88	16:02:30	1.5750	1,183.11	+127.2
217	19/03/88	16:03:00	1.5833	1,190.66	+127.1
218	19/03/88	16:03:30	1.5917	1,198.15	+127.2
219	19/03/88	16:04:00	1.6000	1,205.43	+127.1
220	19/03/88	16:04:30	1.6083	1,212.59	+127.1
221	19/03/88	16:05:00	1.6167	1,219.60	+127.1
222	19/03/88	16:05:30	1.6250	1,226.49	+127.1
223	19/03/88	16:06:00	1.6333	1,233.29	+127.1
224	19/03/88	16:06:30	1.6417	1,239.98	+127.1
225	19/03/88	16:07:00	1.6500	1,246.49	+127.1
226	19/03/88	16:07:30	1.6583	1,252.92	+127.1
227	19/03/88	16:08:00	1.6667	1,259.31	+127.1
228	19/03/88	16:08:30	1.6750	1,265.56	+127.1
229	19/03/88	16:09:00	1.6833	1,271.72	+127.1
230	19/03/88	16:09:30	1.6917	1,277.77	+127.1
231	19/03/88	16:10:00	1.7000	1,283.65	+127.1
232	19/03/88	16:10:30	1.7083	1,289.38	+127.1
233	19/03/88	16:11:00	1.7167	1,295.07	+127.1
234	19/03/88	16:11:30	1.7250	1,300.61	+127.1
235	19/03/88	16:12:00	1.7333	1,306.07	+127.1
236	19/03/88	16:12:30	1.7417	1,311.41	+127.1
237	19/03/88	16:13:00	1.7500	1,316.70	+127.1
238	19/03/88	16:13:30	1.7583	1,321.89	+127.1
239	19/03/88	16:14:00	1.7667	1,326.99	+127.2
240	19/03/88	16:14:30	1.7750	1,332.02	+127.2
241	19/03/88	16:15:00	1.7833	1,336.98	+127.2
242	19/03/88	16:15:30	1.7917	1,341.82	+127.2
243	19/03/88	16:16:00	1.8000	1,346.61	+127.2
244	19/03/88	16:16:30	1.8083	1,351.30	+127.2
245	19/03/88	16:17:00	1.8167	1,355.90	+127.2
246	19/03/88	16:17:30	1.8250	1,360.40	+127.2
247	19/03/88	16:18:00	1.8333	1,364.82	+127.2
248	19/03/88	16:18:30	1.8417	1,369.15	+127.2
249	19/03/88	16:19:00	1.8500	1,373.40	+127.2
250	19/03/88	16:19:30	1.8583	1,377.57	+127.2

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.F.
Gauge # : 487
Depth : 1324 Meters

Comments : S.F.T. PRESSURE TEST NO.6 AT 1324 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
251	19/03/88	16:20:00	1.8667	1,381.65	+127.2
252	19/03/88	16:20:30	1.8750	1,385.67	+127.2
253	19/03/88	16:21:00	1.8833	1,389.61	+127.2
254	19/03/88	16:21:30	1.8917	1,393.47	+127.2
255	19/03/88	16:22:00	1.9000	1,397.26	+127.2
256	19/03/88	16:22:30	1.9083	1,400.99	+127.2
257	19/03/88	16:23:00	1.9167	1,404.68	+127.3
258	19/03/88	16:23:30	1.9250	1,408.34	+127.3
259	19/03/88	16:24:00	1.9333	1,411.91	+127.3
260	19/03/88	16:24:30	1.9417	1,415.43	+127.3
261	19/03/88	16:25:00	1.9500	1,418.88	+127.3
262	19/03/88	16:25:30	1.9583	1,422.24	+127.3
263	19/03/88	16:26:00	1.9667	1,425.57	+127.3
264	19/03/88	16:26:30	1.9750	1,428.87	+127.3
265	19/03/88	16:27:00	1.9833	1,432.09	+127.3
266	19/03/88	16:27:30	1.9917	1,435.26	+127.3
267	19/03/88	16:28:00	2.0000	1,438.40	+127.3
268	19/03/88	16:28:30	2.0083	1,441.50	+127.3
269	19/03/88	16:29:00	2.0167	1,444.48	+127.3
270	19/03/88	16:29:30	2.0250	1,447.40	+127.3
271	19/03/88	16:30:00	2.0333	1,450.24	+127.3
272	19/03/88	16:30:30	2.0417	1,453.02	+127.3
273	19/03/88	16:31:00	2.0500	1,455.71	+127.3
274	19/03/88	16:31:30	2.0583	1,458.35	+127.3
275	19/03/88	16:32:00	2.0667	1,460.97	+127.3
276	19/03/88	16:32:30	2.0750	1,463.60	+127.3
277	19/03/88	16:33:00	2.0833	1,466.13	+127.3
278	19/03/88	16:33:30	2.0917	1,468.63	+127.4
279	19/03/88	16:34:00	2.1000	1,471.06	+127.4
280	19/03/88	16:34:30	2.1083	1,473.50	+127.4
281	19/03/88	16:35:00	2.1167	1,475.93	+127.4
282	19/03/88	16:36:00	2.1333	1,480.67	+127.4
283	19/03/88	16:37:00	2.1500	1,485.24	+127.4
284	19/03/88	16:38:00	2.1667	1,489.68	+127.4
285	19/03/88	16:39:00	2.1833	1,493.89	+127.4
286	19/03/88	16:40:00	2.2000	1,498.01	+127.4
287	19/03/88	16:41:00	2.2167	1,501.98	+127.4
288	19/03/88	16:42:00	2.2333	1,505.70	+127.4
289	19/03/88	16:43:00	2.2500	1,509.29	+127.5
290	19/03/88	16:44:00	2.2667	1,512.69	+127.5
291	19/03/88	16:45:00	2.2833	1,516.06	+127.5
292	19/03/88	16:46:00	2.3000	1,519.29	+127.5
293	19/03/88	16:47:00	2.3167	1,522.39	+127.5
294	19/03/88	16:48:00	2.3333	1,525.42	+127.5
295	19/03/88	16:49:00	2.3500	1,528.41	+127.5
296	19/03/88	16:50:00	2.3667	1,531.29	+127.5
297	19/03/88	16:51:00	2.3833	1,534.05	+127.5
298	19/03/88	16:52:00	2.4000	1,536.75	+127.6
299	19/03/88	16:53:00	2.4167	1,539.42	+127.6
300	19/03/88	16:54:00	2.4333	1,541.89	+127.6

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1324 Meters

Comments : S.F.T. PRESSURE TEST NO.6 AT 1324 METERS

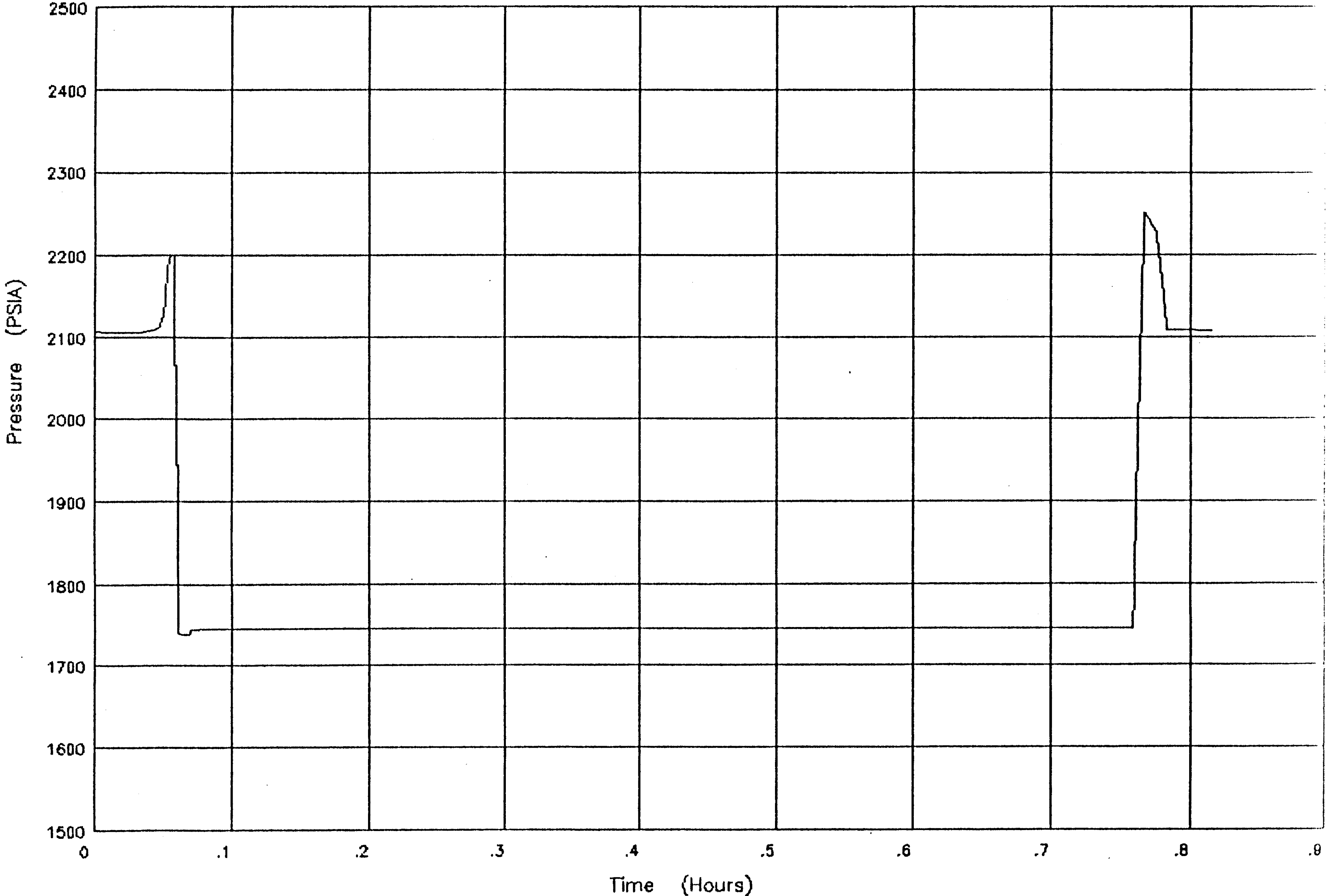
Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
301	19/03/88	16:55:00	2.4500	1,544.27	+127.6
302	19/03/88	16:56:00	2.4667	1,546.73	+127.6
303	19/03/88	16:57:00	2.4833	1,549.15	+127.6
304	19/03/88	16:58:00	2.5000	1,551.46	+127.6
305	19/03/88	16:59:00	2.5167	1,553.76	+127.6
306	19/03/88	17:00:00	2.5333	1,555.96	+127.6
307	19/03/88	17:01:00	2.5500	1,558.07	+127.6
308	19/03/88	17:02:00	2.5667	1,560.12	+127.7
309	19/03/88	17:03:30	2.5917	1,563.17	+127.7
310	19/03/88	17:03:40	2.5944	1,563.51	+127.7
311	19/03/88	17:03:50	2.5972	1,563.80	+127.7
312	19/03/88	17:04:00	2.6000	1,567.87	+127.7
313	19/03/88	17:04:10	2.6028	1,722.40	+127.7
314	19/03/88	17:04:20	2.6056	1,795.62	+127.7
315	19/03/88	17:04:30	2.6083	1,805.03	+127.7
316	19/03/88	17:04:40	2.6111	1,819.59	+127.7
317	19/03/88	17:04:50	2.6139	1,802.43	+127.7
318	19/03/88	17:05:00	2.6167	1,748.20	+127.7
319	19/03/88	17:05:10	2.6194	1,746.80	+127.7
320	19/03/88	17:05:20	2.6222	1,744.41	+127.7
321	19/03/88	17:05:30	2.6250	1,745.11	+127.7
322	19/03/88	17:05:40	2.6278	1,746.80	+127.7
323	19/03/88	17:05:50	2.6306	2,047.71	+127.7
324	19/03/88	17:06:00	2.6333	2,108.23	+127.7
325	19/03/88	17:06:10	2.6361	2,108.42	+127.7
326	19/03/88	17:06:20	2.6389	2,108.41	+127.7
327	19/03/88	17:06:30	2.6417	2,108.41	+127.7
328	19/03/88	17:06:40	2.6444	2,108.32	+127.7
329	19/03/88	17:06:50	2.6472	2,108.29	+127.7
330	19/03/88	17:07:00	2.6500	2,108.27	+127.7
331	19/03/88	17:07:10	2.6528	2,108.26	+127.7

PRESSURE vs TIME - (LINEAR)

Company : BEACH PETROLEUM N.L.
Well : IONA #1
Comments : S.F.T. PRESSURE TEST NO.7 AT 1321.5 METERS

Eq. Type: H.P.
Gauge No: 487

From : 17:09:30 19/03/88
To : 17:58:30 19/03/88



PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1321.5Meters

Comments : S.F.T. PRESSURE TEST NO.7 AT 1321.5 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
1	19/03/88	17:09:30	0.0000	2,106.84	+127.7
2	19/03/88	17:10:00	0.0083	2,106.12	+127.7
3	19/03/88	17:10:30	0.0167	2,105.60	+127.7
4	19/03/88	17:11:00	0.0250	2,105.72	+127.7
5	19/03/88	17:11:30	0.0333	2,105.81	+127.7
6	19/03/88	17:11:50	0.0389	2,107.79	+127.7
7	19/03/88	17:12:00	0.0417	2,108.94	+127.7
8	19/03/88	17:12:10	0.0444	2,110.25	+127.7
9	19/03/88	17:12:20	0.0472	2,112.76	+127.7
10	19/03/88	17:12:30	0.0500	2,129.08	+127.7
11	19/03/88	17:12:40	0.0528	2,185.74	+127.7
12	19/03/88	17:12:48	0.0550	2,199.59	+127.7
13	19/03/88	17:12:50	0.0556	2,199.59	+127.7
14	19/03/88	17:12:52	0.0561	2,199.66	+127.7
15	19/03/88	17:12:54	0.0567	2,199.55	+127.7
16	19/03/88	17:12:56	0.0572	2,198.38	+127.7
17	19/03/88	17:12:58	0.0578	2,144.33	+127.7
18	19/03/88	17:13:00	0.0583	2,065.80	+127.7
19	19/03/88	17:13:02	0.0589	2,065.80	+127.7
20	19/03/88	17:13:04	0.0594	1,943.29	+127.7
21	19/03/88	17:13:06	0.0600	1,943.29	+127.7
22	19/03/88	17:13:08	0.0606	1,740.72	+127.7
23	19/03/88	17:13:10	0.0611	1,739.99	+127.7
24	19/03/88	17:13:12	0.0617	1,739.30	+127.7
25	19/03/88	17:13:14	0.0622	1,739.14	+127.7
26	19/03/88	17:13:16	0.0628	1,738.54	+127.7
27	19/03/88	17:13:18	0.0633	1,738.64	+127.7
28	19/03/88	17:13:20	0.0639	1,738.46	+127.7
29	19/03/88	17:13:22	0.0644	1,738.31	+127.7
30	19/03/88	17:13:24	0.0650	1,738.31	+127.7
31	19/03/88	17:13:26	0.0656	1,738.31	+127.7
32	19/03/88	17:13:28	0.0661	1,738.10	+127.7
33	19/03/88	17:13:30	0.0667	1,738.26	+127.7
34	19/03/88	17:13:32	0.0672	1,738.30	+127.7
35	19/03/88	17:13:34	0.0678	1,738.30	+127.7
36	19/03/88	17:13:36	0.0683	1,738.85	+127.7
37	19/03/88	17:13:38	0.0689	1,738.87	+127.7
38	19/03/88	17:13:40	0.0694	1,739.62	+127.7
39	19/03/88	17:13:42	0.0700	1,744.63	+127.7
40	19/03/88	17:13:44	0.0706	1,744.74	+127.7
41	19/03/88	17:13:46	0.0711	1,744.74	+127.7
42	19/03/88	17:13:48	0.0717	1,744.75	+127.7
43	19/03/88	17:13:50	0.0722	1,744.78	+127.7
44	19/03/88	17:13:52	0.0728	1,744.79	+127.7
45	19/03/88	17:13:54	0.0733	1,744.81	+127.7
46	19/03/88	17:13:56	0.0739	1,744.82	+127.7
47	19/03/88	17:13:58	0.0744	1,744.83	+127.7
48	19/03/88	17:14:00	0.0750	1,744.83	+127.7
49	19/03/88	17:14:02	0.0756	1,744.86	+127.7
50	19/03/88	17:14:04	0.0761	1,744.86	+127.7

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1321.5 Meters

Comments : S.F.T. PRESSURE TEST NO.7 AT 1321.5 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
51	19/03/88	17:14:10	0.0778	1,744.88	+127.7
52	19/03/88	17:14:20	0.0806	1,744.89	+127.7
53	19/03/88	17:14:30	0.0833	1,744.91	+127.7
54	19/03/88	17:14:40	0.0861	1,744.94	+127.8
55	19/03/88	17:14:50	0.0889	1,744.95	+127.8
56	19/03/88	17:15:00	0.0917	1,744.97	+127.8
57	19/03/88	17:15:10	0.0944	1,744.97	+127.8
58	19/03/88	17:15:20	0.0972	1,744.98	+127.8
59	19/03/88	17:15:30	0.1000	1,744.98	+127.8
60	19/03/88	17:15:40	0.1028	1,744.98	+127.8
61	19/03/88	17:15:50	0.1056	1,744.99	+127.8
62	19/03/88	17:16:00	0.1083	1,744.99	+127.8
63	19/03/88	17:16:10	0.1111	1,745.00	+127.8
64	19/03/88	17:16:20	0.1139	1,745.00	+127.8
65	19/03/88	17:16:30	0.1167	1,745.00	+127.8
66	19/03/88	17:16:40	0.1194	1,745.00	+127.8
67	19/03/88	17:16:50	0.1222	1,745.01	+127.8
68	19/03/88	17:17:00	0.1250	1,745.01	+127.8
69	19/03/88	17:17:10	0.1278	1,745.01	+127.8
70	19/03/88	17:17:20	0.1306	1,745.01	+127.8
71	19/03/88	17:17:30	0.1333	1,745.02	+127.8
72	19/03/88	17:17:40	0.1361	1,745.02	+127.8
73	19/03/88	17:17:50	0.1389	1,745.02	+127.8
74	19/03/88	17:18:00	0.1417	1,745.02	+127.8
75	19/03/88	17:18:10	0.1444	1,745.03	+127.8
76	19/03/88	17:18:20	0.1472	1,745.03	+127.8
77	19/03/88	17:18:30	0.1500	1,745.03	+127.8
78	19/03/88	17:19:00	0.1583	1,745.03	+127.8
79	19/03/88	17:19:30	0.1667	1,745.04	+127.8
80	19/03/88	17:20:00	0.1750	1,745.05	+127.8
81	19/03/88	17:20:30	0.1833	1,745.05	+127.8
82	19/03/88	17:21:00	0.1917	1,745.05	+127.8
83	19/03/88	17:21:30	0.2000	1,745.05	+127.8
84	19/03/88	17:22:00	0.2083	1,745.05	+127.8
85	19/03/88	17:22:30	0.2167	1,745.06	+127.8
86	19/03/88	17:23:00	0.2250	1,745.05	+127.8
87	19/03/88	17:23:30	0.2333	1,745.06	+127.8
88	19/03/88	17:24:00	0.2417	1,745.06	+127.8
89	19/03/88	17:24:30	0.2500	1,745.06	+127.8
90	19/03/88	17:25:00	0.2583	1,745.06	+127.8
91	19/03/88	17:25:30	0.2667	1,745.06	+127.9
92	19/03/88	17:26:00	0.2750	1,745.06	+127.8
93	19/03/88	17:26:30	0.2833	1,745.06	+127.9
94	19/03/88	17:27:00	0.2917	1,745.06	+127.9
95	19/03/88	17:27:30	0.3000	1,745.06	+127.9
96	19/03/88	17:28:00	0.3083	1,745.06	+127.9
97	19/03/88	17:28:30	0.3167	1,745.06	+127.9
98	19/03/88	17:29:00	0.3250	1,745.06	+127.9
99	19/03/88	17:29:30	0.3333	1,745.06	+127.9
100	19/03/88	17:30:00	0.3417	1,745.06	+127.9

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1321.5 Meters

Comments : S.F.T. PRESSURE TEST NO.7 AT 1321.5 METERS

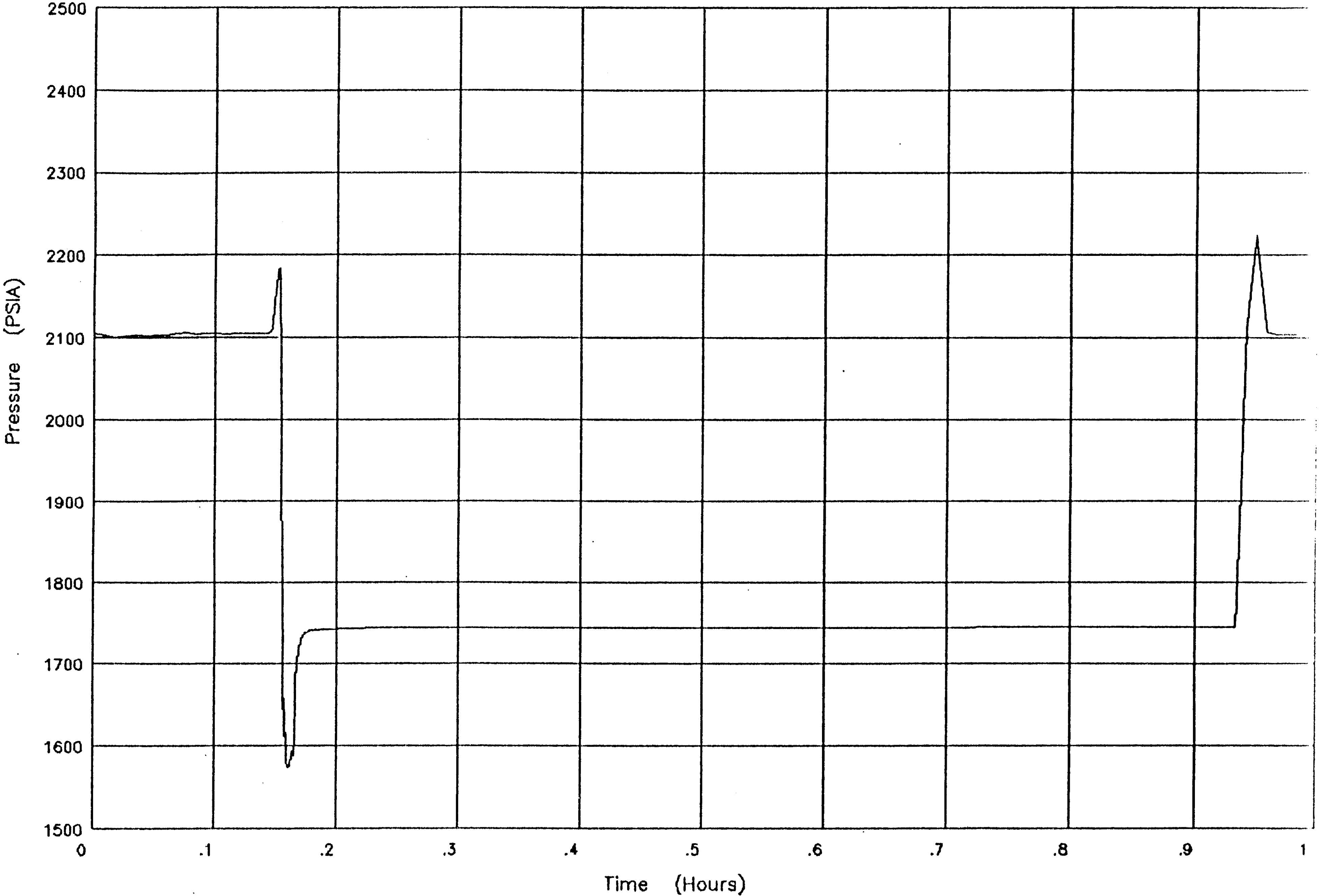
Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
101	19/03/88	17:31:00	0.3583	1,745.05	+127.9
102	19/03/88	17:32:00	0.3750	1,745.05	+127.9
103	19/03/88	17:33:00	0.3917	1,745.05	+127.9
104	19/03/88	17:34:00	0.4083	1,745.04	+127.9
105	19/03/88	17:35:00	0.4250	1,745.04	+127.9
106	19/03/88	17:36:00	0.4417	1,745.04	+127.9
107	19/03/88	17:37:00	0.4583	1,745.04	+127.9
108	19/03/88	17:38:00	0.4750	1,745.03	+127.9
109	19/03/88	17:39:00	0.4917	1,745.03	+127.9
110	19/03/88	17:40:00	0.5083	1,745.02	+127.9
111	19/03/88	17:41:00	0.5250	1,745.03	+127.9
112	19/03/88	17:42:00	0.5417	1,745.02	+127.9
113	19/03/88	17:43:00	0.5583	1,745.02	+127.9
114	19/03/88	17:44:00	0.5750	1,745.01	+127.9
115	19/03/88	17:45:00	0.5917	1,745.01	+127.9
116	19/03/88	17:46:00	0.6083	1,745.01	+127.9
117	19/03/88	17:47:00	0.6250	1,745.01	+127.9
118	19/03/88	17:48:00	0.6417	1,745.00	+128.0
119	19/03/88	17:49:00	0.6583	1,745.00	+128.0
120	19/03/88	17:50:00	0.6750	1,745.00	+128.0
121	19/03/88	17:51:00	0.6917	1,744.99	+128.0
122	19/03/88	17:52:00	0.7083	1,744.99	+128.0
123	19/03/88	17:53:00	0.7250	1,744.99	+128.0
124	19/03/88	17:54:00	0.7417	1,744.99	+128.0
125	19/03/88	17:55:00	0.7583	1,744.98	+128.0
126	19/03/88	17:55:30	0.7667	2,250.48	+128.0
127	19/03/88	17:56:00	0.7750	2,227.93	+128.0
128	19/03/88	17:56:30	0.7833	2,108.90	+128.0
129	19/03/88	17:57:00	0.7917	2,108.69	+128.0
130	19/03/88	17:57:30	0.8000	2,108.55	+128.0
131	19/03/88	17:58:00	0.8083	2,108.44	+128.0
132	19/03/88	17:58:30	0.8167	2,108.33	+128.0

PRESSURE vs TIME - (LINEAR)

Company : BEACH PETROLEUM N.L.
Well : IONA #1
Comments : S.F.T. PRESSURE TEST NO.8. AT 1316 METERS

Eq. Type: H.P.
Gauge No: 487

From : 18:01:00 19/03/8
To : 19:00:00 19/03/8



PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1316 Meters

Comments : S.F.T. PRESSURE TEST NO.8. AT 1316 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
1	19/03/88	18:01:00	0.0000	2,105.16	+128.0
2	19/03/88	18:01:30	0.0083	2,103.03	+128.0
3	19/03/88	18:02:00	0.0167	2,099.89	+128.0
4	19/03/88	18:02:30	0.0250	2,102.44	+128.0
5	19/03/88	18:03:00	0.0333	2,103.29	+128.0
6	19/03/88	18:03:30	0.0417	2,102.32	+128.1
7	19/03/88	18:04:00	0.0500	2,102.82	+128.1
8	19/03/88	18:04:30	0.0583	2,102.93	+128.1
9	19/03/88	18:05:00	0.0667	2,104.61	+128.1
10	19/03/88	18:05:30	0.0750	2,105.98	+128.1
11	19/03/88	18:06:00	0.0833	2,103.90	+128.1
12	19/03/88	18:06:30	0.0917	2,104.62	+128.1
13	19/03/88	18:07:00	0.1000	2,104.97	+128.1
14	19/03/88	18:07:30	0.1083	2,104.54	+128.1
15	19/03/88	18:08:00	0.1167	2,104.59	+128.1
16	19/03/88	18:08:30	0.1250	2,104.72	+128.1
17	19/03/88	18:09:20	0.1389	2,104.65	+128.1
18	19/03/88	18:09:30	0.1417	2,104.62	+128.1
19	19/03/88	18:09:40	0.1444	2,104.79	+128.1
20	19/03/88	18:09:50	0.1472	2,109.59	+128.1
21	19/03/88	18:10:00	0.1500	2,155.02	+128.1
22	19/03/88	18:10:08	0.1522	2,182.29	+128.1
23	19/03/88	18:10:10	0.1528	2,183.22	+128.1
24	19/03/88	18:10:12	0.1533	2,183.33	+128.1
25	19/03/88	18:10:14	0.1539	2,168.87	+128.1
26	19/03/88	18:10:16	0.1544	2,064.15	+128.1
27	19/03/88	18:10:18	0.1550	1,983.51	+128.1
28	19/03/88	18:10:20	0.1556	1,936.82	+128.1
29	19/03/88	18:10:22	0.1561	1,813.44	+128.1
30	19/03/88	18:10:24	0.1567	1,675.21	+128.1
31	19/03/88	18:10:26	0.1572	1,611.73	+128.1
32	19/03/88	18:10:28	0.1578	1,657.58	+128.1
33	19/03/88	18:10:30	0.1583	1,628.26	+128.1
34	19/03/88	18:10:32	0.1589	1,604.62	+128.1
35	19/03/88	18:10:34	0.1594	1,595.36	+128.1
36	19/03/88	18:10:36	0.1600	1,579.45	+128.1
37	19/03/88	18:10:38	0.1606	1,575.48	+128.1
38	19/03/88	18:10:40	0.1611	1,573.33	+128.1
39	19/03/88	18:10:42	0.1617	1,575.71	+128.1
40	19/03/88	18:10:44	0.1622	1,579.80	+128.1
41	19/03/88	18:10:46	0.1628	1,581.00	+128.1
42	19/03/88	18:10:48	0.1633	1,583.54	+128.1
43	19/03/88	18:10:50	0.1639	1,592.90	+128.1
44	19/03/88	18:10:52	0.1644	1,588.60	+128.1
45	19/03/88	18:10:54	0.1650	1,587.73	+128.1
46	19/03/88	18:10:56	0.1656	1,587.03	+128.1
47	19/03/88	18:10:58	0.1661	1,612.37	+128.1
48	19/03/88	18:11:00	0.1667	1,655.64	+128.1
49	19/03/88	18:11:02	0.1672	1,680.76	+128.1
50	19/03/88	18:11:04	0.1678	1,696.05	+128.1

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1316 Meters

Comments : S.F.T. PRESSURE TEST NO.8. AT 1316 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
51	19/03/88	18:11:06	0.1683	1,706.01	+128.1
52	19/03/88	18:11:08	0.1689	1,713.03	+128.1
53	19/03/88	18:11:10	0.1694	1,718.10	+128.1
54	19/03/88	18:11:12	0.1700	1,721.78	+128.1
55	19/03/88	18:11:14	0.1706	1,724.75	+128.1
56	19/03/88	18:11:16	0.1711	1,727.54	+128.1
57	19/03/88	18:11:18	0.1717	1,730.78	+128.1
58	19/03/88	18:11:20	0.1722	1,733.27	+128.1
59	19/03/88	18:11:22	0.1728	1,735.05	+128.1
60	19/03/88	18:11:24	0.1733	1,736.34	+128.1
61	19/03/88	18:11:26	0.1739	1,737.44	+128.1
62	19/03/88	18:11:28	0.1744	1,738.28	+128.1
63	19/03/88	18:11:34	0.1761	1,738.62	+128.1
64	19/03/88	18:11:36	0.1767	1,739.89	+128.1
65	19/03/88	18:11:38	0.1772	1,740.29	+128.0
66	19/03/88	18:11:40	0.1778	1,740.76	+128.1
67	19/03/88	18:11:42	0.1783	1,741.09	+128.0
68	19/03/88	18:11:44	0.1789	1,741.34	+128.1
69	19/03/88	18:11:46	0.1794	1,741.45	+128.0
70	19/03/88	18:11:48	0.1800	1,741.55	+128.1
71	19/03/88	18:11:50	0.1806	1,741.58	+128.0
72	19/03/88	18:11:52	0.1811	1,741.72	+128.1
73	19/03/88	18:11:54	0.1817	1,741.80	+128.0
74	19/03/88	18:11:56	0.1822	1,741.89	+128.0
75	19/03/88	18:11:58	0.1828	1,742.02	+128.1
76	19/03/88	18:12:00	0.1833	1,741.94	+128.0
77	19/03/88	18:12:02	0.1839	1,741.96	+128.1
78	19/03/88	18:12:04	0.1844	1,741.89	+128.0
79	19/03/88	18:12:06	0.1850	1,741.93	+128.1
80	19/03/88	18:12:08	0.1856	1,741.91	+128.0
81	19/03/88	18:12:10	0.1861	1,741.96	+128.1
82	19/03/88	18:12:12	0.1867	1,741.96	+128.0
83	19/03/88	18:12:14	0.1872	1,742.00	+128.1
84	19/03/88	18:12:20	0.1889	1,742.04	+128.0
85	19/03/88	18:12:30	0.1917	1,742.18	+128.1
86	19/03/88	18:12:40	0.1944	1,742.41	+128.1
87	19/03/88	18:12:50	0.1972	1,742.64	+128.1
88	19/03/88	18:13:00	0.2000	1,742.86	+128.1
89	19/03/88	18:13:10	0.2028	1,743.09	+128.1
90	19/03/88	18:13:20	0.2056	1,743.27	+128.1
91	19/03/88	18:13:30	0.2083	1,743.42	+128.1
92	19/03/88	18:13:40	0.2111	1,743.54	+128.1
93	19/03/88	18:13:50	0.2139	1,743.65	+128.1
94	19/03/88	18:14:00	0.2167	1,743.72	+128.1
95	19/03/88	18:14:10	0.2194	1,743.77	+128.1
96	19/03/88	18:14:20	0.2222	1,743.84	+128.1
97	19/03/88	18:14:30	0.2250	1,743.91	+128.1
98	19/03/88	18:15:00	0.2333	1,744.04	+128.1
99	19/03/88	18:15:30	0.2417	1,744.09	+128.1
100	19/03/88	18:16:00	0.2500	1,744.13	+128.1

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1316 Meters

Comments : S.F.T. PRESSURE TEST NO.8. AT 1316 METERS

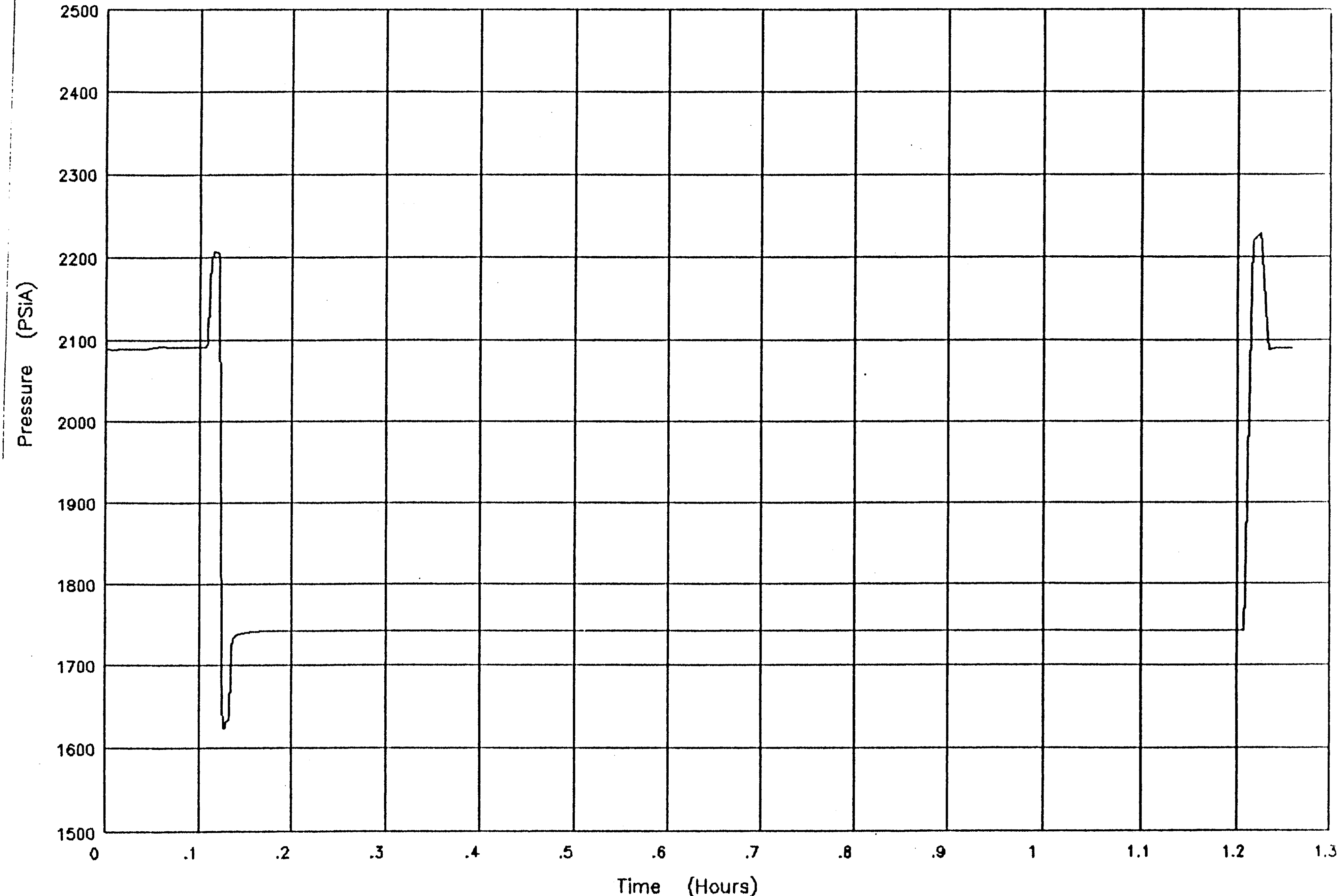
Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
101	19/03/88	18:16:30	0.2583	1,744.19	+128.1
102	19/03/88	18:17:00	0.2667	1,744.23	+128.1
103	19/03/88	18:18:00	0.2833	1,744.30	+128.1
104	19/03/88	18:19:00	0.3000	1,744.35	+128.1
105	19/03/88	18:20:00	0.3167	1,744.39	+128.1
106	19/03/88	18:21:00	0.3333	1,744.42	+128.1
107	19/03/88	18:22:00	0.3500	1,744.45	+128.1
108	19/03/88	18:23:00	0.3667	1,744.47	+128.1
109	19/03/88	18:24:00	0.3833	1,744.48	+128.1
110	19/03/88	18:25:00	0.4000	1,744.50	+128.1
111	19/03/88	18:26:00	0.4167	1,744.52	+128.1
112	19/03/88	18:27:00	0.4333	1,744.53	+128.1
113	19/03/88	18:28:00	0.4500	1,744.54	+128.1
114	19/03/88	18:29:00	0.4667	1,744.55	+128.1
115	19/03/88	18:30:00	0.4833	1,744.57	+128.1
116	19/03/88	18:31:00	0.5000	1,744.58	+128.1
117	19/03/88	18:32:00	0.5167	1,744.60	+128.1
118	19/03/88	18:33:00	0.5333	1,744.61	+128.1
119	19/03/88	18:34:00	0.5500	1,744.63	+128.1
120	19/03/88	18:35:00	0.5667	1,744.64	+128.1
121	19/03/88	18:36:00	0.5833	1,744.66	+128.1
122	19/03/88	18:37:00	0.6000	1,744.68	+128.1
123	19/03/88	18:38:00	0.6167	1,744.70	+128.1
124	19/03/88	18:39:00	0.6333	1,744.72	+128.1
125	19/03/88	18:40:00	0.6500	1,744.75	+128.1
126	19/03/88	18:41:00	0.6667	1,744.77	+128.1
127	19/03/88	18:42:00	0.6833	1,744.80	+128.1
128	19/03/88	18:43:00	0.7000	1,744.83	+128.1
129	19/03/88	18:44:00	0.7167	1,744.85	+128.1
130	19/03/88	18:45:00	0.7333	1,744.88	+128.1
131	19/03/88	18:46:00	0.7500	1,744.93	+128.1
132	19/03/88	18:47:00	0.7667	1,744.96	+128.1
133	19/03/88	18:48:00	0.7833	1,744.99	+128.1
134	19/03/88	18:49:00	0.8000	1,745.03	+128.1
135	19/03/88	18:50:00	0.8167	1,745.07	+128.1
136	19/03/88	18:51:00	0.8333	1,745.11	+128.1
137	19/03/88	18:52:00	0.8500	1,745.15	+128.1
138	19/03/88	18:53:00	0.8667	1,745.19	+128.1
139	19/03/88	18:54:00	0.8833	1,745.24	+128.1
140	19/03/88	18:55:00	0.9000	1,745.28	+128.1
141	19/03/88	18:56:00	0.9167	1,745.32	+128.1
142	19/03/88	18:57:00	0.9333	1,745.36	+128.1
143	19/03/88	18:57:30	0.9417	2,109.15	+128.1
144	19/03/88	18:58:00	0.9500	2,223.03	+128.1
145	19/03/88	18:58:30	0.9583	2,106.73	+128.1
146	19/03/88	18:59:00	0.9667	2,104.00	+128.1
147	19/03/88	18:59:30	0.9750	2,104.10	+128.1
148	19/03/88	19:00:00	0.9833	2,104.18	+128.1

PRESSURE vs TIME - (LINEAR)

Company : BEACH PETROLEUM N.L.
Well : IONA #1
Comments : S.F.T. PRESSURE TEST NO. 9 AT 1306 METERS

Eq. Type: H.P.
Gauge No: 487

From : 19:03:30 19/03/88
To : 20:19:00 19/03/88



COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1306 Meters

Comments : S.F.T. PRESSURE TEST NO. 9 AT 1306 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
1	19/03/88	19:03:30	0.0000	2,089.68	+128.2
2	19/03/88	19:04:00	0.0083	2,088.63	+128.1
3	19/03/88	19:04:30	0.0167	2,089.15	+128.2
4	19/03/88	19:05:00	0.0250	2,089.13	+128.1
5	19/03/88	19:05:30	0.0333	2,089.00	+128.1
6	19/03/88	19:06:00	0.0417	2,089.08	+128.1
7	19/03/88	19:06:30	0.0500	2,091.60	+128.1
8	19/03/88	19:07:00	0.0583	2,091.91	+128.1
9	19/03/88	19:07:30	0.0667	2,091.05	+128.1
10	19/03/88	19:08:00	0.0750	2,091.33	+128.1
11	19/03/88	19:08:30	0.0833	2,091.32	+128.1
12	19/03/88	19:09:10	0.0944	2,091.29	+128.1
13	19/03/88	19:09:20	0.0972	2,091.31	+128.1
14	19/03/88	19:09:30	0.1000	2,091.33	+128.1
15	19/03/88	19:09:40	0.1028	2,091.33	+128.1
16	19/03/88	19:09:50	0.1056	2,091.64	+128.1
17	19/03/88	19:10:00	0.1083	2,095.80	+128.1
18	19/03/88	19:10:10	0.1111	2,134.07	+128.1
19	19/03/88	19:10:20	0.1139	2,196.26	+128.1
20	19/03/88	19:10:30	0.1167	2,206.41	+128.1
21	19/03/88	19:10:40	0.1194	2,205.59	+128.1
22	19/03/88	19:10:42	0.1200	2,205.23	+128.1
23	19/03/88	19:10:44	0.1206	2,205.18	+128.1
24	19/03/88	19:10:46	0.1211	2,205.13	+128.1
25	19/03/68	19:10:48	0.1217	2,198.81	+128.1
26	19/03/88	19:10:50	0.1222	2,124.82	+128.1
27	19/03/88	19:10:52	0.1228	2,021.96	+128.1
28	19/03/88	19:10:54	0.1233	1,949.01	+128.1
29	19/03/88	19:10:56	0.1239	1,882.53	+128.1
30	19/03/88	19:10:58	0.1244	1,732.23	+128.1
31	19/03/88	19:11:00	0.1250	1,688.16	+128.1
32	19/03/88	19:11:02	0.1256	1,661.39	+128.1
33	19/03/88	19:11:04	0.1261	1,643.01	+128.1
34	19/03/88	19:11:06	0.1267	1,635.30	+128.1
35	19/03/88	19:11:08	0.1272	1,624.45	+128.1
36	19/03/88	19:11:10	0.1278	1,623.25	+128.1
37	19/03/88	19:11:12	0.1283	1,624.61	+128.1
38	19/03/88	19:11:14	0.1289	1,627.14	+128.1
39	19/03/88	19:11:16	0.1294	1,628.50	+128.1
40	19/03/88	19:11:18	0.1300	1,630.77	+128.1
41	19/03/88	19:11:20	0.1306	1,632.14	+128.1
42	19/03/88	19:11:22	0.1311	1,631.91	+128.1
43	19/03/88	19:11:24	0.1317	1,632.73	+128.1
44	19/03/88	19:11:26	0.1322	1,634.13	+128.1
45	19/03/88	19:11:28	0.1328	1,634.86	+128.1
46	19/03/88	19:11:30	0.1333	1,636.98	+128.1
47	19/03/88	19:11:32	0.1339	1,643.85	+128.1
48	19/03/88	19:11:34	0.1344	1,688.79	+128.1
49	19/03/88	19:11:36	0.1350	1,714.62	+128.1
50	19/03/88	19:11:38	0.1356	1,724.61	+128.1

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1306 Meters

Comments : S.F.T. PRESSURE TEST NO. 9 AT 1306 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
51	19/03/88	19:11:40	0.1361	1,729.14	+128.1
52	19/03/88	19:11:42	0.1367	1,731.61	+128.1
53	19/03/88	19:11:44	0.1372	1,733.14	+128.1
54	19/03/88	19:11:46	0.1378	1,734.28	+128.1
55	19/03/88	19:11:48	0.1383	1,735.13	+128.1
56	19/03/88	19:11:50	0.1389	1,735.85	+128.1
57	19/03/88	19:11:52	0.1394	1,736.51	+128.1
58	19/03/88	19:11:54	0.1400	1,737.02	+128.1
59	19/03/88	19:11:56	0.1406	1,737.47	+128.1
60	19/03/88	19:11:58	0.1411	1,737.79	+128.1
61	19/03/88	19:12:00	0.1417	1,737.95	+128.1
62	19/03/88	19:12:02	0.1422	1,738.14	+128.1
63	19/03/88	19:12:04	0.1428	1,738.34	+128.1
64	19/03/88	19:12:06	0.1433	1,738.49	+128.1
65	19/03/88	19:12:08	0.1439	1,738.61	+128.1
66	19/03/88	19:12:10	0.1444	1,738.73	+128.1
67	19/03/88	19:12:12	0.1450	1,738.86	+128.1
68	19/03/88	19:12:14	0.1456	1,739.02	+128.1
69	19/03/88	19:12:16	0.1461	1,739.20	+128.1
70	19/03/88	19:12:18	0.1467	1,739.34	+128.1
71	19/03/88	19:12:20	0.1472	1,739.48	+128.1
72	19/03/88	19:12:22	0.1478	1,739.65	+128.1
73	19/03/88	19:12:24	0.1483	1,739.80	+128.1
74	19/03/88	19:12:26	0.1489	1,739.96	+128.1
75	19/03/88	19:12:28	0.1494	1,740.10	+128.1
76	19/03/88	19:12:30	0.1500	1,740.20	+128.1
77	19/03/88	19:12:32	0.1506	1,740.30	+128.1
78	19/03/88	19:12:34	0.1511	1,740.42	+128.1
79	19/03/88	19:12:36	0.1517	1,740.51	+128.1
80	19/03/88	19:12:38	0.1522	1,740.61	+128.1
81	19/03/88	19:12:40	0.1528	1,740.69	+128.1
82	19/03/88	19:12:42	0.1533	1,740.77	+128.1
83	19/03/88	19:12:44	0.1539	1,740.86	+128.1
84	19/03/88	19:12:46	0.1544	1,740.93	+128.1
85	19/03/88	19:12:48	0.1550	1,741.02	+128.1
86	19/03/88	19:12:50	0.1556	1,741.09	+128.1
87	19/03/88	19:12:52	0.1561	1,741.17	+128.1
88	19/03/88	19:12:54	0.1567	1,741.25	+128.1
89	19/03/88	19:12:56	0.1572	1,741.31	+128.1
90	19/03/88	19:12:58	0.1578	1,741.37	+128.1
91	19/03/88	19:13:00	0.1583	1,741.46	+128.1
92	19/03/88	19:13:10	0.1611	1,741.51	+128.1
93	19/03/88	19:13:20	0.1639	1,741.71	+128.1
94	19/03/88	19:13:30	0.1667	1,741.95	+128.1
95	19/03/88	19:13:40	0.1694	1,742.13	+128.1
96	19/03/88	19:13:50	0.1722	1,742.29	+128.1
97	19/03/88	19:14:00	0.1750	1,742.40	+128.1
98	19/03/88	19:14:10	0.1778	1,742.49	+128.1
99	19/03/88	19:14:20	0.1806	1,742.57	+128.1
100	19/03/88	19:14:30	0.1833	1,742.63	+128.1

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1306 Meters

Comments : S.F.T. PRESSURE TEST NO. 9 AT 1306 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
101	19/03/88	19:14:40	0.1861	1,742.68	+128.1
102	19/03/88	19:14:50	0.1889	1,742.72	+128.1
103	19/03/88	19:15:00	0.1917	1,742.75	+128.1
104	19/03/88	19:15:10	0.1944	1,742.77	+128.1
105	19/03/88	19:15:20	0.1972	1,742.79	+128.1
106	19/03/88	19:15:30	0.2000	1,742.81	+128.1
107	19/03/88	19:15:40	0.2028	1,742.82	+128.1
108	19/03/88	19:15:50	0.2056	1,742.83	+128.1
109	19/03/88	19:16:00	0.2083	1,742.84	+128.1
110	19/03/88	19:16:10	0.2111	1,742.85	+128.1
111	19/03/88	19:16:30	0.2167	1,742.86	+128.1
112	19/03/88	19:17:00	0.2250	1,742.87	+128.1
113	19/03/88	19:17:30	0.2333	1,742.88	+128.1
114	19/03/88	19:18:00	0.2417	1,742.88	+128.1
115	19/03/88	19:19:00	0.2583	1,742.89	+128.1
116	19/03/88	19:20:00	0.2750	1,742.89	+128.1
117	19/03/88	19:21:00	0.2917	1,742.88	+128.1
118	19/03/88	19:22:00	0.3083	1,742.87	+128.1
119	19/03/88	19:23:00	0.3250	1,742.86	+128.1
120	19/03/88	19:24:00	0.3417	1,742.86	+128.1
121	19/03/88	19:25:00	0.3583	1,742.85	+128.1
122	19/03/88	19:26:00	0.3750	1,742.85	+128.1
123	19/03/88	19:27:00	0.3917	1,742.84	+128.1
124	19/03/88	19:28:00	0.4083	1,742.84	+128.1
125	19/03/88	19:29:00	0.4250	1,742.83	+128.1
126	19/03/88	19:30:00	0.4417	1,742.82	+128.1
127	19/03/88	19:31:00	0.4583	1,742.80	+128.1
128	19/03/88	19:32:00	0.4750	1,742.80	+128.1
129	19/03/88	19:33:00	0.4917	1,742.79	+128.1
130	19/03/88	19:34:00	0.5083	1,742.78	+128.1
131	19/03/88	19:35:00	0.5250	1,742.78	+128.1
132	19/03/88	19:36:00	0.5417	1,742.78	+128.1
133	19/03/88	19:37:00	0.5583	1,742.77	+128.1
134	19/03/88	19:38:00	0.5750	1,742.63	+127.6
135	19/03/88	19:39:00	0.5917	1,742.65	+127.7
136	19/03/88	19:40:00	0.6083	1,742.62	+127.6
137	19/03/88	19:41:00	0.6250	1,742.61	+127.6
138	19/03/88	19:42:00	0.6417	1,742.61	+127.6
139	19/03/88	19:43:00	0.6583	1,742.60	+127.6
140	19/03/88	19:44:00	0.6750	1,742.60	+127.6
141	19/03/88	19:45:00	0.6917	1,742.61	+127.6
142	19/03/88	19:46:00	0.7083	1,742.61	+127.6
143	19/03/88	19:47:00	0.7250	1,742.61	+127.6
144	19/03/88	19:48:00	0.7417	1,742.61	+127.6
145	19/03/88	19:49:00	0.7583	1,742.61	+127.6
146	19/03/88	19:50:00	0.7750	1,742.60	+127.6
147	19/03/88	19:51:00	0.7917	1,742.60	+127.6
148	19/03/88	19:52:00	0.8083	1,742.61	+127.6
149	19/03/88	19:53:00	0.8250	1,742.61	+127.6
150	19/03/88	19:54:00	0.8417	1,742.60	+127.6

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1306 Meters

Comments : S.F.T. PRESSURE TEST NO. 9 AT 1306 METERS

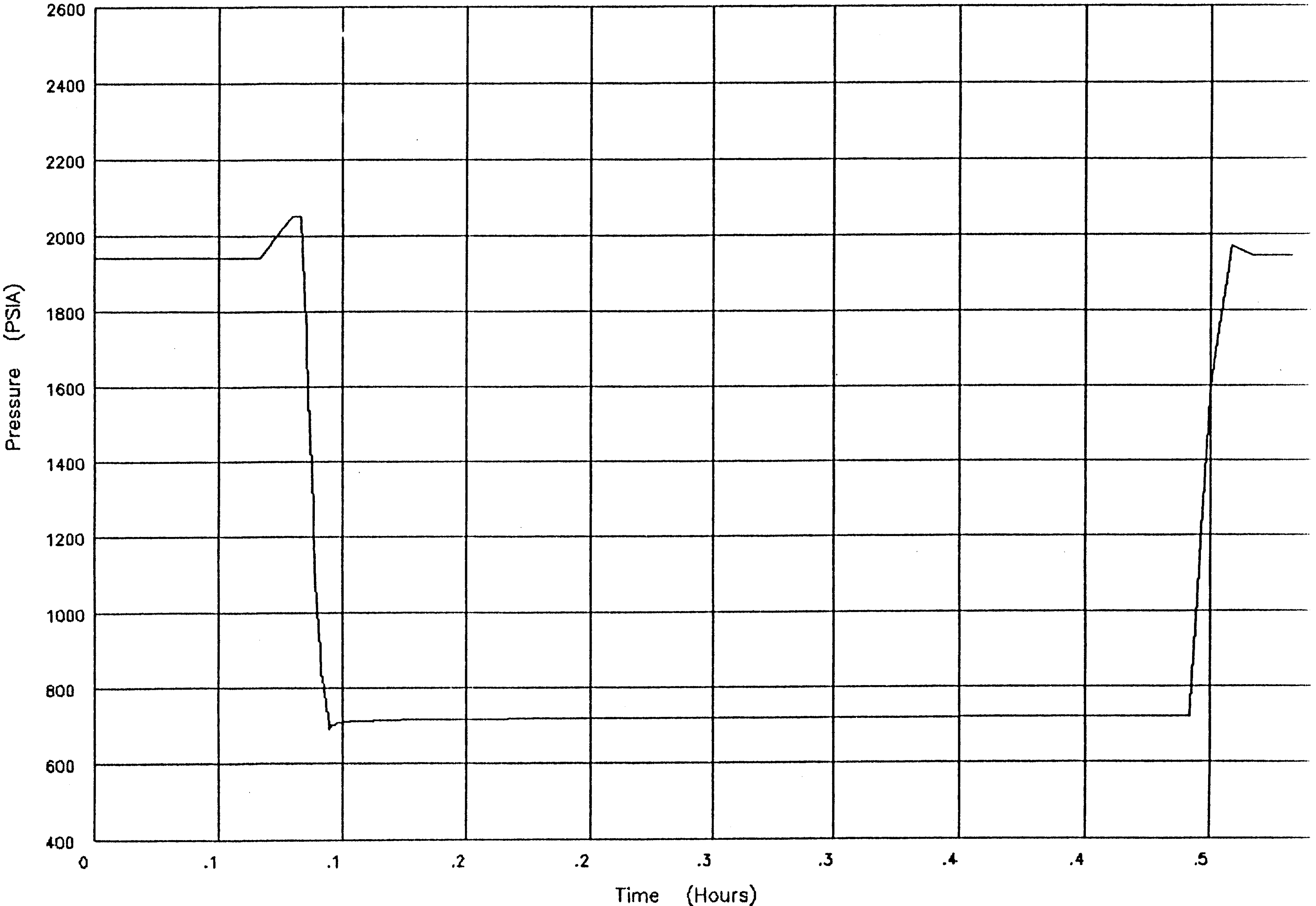
Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
151	19/03/88	19:55:00	0.8583	1,742.60	+127.6
152	19/03/88	19:56:00	0.8750	1,742.61	+127.6
153	19/03/88	19:57:00	0.8917	1,742.61	+127.6
154	19/03/88	19:58:00	0.9083	1,742.61	+127.6
155	19/03/88	19:59:00	0.9250	1,742.61	+127.6
156	19/03/88	20:00:00	0.9417	1,742.61	+127.6
157	19/03/88	20:01:00	0.9583	1,742.62	+127.6
158	19/03/88	20:02:00	0.9750	1,742.62	+127.6
159	19/03/88	20:03:00	0.9917	1,742.62	+127.6
160	19/03/88	20:04:00	1.0083	1,742.63	+127.6
161	19/03/88	20:05:00	1.0250	1,742.62	+127.6
162	19/03/88	20:06:00	1.0417	1,742.63	+127.6
163	19/03/88	20:07:00	1.0583	1,742.63	+127.6
164	19/03/88	20:08:00	1.0750	1,742.63	+127.6
165	19/03/88	20:09:00	1.0917	1,742.64	+127.6
166	19/03/88	20:10:00	1.1083	1,742.63	+127.6
167	19/03/88	20:11:00	1.1250	1,742.64	+127.6
168	19/03/88	20:12:00	1.1417	1,742.64	+127.6
169	19/03/88	20:13:00	1.1583	1,742.64	+127.6
170	19/03/88	20:14:00	1.1750	1,742.64	+127.6
171	19/03/88	20:15:00	1.1917	1,742.64	+127.6
172	19/03/88	20:16:00	1.2083	1,742.65	+127.6
173	19/03/88	20:16:30	1.2167	2,219.51	+127.6
174	19/03/88	20:17:00	1.2250	2,228.59	+127.6
175	19/03/88	20:17:30	1.2333	2,088.25	+127.6
176	19/03/88	20:18:00	1.2417	2,089.89	+127.6
177	19/03/88	20:18:30	1.2500	2,089.89	+127.6
178	19/03/88	20:19:00	1.2583	2,089.88	+127.6

PRESSURE vs TIME - (LINEAR)

Company : BEACH PETROLEUM N.L.
Well : IONA #1
Comments : S.F.T. PRESSURE TEST NO.10 AT 1211.5 METERS

Eq. Type: H.P.
Gauge No: 487

From : 20:24:30 19/03/
To : 20:53:30 19/03/



PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth :1211.5Meters

Comments : S.F.T. PRESSURE TEST NO.10 AT 1211.5 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
1	19/03/88	20:24:30	0.0000	1,942.29	+127.5
2	19/03/88	20:25:00	0.0083	1,940.94	+127.5
3	19/03/88	20:25:30	0.0167	1,941.93	+129.3
4	19/03/88	20:26:00	0.0250	1,941.54	+127.4
5	19/03/88	20:26:30	0.0333	1,941.42	+127.4
6	19/03/88	20:27:00	0.0417	1,941.63	+127.7
7	19/03/88	20:27:30	0.0500	1,941.59	+127.3
8	19/03/88	20:28:00	0.0583	1,941.77	+127.6
9	19/03/88	20:28:30	0.0667	1,941.84	+127.6
10	19/03/88	20:29:00	0.0750	2,015.46	+127.6
11	19/03/88	20:29:18	0.0800	2,051.47	+127.6
12	19/03/88	20:29:20	0.0806	2,050.75	+127.6
13	19/03/88	20:29:22	0.0811	2,050.75	+127.6
14	19/03/88	20:29:24	0.0817	2,050.62	+127.6
15	19/03/88	20:29:26	0.0822	2,050.52	+127.6
16	19/03/88	20:29:28	0.0828	2,050.43	+127.6
17	19/03/88	20:29:30	0.0833	2,049.88	+127.6
18	19/03/88	20:29:32	0.0839	1,965.55	+127.6
19	19/03/88	20:29:34	0.0844	1,886.31	+127.6
20	19/03/88	20:29:36	0.0850	1,813.99	+127.6
21	19/03/88	20:29:38	0.0856	1,755.81	+127.6
22	19/03/88	20:29:40	0.0861	1,537.96	+127.6
23	19/03/88	20:29:42	0.0867	1,537.96	+127.6
24	19/03/88	20:29:44	0.0872	1,417.33	+127.6
25	19/03/88	20:29:46	0.0878	1,417.33	+127.6
26	19/03/88	20:29:48	0.0883	1,214.95	+127.6
27	19/03/88	20:29:50	0.0889	1,137.76	+127.6
28	19/03/88	20:29:52	0.0894	1,069.68	+127.6
29	19/03/88	20:29:54	0.0900	1,010.23	+127.6
30	19/03/88	20:29:56	0.0906	957.58	+127.6
31	19/03/88	20:29:58	0.0911	910.76	+127.6
32	19/03/88	20:30:00	0.0917	830.62	+127.6
33	19/03/88	20:30:02	0.0922	830.62	+127.6
34	19/03/88	20:30:04	0.0928	796.14	+127.6
35	19/03/88	20:30:06	0.0933	764.72	+127.6
36	19/03/88	20:30:08	0.0939	735.90	+127.6
37	19/03/88	20:30:10	0.0944	735.90	+127.6
38	19/03/88	20:30:12	0.0950	691.26	+127.6
39	19/03/88	20:30:14	0.0956	695.99	+127.6
40	19/03/88	20:30:16	0.0961	700.11	+127.6
41	19/03/88	20:30:20	0.0972	700.11	+127.6
42	19/03/88	20:30:22	0.0978	706.56	+126.9
43	19/03/88	20:30:24	0.0983	706.56	+126.9
44	19/03/88	20:30:26	0.0989	707.29	+126.8
45	19/03/88	20:30:28	0.0994	707.91	+126.8
46	19/03/88	20:30:30	0.1000	708.43	+126.8
47	19/03/88	20:30:32	0.1006	708.89	+126.8
48	19/03/88	20:30:34	0.1011	709.30	+126.8
49	19/03/88	20:30:36	0.1017	709.65	+126.8
50	19/03/88	20:30:38	0.1022	710.00	+126.8

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1211.5 Meters

Comments : S.F.T. PRESSURE TEST NO.10 AT 1211.5 METERS

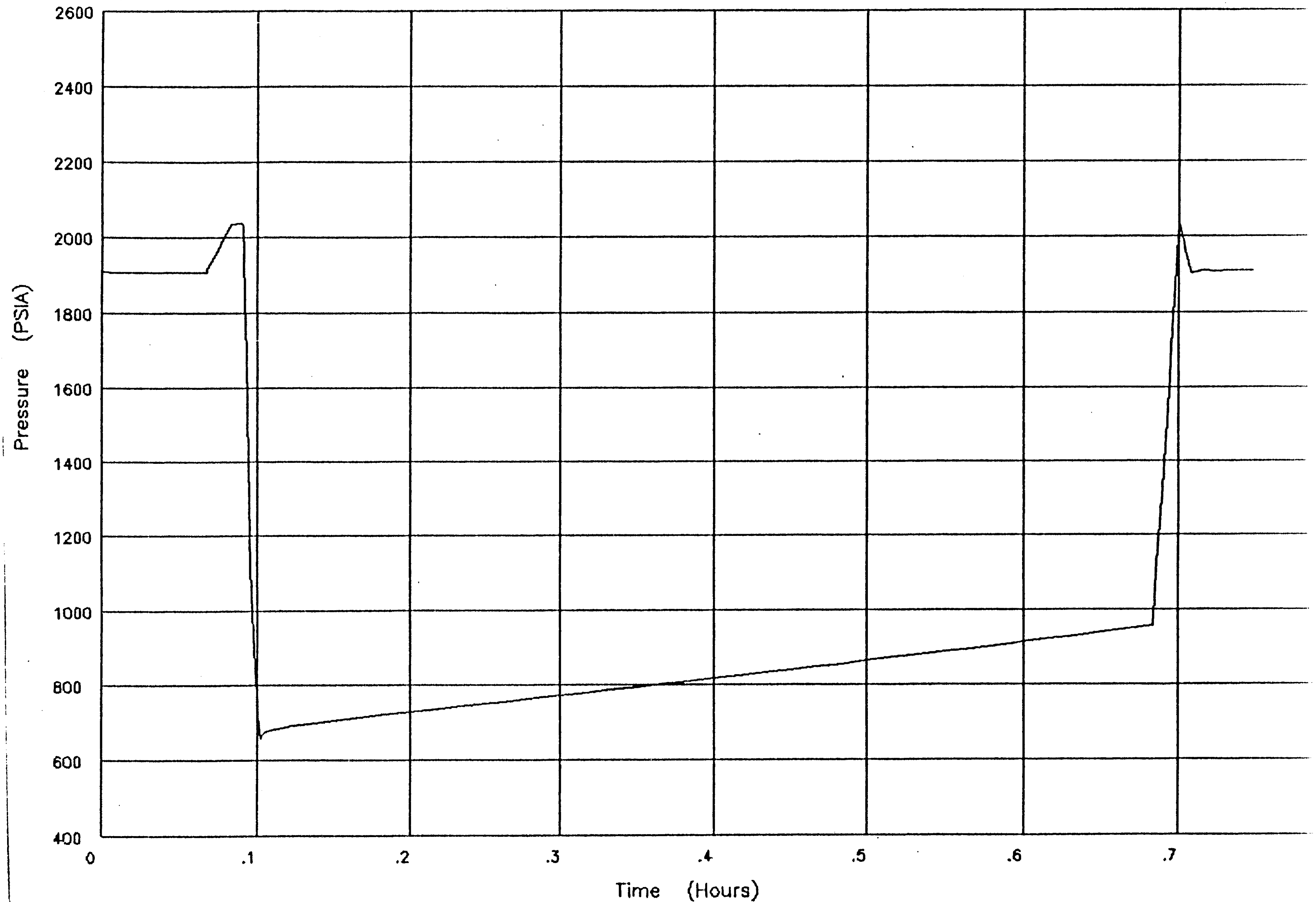
Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
51	19/03/88	20:30:40	0.1028	710.30	+126.8
52	19/03/88	20:30:42	0.1033	710.83	+126.8
53	19/03/88	20:30:50	0.1056	710.83	+126.8
54	19/03/88	20:31:00	0.1083	711.68	+126.9
55	19/03/88	20:31:10	0.1111	712.51	+126.8
56	19/03/88	20:31:20	0.1139	713.17	+126.8
57	19/03/88	20:31:30	0.1167	713.78	+127.1
58	19/03/88	20:31:40	0.1194	714.37	+127.6
59	19/03/88	20:31:50	0.1222	714.69	+127.3
60	19/03/88	20:32:00	0.1250	715.32	+128.4
61	19/03/88	20:33:00	0.1417	716.30	+126.5
62	19/03/88	20:34:00	0.1583	717.20	+126.3
63	19/03/88	20:35:00	0.1750	717.79	+126.2
64	19/03/88	20:36:00	0.1917	718.15	+126.0
65	19/03/88	20:37:00	0.2083	718.41	+125.9
66	19/03/88	20:38:00	0.2250	718.60	+125.8
67	19/03/88	20:39:00	0.2417	718.75	+125.6
68	19/03/88	20:40:00	0.2583	718.89	+125.5
69	19/03/88	20:41:00	0.2750	718.99	+125.4
70	19/03/88	20:42:00	0.2917	719.08	+125.3
71	19/03/88	20:43:00	0.3083	719.18	+125.2
72	19/03/88	20:44:00	0.3250	719.27	+125.1
73	19/03/88	20:45:00	0.3417	719.36	+125.0
74	19/03/88	20:46:00	0.3583	719.45	+124.9
75	19/03/88	20:47:00	0.3750	719.54	+124.8
76	19/03/88	20:48:00	0.3917	719.64	+124.8
77	19/03/88	20:49:00	0.4083	719.74	+124.7
78	19/03/88	20:50:00	0.4250	719.84	+124.6
79	19/03/88	20:51:00	0.4417	719.97	+124.6
80	19/03/88	20:51:30	0.4500	1,599.48	+124.6
81	19/03/88	20:52:00	0.4583	1,970.39	+124.6
82	19/03/88	20:52:30	0.4667	1,944.51	+124.6
83	19/03/88	20:53:00	0.4750	1,944.52	+124.4
84	19/03/88	20:53:30	0.4833	1,944.36	+124.5

PRESSURE vs TIME - (LINEAR)

Company : BEACH PETROLEUM N.L.
Well : IONA #1
Comments : S.F.T. PRESSURE TEST NO.11 AT 1188 METERS

Eq. Type: H.P.
Gauge No: 487

From : 20:58:00 19/03/
To : 21:43:00 19/03/



COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1188 Meters

Comments : S.F.T. PRESSURE TEST NO.11 AT 1188 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
1	19/03/88	20:58:00	0.0000	1,909.28	+124.2
2	19/03/88	20:58:30	0.0083	1,908.14	+124.2
3	19/03/88	20:59:00	0.0167	1,908.38	+124.1
4	19/03/88	20:59:30	0.0250	1,908.23	+124.1
5	19/03/88	21:00:00	0.0333	1,908.19	+124.1
6	19/03/88	21:00:30	0.0417	1,908.16	+124.0
7	19/03/88	21:01:00	0.0500	1,908.14	+124.0
8	19/03/88	21:02:00	0.0667	1,908.01	+124.0
9	19/03/88	21:02:30	0.0750	1,969.23	+124.0
10	19/03/88	21:03:00	0.0833	2,034.65	+124.0
11	19/03/88	21:03:22	0.0894	2,036.35	+124.0
12	19/03/88	21:03:24	0.0900	2,035.63	+124.0
13	19/03/88	21:03:26	0.0906	2,035.48	+124.0
14	19/03/88	21:03:28	0.0911	2,032.04	+124.0
15	19/03/88	21:03:30	0.0917	1,948.91	+124.0
16	19/03/88	21:03:32	0.0922	1,839.23	+124.0
17	19/03/88	21:03:34	0.0928	1,762.97	+124.0
18	19/03/88	21:03:36	0.0933	1,691.29	+124.0
19	19/03/88	21:03:38	0.0939	1,534.86	+124.0
20	19/03/88	21:03:40	0.0944	1,400.79	+124.0
21	19/03/88	21:03:42	0.0950	1,290.15	+124.0
22	19/03/88	21:03:44	0.0956	1,197.21	+124.0
23	19/03/88	21:03:46	0.0961	1,118.30	+124.0
24	19/03/88	21:03:48	0.0967	1,050.10	+124.0
25	19/03/88	21:03:50	0.0972	990.81	+124.0
26	19/03/88	21:03:52	0.0978	938.76	+124.0
27	19/03/88	21:03:54	0.0983	892.32	+124.0
28	19/03/88	21:03:56	0.0989	850.86	+124.0
29	19/03/88	21:03:58	0.0994	813.34	+124.0
30	19/03/88	21:04:00	0.1000	779.62	+124.0
31	19/03/88	21:04:02	0.1006	748.68	+124.0
32	19/03/88	21:04:04	0.1011	720.23	+124.0
33	19/03/88	21:04:06	0.1017	694.39	+124.0
34	19/03/88	21:04:08	0.1022	670.50	+124.0
35	19/03/88	21:04:10	0.1028	658.81	+124.0
36	19/03/88	21:04:12	0.1033	664.56	+124.0
37	19/03/88	21:04:14	0.1039	668.43	+124.0
38	19/03/88	21:04:16	0.1044	671.09	+124.0
39	19/03/88	21:04:18	0.1050	673.06	+124.0
40	19/03/88	21:04:20	0.1056	674.57	+124.0
41	19/03/88	21:04:22	0.1061	675.81	+124.0
42	19/03/88	21:04:24	0.1067	676.88	+124.0
43	19/03/88	21:04:26	0.1072	677.82	+124.0
44	19/03/88	21:04:30	0.1083	678.65	+124.0
45	19/03/88	21:04:50	0.1139	684.00	+123.7
46	19/03/88	21:05:00	0.1167	686.37	+123.7
47	19/03/88	21:05:10	0.1194	688.49	+123.7
48	19/03/88	21:05:20	0.1222	691.69	+128.5
49	19/03/88	21:05:30	0.1250	692.94	+126.5
50	19/03/88	21:05:40	0.1278	693.89	+123.7

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1188 Meters

Comments : S.F.T. PRESSURE TEST NO.11 AT 1188 METERS

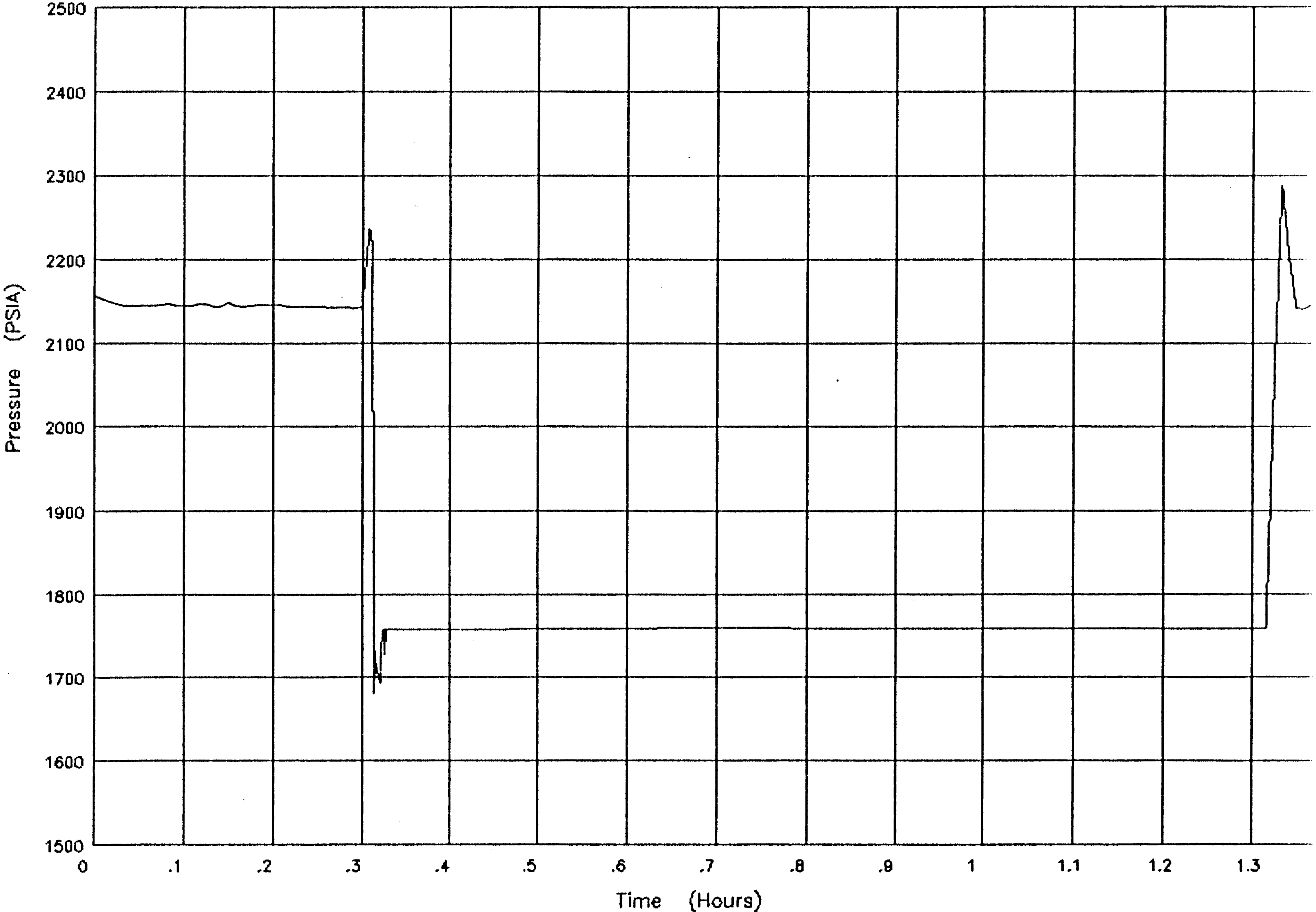
Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
51	19/03/88	21:06:00	0.1333	697.09	+123.7
52	19/03/88	21:06:30	0.1417	701.63	+123.6
53	19/03/88	21:07:00	0.1500	705.85	+123.6
54	19/03/88	21:08:00	0.1667	713.97	+123.5
55	19/03/88	21:09:00	0.1833	721.68	+123.4
56	19/03/88	21:10:00	0.2000	729.11	+123.4
57	19/03/88	21:11:00	0.2167	736.41	+123.3
58	19/03/88	21:12:00	0.2333	743.61	+123.2
59	19/03/88	21:13:00	0.2500	750.72	+123.2
60	19/03/88	21:14:00	0.2667	757.81	+123.1
61	19/03/88	21:15:00	0.2833	765.39	+124.9
62	19/03/88	21:16:00	0.3000	771.99	+123.0
63	19/03/88	21:17:00	0.3167	779.15	+122.9
64	19/03/88	21:18:00	0.3333	786.47	+122.9
65	19/03/88	21:19:00	0.3500	793.86	+122.9
66	19/03/88	21:20:00	0.3667	801.23	+122.8
67	19/03/88	21:21:00	0.3833	808.71	+122.8
68	19/03/88	21:22:00	0.4000	816.21	+122.7
69	19/03/88	21:23:00	0.4167	823.80	+122.7
70	19/03/88	21:24:00	0.4333	831.39	+122.7
71	19/03/88	21:25:00	0.4500	839.05	+122.6
72	19/03/88	21:26:00	0.4667	846.78	+122.6
73	19/03/88	21:27:00	0.4833	854.61	+122.6
74	19/03/88	21:28:00	0.5000	863.71	+127.1
75	19/03/88	21:29:00	0.5167	873.72	+134.5
76	19/03/88	21:30:00	0.5333	878.92	+124.1
77	19/03/88	21:31:00	0.5500	888.59	+129.6
78	19/03/88	21:32:00	0.5667	895.22	+123.7
79	19/03/88	21:33:00	0.5833	904.09	+125.7
80	19/03/88	21:34:00	0.6000	914.18	+131.8
81	19/03/88	21:35:00	0.6167	922.43	+130.9
82	19/03/88	21:36:00	0.6333	928.70	+122.3
83	19/03/88	21:37:00	0.6500	940.14	+132.6
84	19/03/88	21:38:00	0.6667	949.08	+133.2
85	19/03/88	21:39:00	0.6833	957.89	+133.2
86	19/03/88	21:39:30	0.6917	1,466.83	+133.2
87	19/03/88	21:40:00	0.7000	2,035.06	+133.2
88	19/03/88	21:40:30	0.7083	1,903.00	+133.2
89	19/03/88	21:41:00	0.7167	1,908.57	+131.4
90	19/03/88	21:41:30	0.7250	1,908.00	+129.8
91	19/03/88	21:42:00	0.7333	1,909.16	+133.9
92	19/03/88	21:42:30	0.7417	1,908.77	+132.5
93	19/03/88	21:43:00	0.7500	1,908.95	+133.1

PRESSURE vs TIME - (LINEAR)

Company : BEACH PETROLEUM N.L.
Well : IONA #1
Comments : S.F.T. PRESSURE TEST NO.12 AT 1336 METERS

Eq. Type: H.P.
Gauge No: 487

From : 21:48:30 19/03/
To : 23:10:30 19/03/



PRESSURE VS TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1336 Meters

Comments : S.F.T. PRESSURE TEST NO.12 AT 1336 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
1	19/03/88	21:48:30	0.0000	2,156.49	+122.2
2	19/03/88	21:49:00	0.0083	2,152.74	+122.2
3	19/03/88	21:49:30	0.0167	2,149.52	+122.3
4	19/03/88	21:50:00	0.0250	2,146.62	+122.3
5	19/03/88	21:50:30	0.0333	2,145.25	+122.3
6	19/03/88	21:51:00	0.0417	2,145.01	+122.4
7	19/03/88	21:51:30	0.0500	2,144.84	+122.4
8	19/03/88	21:52:00	0.0583	2,144.98	+122.5
9	19/03/88	21:52:30	0.0667	2,145.26	+122.5
10	19/03/88	21:53:00	0.0750	2,145.65	+123.4
11	19/03/88	21:53:30	0.0833	2,146.93	+128.1
12	19/03/88	21:54:00	0.0917	2,145.31	+122.9
13	19/03/88	21:54:30	0.1000	2,144.98	+122.9
14	19/03/88	21:55:00	0.1083	2,144.77	+123.0
15	19/03/88	21:55:30	0.1167	2,146.71	+130.6
16	19/03/88	21:56:00	0.1250	2,146.79	+131.6
17	19/03/88	21:56:30	0.1333	2,144.40	+123.2
18	19/03/88	21:57:00	0.1417	2,144.37	+123.4
19	19/03/88	21:57:30	0.1500	2,149.16	+141.2
20	19/03/88	21:58:00	0.1583	2,145.16	+127.1
21	19/03/88	21:58:30	0.1667	2,144.23	+123.6
22	19/03/88	21:59:30	0.1833	2,145.87	+130.0
23	19/03/88	22:00:00	0.1917	2,145.84	+130.0
24	19/03/88	22:00:30	0.2000	2,145.59	+130.0
25	19/03/88	22:01:00	0.2083	2,145.65	+130.0
26	19/03/88	22:01:30	0.2167	2,144.12	+124.2
27	19/03/88	22:02:00	0.2250	2,144.02	+124.3
28	19/03/88	22:02:30	0.2333	2,143.80	+124.4
29	19/03/88	22:03:00	0.2417	2,143.72	+124.5
30	19/03/88	22:05:00	0.2750	2,142.72	+126.5
31	19/03/88	22:05:30	0.2833	2,142.69	+126.5
32	19/03/88	22:06:00	0.2917	2,142.50	+126.5
33	19/03/88	22:06:30	0.3000	2,144.03	+126.5
34	19/03/88	22:06:56	0.3072	2,235.88	+126.5
35	19/03/88	22:06:58	0.3078	2,234.75	+126.5
36	19/03/88	22:07:00	0.3083	2,233.81	+126.5
37	19/03/88	22:07:02	0.3089	2,233.41	+126.5
38	19/03/88	22:07:04	0.3094	2,233.19	+126.5
39	19/03/88	22:07:06	0.3100	2,233.18	+126.5
40	19/03/88	22:07:08	0.3106	2,212.46	+126.5
41	19/03/88	22:07:10	0.3111	2,124.22	+126.5
42	19/03/88	22:07:12	0.3117	2,060.93	+126.5
43	19/03/88	22:07:14	0.3122	1,975.72	+126.5
44	19/03/88	22:07:16	0.3128	1,918.12	+126.5
45	19/03/88	22:07:18	0.3133	1,780.12	+126.5
46	19/03/88	22:07:20	0.3139	1,681.12	+126.5
47	19/03/88	22:07:22	0.3144	1,712.14	+126.5
48	19/03/88	22:07:24	0.3150	1,731.26	+126.5
49	19/03/88	22:07:26	0.3156	1,724.99	+126.5
50	19/03/88	22:07:28	0.3161	1,714.75	+126.5

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1336 Meters

Comments : S.F.T. PRESSURE TEST NO.12 AT 1336 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
51	19/03/88	22:07:30	0.3167	1,711.91	+126.5
52	19/03/88	22:07:32	0.3172	1,715.61	+126.5
53	19/03/88	22:07:34	0.3178	1,707.84	+126.5
54	19/03/88	22:07:36	0.3183	1,701.75	+126.5
55	19/03/88	22:07:38	0.3189	1,699.81	+126.5
56	19/03/88	22:07:40	0.3194	1,700.63	+126.5
57	19/03/88	22:07:42	0.3200	1,698.13	+126.5
58	19/03/88	22:07:44	0.3206	1,695.13	+126.5
59	19/03/88	22:07:46	0.3211	1,692.15	+126.5
60	19/03/88	22:07:48	0.3217	1,699.37	+126.5
61	19/03/88	22:07:50	0.3222	1,728.40	+126.5
62	19/03/88	22:07:52	0.3228	1,757.20	+126.5
63	19/03/88	22:07:54	0.3233	1,757.43	+126.5
64	19/03/88	22:07:56	0.3239	1,757.56	+126.5
65	19/03/88	22:07:58	0.3244	1,757.67	+126.5
66	19/03/88	22:08:00	0.3250	1,757.74	+126.5
67	19/03/88	22:08:02	0.3256	1,757.98	+126.5
68	19/03/88	22:08:04	0.3261	1,727.76	+126.5
69	19/03/88	22:08:06	0.3267	1,755.81	+126.5
70	19/03/88	22:08:08	0.3272	1,757.67	+126.5
71	19/03/88	22:08:10	0.3278	1,757.74	+126.5
72	19/03/88	22:08:12	0.3283	1,757.79	+126.5
73	19/03/88	22:08:14	0.3289	1,757.80	+126.5
74	19/03/88	22:08:16	0.3294	1,757.83	+126.5
75	19/03/88	22:08:18	0.3300	1,757.84	+126.5
76	19/03/88	22:08:20	0.3306	1,757.85	+126.5
77	19/03/88	22:08:22	0.3311	1,757.86	+126.5
78	19/03/88	22:08:24	0.3317	1,757.88	+126.5
79	19/03/88	22:08:26	0.3322	1,757.89	+126.5
80	19/03/88	22:08:28	0.3328	1,757.88	+126.5
81	19/03/88	22:08:30	0.3333	1,757.90	+126.5
82	19/03/88	22:08:40	0.3361	1,757.89	+126.5
83	19/03/88	22:08:50	0.3389	1,757.91	+126.5
84	19/03/88	22:09:00	0.3417	1,757.94	+126.5
85	19/03/88	22:09:10	0.3444	1,757.96	+126.5
86	19/03/88	22:09:20	0.3472	1,757.98	+126.5
87	19/03/88	22:09:30	0.3500	1,757.99	+126.5
88	19/03/88	22:09:40	0.3528	1,758.00	+126.5
89	19/03/88	22:10:00	0.3583	1,758.03	+126.5
90	19/03/88	22:10:30	0.3667	1,758.07	+126.5
91	19/03/88	22:11:00	0.3750	1,758.10	+126.5
92	19/03/88	22:11:30	0.3833	1,758.14	+126.5
93	19/03/88	22:12:00	0.3917	1,758.17	+126.5
94	19/03/88	22:12:30	0.4000	1,758.20	+126.5
95	19/03/88	22:13:00	0.4083	1,758.24	+126.5
96	19/03/88	22:13:30	0.4167	1,758.26	+126.5
97	19/03/88	22:14:00	0.4250	1,758.28	+126.5
98	19/03/88	22:14:30	0.4333	1,758.31	+126.5
99	19/03/88	22:15:00	0.4417	1,758.34	+126.5
100	19/03/88	22:15:30	0.4500	1,758.39	+126.5

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1336 Meters

Comments : S.F.T. PRESSURE TEST NO.12 AT 1336 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
101	19/03/88	22:16:00	0.4583	1,758.40	+126.5
102	19/03/88	22:17:00	0.4750	1,758.63	+126.5
103	19/03/88	22:18:00	0.4917	1,758.57	+126.5
104	19/03/88	22:19:00	0.5083	1,758.82	+126.5
105	19/03/88	22:20:00	0.5250	1,758.73	+126.5
106	19/03/88	22:21:00	0.5417	1,758.83	+126.5
107	19/03/88	22:22:00	0.5583	1,758.89	+126.5
108	19/03/88	22:23:00	0.5750	1,758.99	+126.5
109	19/03/88	22:24:00	0.5917	1,759.18	+126.5
110	19/03/88	22:25:00	0.6083	1,759.38	+126.5
111	19/03/88	22:26:00	0.6250	1,759.49	+126.5
112	19/03/88	22:27:00	0.6417	1,759.65	+126.5
113	19/03/88	22:28:00	0.6583	1,759.68	+126.5
114	19/03/88	22:29:00	0.6750	1,759.75	+126.5
115	19/03/88	22:30:00	0.6917	1,759.91	+126.5
116	19/03/88	22:31:00	0.7083	1,759.91	+126.5
117	19/03/88	22:32:00	0.7250	1,759.98	+126.5
118	19/03/88	22:33:00	0.7417	1,760.02	+126.5
119	19/03/88	22:34:00	0.7583	1,760.38	+127.5
120	19/03/88	22:35:00	0.7750	1,760.50	+127.6
121	19/03/88	22:36:00	0.7917	1,758.94	+127.6
122	19/03/88	22:37:00	0.8083	1,758.95	+127.6
123	19/03/88	22:38:00	0.8250	1,758.97	+127.7
124	19/03/88	22:39:00	0.8417	1,758.98	+127.7
125	19/03/88	22:40:00	0.8583	1,758.99	+127.8
126	19/03/88	22:41:00	0.8750	1,759.00	+127.8
127	19/03/88	22:42:00	0.8917	1,759.02	+127.8
128	19/03/88	22:43:00	0.9083	1,759.03	+127.9
129	19/03/88	22:44:00	0.9250	1,759.04	+127.9
130	19/03/88	22:45:00	0.9417	1,759.05	+128.0
131	19/03/88	22:46:00	0.9583	1,759.06	+128.0
132	19/03/88	22:47:00	0.9750	1,759.07	+128.0
133	19/03/88	22:48:00	0.9917	1,759.08	+128.1
134	19/03/88	22:49:00	1.0083	1,759.09	+128.1
135	19/03/88	22:50:00	1.0250	1,759.10	+128.1
136	19/03/88	22:51:00	1.0417	1,759.11	+128.1
137	19/03/88	22:52:00	1.0583	1,759.12	+128.2
138	19/03/88	22:53:00	1.0750	1,759.11	+128.2
139	19/03/88	22:54:00	1.0917	1,759.12	+128.2
140	19/03/88	22:55:00	1.1083	1,759.13	+128.3
141	19/03/88	22:56:00	1.1250	1,759.14	+128.3
142	19/03/88	22:57:00	1.1417	1,759.15	+128.3
143	19/03/88	22:58:00	1.1583	1,759.16	+128.4
144	19/03/88	22:59:00	1.1750	1,759.17	+128.4
145	19/03/88	23:00:00	1.1917	1,759.19	+128.4
146	19/03/88	23:01:00	1.2083	1,759.19	+128.4
147	19/03/88	23:02:00	1.2250	1,759.20	+128.5
148	19/03/88	23:03:00	1.2417	1,759.22	+128.5
149	19/03/88	23:03:30	1.2500	1,759.22	+128.5
150	19/03/88	23:04:00	1.2583	1,759.22	+128.5

PRESSURE vs TIME - (LINEAR) PLOT DATA

COMPANY : BEACH PETROLEUM N.L.
WELL : IONA #1

Eq. Type : H.P.
Gauge # : 487
Depth : 1336 Meters

Comments : S.F.T. PRESSURE TEST NO.12 AT 1336 METERS

Seq.#	Date	Time	dt	Pressure (PSIA)	Temp (Deg.F)
151	19/03/88	23:04:30	1.2667	1,759.23	+128.5
152	19/03/88	23:05:00	1.2750	1,759.23	+128.5
153	19/03/88	23:05:30	1.2833	1,759.23	+128.5
154	19/03/88	23:06:00	1.2917	1,759.24	+128.5
155	19/03/88	23:06:30	1.3000	1,759.25	+128.5
156	19/03/88	23:07:00	1.3083	1,759.25	+128.5
157	19/03/88	23:07:30	1.3167	1,759.26	+128.5
158	19/03/88	23:08:00	1.3250	2,086.15	+128.5
159	19/03/88	23:08:30	1.3333	2,287.79	+128.5
160	19/03/88	23:09:00	1.3417	2,199.74	+128.5
161	19/03/88	23:09:30	1.3500	2,141.86	+128.5
162	19/03/88	23:10:00	1.3583	2,141.66	+128.5
163	19/03/88	23:10:30	1.3667	2,145.64	+128.5

APPENDIX 9

IONA #1 SFT SURVEY

(BRIDGE OIL REPORT)

TO: K. Skipper/ **Ref:** 502/81/GK/kn

cc: A.A. Young
R.D. Frith
R. Roberts

FROM: G. Kozma 29 March 1988

IONA #1 SFT SURVEY

Based on petrophysical evaluation of wireline logs, several possible hydrocarbon and water bearing sands have been identified in exploration well Iona #1. A single SFT pressure survey was carried out on 19 March 1988. The primary objectives being:

1. To obtain reliable and accurate pressure data in the hydrocarbon and water bearing sands of the Waarre Sandstone.
2. To establish the depth of a possible hydrocarbon - water contact.
3. To identify the reservoir fluid type in the interval immediately below the main zone near 1325 mKB.

A total of eleven depth stations were identified for this formation fluid pressure survey. Two points were targeted in each of the Nullawarre Greensand and Eumeralla formation for additional evaluation and control (Figure 1). The remaining seven points were allocated to the Waarre unit.

Pressure data from the Nullawarre Greensand was considered potentially useful in identifying the pressure regimes associated with the inferred water bearing sands penetrated by this well. Pressure Data in the Eumeralla zone was required to evaluate potential reservoir quality and' fluid type-shows were noted during drilling.

RESULTS/ANALYSIS

The integrity of the pressure data obtained during this survey was high. However pressure recorded at depth station-8 was anomolously high with no signs of stabilizing after 45 minutes. It is speculated that the seal was inferior. Pressure build-up responses observed in the Eumeralla and Nullawarre units suggest that the sands are "tight".

Analysis of pressure data obtained in the Waarre unit provides a very good definition of a gas-water contact at 1326.5mKB. (Figure 1). The corresponding gas and water gradients are 0.044 psi/ft and 0.426 psi/ft respectively. The derived gas gradient does not include the anomolous pressure reading at depth station-8. The interpreted gas gradient compares favourably with that obtained using the composition of gas recovered from the drill-stem test and SFT sample chamber (0.048 psi/ft).

A single pressure point at 1370.5m KB suggests that the water bearing sand immediately above the top of Eumeralla is marginally over-pressured.

A bottom-hole fluid sample was taken at 1324m KB using the SFT sample chamber. Approximately 966 litres (34 cubic feet) of gas and 486 cc of mud filtrate (?) was recovered. The presence of gas immediately beneath the thin shale break further supports the interpreted gas-water contact.

The compositional analysis of the recovered SFT gas sample is shown in Table 1.

George Kozma

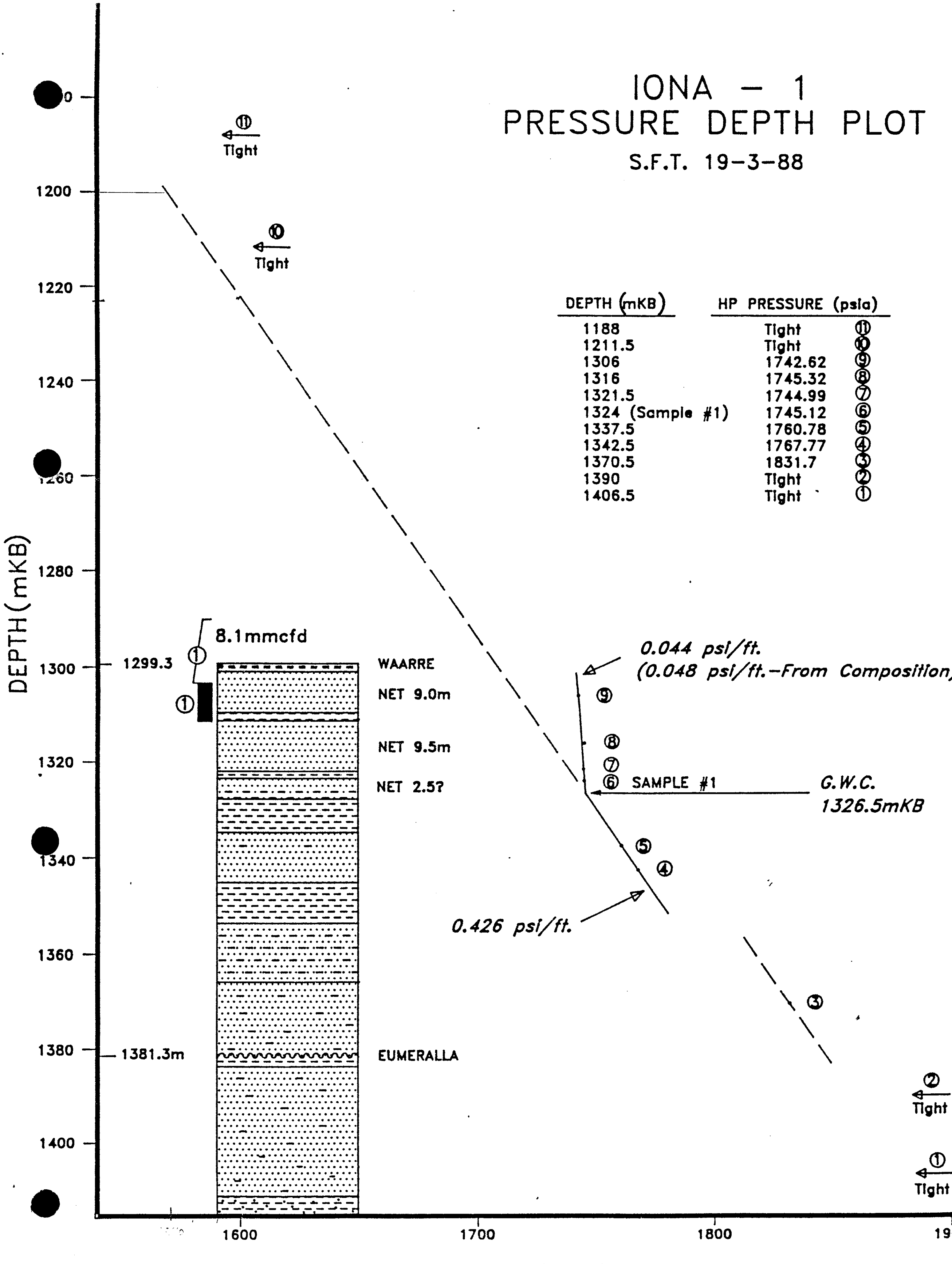
George Kozma.

TABLE NO. 1

COMPOSITIONAL ANALYSIS OF GAS SAMPLE - IONA #1 (SFT SAMPLE)

COMPONENT	Mole %
N2	3.54
CO2	6.02
C1	84.21
C2	3.30
C3	1.38
iC4	0.31
nC4	0.38
iC5	0.15
nC5	0.12
C6	0.19
C7+	0.40
TOTAL	100.00

Molecular weight:	19.943
Gas Gravity (Air = 1.000):	0.688
Molecular weight C7+:	107.9
SG C7+:	0.699



IONA – 1
PRESSURE DEPTH PLOT
S.F.T. 19-3-88

DEPTH (mKB)	HP PRESSURE (psia)	
1188	Tight	⑪
1211.5	Tight	⑩
1306	1742.62	⑨
1316	1745.32	⑧
1321.5	1744.99	⑦
1324 (Sample #1)	1745.12	⑥
1337.5	1760.78	⑤
1342.5	1767.77	④
1370.5	1831.7	③
1390	Tight	②
1406.5	Tight	①

AUTHOR: GK/AA

APPENDIX 10

GAS AND FUEL - IONA #1

GAS ANALYSIS (DST #1)

Iona Gas - Analysis of Gas Composition

from DST # 1

by:

Gas & Fuel Corporation - Scientifc Services

March 1988

Sample Book No. 88029

Gary Scott

Analysis of the ($Ar + O_2 + N_2$) component shows approximately 0.2 % O_2 + Ar i.e. it is likely the samples are contanminated with approximately 1 % air.

Samples were heated to 50°C prior to analysis.

Ivan Strudwick

IONA NO. 1 # 1 TOP OF BOMB

COMPONENT	MOLE PERCENT	
CH4	84.012	
C2H6	3.116	
C3H8	1.249	
I-C4H10	.273	
N-C4H10	.344	
NEO-C5H12	.0048	
I-C5H12	.121	
N-C5H12	.100	
C6	.205	
C7+	.302	
CO2	5.739	
(AR+O2+N2)	4.445	*
HE	.0899	

GROSS HEATING VALUE (DRY)	37.08 MJ/M3
WOBBE INDEX (DRY)	44.86 MJ/M3
SPECIFC GRAVITY	0.6833
COMPRESSIBILITY FACTOR	0.9975

* Suspect this result - see repeat analysis.

IONA NO. 1 # 1 TOP OF BOMB REPEAT ANALYSIS

COMPONENT	MOLE PERCENT
CH4	84.283
C2H6	3.118
C3H8	1.250
I-C4H10	.272
N-C4H10	.343
NEO-C5H12	.0048
I-C5H12	.118
N-C5H12	.0977
C6	.188
C7+	.236
CO2	5.750
(AR+O2+N2)	4.249
HE	.0897

GROSS HEATING VALUE (DRY)	37.00 MJ/M3
WOBBE INDEX (DRY)	44.87 MJ/M3
SPECIFC GRAVITY	0.6801
COMPRESSIBILITY FACTOR	0.9975

IONA NO. 1 # 1 TOP OF BOMB REPEAT ANALYSIS

COMPONENT	MOLE PERCENT
CH4	84.283
C2H6	3.118
C3H8	1.250
I-C4H10	.272
N-C4H10	.343
NEO-C5H12	.0048
I-C5H12	.118
N-C5H12	.0977
C6	.188
C7+	.236
CO2	5.750
(AR+O2+N2)	4.249
HE	.0897

GROSS HEATING VALUE (DRY)	37.00 MJ/M3
WOBBE INDEX (DRY)	44.87 MJ/M3
SPECIFC GRAVITY	0.6801
COMPRESSIBILITY FACTOR	0.9975

IONA NO. 1 # 2 TOP OF BOMB

COMPONENT	MOLE PERCENT
CH_4	84.183
C_2H_6	3.127
C_3H_8	1.261
I-C_4H_{10}	.280
N-C_4H_{10}	.362
NEO-C_5H_{12}	.0050
I-C_5H_{12}	.127
N-C_5H_{12}	.106
C6	.196
C7+	.295
CO_2	5.738
($AR+O_2+N_2$)	4.233
HE	.0860

GROSS HEATING VALUE (DRY)	37.18 MJ/M3
WOBBE INDEX (DRY)	45.00 MJ/M3
SPECIFC GRAVITY	0.6828
COMPRESSIBILITY FACTOR	0.9975

IONA NO. 1 # 2 BOTTOM OF BOMB

COMPONENT	MOLE PERCENT
CH4	84.239
C2H6	3.135
C3H8	1.266
I-C4H10	.279
N-C4H10	.355
NEO-C5H12	.0050
I-C5H12	.126
N-C5H12	.104
C6	.183
C7+	.233
CO2	5.749
(AR+O2+N2)	4.236
HE	.0906

GROSS HEATING VALUE (DRY)	37.04 MJ/M3
WOBBE INDEX (DRY)	44.90 MJ/M3
SPECIFC GRAVITY	0.6806
COMPRESSIBILITY FACTOR	0.9975

Report No: 88/252/C
Sample Book No: 88/711
Date: 10 June, 1988

Page 1 of 1
AS:AB

IONA GAS - ANALYSIS OF GAS COMPOSITION

From an analysis made of Iona gas, calculations gave the following results. These are compared with Paaratte line gas information.

Composition (%)	Well Head Gas (1)	Gas After Condensate Removal (2)	Gas After Condensate Removal & CO_2 Removal (3)	Paaratte Gas (4)
CCH_4	85.035	85.519	89.937	96.286
C_2H_6	3.162	3.138	3.3	1.28
C_3H_8	1.273	1.223	1.286	0.036
iC_4H_{10}	0.283	0.259	0.272	0.043
nC_4H_{10}	0.364	0.324	0.341	0.004
iC_5H_{12}	0.133	0.105	0.110	0.013
nC_5H_{12}	0.107	0.081	0.085	0.001
C_6H_{14}	0.198	0.107	0.113	0.065
C_7H_{16} +	0.298	0.087	0.091	0.075
CO_2	5.798	5.779	0.912	0.38
$O_2 + N_2$ + He	3.349	3.378	3.553	1.817
Heating Value MJ/m^3	37.46	36.88	38.78	37.57
Specific Gravity	0.679	0.669	0.625	0.577
Wobbe Index MJ/m^3	45.46	45.09	49.06	49.47
Compressibility	0.9975	0.9976	0.9977	0.9980
Dew Point at 6.895 MPa	20°C	- 5°C	- 2°C	- 11°C

Notes:

(i) Approximately 0.97% (mole) of gas in condensed when well head gas is expanded and cooled to 6.895 MPa, - 5°C, yielding gas (2)

(ii) Gas (3) is obtained by ficticious route of obtaining gas (2) then removing 85% of the carbon dioxide.

(iii) Paaratte gas (4) is a random spot analysis.

A.J. STEVENSON

APPENDIX 11

FLOPETROL - IONA #1

GAS ANALYSIS (SFT)

Iona Gas - Analysis of Gas Composition
from SFT Tool.

by:
Flopetrol - Tony Bria
March 1988

PRELIMINARY DATA FROM GAS SAMPLE IN SELECTIVE FORMATION TESTING TOOL

Opening Pressure	:	1,330	psig at 24.8c
Gas Volume	:	966	litres at 25c
Contaminants	:	486	cc mud filterate/water
Resistivity of water	:	1.429	ohm-metres at 25c

MOLECULAR COMPOSITION OF GAS SAMPLE IN SELECTIVE FORMATION TESTING TOOL

COMPONENT	MOLE PERCENT
Nitrogen	3.54
Carbon dioxide	6.02
Methane	84.21
Ethane	3.30
Propane	1.38
I - Butane	0.31
N - Butane	0.38
I - Pentane	0.15
N - Pentane	0.12
Hexanes	0.19
Heptanes plus	0.40
TOTAL	100.00
Molecular weight	19.943
Density (air=1)	0.688
Molecular weight of Heptanes plus	107.9
Density of Heptanes plus	0.699
Z (Brill and Beggs correlation)	0.847

APPENDIX 12

CORE PHOTOGRAPHS

PE906655

This is an enclosure indicator page.
The enclosure PE906655 is enclosed within the container PE902192 at this location in this document.

The enclosure PE906655 has the following characteristics:

ITEM_BARCODE = PE906655
CONTAINER_BARCODE = PE902192
NAME = Core Photographs, 1 of 2
BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = CORE_PHOTOS
DESCRIPTION = Core Photographs, 1 of 2, Appendix 12, Iona-1
REMARKS =
DATE_CREATED =
DATE_RECEIVED = 15/12/88
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

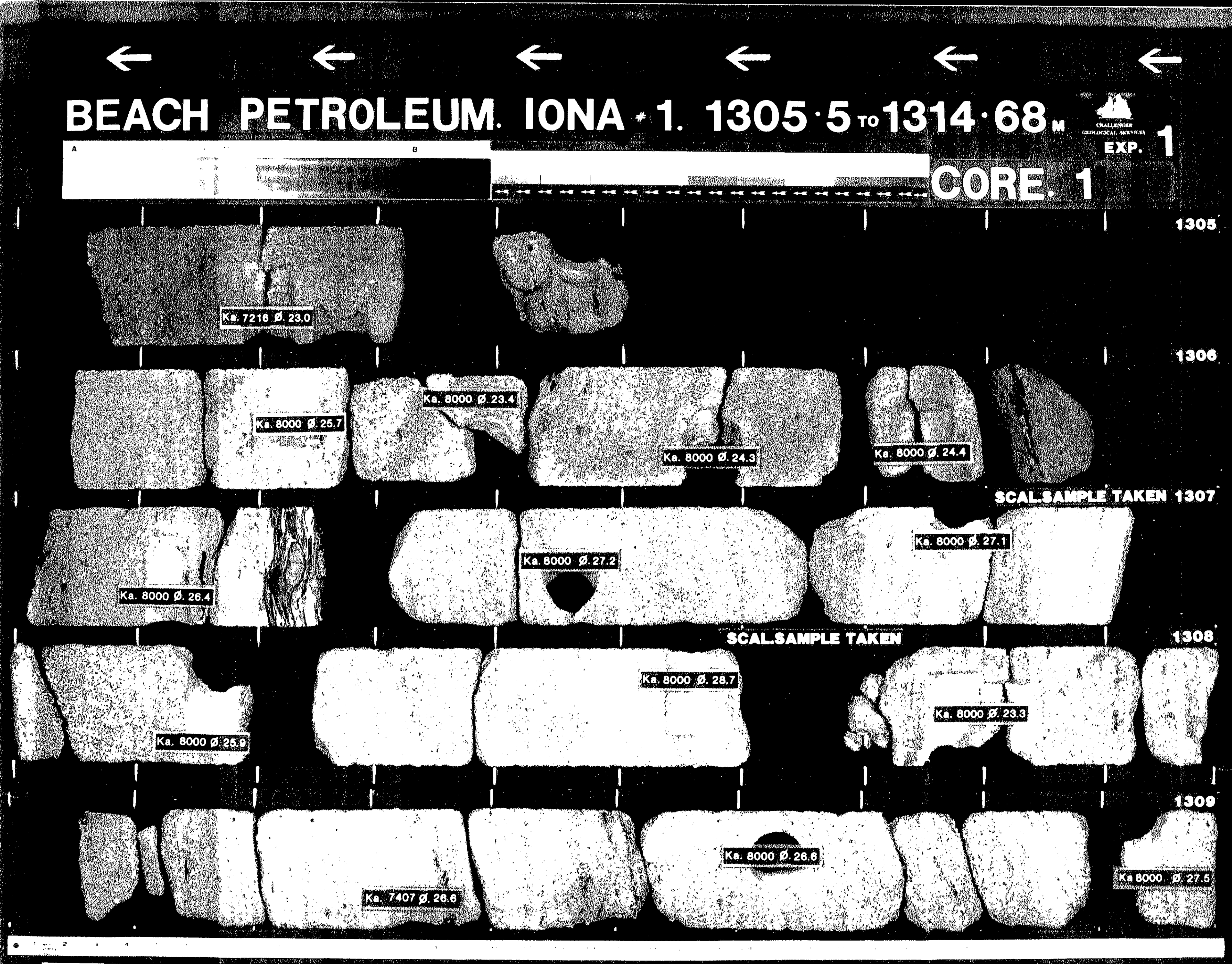
PE906656

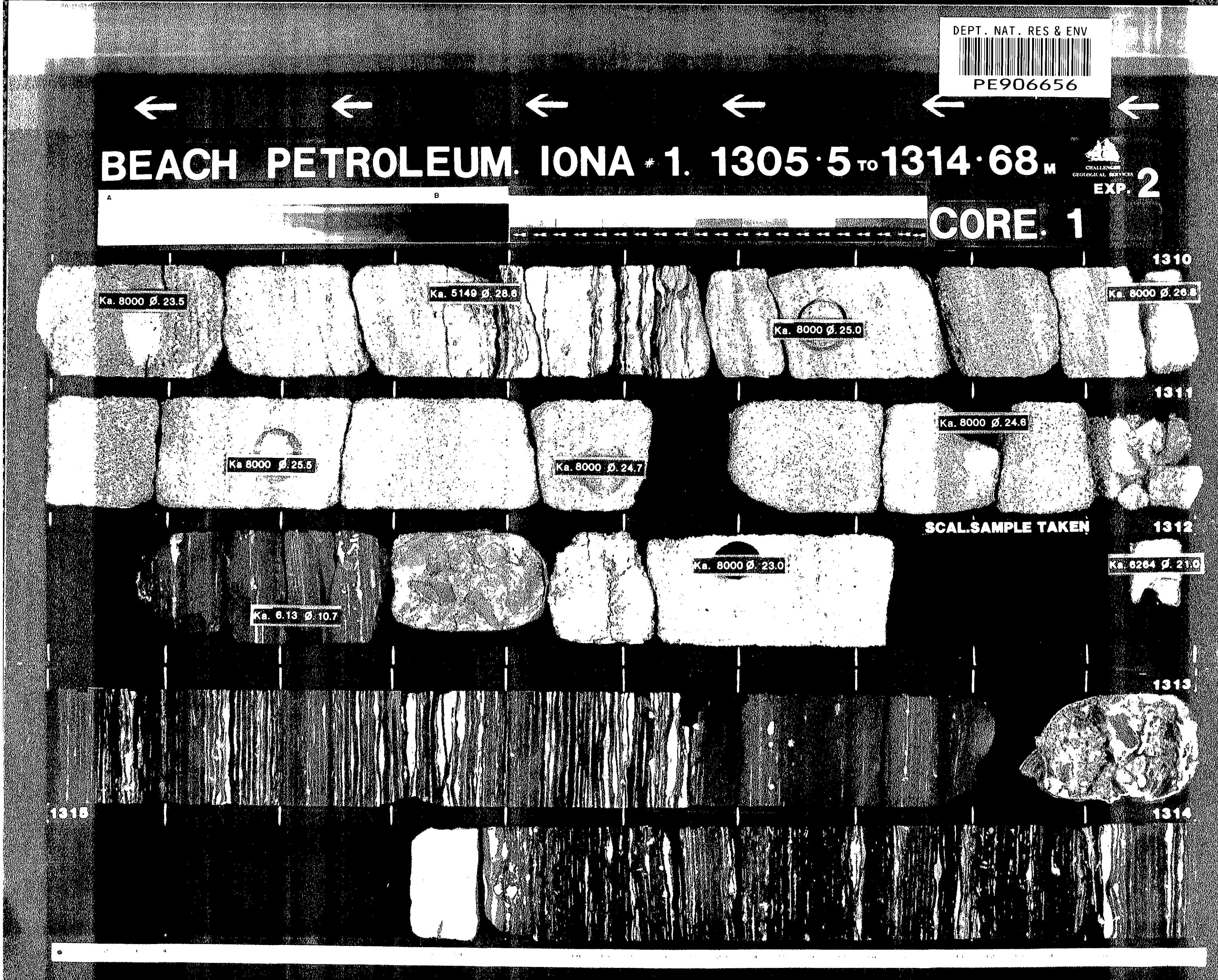
This is an enclosure indicator page.
The enclosure PE906656 is enclosed within the container PE902192 at this location in this document.

The enclosure PE906656 has the following characteristics:

ITEM_BARCODE = PE906656
CONTAINER_BARCODE = PE902192
NAME = Core Photographs, 2 of 2
BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = CORE_PHOTOS
DESCRIPTION = Core Photographs, 2 of 2, Appendix 12, Iona-1
REMARKS =
DATE_CREATED =
DATE_RECEIVED = 15/12/88
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)


BEACH PETROLEUM. IONA #1. 1305·5 TO 1314·68 M
CHALLENGER GEOLOGICAL SERVICES
EXP. 1
CORE. 1
A
B
1305
Ka. 7216 Ø. 23.0
1306
Ka. 8000 Ø. 25.7
Ka. 8000 Ø. 23.4
Ka. 8000 Ø. 24.3
Ka. 8000 Ø. 24.4
SCAL.SAMPLE TAKEN 1307
Ka. 8000 Ø. 26.4
Ka. 8000 Ø. 27.2
Ka. 8000 Ø. 27.1
SCAL.SAMPLE TAKEN
1308
Ka. 8000 Ø. 25.9
Ka. 8000 Ø. 28.7
Ka. 8000 Ø. 23.3
1309
Ka. 7407 Ø. 26.6
Ka. 8000 Ø. 26.6
Ka 8000 Ø. 27.5


BEACH PETROLEUM. IONA # 1. 1305·5 TO 1314·68 M
CHALLENGER GEOLOGICAL SERVICES
EXP. 2
CORE. 1
A
B
1310
Ka. 8000 Ø. 23.5
Ka. 5149 Ø. 28.6
Ka. 8000 Ø. 25.0
Ka. 8000 Ø. 26.8
1311
Ka 8000 Ø. 25.5
Ka. 8000 Ø. 24.7
Ka. 8000 Ø. 24.6
SCAL.SAMPLE TAKEN
1312
Ka. 6.13 Ø. 10.7
Ka. 8000 Ø. 23.0
Ka. 6264 Ø. 21.0
1313
1315
1314

APPENDIX 13

ROUTINE CORE ANALYSIS

OP627k

technology and enterprise

Amdel Limited
(Incorporated in S.A.)
31 Flemington Street,
Frewville, S.A. 5063

Telephone: (08) 372 2700

P.O. Box 114,
Eastwood, S.A. 5063

Telex: AA82520
Facsimile: (08) 79 6623

25 March 1988

F 3/0/0
F 5179/88

Beach Petroleum NL
PO Box 360
CAMBERWELL VIC 3124

Attention: Mr J. Foster

<u>REPORT F 5179/88</u>

YOUR REFERENCE:	Verbal request
TITLE:	Routine core analysis
MATERIAL:	Core plugs
IDENTIFICATION:	IONA-1
DATE RECEIVED:	18 March 1988
WORK REQUIRED:	Porosity, air permeability, grain density

Investigation and Report by: Russell R. Martin

Manager, Petroleum Services Section: Dr Brian G. Steveson

for Dr William G. Spencer
General Manager
Applied Sciences Group

cap

1. INTRODUCTION

On 18 March 1988 a conventional core (1305.5 m-1314.5 m) from Beach Petroleum's Iona-1 well was received at Amdel Limited's Adelaide Laboratory. A verbal request from Beach Petroleum's representative was received concerning the nature of analysis to be performed. The analysis included:

Porosity - ambient conditions only
Air Permeability - ambient conditions only
Grain Density - calculated

2. SAMPLE PREPARATION

The core was laid out according to depth and the core examined. After attempting to drill one-and-one-half-inch diameter plugs in the conventional manner, i.e. tap water as the bit lubricant, it was found that representative samples could not be taken.

Sections of core were packed in dry ice for a period of twelve hours. At which time individual samples were removed and one-and-one-half-inch diameter samples taken using liquid nitrogen as the bit lubricant. Samples were trimmed and faced square while still frozen and mounted in lead sleeves. Weights of the encapsulating lead and screens were recorded.

The samples were then placed in a hassler type cell and pressured to 500 psig to squeeze the lead sleeve to conform to the shape of the sample.

Samples were then placed in a soxhlet extraction apparatus with a 3:1 chloroform/methanol mix to leach any residual hydrocarbons and salts.

Upon completion the extraction samples were placed in a conventional dry oven at 110°C.

3. HELIUM INJECTION POROSITY

Porosity is determined using the Boyles Law helium injection technique to determine sample grain volume. Sample pore volume, in the case of lead sleeve, is determined by loading the samples into a hassler type cell and confining the sample with an external pressure of 400 psig. Helium is again injected and pore volume recorded.

Porosity is then calculated and expressed as a percentage value.

4. PERMEABILITY TO AIR

Permeability to air is also determined whilst the sample is confined in the hassler type cell at 400 psig. A known air pressure is passed through the sample and the differential pressure at the outlet face of the sample is monitored utilising a calibrated orifice and straight tube manometer.

In the majority of cases the samples exceeded the maximum accurate operating limits of the permeameter and are expressed as greater than 8000 millidarcys.

Sample offcuts were retained and a brief lithological description concludes this report.

Amdel Limited would like to thank Beach Petroleum for the opportunity to have been of service with this study. Should you have any questions, or if Amdel Limited can be of further service please do not hesitate to contact us.

LITHOLOGICAL DESCRIPTION

Company: Beach Petroleum
Well: IONA-1
Field: IONA

---

1 No offcut

2 Sst: Lt gry, med-v.crs. gr, cln, p. cmt, sbang-ang, p. srt, v. fri, v. rr cl mtrx, no vis fluor, no cut, pale wh ring.

3 No offcut

4 Sst: Lt gry, med-occ. v.crs. gr, cln, p. cmt, sbang-ang w. crs, p. srt, v. fri, sps cl mtrx, fluor and cut a/a.

5 Sst: lt gry, dom. med-rr crs gr, cln, p. cmt, sbrnd-sbang, p. srt, v. fri, v. sps cl mtrx, fluor and cut a/a.

6 As above.

7 Sst: Lt gry, rr f-occ. crs gr, cln, p. cmt, sbang, p. srt, v. fri rr qtz ovgth, carb spk, fluor and cut a/a.

8 Sst: Lt gry, rr f-occ crs gr, cln, p. cmt, sbang, p. srt, fri, rr qtz ovgth, carb spk, tr pyr carb mat, fluor and cut a/a.

9 Sst: Lt gry, dom med-v. crs grn, cln, p. cmt, sbang, p. srt, v. fri, sps cl mtrx, fluor and cut a/a.

10 Sst: As above. dom crs gr.

11 Sst: As above. dom crs-v. crs gr.

12 Sst: As above. no vis fluor, v. slow milky wh cut.

13 Sst: Lt gry, dom crs-v.crs gr, cln, p. cmt, sbang, v. fri, p. srt, v. sps mtrx, no vis fluor, v. slow milky wh cut.

14 Sst: Lt gry, f-med intbd, crs gr, cln, p. cmt, sbrnd-sbang, mod srt, fri, sps mtrx, carb spk, fluor and cut a/a.

15 Sst: As above.

16 Sst: Lt gry, dom med-occ crs gr, cln, p. cmt, sbrnd, mod srt, v. fri, sps mtrx, fluor and cut a/a.

17	Sst: wh-lt gry, fn med gr, mod cmt, sbrnd, mod srt, fri, sps mtrx, abd carb lam, dull yell fluor along carb lam, instant bright wh cut.
18	Sst: Lt gry, med-dom crs gr, p. cmt, sbang, p. srt, v. fri, v. sps mtrx, carb lam, dull yell fluor along carb lam, instant bright wh cut.
19	Sst: Lt gry, med-dom crs v. crs gr, p. cmt, sbang, p. srt, v. fri, v. sps mtrx, carb spk, rr dull yell p.p. fluor, slow milky cut.
20	Sst: As above.
21	Sst: As above.
22	Sst: As above.
23	Sst: As above.
24	Slst dk gry, v. f gr. sst intbd, pyr lam, no vis fluor, instant milky wh cut.

Table 1

AMDEL CORE ANALYSIS

IONA No. 1 Ambient

Sample	Depth	Permeability (md)	Porosity (%)
1	1305.81	7216	23.0
2	1306.23	>8000	24.4
3	1306.43	>8000	24.3
4	1306.57	>8000	23.4
5	1306.71	>8000	25.7
6	1307.23	>8000	27.1
7	1307.54	>8000	27.2
8	1307.84	>8000	26.4
9	1308.20	>8000	23.3
10	1308.45	>8000	28.7
11	1308.80	>8000	25.9
12	1309.10	>8000	27.5
13	1309.40	>8000	26.6
14	1309.70	7407	26.6
15	1310.00	>8000	26.8
16	1310.3	>8000	25.0
17	1310.60	5149	28.6
18	1310.90	>8000	23.5
19	1311.20	>8000	24.6
20	1311.50	>8000	24.7
21	1311.80	>8000	25.5
22	1312.02	6264	21.0
23	1312.40	>8000	23.0
24	1312.70	6.13	10.7

Table 2

AMDEL CORE ANALYSIS

IONA No. 1 Ambient

Sample	Bulk Volume	Bulk Dry Density	Apparent Grain Density	Absolute Grain Density
1	49.81	2.10	2.72	
2	57.99	2.09	2.76	
3	35.12	2.03	2.68	
4	52.64	2.05	2.67	
5	56.30	1.98	2.66	
6	48.75	1.95	2.68	
7	56.73	1.95	2.68	
8	55.72	1.97	2.67	
9	58.32	2.05	2.67	
10	57.15	1.90	2.67	
11	57.48	1.98	2.67	
12	57.73	1.95	2.68	
13	57.63	1.96	2.67	
14	63.64	1.96	2.67	
15	61.81	1.95	2.67	
16	58.07	1.99	2.65	
17	52.07	1.77	2.48	
18	62.86	2.05	2.67	
19	65.13	2.01	2.67	
20	53.58	2.01	2.67	
21	59.94	1.99	2.67	
22	59.51	2.11	2.67	
23	52.65	2.05	2.67	
24	58.11	2.44	2.73	

APPENDIX 14

CORE ANALYSIS

POROSITY AT OVERBURDEN PRESSURE

SIEVE ANALYSIS

amdel
technology and enterprise

Amdel Limited
(Incorporated in S.A.)
31 Flemington Street,
Frewville, S.A. 5063

Telephone: (08) 372 2700

P.O. Box 114,
Eastwood, S.A. 5063

Telex: AA82520
Facsimile: (08) 79 6623

14 April 1988

Beach Petroleum NL
PO Box 360
CAMBERWELL VIC 3124

Attention: Mr J. Foster

<u>REPORT F 5179/88 - Part 2</u>

YOUR REFERENCE:	Facsimile Number 151/3, 31 March 1988
TITLE:	Core analysis
SAMPLE IDENTIFICATION:	Iona-1
MATERIAL:	Core plugs
WORK REQUIRED:	Porosity at overburden, sieve analysis

Investigation and Report by: Russell R. Martin

Manager, Petroleum Services Section: Dr Brian G. Steveson

Brian Steveson

for Dr William G. Spencer
General Manager
Applied Sciences Group

cap

1. INTRODUCTION

On 31 March 1988 correspondence in the form of a facsimile (your ref. 151/3) was received by Amdel Limited requesting the following additional analyses be performed on selected samples from Iona-1.

- Porosity at overburden
- Sieve analysis

This report now completes the requested analysis.

2. POROSITY - OVERBURDEN CONDITIONS

Eight samples were selected to undergo porosity measurements at a net confining pressure of 2000 psi (13800 kPa). In addition two samples, numbers 1 and 10 were to be measured at confining pressures of 500 psi (2450 kPa) and 1000 psi (6900 kPa).

Samples were loaded into a high pressure hassler cell and pressured to the required overburden. Helium was then introduced and the samples new pore volume determined under hydrostatic loading.

Results of porosity at the net confining pressure were calculated and preliminary results sent to Beach Petroleum by facsimile on 7 April 1988.

3. SIEVE ANALYSIS

Two samples were selected to undergo grain size determinations by dry sieve analysis. Samples were crushed to grain size using a mortar and pestle and quartered by passing the crushed sample through a riffle. Opposite quarters were mixed together and sieve analysis performed on this section of sample.

Results of the sieve analysis confirm that approximately 60 percent of the samples are coarse to very coarse grain sand. In both samples the clay fraction, of under 20 microns, was one percent or less of the bulk sample.

I would like to thank Beach Petroleum for the opportunity to have been of service with this study. If you require any additional information concerning core analysis or special core analysis services that Amdel Limited can provide, please do not hesitate to contact us.

HELIUM INJECTION POROSITY - OVERBURDEN

Company:	Beach Petroleum	Formation:	
Well:	Iona-1	Location:	
Field:	Iona		

Sample ID	Depth (m)	Porosity, percent overburden pressure - psig			
		0	500	1000	2000
1	1305.81	23.0	22.6	21.9	21.0
3	1306.43	24.3			22.1
5	1306.71	25.7			24.2
7	1307.54	27.2			25.8
10	1308.45	28.7	28.5	27.8	27.1
13	1309.40	26.6			25.1
17	1310.60	28.6			26.2
22	1312.02	21.0			19.5

SIEVE ANALYSIS

Company: Beach Petroleum
Well : Iona No. 1
Field : Iona

Formation:
Location :

Method :- Dry Sieve

Sample ID	Depth (metres)	Screen Size (microns)	Weight Retained	Cummulative Weight Percent
1	1306.23	1600	15.90	9.7
		1200	26.99	26.3
		1000	22.00	39.8
		710	31.20	58.9
		600	15.40	68.4
		500	10.50	74.8
		355	10.74	81.4
		250	8.28	86.5
		180	3.90	88.9
		105	4.78	91.8
		75	3.30	93.8
		53	3.03	95.7
		38	3.84	98.0
		20	2.17	99.4
		< 20	1.06	100.0

SIEVE ANALYSIS

Company: Beach Petroleum
Well : Iona No. 1
Field : Iona

Formation:
Location :

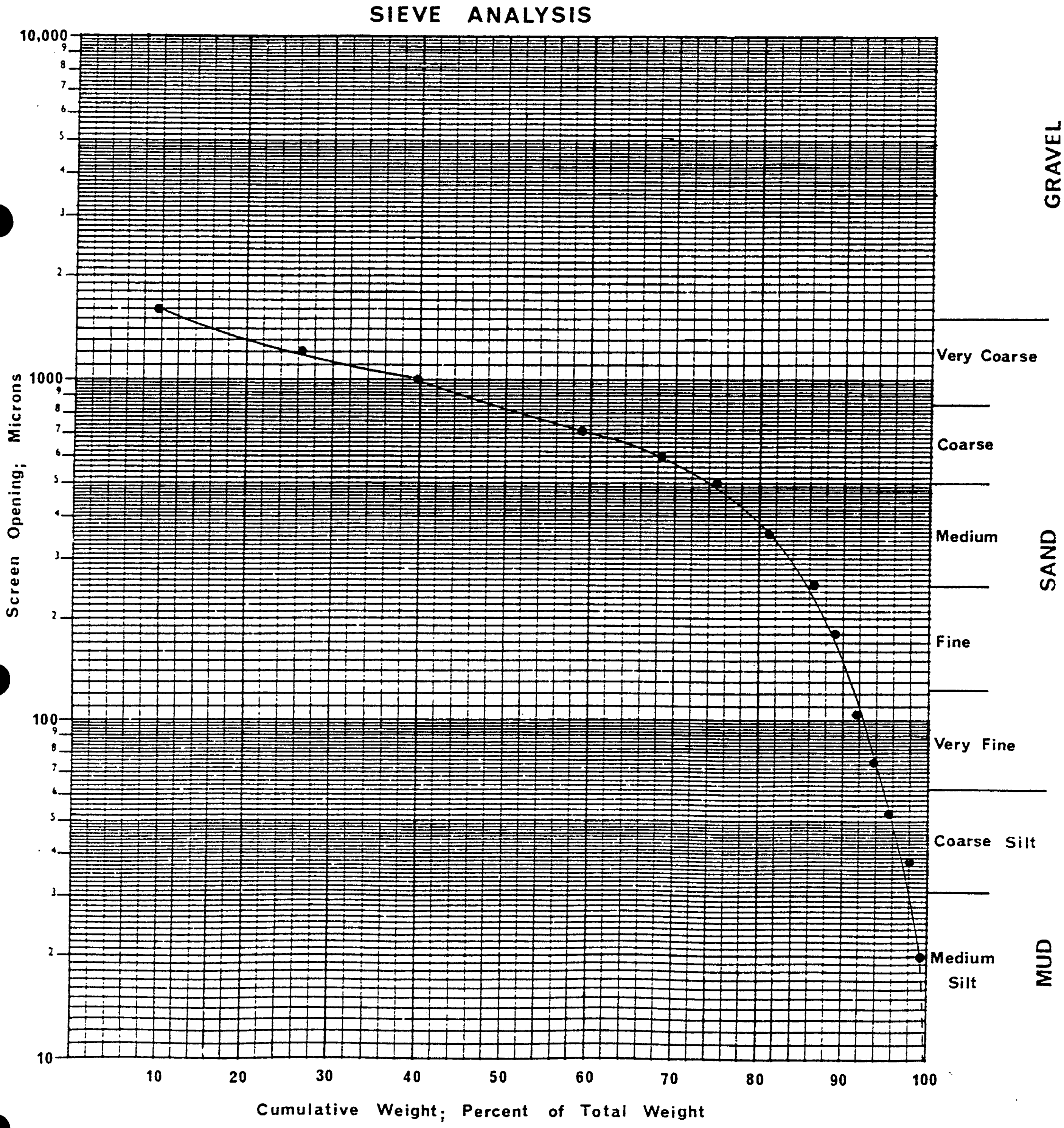
Method :- Dry Sieve

Sample ID	Depth (metres)	Screen Size (microns)	Weight Retained	Cummulative Weight Percent
2	1310.00	1600	5.10	4.4
		1200	7.50	10.8
		1000	10.30	19.7
		710	27.50	43.3
		600	16.10	57.1
		500	12.31	67.7
		355	14.61	80.2
		250	10.47	89.2
		180	4.60	93.2
		105	2.93	95.7
		75	1.46	96.9
		53	0.87	97.7
		38	0.70	98.3
		20	0.83	99.0
		< 20	1.17	100.0

Company: Beach Petroleum
Well: Iona-1
Field: Iona

Formation:
Location:

Sample 1 1306.23 m

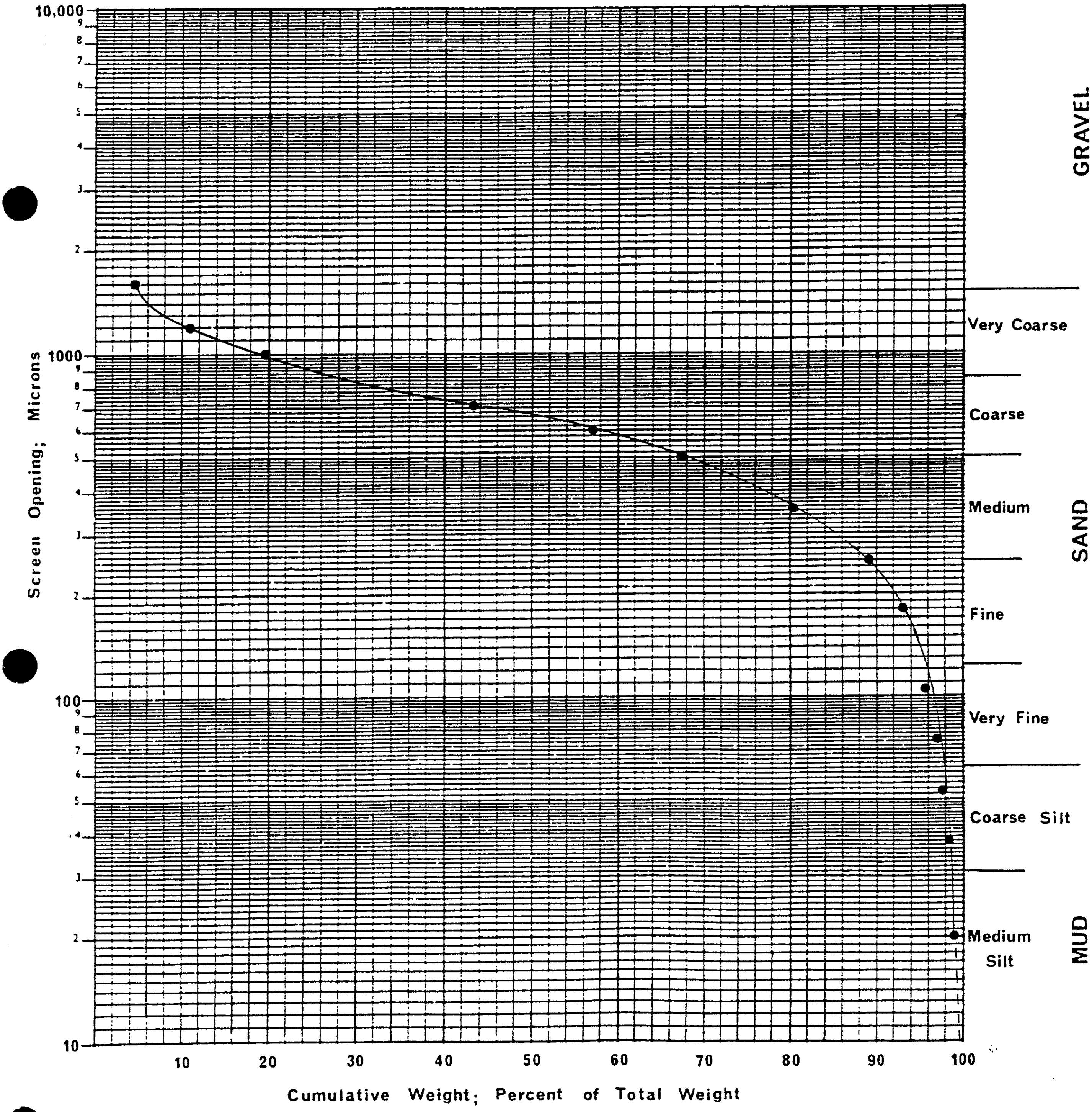


Company: Beach Petroleum
Well: Iona-1
Field: Iona

Formation:
Location:

Sample 2 1310.00 m

SIEVE ANALYSIS



APPENDIX 15

FORMATION RESISTIVITY FACTOR

RESISTIVITY INDEX

technology and enterprise

Amdel Limited
(Incorporated in S.A.)
31 Flemington Street,
Frewville, S.A. 5063

Telephone: (08) 372 2700

P.O. Box 114,
Eastwood, S.A. 5063

Telex: AA82520
Facsimile: (08) 79 6623

27 May 1988

Beach Petroleum NL
PO Box 360
CAMBERWELL VIC 3124

Attention: Mr J. Foster

REPORT F 7197/88

YOUR REFERENCE:	Fax No. 72/4, 19 April 1988
TITLE:	Special core analysis
SAMPLE IDENTIFICATION:	IONA-1
MATERIAL:	Core plugs
WORK REQUIRED:	Formation resistivity factor and resistivity index

Investigation and Report by: Russell R. Martin

Manager, Petroleum Services Section: Dr Brian G. Steveson

Brian GSteveson.

for Dr William G. Spencer
General Manager
Applied Sciences Group

cap

1. INTRODUCTION

Correspondence was received by Amdel Limited on 19 April 1988 (your ref.: facsimile no. 72/4 19 April 1988) requesting the following analyses be performed:

- Formation resistivity factor
- Formation resistivity index

on selected samples from Iona-1 well.

The three samples selected had previously undergone routine core analysis conducted by Amdel Limited and porosity at a net overburden pressure of 13,800 kPa (2000 psi).

2. PROCEDURES AND RESULTS

The samples were frozen prior to removing the encapsulating lead sleeve and screens, then wrapped in teflon tape and encapsulated in a rubber sleeve before loading into the electrical properties cells. The required overburden pressure of 13,800 kPa (2000 psi) was then applied using a mineral oil to the outside of the sample.

Samples were then evacuated and the simulated formation brine consisting of 80% NaCl, 10% $CaCl_2$ and 10% KCl was introduced to the sample. Brine was slowly flushed through the sample until a stable resistivity reading was obtained indicating ionic equilibrium had been achieved.

Samples were allowed to stand for approximately 24 hours to ensure equilibrium had been attained.

Humidified air was then introduced to the sample to displace some of the brine and establish the first saturation point from which to commence resistivity index measurements.

Resultant plots of formation resistivity factor versus porosity fraction yield a value for `m', the cementation exponent of 1.74.

Archie reported that the cementation exponent probably ranged from 1.8 to 2.0 for clean consolidated sandstones and as low as 1.3 for clean unconsolidated sands.

Pirson(1) adapted Archie's work to produce a family of curves for formation factor versus porosity percent for various reservoir characteristics or cementation classes.

From Pirson's work slightly cemented sands fall in the range of 1.55 to approximately 1.75 for `m', the cementation exponent.

The samples from Iona-1 range from very slightly cemented to moderately cemented across the cored interval and the measured value of `m' for this formation falls within the slightly cemented class as described by Pirson.

Resultant plots of formation resistivity index yield values for `n', the saturation exponent of between 1.99 and 2.17. The composite plot yields a value for `n' of 2.08.

Cation exchange capacity measurements are generally performed on shaly sand formations to refine electric log data and provide values of F*, m* and a*. Cation exchange capacity values can also be used for better correlation with Rw data. Bearing in mind that the brine used to determine `m', `n' and `a' for Iona is not the actual brine concentration present in the reservoir but of one close by, values may need to be adjusted slightly. However, as Iona is a relatively homogeneous clean sand the adjustment in `m' and `n' because of a different brine concentration will in all probability be minimal.

As Iona is a very clean sand and based on the petrographic work carried out, very low values for cation exchange capacity would be expected for this reservoir sand which would not influence the calculation of F*, m* and a* to any significant extent. Therefore, cation exchange capacity determinations in this case are probably unnecessary.

3. REFERENCES

(1) PIRSON, S.J. "Oil Reservoir Engineering". McGraw Hill Book Company.

FORMATION RESISTIVITY FACTOR AS A FUNCTION OF OVERBURDEN

Company: Beach Petroleum
Well: Iona-1
Field: Iona

Formation:
Location:

Overburden pressure: 2000 psi
Saturant: 25000 ppm
Rw of saturant: 0.26 ohm.m @ 25°

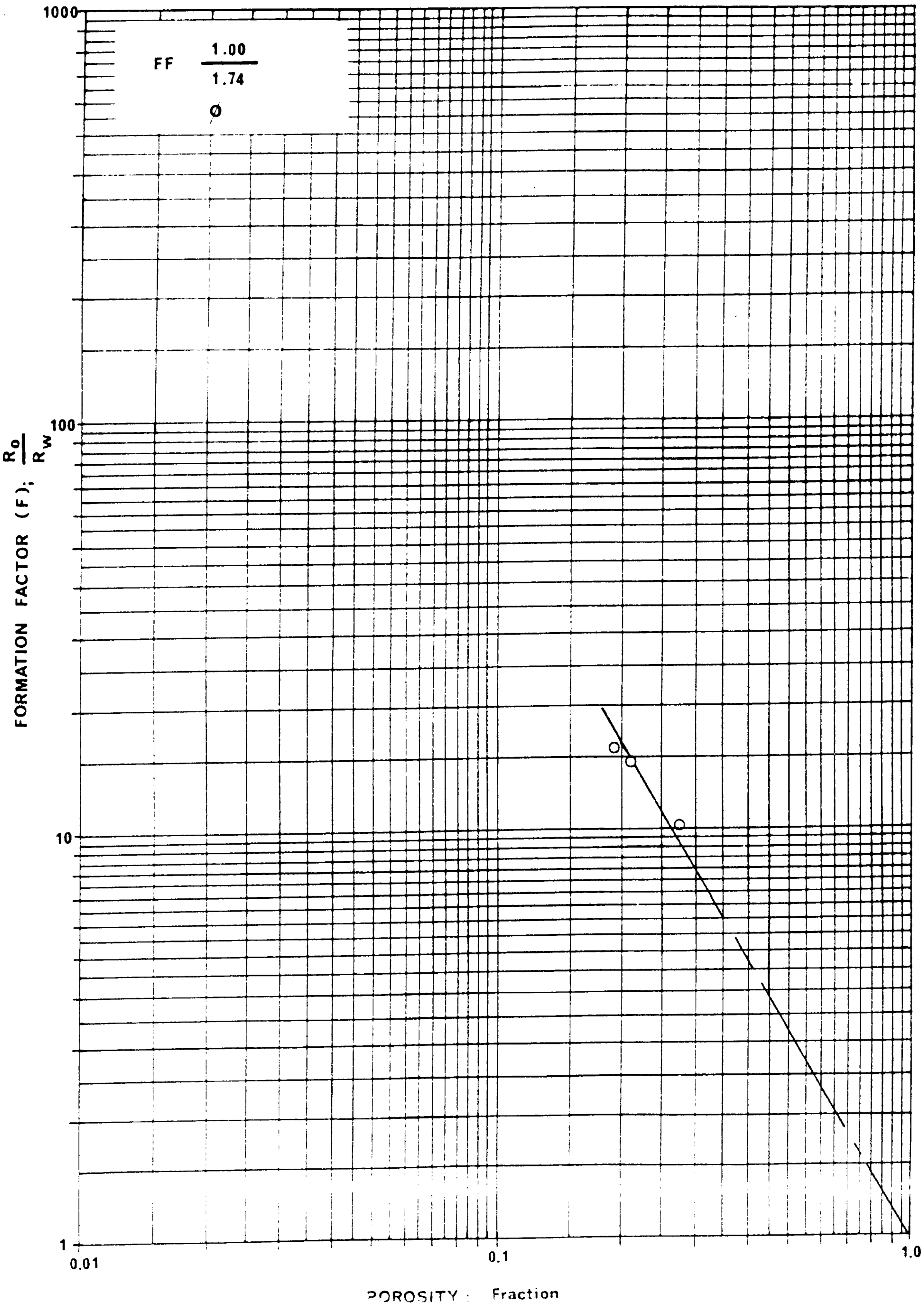
Sample ID	Depth m	Permeability to Air millidarcys	Porosity %	Formation Resistivity Factor
1	1305.81	7216	21.0	14.7
10	1308.45	>8000	27.1	10.1
22	1312.02	6264	19.5	16.5

Company: Beach Petroleum
Well: Iona-1
Field: Iona

Formation:
Location:

Saturant: 25,000 ppm
Overburden Pressure: 2000 psi

FORMATION RESISTIVITY FACTOR



FORMATION RESISTIVITY INDEX AS A FUNCTION OF OVERBURDEN

Company:	Beach Petroleum	Formation:	
Well:	Iona-1	Location:	
Field:	Iona		

Overburden pressure: 2000 psi
Saturant: 25000 ppm
Rw of saturant: 0.26 ohm.m @ 25°

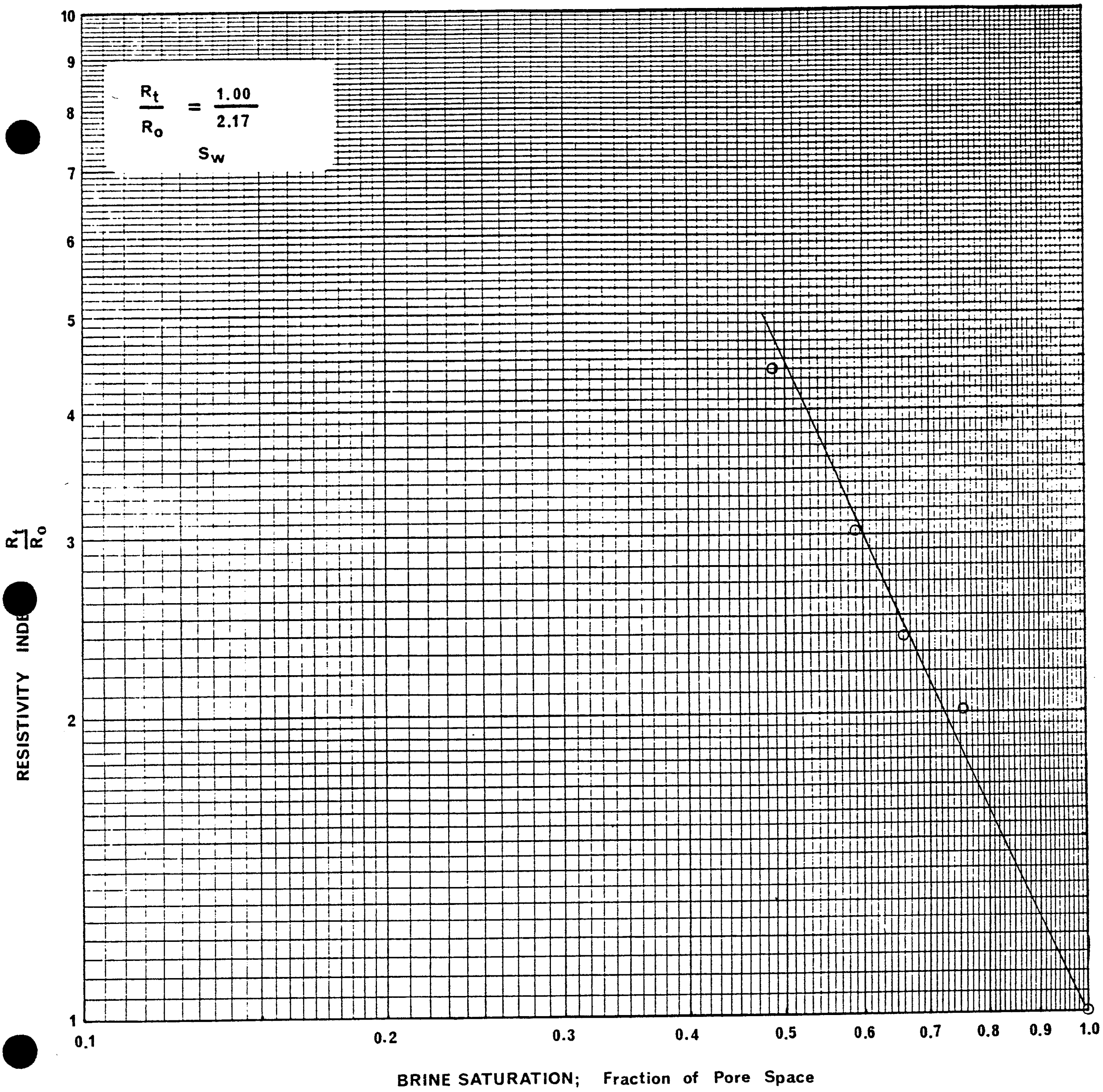
Sample ID	Depth m	Permeability to Air, millidarcys	Porosity %	Formation Resistivity Factor	Brine Saturation % Pore Space	Formation Resistivity Index
1	1305.81	7216	21.0	14.7	100.0	1.00
					75.1	1.89
					63.8	2.47
					56.7	3.16
					45.6	4.84
10	1308.45	>8000	27.1	10.1	100.0	1.00
					75.3	2.01
					65.9	2.37
					58.8	3.02
					48.7	4.40
22	1312.02	6264	19.5	16.5	100.0	1.00
					75.2	1.90
					64.0	2.35
					54.3	3.19
					42.1	5.21

Company: Beach Petroleum
Well: Iona-1
Field: Iona

Formation:
Location:

Sample No. 10
Saturant: 25,000 ppm
Overburden Pressure: 2000 psi

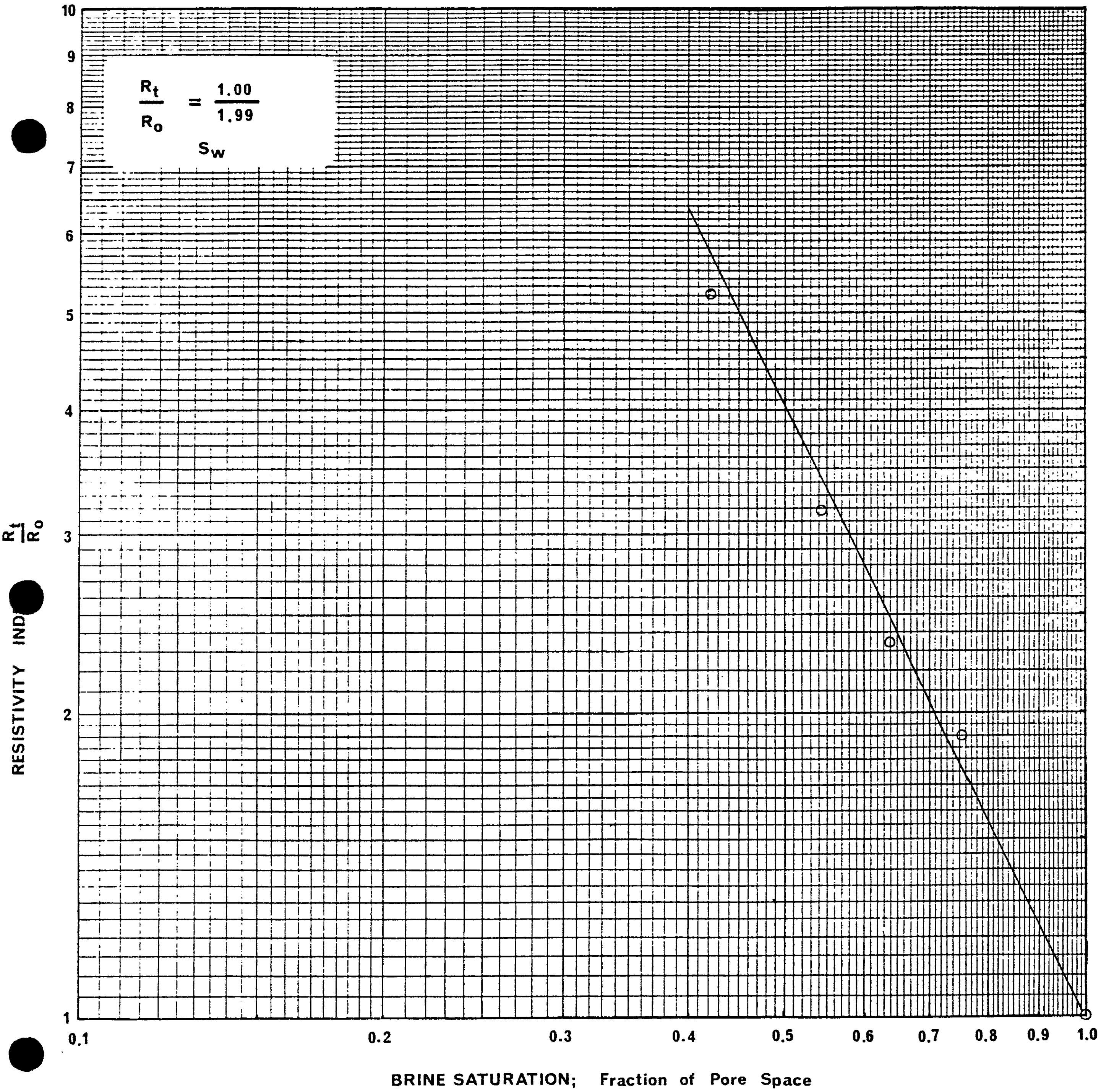
FORMATION RESISTIVITY INDEX



Company: Beach Petroleum
Well: Iona-1
Field: Iona

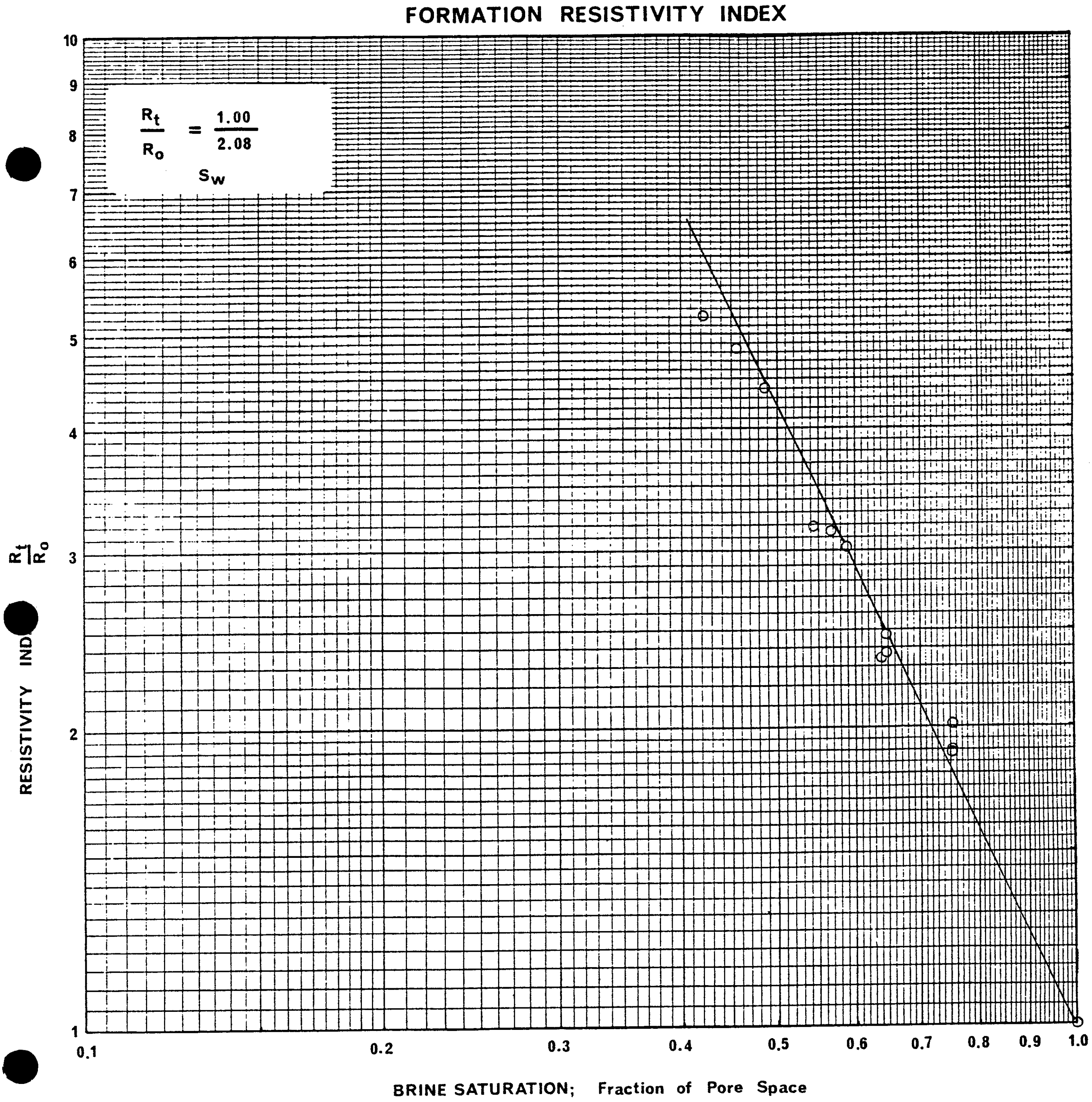
Formation:
Location:

Sample No. 22
Saturant: 25,000 ppm
Overburden Pressure: 2000 psi


FORMATION RESISTIVITY INDEX

Company:	Beach Petroleum	Formation:	
Well:	Iona-1	Location:	
Field:	Iona		

Composite
Saturant: 25,000 ppm
Overburden Pressure: 2000 psi



APPENDIX 16

RESIDUAL GAS ANALYSIS

BEACH PETROLEUM
IONA #1
SPECIAL CORE ANALYSIS

Western Atlas International
A Litton/Dresser Company

CORE LABORATORIES

July 13, 1989

Beach Petroleum
GPO Box 7096
Sydney NSW 2001

Attention: Mr. A. Buffin

Subject : Special Core Analysis
Well : Iona #1
File : 318-88004

Dear Sir,

Core Laboratories was requested by Mr. A. Buffin of Beach Petroleum to perform residual gas determination on samples from the subject well.

Preliminary data was sent via telex on the 19th July 1988. This report finalizes all data.

Core Laboratories thanks you for the opportunity to have been of service with this study. If you have any questions, please feel free to call.

Yours sincerely
CORE LABORATORIES

p/

Peter Lane
Petrophysical Laboratory Supervisor

PRL:jc

Core Laboratories
Western Atlas International Inc. incorporated in Delaware USA.
A limited liability company
P.O. Box 785 Cloverdale W.A. 6105. Tel: (09) 353 3944. Tlx: AA 94706. Fax: (09) 353 3963.

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SUMMARY

Residual gas saturations determined tend to have a relationship with initial gas saturation. The highest residual gas saturation recorded corresponded to the highest initial gas saturation.

RECOMMENDATIONS

Capillary Pressure : Drainage capillary pressure tests will help in determining the water saturation profile in the reservoir.

Water-Gas Relative Permeability : Relative permeability data is necessary to properly model the reservoir performance.

SUMMARY OF DATA

IONA #1

		Max	Min	Ave.
Porosity, percent	Ø	24.6	21.0	22.7
Permeability to air, millidarcies	Ka	10,000	7,000	8,930
Residual Gas Saturation, percent pore volume	Sgr	38.6	28.9	32.4
Gas Recovered, percent pore space	Sgm	61.9	55.2	59.6

DISCUSSION OF LABORATORY PROCEDURES AND RESULTS

SAMPLE PREPARATION

Three one-and-one-half inch diameter samples were received at our laboratory in Perth for testing. Two were enclosed in lead sleeves and the third wrapped in teflon tape. The teflon tape was removed from the sample prior to cleaning in hot toluene and methanol with the other two samples. The samples were then dried at 115°C to constant weight. Permeability to air and porosity were determined.

REDISUAL GAS SATURATION : COUNTER CURRENT IMBIBITION METHOD (Page 4)

After the initial room conditions permeability and porosity were determined, the samples were evacuated under toluene and then reduced to the desired "irreducible water saturation" by controlled drying. Each of the samples was then suspended under toluene and weight gain monitored as a function of time. Each test was terminated when there was negligible change in weight versus time. The residual gas saturations were calculated from these data and are tabulated on page 4.

The residual gas saturation obtained for the samples show a trend. The sample with the most initial gas in place has the greatest residual gas saturation.

RESIDUAL GAS SATURATION BY COUNTER CURRENT IMBIBITION

Company : Beach Petroleum
Well : Iona #1

Sample I.D.	Depth, meters	Permeability to Air, millidarcys	Porosity, percent	Initial Liquid Saturation, percent pore space	Residual Gas Saturation, percent pore space	Gas Recovered	
						percent pore space	percent gas in place
10	1308.45	9800	21.0	8.7	29.6	61.7	67.6
16	1310.30	7000	24.6	6.2	38.6	55.2	58.8
23	1312.40	10000	22.4	9.2	28.9	61.9	67.4

APPENDIX 17

PETROGRAPHY AND XRD STUDIES

amdel
technology and enterprise

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12 May 1988

Beach Petroleum NL
PO Box 360
CAMBERWELL VIC 3124

Attention: Mr A. Buffin

REPORT F 7184/88

YOUR REFERENCE: Letter of 11 April 1988

MATERIAL: SWC

LOCALITY: IONA-1

WORK REQUIRED: Petrography and X-ray diffraction

Investigation and Report by: Dr Brian G. Steveson and
Dr Roger N. Brown

Manager, Petroleum Services Section: Dr Brian G. Steveson

for Dr William G. Spencer
General Manager
Applied Sciences Group

cap

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1. INTRODUCTION

Thirty SWC samples were received, some for petrography and 14 for XRD analysis. Only 8 of the latter contained sufficient sample for the analysis.

2. PETROGRAPHY

SWC 2; 1453 m, Eumeralla Formation

Rock Name:
Lithic sandstone

Thin Section:
An optical estimate of the constituents gives the following:

Constituent	%
Lithic fragments	60
Quartz	15
Feldspar	10
Authigenic kaolinite(?)	10?
Carbonate	3
Mica	1

This rock is characterised by the abundance of fine-grained lithic fragments and of detrital plagioclase. Although the material appeared to be well sorted the detritus is generally angular in shape and appears to have been derived very largely from an adjacent source area which contained abundant fine-grained igneous rocks. The lithic material is characterised by its heterogeneity on a scale of 0.1 to 0.2 mm but it is possible that there is some genuine matrix material in the rock and this may well be represented now by widely distributed fine-grained weakly birefringent material which is tentatively interpreted as being kaolinite. This material is sufficiently well crystallised to either have formed by precipitation from pore waters or by neoformation from original matrix clays in the diagenetic environment. Carbonate has a patchy distribution in the rock and appears to be invariably a replacement mineral (commonly after feldspar).

Quartz, mica and many lithic fragments are well sorted about an average size of approximately 0.2 mm. There are smaller grains, particularly feldspar, but it is thought likely that these have been derived from partially altered and disaggregated lithic clasts. The sand grade feldspar largely consists of plagioclase but there is a minor proportion of turbid, altered feldspar which is thought to be potassic in composition. Some of the plagioclase shows chemical zonation which is good evidence of a volcanic origin. Mica is a minor detrital phase and consists mainly of distorted but only slightly altered flakes of biotite.

The lithic grains are commonly fine-grained and most are more or less brown and turbid in plane polarised light. It is thought that probably at least 25% of the grains could be interpreted as being fine-grained volcanic rocks probably of intermediate or acid composition and commonly containing microphenocrysts of plagioclase. Other grains are readily identifiable fine-grained metamorphic rocks and it is thought likely that a considerable proportion of the indeterminate dark fine-grained grains are also shaley or slatey rocks of some kind.

The authigenic kaolinite referred to above occurs as small monomineralic aggregates apparently between the sand grade grains. In some places the kaolinite occurs within lithic grains and it is not clear whether this is a replacement texture or whether kaolinite has filled cavities in already partly disaggregated lithic fragments. In the case of the carbonate mineral this appears to be almost definitely a replacement phase and it has a patchy distribution within certain of the lithic fragments. Aggregates of carbonate are invariably extremely irregular in shape and commonly not more than approximately 0.2 mm in size.

There is very little porosity which can be specifically ascribed to this rock and this impervious nature results from the abundance of soft lithic fragments which have been squeezed into pore throats during lithification and compaction of the rock.

FIGURES

Figure 1	Time structure at near top Flaxmans (~ top Waare) by AR Hoare (8/87) with an optimistic contour option illustrating "blue sky" potential for ~700 acre area inside the interpreted LCC.
Figure 2	Extrapolated BHT Graph: Temperature vs (t + T/ t)
Figure 3	Pickett Plot: Log Rt vs Log ϕ Constraints on input: Vsh < .3 Sw > .7 ϕ > .07 Interpreted water line slope = m = 1.74 with its intercept at 100% ϕ = Rw = .24 ohm - m^2 52.4°C (midpt BHT).
Figure 4	Soft Formation Vshale Model (VSHGR-TERT'Y) vs Linear (older rocks) Vshale Model for Iona no. 1, 1255 to 1381m.
Figure 5	Restored State Core PHI Functions.
Figure 6	Log plot of VSH, PHI, (1-Sw)*PHI and (Sxo-Sw)*PHI

SWC 5; 1407 m; Eumeralla Formation

Rock Name:
Lithic sandstone

Thin Section:
An optical estimate of the constituents gives the following:

Constituent	%
Lithic fragments	70
Quartz	15
Feldspar	<5
Carbonate	7-10
Mica	1

This rock is somewhat coarser grained than the two described above and this can be seen particularly in the apparent grain size of the lithic fragments with many showing subangular outlines and an average size of about 0.3 mm. Quartz grains commonly range up to about 0.25 mm in size but there appears to be a considerable tail of finer quartz grains. Some of these can be discounted as probably being derived from fragmented lithic clasts. The quartz grains tend to be subangular to angular in outline as do the grains of feldspar. The latter consists predominantly of plagioclase with a smaller amount of altered potassic feldspar. The plagioclase is characterised by perfect freshness and, in this rock, some complexity of twin laws.

Fully two thirds of the volume of the rock consists of lithic grains and many of these are fine-grained igneous rocks characterised by a dark aphanitic matrix within which are microphenocrysts of tabular plagioclase. Other lithic fragments consist of fine-grained clays, quartz and (occasionally) micas and feldspar. Such rocks are more difficult to identify in the absence of specifically volcanic features but many can be interpreted as being fine-grained sedimentary and metasedimentary lithologies. There are instances of distinctly schistose rocks and one or two aggregates in which biotite and chlorite are abundant may be remnants of basic igneous rocks. The lithic fragments have been deformed and crushed during compaction of the rock and now form a contiguous mosaic within which the quartz and feldspar grains are separated from each other.

The sample contains relatively abundant carbonate and this forms rather ragged crystals up to approximately 0.15 mm in size. These are widely distributed throughout the area of the thin section and the carbonate is interpreted as being a late phase which has preferentially replaced some material. It is likely, however, that much of the original porosity of the sand was occluded by compaction effects on the soft lithic fragments before the carbonate crystallised.

SWC 7; 1391.5 m; Eumeralla Formation

Rock Name:
Granular lithic sandstone

Thin Section:

The granules in this rock invariably consist of fine-grained sedimentary and metasedimentary lithologies and they are present as tabular grains commonly 2-4 mm in length and about 1 mm in thickness. Such granules comprise approximately 50-60% of the volume of the rock. The remainder is composed of a lithic sandstone similar in many respects to the three lithic sandstones described above from the Eumeralla Formation. From a mineralogical point of view the rock is dominated by the fine-grained metasedimentary clasts and these consist of abundant clay, mica and quartz in sizes ranging from submicroscopic to barely siltgrade.

The lithic sandstone has an average grain size of about 0.2 mm and contains approximately 30% of quartz with small amounts of the detrital feldspar and fairly abundant sand grade lithic grains. Many of the latter are of volcanic origin and show trachytic or similar textures with microphenocrysts of plagioclase. There are one or two small aggregates of chlorite and epidote which testify to the presence of original basic igneous fragments which have probably now have been disaggregated during compaction and diagenesis of the rock. Despite this, however, many of the lithic fragments in this part of the rock do contain subangular outlines and a fairly compact shape. An interesting feature of this sandstone is the presence of what appears to be opaline silica or a similar amorphous cement. This has a distinctly patchy distribution and does not comprise more than 1 or 2% of the volume of the rock. Where this cement occurs the grains are usually outlined by a thin rim of a—very early cement which may well be chlorite. In the balance of the rock the space between the grains is occupied by crushed and deformed remnants of lithic fragments.

As indicated above the rock contains abundant large detrital grains of a sedimentary or low grade metamorphic rock best described probably as a shale. The alignment of these fragments defines the bedding in the rock and sand grade fragments have been pushed into the upper and lower surfaces of these large clasts.

SWC 10; 1347.5 m; Waarre Formation

Rock Name:

Very fine-grained lithic sandstone

Thin Section:

An optical estimate of the constituents gives the following:

Constituent	%
Quartz	75
Lithic fragments/matrix	25
Carbonate	5
Mica	1

The average grain size of quartz in this rock is approximately 0.12 mm but there is a considerable population of grains of the order of 0.05 mm in size. Even so, the sorting of the rock appears to be at least moderate but the grains tend to be rather angular in shape as is typical of grains of about this size. Feldspar has not be specifically identified but it is possible that there is a little altered feldspar amongst the smaller grains; certainly, there is not the same population and diversity of feldspars as in the samples from the Eumeralla Formation. The quartz grains in this rock generally have point contacts and there is only sparse evidence of any compaction and pressure solution effects on the quartz grains.

Minor detrital phases are a few stable heavy mineral grains (principally tourmaline and opaques) and small deformed flakes of mica of which both muscovite and biotite were specifically identified.

As is commonly the case with sandstones such as these, problems arise in the interpretation and identification of the fine-grained intergranular material. In this rock such material is almost colourless in plane polarised light but is dark between crossed Nicols. The material certainly varies somewhat from place to place and on a scale similar to the size of the quartz grains. However, problems arise in fields of view in which there appears to be essentially a gradation from small detrital quartz grains to somewhat coarser patches of matrix. The author's view is that the material represents fine-grained material deposited essentially at the same time as the very fine sand and silt grade quartz. It appears to consist of extremely fine-grained quartz and numerous wisps of mica and other phyllosilicate minerals. There may be a small amount of fine-grained sedimentary lithic material in addition but there is little specific evidence for this in the thin section. Only where there are more birefringent clays in what may well be low grade metamorphic fragments can material be specifically identified as being of lithic origin.

The sample contains a small amount of authigenic carbonate which in some places forms very fine-grained aggregates up to 0.2 mm in size. The carbonate is interpreted as being a late diagenetic, replacement feature.

SWC 12; 1328 m; Waarre Formation

Rock Name:
Very fine-grained lithic sandstone

Thin Section:
An optical estimate of the constituents gives the following:

Constituent	%
Quartz	75-80
Lithic fragments	15
Lithic/matrix	15
Carbonate	7
Mica	1

This sample is fundamentally similar to that described above particularly in the shape and grain size distribution of the quartz grains. One or two altered feldspar grains were specifically identified in this sample but they probably comprise significantly less than 1% of the volume of the rock as a whole.

The most interesting feature of the rock is the fine-grained matrix in that there is more evidence in this rock that at least some of this material is definitely very fine sand grade lithic clasts. These tend to be composed of minerals of a low birefringence and a very small grain size and many are slightly elongate. There are variations which are particularly evident in the degree of turbidity and colour and in the abundance or paucity of birefringent minerals (probably illite/sericite). Even so, probably more than half of this fine-grained intergranular material has to be described as indeterminate origin and could be derived from an original muddy matrix which was deposited the same time as or soon after quartz. It is likely that much of this material is probably fine-grained quartz and low birefringence minerals such as kaolinite.

Minor detrital phases are fairly well defined flakes of mica and small amounts of stable heavy minerals.

Diagenetic activity is shown by some evidence of pressure solution effects on the quartz grains and the rock is altogether more tightly compacted than the sample described above. There is a small proportion of long and curved contacts but point contacts or contacts with smears of fine-grained material between the grains definitely predominate. Carbonate is present in all fields of view and ranges from fairly well defined elongate aggregates of fine-grained material to innumerable very small granules scattered throughout the rock. The carbonate is clearly of authigenic origin but it may well have been derived from a local source; for example, sparse limestone clasts. One or two of the aggregates of carbonate show unusual shapes and these may be remnants of somewhat altered ?shell fragments.

SWC 13; 1324 m; Waarre Formation

Rock Name:

Granular lithic sandstone

Thin Section:

An optical estimate of the constituents gives the following:

Constituent	%
Quartz	80
Lithic/matrix	20
Feldspar, carbonate and mica	Trace

Much of the rock consists of a very fine-grained sandstone with an indefinite population of grains of the order of 0.2 to 0.3 mm in size. The rock also contains, however, a few grains more than 1 mm in size and these, together, comprise about 10% of the volume of the rock.

The finer-grained part of the rock is similar to the other Waarre Formation rocks described above in that it consists of moderately well sorted rather angular quartz grains surrounded by a contiguous mosaic of fine-grained material which, in this case, is thought to be at least 50% of lithic origin. The quartz shows moderate sorting and there is some evidence of a distinct skew or tail to the grain size distribution towards grains which range in size from about 0.2 to 0.25 mm whereas the average grain size of the bulk of the rock is of the order of 0.1 mm. Feldspar is present and both plagioclase and untwinned turbid material were identified. The plagioclase is relatively fresh and shows sharp twin plane traces. Neither mineral is present in more than trace amounts. The rock also contains small amounts of detrital mica and widely dispersed small crystals of authigenic carbonate.

The intergranular material comprises about a fifth of the volume of the rock and consists of extremely fine-grained quartz, clay and mica. The material is clear in plane polarised light and shows dark colours under crossed Nicols except in a few instances where there are fairly well defined metamorphic and metasedimentary lithologies which contain sericite, mica and illite. The bulk of the material is rather indeterminate and could well represent recrystallised original matrix material. In places, however, there are distinct and definite lithic fragments composed of this dark material and these are usually defined by some evidence of the shape of the original lithic grain.

The rock contains a very distinct population of granules apparently randomly embedded in the very fine-grained sand material which comprises the bulk of the rock. One of these granules consists of extremely shattered and altered untwinned feldspar but the other grains are subangular to subround grains of quartz.

The thin section contains somewhat more porosity than many of the samples described above but the porosity which can be attributed to the rock in situ is fine-grained and patchy and probably shows little interconnection in three dimensions.

SWC 20; 1276.5 m; Waarre Formation

Rock Name:
Argillaceous sideritic sandstone

Thin Section:
An optical estimate of the constituents gives the following:

Constituent	%
Quartz	30
Feldspar	2
Carbonate	20
Green clay	10
lithic/clay	40

This sample is quite different from the other rocks from this formation described above; it is characterised by abundant fine-grained material some of which is definitely of lithic origin but some is green phyllosilicates which appear to be diagenetic. The whole of the fine-grained part of the rock has been invaded and partly replaced by a carbonate mineral which is tentatively identified as siderite.

The quartz and feldspar are present as well sorted grains which have an average size of approximately 0.15 to 0.2 mm. Except where they have been corroded during diagenesis, these grains tend to be subangular to angular in shape but fairly compact. There is a variety of feldspars including not only plagioclase and untwinned potassium feldspar but also some complex intergrowths of quartz and feldspars in micrographic-like textures. These grains are widely separated from each other by the finer grained components of the rock.

In the bulk of the rock there is an admixture of apparently monomineralic aggregates of green clay, abundant brown-stained clay material and diagenetic siderite. The green aggregates are generally fine-grained and show varying pleochroism. It is thought that some of these are monomineralic aggregates of chlorite and even, in some cases, individual flakes as much as 0.15 mm in length. More common, however, are fine-grained aggregates which appear to have a moderate birefringence and can be tentatively assigned to glauconite. Aggregates of this mineral range in size up to about 0.4 mm and this mineral is interpreted as being in some way of authigenic origin and it probably indicates that the environment of deposition had marine affinities.

Other fine-grained intergranular material ranges from brown-stained clays which could be derived from original lithic fragments or could represent an original clay matrix. There are patches which are definitely lithic fragments but these probably do not comprise more than about 15% of the volume of the rock overall. These lithics are, however, distinctly volcanic lithologies and many show well defined textures which are felsitic or trachytic in type. Almost all the volcanic rocks which can be identified have microphenocrysts of elongate plagioclase.

Much of the intergranular material has been invaded and replaced by carbonate. There are some fields of view in which the carbonate has completely replaced all the intergranular material and these areas consist wholely of sand grade grains and the carbonate cement. Elsewhere the carbonate occurs as isolated rhombs or subidiomorphic crystals which have replaced fine-grained intergranular material. The carbonate is tentatively identified as siderite on the basis of the apparently ferruginous nature of some parts of the rock; this applies particularly to some brown-stained clays which are widely distributed throughout the sample.

SWC 23; 1185 m; Nullawarre Formation

Rock Name:
Sideritic sandstone

Thin Section:
An optical estimate of the constituents gives the following:

Constituent	%
Quartz	50
Siderite	30
Green clays	15
Lithic fragments and matrix	5
Mica	1
Feldspar	Trace

In some respects this sample is similar to that described above particularly in the presence of authigenic carbonate mineral which appears to have replaced, in this sample, the bulk of the matrix. The rocks are also similar in that both contain aggregates of glauconite but in this sample there is more evidence that these are of detrital origin.

Approximately half of the volume of the rock consists of moderately well sorted sand grade grains most of which are single crystals of quartz. These commonly range in size from approximately 0.15 mm to as much as 0.4 mm and many of the grains (where they have not been corroded by carbonate) are subangular in outline. Feldspar is only rare and is represented by non-twinned somewhat altered grains which tend to be rather smaller than the average quartz grains. There is a small amount of rather altered and deformed mica (mainly biotite) which appears to have undergone considerable disruption and corrosion by the carbonate.

The sample contains a substantial proportion of material which is green in plane polarised light. Under crossed Nicols it shows a speckled appearance and it appears to consist of moderately birefringent fine-grained glauconite. This mineral forms patches which range in size from less than 0.1 mm to approximately 0.3 mm. Some of the larger grains show rounding and in some instances there is evidence of possible shrinking of the glauconite grains which is shown either by the presence of shrinkage cracks or in some instances by the presence of what appears to be secondary porosity formed by shrinkage of the glauconite grains away from the surrounding minerals. In this case therefore the evidence is that the glauconite is of detrital origin and not necessarily related to the chemistry of the environment of deposition.

In some places in the thin section there is indeterminate brown clay material which presumably represents remnants of an original matrix - and possibly sparse fine-grained lithic fragments - but for the most part the intergranular material is wholely carbonate. This mineral is generally fine-grained but shows only a few instances of specifically rhombic outlines. Crystals tend to be of the order of 0.1 mm in size and form a random mosaic. In most fields of view this occupies essentially all of the intergranular space and there is only patchy evidence of corrosion of the quartz by this carbonate.

The rock contains a few instances of remnants of volcanic lithic fragments.

SWC 24; 1139 m; Nullawarre Formation

Rock Name:
Glauconitic carbonate-bearing sandstone

Thin Section:
An optical estimate of the constituents gives the following:

Constituent	%
Quartz	30
Feldspar	Trace
Lithic fragments	15
Mica	Trace
Carbonate	35
Green minerals (glauconite)	20

The rock consists of reasonably well sorted sand grade quartz grains which rest in an abundant matrix of carbonate, glauconite and remnants of lithic fragments.

The quartz grains are mainly subround to round in outline and have an average size of approximately 0.25 mm. Most of the grains range in size from 0.15 to approximately 0.8 mm. The grains tends to be completely separated from each other and there is little evidence of pressure solution effects on this mineral. Only one or two feldspar grains were specifically identified in the thin section and these were non-twinned potassic feldspar showing a considerable amount of turbid alteration.

Other minor detrital phases are rare shreds of mica and a range of lithic fragments. Most of the latter are similar in size to the quartz grains and tend to be somewhat larger than the mean. Some are what appear to be remnant fossil fragments which are dark in plane polarised light but have a distinctive thinly banded and punctate texture. Other circular, rounded grains have a concretionary appearance and these could well be calcareous or possibly phosphatic fragments. For the most part, however, the identifiable lithic material tends to be dark between crossed Nicols and in plane polarised light and consists of ferruginous, argillaceous sedimentary material. In some instances grain outlines can be seen but for the most part this material forms irregular aggregates (commonly as much as 1 mm in size) within which some quartz grains are embedded. It seems most likely therefore that, with the sand grade quartz grains, there was deposited a population of somewhat larger dark shale and mudstone fragments.

The green patches in the rock show a very fine-grained texture and moderate birefringence in plane polarised light and therefore seem to be glauconite. Some form distinct grains often 0.2 to 0.4 mm in size and it is thought that many of the somewhat more ragged glauconite aggregates were probably derived from deformed original grains.

As the list of minerals given above shows, carbonate is the single most abundant phase in the rock; it forms in intergranular situations but ranges from well defined crystals generally up to 0.4 mm in size to much finer grained, indeterminate carbonate material widely scattered in the interstices between the grains. It seems likely that carbonate crystallised in the diagenetic environment but it may well have been derived from a localised source. One or two of the larger carbonate crystals show curved extinction patterns which may be inherited from original fossil fragments. This type of carbonate tends most often to occur in patches of the rock in which carbonate is the predominant intergranular phase.

SWC 26; 1094 m; Skull Creek Formation

Rock Name:
Argillaceous carbonate-bearing sandstone

Thin Section:
An optical estimate of the constituents gives the following:

Constituent	%
Quartz grains	55
Feldspar	Trace
Mica	Trace
Matrix	40
Opaques	3
Glauconite	1

This sample is considerably different from many of those described above in that it appears to contain a genuine muddy matrix phase. This is characterised by its homogeneity over much of the area of the thin section. From the mineralogical point of view the matrix appears to consist of carbonate, clays and a moderate amount of ferruginous staining (goethite/limonite).

The detrital grains are generally subround to angular in shape and there is evidence of a bimodal grain size distribution. Probably about 20-25% of the volume of the rock consists of grains which are 0.2 to 0.35 mm in size whereas the bulk of the quartz is well sorted about an average of approximately 0.15 mm. The smaller grains tend to be distinctly more angular than the larger. All the grains are essentially surrounded by matrix material and if compaction has occurred it has not affected the shape or spatial distribution of the quartz grains. Feldspar is present in only a few instances in the thin section and appears to be a rare constituent to the rock only. There is a small amount of detrital mica and the rock contains possibly more than the average amount of detrital heavy minerals. Opaques in the listing above refers mainly to irregular aggregates in the matrix rather than detrital opaque grains.

The matrix forms a contiguous network throughout the whole rock and for the most part is a turbid brown colour in plane polarised light but shows some high birefringence under crossed Nicols. Examination of the matrix under high magnification indicates that it probably consists largely of a fine-grained carbonate (?siderite) and decidedly smaller amounts of clay and secondary iron oxide/hydroxide minerals. In some places in the thin section the matrix grades into large tabular aggregates of similar fine-grained material and these are interpreted as being soft shaley or mudstone clasts which were incorporated into the rock during transport and deposition.

As far as can be determined these clasts have a similar mineralogy and texture to the bulk of the matrix material. One of these clasts in the thin section is several millimetres in length but there are many which are more indeterminate and not more than about 0.5 mm in size. In some other places, also, the matrix shows almost gradational changes towards virtually opaque aggregates. These are invariably ill-defined and irregular in shape and probably represent concentrations of goethitic material. Green material in the matrix is present as small irregular aggregates commonly not more than 0.2 mm in size; there is little evidence that these are of detrital origin and therefore it is likely that this is glauconite which has developed in the environment of deposition (presumably therefore, marine).

SWC 28; 1054 m; Skull Creek Formation

Rock Name:
Sandstone

Thin Section:

The thin section consists of loose grains of quartz and finer grained material which is interpreted as being crushed remnants of quartz grains. There are traces of heavy minerals and one or two patches of indeterminate clay material. These latter suggest that the original sandstone may well have been of an argillaceous type similar to that described immediately above but without the abundant iron staining.

The quartz grains range in size from virtually submicroscopic to about 0.4 mm but it appears likely that many of the fragments less than 0.07 mm in size are broken splinters of original grains and it may well be that the original sandstone was at least moderately well sorted about an average size of approximately 0.2 to 0.3 mm. Some of the larger grains are subround in shape but most are angular to subangular and, as might be expected, many of the smaller chips are distinctly angular and irregular in shape. There is no evidence of the grains fitting closely together or having other than tangential point contacts.

There are small amounts of stable heavy minerals (particularly tourmaline) but no evidence of feldspar or detrital mica.

Intergranular material is very patchily developed and it is difficult to say how much of it is an integral part of the in situ sandstone. There is one place in the thin section where a matrix similar to that in the rock described above is preserved but this is an area only about 1 mm in overall size. There are smaller patches of opaque intergranular material and others of a clay which is neither stained by ferruginous material nor contains any fine-grained carbonate. This being the case it seems likely that the rock has been so extensively damaged during collection of the sidewall core that a valid description of the in situ sandstone can hardly be attempted.

SWC 30; 942 m; Paaratte Formation

Rock Name:
Compact argillaceous sandstone

Thin Section:
An optical estimate of the constituents gives the following:

Constituent	%
Quartz	80
Matrix	10
Lithic fragments	5
Mica	2
Carbonate	2
Feldspar	1
Opaques	1

As the list of minerals above indicates this sample contains far more detrital quartz than the rocks described above and a correspondingly reduced amount of intergranular material. The sample appears to be essentially impervious as a result of the formation of matrix material as a contiguous network between the grains.

The detrital grains show a clearly bimodal grain size distribution with a minor mode at a size of approximately 0.2 mm and most of the grains around a mode of approximately 0.07 mm. Within each mode the grains are well sorted. Larger grains tend to be subangular to subround in shape whereas smaller grains are distinctly angular in outline. There are one or two beds which contain relatively increased proportion of the larger grains and more abundant lithologies in which the larger grains are present to not more than about 5-10%. As well as quartz, the rock contains small amounts of fresh potassium feldspar and of rather wispy muscovite. Both of these minerals seem to be confined to the smaller part of the grain size distribution.

The intergranular material is generally colourless in plane polarised light and rather varied but essentially dark between crossed Nicols. There is some lithic material which can be specifically identified and this tends to be characterised by the presence of more birefringent phyllosilicate minerals and some carbonate. It is likely that these are silt grade fragments of argillaceous lithologies, probably mudstones or shales. Some appear to have rather coarse illitic material and consequently they may have been recrystallised in the diagenetic environment. Much of the intergranular material is rather indeterminate fine-grained material and the low relief and birefringence indicate that there is probably a considerable amount of kaolinite. Carbonate occurs as very small grains widely distributed throughout this part of the matrix. Other lithic fragments are cherts which, although not abundant, tend to be well formed and retain their detrital outline.

In brief, therefore, the intergranular material in this rock is thought to be largely genuine muddy matrix material which has probably been coarsened during recrystallisation in the diagenetic environment. Lithic material is present to a limited extent but this too is essentially argillaceous material.

SWC 32; 820 m; Paaratte Formation

Rock Name:

Fine-grained compact sandstone

Thin Section:

An optical estimate of the constituents gives the following:

Constituent	%
Quartz	85
Matrix	10-15
Feldspar	2
Carbonate	1
Mica	1
Opaques	1
Glauconite	Trace

The sample is a very fine-grained sandstone which has a compact and homogeneous texture. The detrital grains are separated from each other by a contiguous matrix of clay minerals.

The average grain size of quartz and feldspar is approximately 0.1 mm and the grains are well sorted although distinctly angular. There is no evidence of pressure solution effects on the quartz grains since the grains are separated from each other by the network of matrix. Feldspar is present as potassium feldspar (commonly microcline) and this mineral is perfectly fresh. There are small amounts of detrital mica including a few relatively large slightly altered grains of biotite. Also included in this category is a little detrital chlorite.

The intergranular material is pale brown in plane polarised light and generally more or less dark between crossed Nicols. Much of it appears to be illitic and kaolinitic clays possibly with an admixture of very fine-grained quartz. In such indeterminate material it is difficult to determine the proportion which may have been derived from original silt grade lithic clasts. There seems certainly to be at least a small proportion of this material but it is thought unlikely to exceed 5% of the total volume of the rock. Lithic grains are not well defined and do not show detrital outlines but are thought to have been present in place where the matrix contains a concentration of illitic clays probably derived from original shaley or possibly low grade metasedimentary fragments.

Carbonate is a patchily developed diagenetic mineral which forms small aggregates surrounding quartz grains in one or two fields of view in the thin section. Also present in intergranular situations are small aggregates of glauconite which are thought to be of diagenetic origin and therefore probably indicate a marine evironment of deposition. The abundance of the soft intergranular constituents (whether lithics or matrix) means that the sample is essentially impervious.

SWC 34; 704 m; Paaratte Formation

Rock Name:
Coarse sand with intercollated silt/shale fragment

Thin Section:

The thin section consists of part of two lithologies one of which is a loose sand which contains numerous grains of the order of 0.5 mm in size whereas the other is what appears to be part of a large soft fragment of brown silt/shale. These two lithologies are present in the sidewall core to an approximately equal extent but it is not possible to give an estimate of the relative proportions of these in the lithology at this depth.

The sand is generally loose quartz grains surrounded by void space and it is thought likely that this is material which has been damaged during collection of the sidewall core and the apparently large porosity is not an integral part of the rock in situ. It seems likely that the quartz grains were probably cemented by fine-grained argillaceous material similar in many respects to the shaley fragment described below. In one place in the thin section there is a large elongate opaque aggregate and this, too, essentially could be regarded as part of the intergranular matrix. The quartz grains themselves commonly range in size from very fine-grained sand to grains as much as 1 mm in diameter. Larger grains tend to be subangular or subround in shape (with rare instances of rounded grains) and it is thought likely that, in situ, the material probably had an average grain size of at least 0.4 mm and was moderately to well sorted. In one place in the thin section it appears that grains of this sandstone have been compressed into the large silt/shale fragment.

The fragment itself is dark and brown in plane polarised light but it can be seen to consist of abundant iron-stained clays and micas within which is a fairly dense scattering of silt grade quartz and mica fragments. The shale shows an excellent bedding foliation defined by the orientation of the micas and by numerous wisps of opaque and semi-opaque material. This then is a typical silty shale and it appears to have formed a large soft fragment incorporated in the coarse sand which comprises the remainder of the thin section. The silty shale fragment is several millimetres in size but it may only be a part of what was originally a much larger fragment in situ. The shale shows deformation textures where large quartz grains have been embedded into it and this is taken as evidence for the plastic nature of the shale as the rock was compacted.

SWC 35; 664.5 m; Paaratte Formation

Rock Name:
Sandstone

Thin Section:
The sample has been considerably damaged during collection of the sidewall core and it is difficult to give an indication of the nature of the rock in situ. The sample now consists of quartz grains and broken fragments which range in size from about 0.5 mm down to almost submicroscopic chips. Where there is any matrix material this tends to consist of very fine-grained quartz or material which cannot be resolved microscopically. It seems likely that the original sandstone contained a significant proportion of grains 0.2 to 0.4 mm in size and that these were well rounded. As well as quartz there is a small proportion of fresh non-twinned feldspar. It also is probable that there was a population of smaller quartz grains probably in the very fine sand range; these are difficult to distinguish from the comminuted material but some smaller rounded grains are evidence of the presence of this genuine detrital fine material.

The rock contains small amounts of detrital mica and heavy minerals and also somewhat larger quantities of opaques. The latter comprise possibly as much as about 5-7% of the area of the thin section and are present as large elongate features in which the opaques appear to have penetrated between the detrital grains. These opaques may well therefore be a diagenetic feature and they appear to be ferruginous rather than carbonaceous.

SWC 36; 659.5 m; Pebble Point Formation

Rock Name:
Argillaceous carbonate-bearing sandstone

Thin Section:
An optical estimate of the constituents gives the following:

Constituent	%
Quartz	65
Carbonate	15
Matrix clays	10
Lithics	3-5
Feldspar	1
Mica	1
Opaques	2
Glauconite	Trace

This sample is fairly typical of many argillaceous sandstones in that it contains abundant detrital quartz with other minor detrital phases and these rest in a matrix which is partly genuine argillaceous material deposited with the quartz but also contains some altered and deformed lithic fragments. The thin section now contains a significant amount of porosity but it is thought that much of this is a result of damage caused to the sample during collection and it is thought that the abundance of fine-grained clay material is such that the sandstone is unlikely to have had much porosity in situ.

Grains of quartz and feldspar range in size up to about 2 mm but the average grain size is probably not more than about 0.2 mm. There is some evidence of a bimodal grain size distribution but this is by no means well defined and it may simply be that the sample is somewhat ill-sorted with a grain size distribution skewed towards the larger sizes. The bigger grains tend to show moderate to excellent rounding whereas grains less than 0.2 mm in size tend to be angular or subangular in shape. There is a small population of silt grade grains but these are essentially part of the matrix and not the framework. Feldspar grains are fairly widely distributed throughout the rock and include both large and small grains. Most are of microcline but there is a considerable proportion of non-twinned altered grains which cannot be specifically identified. Minor detrital constituents are rather altered flakes of muscovite and rare instances of detrital opaques.

Lithic grains are generally not easy to identify; there are a few distinctive grains but many shadowy remnants within the matrix of the rock which have been interpreted as being lithics although this is by no means an unambiguous identification. The most distinctive lithic grains are cherts and a few ferruginous or possibly phosphatic fragments which have a well rounded shape. Elsewhere lithics are simply represented by shadowy altered grains within the bulk of the matrix material. Many of these grains are probably altered and deformed metasedimentary or sedimentary fragments deposited with the quartz.

When the matrix is examined under intense illumination and high magnification it can be seen that there is a dense speckling of carbonate throughout virtually the whole of the intergranular material. Individual carbonate crystals are commonly near submicroscopic in size but it seems likely that the carbonate is a replacement phase deposited during diagenesis of the rock. It is likely that the bulk of the matrix originally consisted of clay minerals but these can scarcely be specifically identified in the thin section. Suffice it to say that the matrix is a contiguous network between the grains and generally separates one from another. It includes fine-grained quartz ranging down to silt grade material and may well contain not only detrital clay but also clay derived from broken up and deformed lithic fragments.

SWC 38; 634.5 m; Pebble Point Formation

Rock Name:
Argillaceous sandstone

Thin Section:
An optical estimate of the constituents gives the following:

Constituent	%
Quartz	75
Lithic fragments	10
Matrix clays	7-10
Carbonate	5
Feldspar	2
Mica	Trace

For the most part the sample consists of well defined sand grade grains which rest in a contiguous network of brown matrix material. In some places, however, there are larger aggregates of the brown material and some of these can be seen to contain dark lithic fragments. The mineralogical proportions given above imply approximately equal amounts of matrix clays and lithic fragments; this is a tentative judgement since a considerable amount of the darker material cannot be unambiguously referred to either one or the other.

For the most part the detrital quartz and feldspar are present as grains 0.15 to about 1.2 mm in size with an average of approximately 0.3 mm. Many of the grains show considerable rounding but smaller grains tend to be distinctly angular in shape. Feldspar is generally present as non-twinned slightly altered material but the feldspar grains show no significant physical or chemical alteration.

There are minor amounts of detrital mica but, apart from the quartz and feldspar, the remaining constituents of the rock tend to be intergranular in type. In general, this intergranular material is more or less turbid to dark brown in plane polarised light and dark between crossed Nicols. There are fairly well defined clear carbonate crystals as much as 0.1 mm in size and these are clearly of authigenic origin and have probably crystallised by a replacement of some of the brown clay material. The latter comprises the bulk of the intergranular material and for the most part is confined to a network between the framework grains of quartz and feldspar. The material is very dark between crossed Nicols and many patches are essentially featureless. Since the material appears to be homogeneous it seems most likely that it is a genuine clay matrix much obscured by subsequent ferruginous staining. In some areas of the thin section, however, this brown material forms large aggregates with only sparse amounts of the sand grade quartz and feldspar. In these areas the brown material shows some variations in colour and it is possible that these are related to the fact that this brown material is derived from argillaceous and ferruginous lithic fragments. In some places there are what appear to be concretionary aggregates of such dark material. The preferred interpretation, given the large size of some of these dark aggregates, is that they represent soft argillaceous fragments caught up with the sand grade quartz and feldspar and subsequently somewhat deformed during compaction of the rock. Lithic material is therefore of two types: these large argillaceous fragments and smaller dark fragments which now occur randomly distributed with the sand grade quartz material.

In view of the relatively wide grain size range of the rock and the presence of these large argillaceous clasts, it seems likely that the sample has a complex depositional history.

SWC 39; 623 m; Pebble Point Formation

Rock Name:

Argillaceous sandstone

Thin Section:

This sample is very similar to that described immediately above and a detailed description will not therefore be given. The rock consists of round to subround grains more than 0.2 mm in size and the population of more angular and smaller grains. There are small amounts of detrital feldspar and mica but most of the grains are single crystals of common quartz. The matrix separates all the grains from each other and for the most part is a dark brown colour and is completely dark between crossed Nicols. The material is interpreted as being probably argillaceous in character but partly replaced by secondary ferruginous minerals. Within this matrix there are authigenic crystals of carbonate which comprise not more than about 2-3% of the volume of the rock. The carbonate crystals are as much as 0.1 mm in size and tend to be rather clear and well formed although xenomorphic in shape. As in the sample from 634.5 m, there is a tendency in places for the matrix to be relatively abundant and the quartz grains no longer forming a framework. This feature is not as well defined in this sample but there are places where it seems likely that the matrix did not form by percolation between the framework of quartz grains but, rather, coalesced into soft aggregates (or was deposited as soft argillaceous grains) and has subsequently been compressed by the adjacent quartz grains.

The thin section contains sparse porosity but it is thought unlikely that much of this would be present in the rock in situ. Some of the more characteristic features of the porosity are the presence of irregular channelways within the matrix; these may be in some way shrinkage features and therefore be an integral part of the rock. It is very unlikely that the porosity would be highly interconnected in three dimensions.

SWC 44; 543 m; Dilwyn Formation

Rock Name:
Silty shale

Thin Section:

The sample is a typical argillaceous shale with silt grade fragments of quartz, feldspar and mica. These detrital grains vary in proportion from place to place in the thin section from about 10% to as much as 50%.

The detrital grains of quartz and feldspar are moderately well sorted about an average grain size which is estimated to be approximately 0.05 mm although there may well be a tail towards finer sizes also. Feldspar is present only to a very small extent (less than 2%) and occurs as non-twinned potassium feldspar grains which show a moderate turbidity. Silt grade detrital phyllosilicate minerals are significantly more abundant and include muscovite, biotite and chlorite (in decreasing order of abundance). Flakes of these minerals are frequently up to 0.2 mm in length and vary from slightly curved or straight flakes to markedly deformed examples (particularly in the siltier parts of the rock). The overall proportion of the silt grade material is approximately 25% but bedding in the rock is defined in part by the variations in the proportion of this material alluded to above. Beds are not well defined but many appear to be of the order of 0.5 to 1 mm in thickness. One of the most silty beds appears to contain what may be detrital grains of glauconitic material and possibly a rather higher than normal proportion of stable detrital heavy minerals.

The matrix within which these grains lie is pale brown in plane polarised light and shows a considerable proportion of moderately birefringent minerals under crossed Nicols. It is clear when the matrix is examined in this way that there is probably a gradation from silt grade mica flakes to clay grade wisps of mica, sericite and illitic clays. Some beds probably contain of the order of 20% of very fine-grained phyllosilicate material in the matrix. In other areas the matrix consists of darker material which is finer grained and less well defined. It is likely that these parts of the rock probably contain abundant illitic material with an unknown proportion of very fine-grained less birefringent phases such as quartz and kaolinite. Streaks of opaque material (?plant debris) are fairly abundant but vary considerably from place to place.

When the thin section is examined under low magnification it can be seen that the bedding defined by slight variations in the matrix and by variations in the proportion of silty material, is by no means laminar and there are marked curved features which could be related to boring activity or possibly to some type of deformation caused while the sediments were soft.

SWC 45; 485.5 m; Dilwyn Formation

Rock Name:
Very fine-grained argillaceous sandstone

Thin Section:
An optical estimate of the constituents gives the following:

Constituent	%
Quartz	80
Matrix	15
Lithic fragments	2
Green clays	2
Feldspar	1
Opaques	1
Heavy minerals	1

The sample is a well sorted sandstone with an average grain size of approximately 0.1 mm and possibly some evidence of a second minor mode in the grain size distribution at a size of about 0.25 mm. The detrital grains are separated from each other in the plane of the thin section by a contiguous network of dark matrix clays and void spaces.

The quartz grains are compact in shape but show considerable variety in roundness characteristics from a few examples which are round to others which are angular and subangular in shape - the latter are by far the more abundant. These features of the quartz grains appear to be an integral feature of the detrital material and not due to any post depositional pressure solution effects. About 3-5% of the detrital grains are of the order of 0.2 to 0.3 mm in size and they represent a very minor mode of medium grained sand. These grains tend to be a little better rounded than the very fine sand grade grains.

There is a considerable range of minor detrital phases including non-twinned somewhat altered feldspar, metasedimentary and sedimentary lithic grains, somewhat turbid and altered fine-grained green grains some at least of which are glauconitic and finally a somewhat unusually high proportion of heavy minerals. The last-named includes stable types such as zircon, rutile and tourmaline. The minor detrital phases are invariably within the very fine-grained sand grade.

These grains rest in a matrix which is dark brown to almost opaque in some places in the thin section and which under crossed Nicols is mainly dark. It is assumed that the material is mainly clays which have been stained by secondary goethitic or limonitic material but the paler parts of the matrix commonly contain very fine-grained weakly birefringent material which is thought to contain probably a considerable amount of kaolinite but also possibly an extremely fine-grained quartz. In one or two places, in addition, there are patches of relatively coarse pale green phyllosilicate which fill the intergranular space and these are interpreted (tentatively) as authigenic chlorite. It seems likely that the matrix is quite complex but the abundance of brown stain gives it a homogeneous appearance and it has therefore been interpreted as genuine matrix rather than broken up debris of original lithic grains. Associated with the matrix is a considerable amount of pore space and it is thought likely that much of this is probably integral to the rock in situ. Some of this is clearly of secondary origin where it occurs in, for example, altered feldspar grains and in narrow channelways between the matrix and the edge of detrital grains but some of the pores are probably caused by collection of the sidewall core.

SWC 48; 301 m; Mepunga Formation

Rock Name:
Argillaceous very fine-grained sandstone

Thin Section:
Despite the fact that this sample is from a different formation, it is very similar petrographically to the rock described above. Such features as the presence of a minor grain size mode in the medium sand grade and the nature of the matrix are common to both rocks. The detrital grains in this sample are mainly angular quartz fragments approximately 0.1 mm in average diameter. There are small amounts of altered feldspar and rare detrital muscovite grains. The rock does contain some heavy minerals (of a stable type) but these are not as abundant as in the sample described above.

Common to both samples is the presence of a dark brown matrix which effectively separates the grains from each other. In this rock the translucent to almost opaque material is densely peppered in places with very small crystals of carbonate. This is interpreted as probably being a diagenetic phase which has replaced a small proportion of the matrix. Also, the matrix in places tends to form patches as much as 0.5 mm in size and such features are interpreted as being, in effect, clasts of fine-grained clays caught up in the original sandstone and deposited with the quartz grains. It is likely that the pervasive staining with goethitic/limonitic material obscurs diversity of the matrix in both this sample and the one described immediately above. From a petrographic point of view the matrix material appears to be homogeneous because it is so dark and it is possible that the large aggregates of matrix are similar material which had sufficient rigidity to contribute part of the framework when the sample was originally deposited.

There are patches of the rock in which there is considerable porosity and the grains are almost entirely separated from each other by abundant void space; it is thought that much of this material is not integral to the rock in situ. Porosity in the sample was probably confined to a small amount of secondary porosity which occurs as narrow channelways and ?shrinkage fractures in the matrix.

3. X-RAY DIFFRACTION ANALYSES

3.1 Introduction

Of the 14 cores submitted, eight were insufficient quantity for MC2 analyses to be carried out (Cores 2, 13, 19, 21, 27, 37, 42 and 43) and these are covered here.

3.2 Procedure

Portion of each sample was powdered finely and used to prepare an X-ray diffractometer trace which was interpreted by standard procedures.

Further, weighed, lightly pre-ground subsamples were taken and dispersed in water with the aid of deflocculants and an electric blender, and allowed to sediment to produce -2 µm e.s.d. size fractions by the pipette method. The resulting dispersions were examined by plummet balance to determine their solids contents, and were then used to produce oriented clay preparations on ceramic plates. Two plates were prepared per sample, both being saturated with Mg^{++} ions, and one in addition being treated with glycerol. When air-dry, these were examined in the X-ray diffractometer. Additional diagnostic examinations carried out consisted of examination of a glycol-treated plate, and the glycerol-free plate hot (130°C) and after heating for one hour at 550°C.

3.3 Results

The results are given in Table 1, whic lists the following:

(a) The mineralogy of the total sample, as derived from examination of the bulk material, with supporting evidence as available. The minerals fround are listed in approximate order of decreasing abundance, using approximate percentage estimates. Bracketed minerals were not detected in the bulk examination but are inferred from the clay fraction.

(b) The proportion of the sample found to separate into the -2 µm size fraction, as determined by the plummet balance. The figure obtained applies only to the pre-treatment and dispersions conditions used.

(c) The mineralogy of the -2 µm fraction, given as in Section (a).

NB: Note that the percentage estimates are very approximate figures.

3.4 Remarks

Possible Interstratified Chlorites

The main clay components in Cores 37, 42 and 43 caused much difficulty in interpretation and in spite of the application of all known diagnostic tests the identifications are uncertain. The clay in Core 42 is less complicated and may represent a chlorite partly-interstratified with smectite; however, because of overlaps of peak positions; it is not possible to determine whether kaolinite is present - but for various reasons its presence seems very likely, and possibly in considerable amount.

The main clays in Cores 37 and 43 exhibit similarities to each other (and some differences) and have nominally been interpreted as triple interstratifications of chlorite, illite and smectite, but such interpretations are subject to great uncertainty particularly because it appears that an appreciable amount of interfering kaolinite is probably again present (q.v.).

Inhibited Smectite (Core 2)

The main clay in this sample is a true smectite (swells to 18 Å with glycerol treatment) but collapses only slightly from 15 Å when heated (14.1 Å at 130°C, 13.9 Å after 550°C), indicating the presence of interlayer material preventing the collapse (usually to 10 Å). This material is usually taken to be areas or "islands" of gibbsitic or brucitic composition.

Siderite

The abundant siderite in Core 19 is represented by a double peak indicating phases of two differing composition (some cation substitution).

TABLE 1: BULK AND CLAY FRACTION MINERALOGY OF 8 SIDEWALL CORES (IONA-1)

Figures in very appropriate percentages (see text)

Core No.	2		13		19		21	
Bulk Mineralogy	F(L)	40	Q	74	Q	41	Sm	40
	Q	30	K	15	Sid	20	Q	30
	Sm*	10	M	4	ML	18	K	18
	M'	7	F'	4	K	9	M	9
	C	7	Py	3	F	6	Py	4
	K	5			M	5	F'	2
					Cal?	1	Sid?	2
	27		37		42		43	
	Q	40	Q	60	Q	50	Q	58
	Sm$^+$	25	CMSm?	15	CSm?	46	SMSm?	25
	K	15	M	10	M	3	M	8
	M	8	F'	10	(G)	1	F'	5
	Sid	7	Py	5			Py	4
	F'	5						
-2 µm fraction %:	10		10		24		35	
Mineralogy	Sm*	37	K	85	ML	30	Sm	57
	C	27	M	11	K	22	K	31
	K	24	Q	3	M	5	M	6
	M'	5	F'	1	Q	3	Q	5
	Q	4						
	F(L)	3						
	36		16		10		16	
	Sm$^+$	60	CMSm?	83	CSm?	85	CMSm?	80
	K	32	M	14	G	10	M	19
	M	5	Q	3	M	3	Q	1
	Q	3			Q	2		

Mineral Key

C	Chlorite
CMSm	Possible triple interstratification. Chlorite with interlayered illite and smectite. Kaolinite may be present. See text.
CSm	Possible chlorite with minor interstratified smectite. Chlorite apparently of hexagonal modification. Interpretation uncertain. Kaolinite may be present. See text.
Cal	Calcite
F	Feldspar (plag., ~albite)
F(L)	Feldspar (calcite plag., labradorite or sim.)
F'	K feldspar
G	Goethite
K	Kaolinite
M	Mica/illite (muscovite type)
Sm*	Inhibited smectite (see text)
M'	Mica/illite (biotite type)
ML	Mixed layer illite-smectite (~20 -25% expandible layers)
Py	Pyrite
Q	Quartz
Sid	Siderite (see text)
Sm	Smectite
Sm$^+$	Smectite-illite interstratification with ~70-80% expandible layers

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7 June 1988

Beach Petroleum NL
GPO Box 7096
SYDNEY NSW 2001

Attention: Mr A. Buffin

REPORT F 7184/88 - Addendum

YOUR REFERENCE:	Letter of 19 May 1988
SAMPLE IDENTIFICATION:	SWCs 10, 17, 34
LOCALITY:	IONA-1
WORK REQUIRED:	X-ray diffraction analysis
REPORT:	As discussed with the client, X-ray diffraction analysis was carried out on SWCs from this well. There was insufficient of SWC 35. Methods employed were the same as in Amdel Limited report F 7184/88.

Investigation and Report by: Dr Brian G. Steveson

Manager, Petroleum Services Section: Dr Brian G. Steveson

for Dr William G. Spencer
General Manager
Applied Sciences Group

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	10		17		34	
Bulk Mineralogy:	Q	40	Q	38	Q	57
	K	25	K	23	F'	13
	M	14	(ML)	10	K	12
	(ML)	10	M	8	M	8
	Sid?	5	F'	6	C	4
	F'	3	Sid	5	Sid	3
	Py	3	C	4	Py	3
			Gy	3		
			Py	3		
-2 µm fract. %:	36		37		16	
Mineralogy:	K	51	K	45	K	48
	ML	24	ML	39	M	31
	M	17	M	8	C	16
	Q	8	C?	4	Q	5
			Q	4		

Mineral Key

C	Chlorite	ML	Mixed layer illite-smectite (randomly-interstratified)
F'	K feldspar		
Gy	Gypsum	Py	Pyrite
K	Kaolinite	Q	Quartz
M	Mica/illite	Sid	Siderite

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21 July 1988

Beach Petroleum NL
Box 7096 GPO
SYDNEY NSW 2001

Attention: Mr A. Buffin

<u>REPORT F 7266 - Part 1</u>

YOUR REFERENCE:	Letter of 17 June 1988
SAMPLE IDENTIFICATION:	Cores 1, 2 and 3
MATERIAL:	SWC
LOCALITY:	IONA-1
WORK REQUIRED:	X-ray diffraction analysis

Investigation and Report by: Dr Roger Brown

Manager, Petroleum Services Section: Dr Brian G. Steveson

for Dr William G. Spencer
General Manager
Applied Sciences Group

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Offices in Sydney, Melbourne, Perth, Brisbane, Canberra, Darwin, Townsville. Represented world-wide

1. INTRODUCTION

Further work was requested (letter of 17 June 1988) on SWC from Iona-1.

2. PROCEDURE

A portion of each sample was powdered finely and used to prepare an X-ray diffractometer trace which was interpreted by standard procedures.

Further, weighed, lightly pre-ground subsamples were taken and dispersed in water with the aid of deflocculants and an electric blender, and allowed to sediment to produce -2 μm e.s.d. size fractions by the pipette method. The resulting dispersions were examined by plummet balance to determine their solids contents, and were then used to produce oriented clay preparations on ceramic plates. Two plates were prepared per sample (if possible), both being saturated with Mg^{++} ions, and one in addition being treated with glycerol. When air-dry, these were examined in the X-ray diffractometer. Additional diagnostic examinations carried out consisted of examination of a glycol-treated plate and the glycerol-free plate after heating for one hour at 550°C.

3. RESULTS

The results are given in Table 1, which lists the following:

(a) The mineralogy of the total sample, as derived from examination of the bulk material, with supporting evidence as available. The minerals found are listed in approximate order of decreasing abundance, using approximate percentage estimates. Bracketed minerals were not detected in the bulk examination but are inferred from the clay fraction.

(b) The proportion of the sample found to separate into the -2 μm size fraction, as determined by the plummet balance. The figure obtained applies only to the pre-treatment and dispersion conditions used.

(c) The mineralogy of the -2 μm fraction, given as in Section (a).

NB: Note that the percentage estimates are approximate figures.

TABLE 1: MINERALOGY OF 3 IONA-1 SAMPLES

(Figures in approximate percentages*)

	1:1306.3 m		2:1312.4 m		3:1314.7 m	
Bulk Mineralogy:	Q	94	Q	96	K	47
	Py	3	K	2	Q	40
	(K)	1	(Sm)	1	M	10
	(Sm)	1	(M)	1	ML?	1
	(M)	1			Py	1
					F'	1
-2 µm fraction %:		1		2		6
Mineralogy:	K	54	K	71	K	63
	Sm	30	Sm	17	ML?	19
	M	10	M	7	M	16
	Q	6	Q	6	Q	3

*NB: See text for remarks on quoted percentage figures.

Mineral Key

F'	K feldspar
K	Kaolinite
M	Mica/illite
ML	Mixed-layer illite-smectite (not well characterised because of low level)
Q	Quartz
Sm	Smectite

APPENDIX 18

GEOCHEMICAL ANALYSIS OF RESIDUAL OILS

amdel
technology and enterprise

Amdel Limited
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31 Flemington Street,
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20 May 1988

Beach Petroleum NL
GPO Box 7096
SYDNEY NSW 2001

Attention: Mr Andrew Buffin

REPORT F 7173/88

YOUR REFERENCE: Letter of 30 March 1988

TITLE: Geochemical evaluation of residual oils, Iona-1

SAMPLE IDENTIFICATION: 1324 and 1453 metres depth

MATERIAL: Sidewall cores

LOCALITY: IONA-1

DATE RECEIVED: 31 March 1988

WORK REQUIRED: Extraction liquid chromatography and gas chromatography

Investigation and Report by: Brian L. Watson

Manager, Petroleum Services Section: Dr Brian G. Steveson

Brian J Steveson.

for Dr William G. Spencer
General Manager
Applied Sciences Group

cap

Offices in Sydney, Melbourne, Perth, Brisbane, Canberra, Darwin, Townsville. Represented world-wide

1. INTRODUCTION

Two sidewall cores were received for extraction of residual oil and determination of maturity and genetic affinity.

2. ANALYTICAL PROCEDURES

2.1 Extraction

Sidewall cores were extracted with distilled dichloromethane in a soxhlet apparatus for 24 hours. The extracted organic matter (EOM) was yielded by careful rotary evaporation of the solvent.

2.2 Liquid Chromatography

Asphaltenes were not precipitated from the sediment extracts and topped oils prior to liquid chromatography. The extract/topped oil was separated into hydrocarbons (saturates and aromatics) and polar compounds (resins) by liquid chromatography on activated alumina (sample: adsorbent ratio = 1:100). Hydrocarbons were eluted with petroleum ether/dichloromethane (50:50) and resins with methanol/dichloromethane (65:35). The saturated and aromatic hydrocarbons were then separated by liquid chromatography on activated silica gel (sample: adsorbent ratio = 1:100) eluting in turn with petroleum ether and petroleum ether/dichloromethane (91:9).

2.3 Gas Chromatography

Whole oils and saturated hydrocarbons (alkanes) were examined by gas chromatography using the following instrumental parameters:

Gas chromatograph:	Perkin Elmer Sigma 2 operated in the split injection mode
Column:	25 m x 0.3 mm fused silica, SGE QC3/BP1
Detector temperature:	300°C
Column temperature:	40°C for 1 minute, then 8° per min. to 300°C and held isothermal at 300°C until all peaks eluted
Quantification:	Relative concentrations of individual hydrocarbons were obtained by measurement of peak areas with a Perkin Elmer LCI 100 integrator. The areas of peaks corresponding to aromatic hydrocarbons were multiplied by appropriate reponse factors.

3. RESULTS

The composition of the extractable organic matter (EOM) is presented in Table 1 along with alkane ratios calculated from the saturates chromatograms. The saturates chromatograms are presented in Figures 1-2. Figure 3 is a cross plot of pristane:n-heptadecane against phytane:n-octadecane genetic affinity and relative maturity of the extracted hydrocarbons.

4. INTERPRETATION

4.1 Source Affinity

The high pristane:phytane ratios of these oils (Table 1) indicates that their source was deposited in oxic conditions. Such conditions typically occur in terrestrial environments of deposition. Pristane:n-heptadecane and phytane:n-octadecane ratios (Table 1, Figure 3) are consistent with generation from a terrestrial higher plant source.

The low concentrations of naphthenes in these extracts suggests that they consist of residual oils and contain neglibible amounts of extracted indigenous organic matter. Their n-alkane distributions are similar although the oil from 1324 metres depth (SWC 13) contains slightly more C_{19}-C_{25} hydrocarbons than the oil from 1453 metres depth (SWC 2). Both n-alkane distributions are consistent with generation from terrestrial kerogen.

4.2 Maturity

Pristane:n-heptadecane and phytane:n-octadecane ratios indicate that these oils are marginally mature. The notable odd-even predominance of the n-alkanes is consistent with this maturity.

The maturity at which these oils were expulsed from their source rocks may be calculated from their methylphenanthrene index. This index may be derived from GC-MS of the aromatic fractions of these oils. This maturity may then be correlated with the present day maturity of the intersected sediments to more precisely identify the source of these hydrocarbons.

5. CONCLUSIONS

1. The hydrocarbons extracted from the Iona-1 sidewall cores represent residual oils which have been generated from similar terrestrial sources.

2. These residual oils are marginally mature. A more precise measure of maturity could be calculated from the methylphenanthrene index of these oils.

3. On the basis of the data from these analyses it seems that these oils were most likely sourced from sediments within the Eumeralla Formation.

TABLE 1: C_{12+} BULK COMPOSITION OF RESIDUAL OILS, IONA-1

Well	Depth (m)	C_{12+} Composition				Alkane Ratios				
		EOM ppm	Arom %	Sats %	Res %	TMTD/Pr	Np/Pr	Pr/Ph	Pr/n-C_{17}	Ph/n-C_{18}
SWC 13	1324	1059	7.76	54.34	37.90	0.37	0.29	4.32	0.66	0.12
SWC 2	1453	661	3.74	55.22	41.04	0.28	0.25	5.20	0.54	0.10

Sats = saturates
Arom = aromatic hydrocarbons
Res = resins + polar compounds
Asph = asphaltenes

TMTD = 2,6,10-trimethyltridecane
Np = norpristane
Pr = pristane
Ph = phytane
n-C_{17} = n-heptadecane
n-C_{18} = n-octadecane

FIGURE 1

GC of Saturates Fraction

IONA-1

SWC 13

1324 m

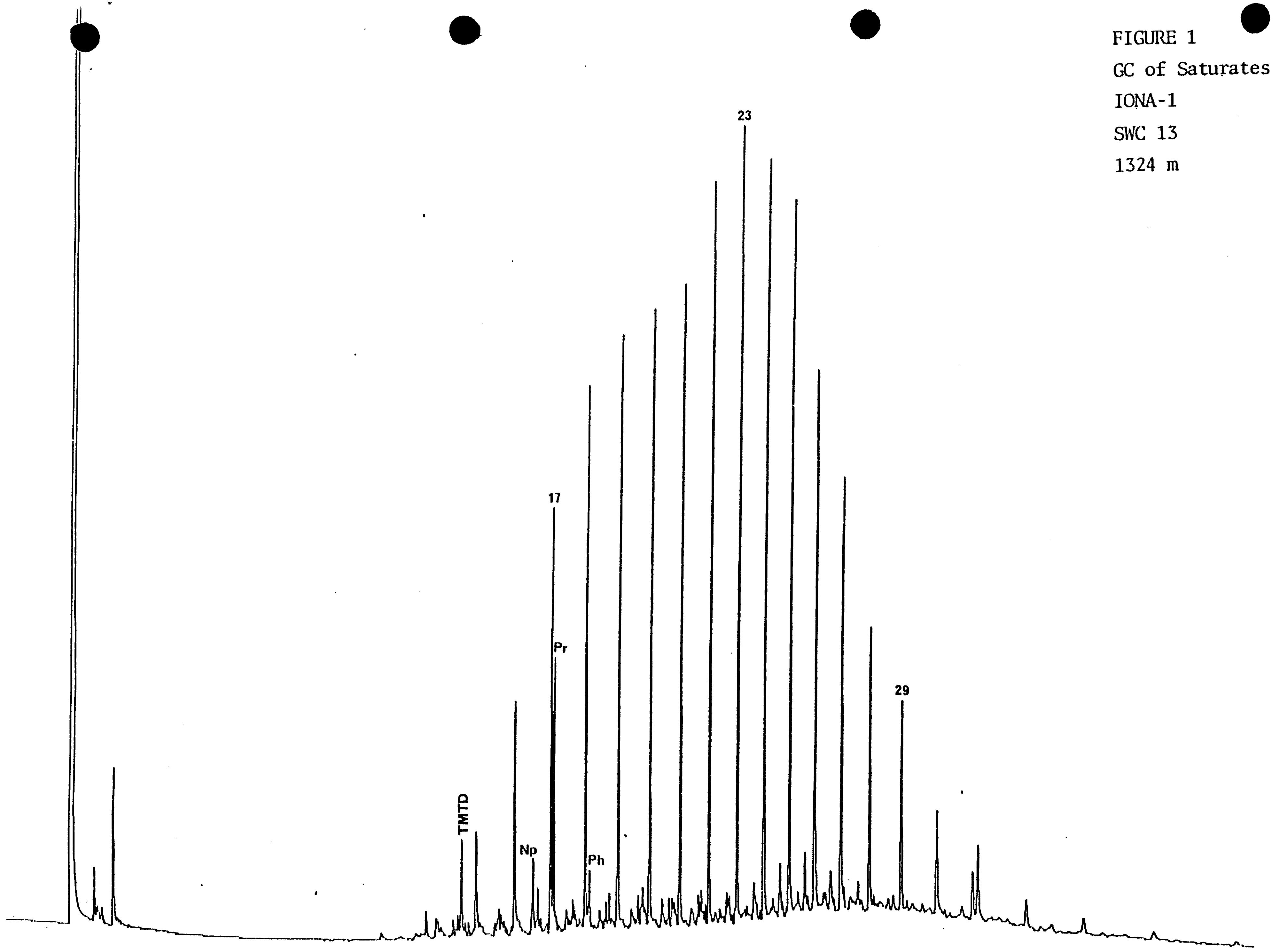


FIGURE 2
GC of Saturates Fraction
IONA-1
SWC 2
1453 m

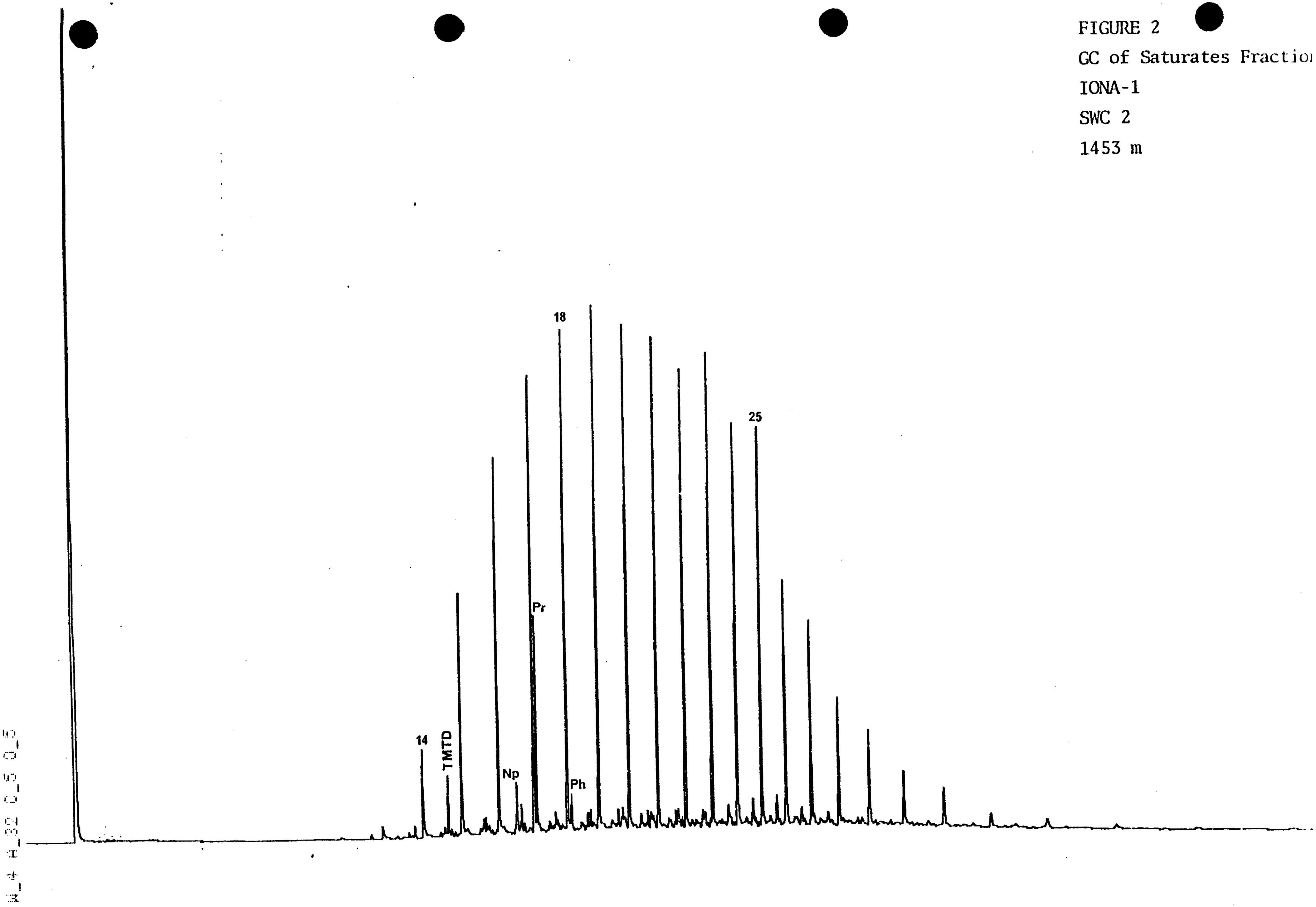
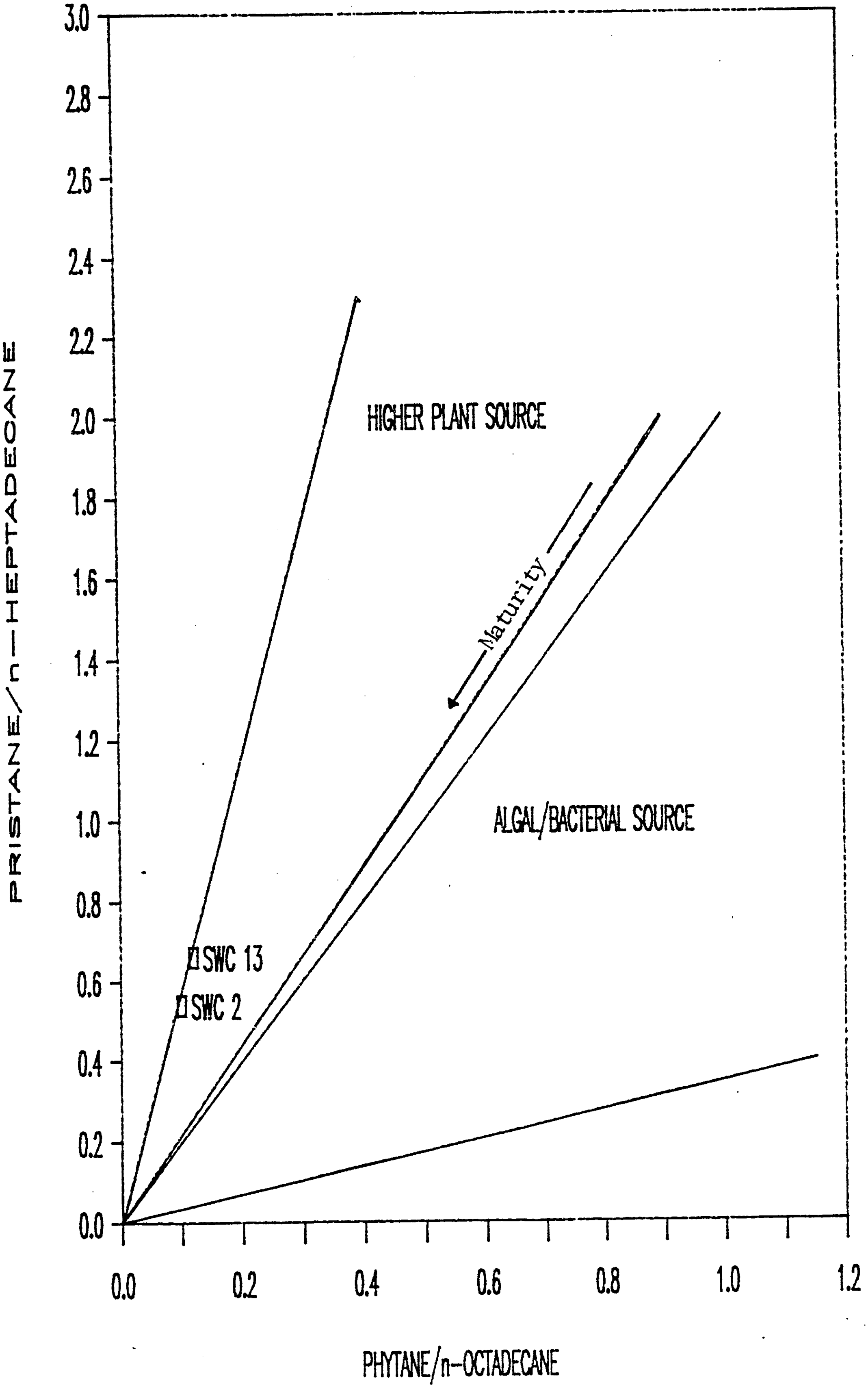


FIGURE 5

IONA-1

GENETIC AFFINITY AND MATURITY



APPENDIX 19

LOG ANALYSIS

TO: KEITH SKIPPER Ref: 502/65/BAG/jam

cc: ARH cc: RDF, [R] AAY (WITHOUT REFERENCES)

FROM: B. A. GOLDSTEIN 18 AUGUST 1988

RE: PETROPHYSICAL ANALYSIS OF THE WAARE SST, IONA #1 PEP108

This is the unexplicated version of the letter dated 18.8.88 and sent to Beach on the above subjects.

TLOG86 filename IONA1 includes data at 0.2m increments over the zone 1255 to 1381m to Iona #1.

Constants, column contents and pneumonic definitions are provided in table 1.

Log quality in zones crucial to this evaluation (1299-1345m) is good. Occasional shoulder bed effects are the most significant pitfall to hamper interpretations.

INTERPRETATION SUMMARY - INPUT ASSUMPTIONS

BHT* = 56°C @ 1487m RKB (1482.1m bgl) - see Figure 2.

Rw = .2 @ 63°C based on DST recoveries in Port Campbell no. 4 (.235 @ 63°C) and Braeside no. 1 (0.18 @ 63°C). This formation water resisistivity is < SPRW in gas saturated and/or shaley Waare Fm sandstones in Iona no. 1 and is lent credibility with the Pickett plot presented as Figure 3.

Shale Parameters:
(see table 3)

Rsh = 7 ohm - m^2 (based on Rt)
Dtsh = 97.5 usec/ft
NPHI Sh = 0.41
RHOOSh = 2.42 g/cc
GROSh = 100 API units (eccentric correction)

Sandstone Parameters:
(see table 4)

Dt sand matrix = 55.5 usec/ft
RHO sand matrix = 2.65 g/cc
GR sand (clean) = 10 api units (eccentric correction)

Formation Factor (F) and Saturation Exponent:

a = 1 (assumed)
m = 1.74 @ 2000 psi effective overburden pressure
n = 2.08 @ 2000 psi effective overburden pressure

The values assigned to a, m and n are based in restored state studies of core no. 1 at a "lab" pressure of 2000 psi (see reference 2a).

A lithostatic pressure gradient between 0.9 and 1.0 psi/ft is reasonable. The maximum SFT pressure (possibly slightly less but not greater than static reservoir pressure) measured in the Waare gas pay corresponds to a .4058 psi/ft pore pressure gradient (see **Figure 4**). Assuming the low range of plausible lithostatic gradients, the <u>effective</u> overburden pressure gradient (0.9 less 0.4058 psi/ft)suggests that the grain supported pressure is on the order of 2126 psi, i.e., slightly greater than the restored state of core measured a, m and n. Increased overburden stress would push "m" and "n" to subtly higher levels. Thus, use of the measured values provided in reference 2a is potentially, subtly optimistic. The valuee employed for n is relatively pessimistic to the norm (n = 2) in any case.

POROSITY (see table 5):

Core porosities are provided in references 2c, 2e and 3f. The correlation of core depth to log depth is:

- (Core depth - 2.6m) = Log depth
- a colour photo of core 1 is provided as reference 7.

Ambient measures of core phi have been normalised to overburden correlation by the reduction of (2.25) porosity units ± 0.5 p.u. (see **Figure** 5). **Table** 5 displays the correlation of shale and hydrocarbon corrected, neutron-density crossplot porosity to "restored" core porosity to be acceptable. Whilst Vshale and hydrocarbon corrected NDPHI has a standard deviation of ±2.2% porosity with respect to restored state core phi, the extrapolation to restored overburden conditions is probably no more accurate than ± 1 p.u. The correlation between apparent density (RHOGA) from corrected density log data and core no. 1 (see **table** 4) also lends confidence to derived porosities in the subject log interval. Sonic porosity is not deemed to be reliable; too high a compaction correction (Cp>1.8) needs be applied to reduce sonic phi to credible levels in sandstone.

Of note, there is significant variance between ambient core phi measures in sample no. 10 (core depth 1308.45m = log depth 1305.85m) from Amdel (28.7% - reference 2e) vs Core Lab (20.9% - see **reference** 2f). Near matching results were achieved by both labs for samples 16 and 23 (to ±0.5 porosity units).

Sw:

Four water saturation equations were examined and found to yield Sxo and Sw values from relatively high to low as follows:

Archie Sw > Total Shale Sw > Indonesia Sw > Dispersed Shale Sw

Archie Sxo > Total Shale Sxo > Indonesia Sxo > Dispersed Shale Sxo

Table 6 provides a comparison of Sw from these four models where $\phi \geq .15$ and Vshale $\leq .30$ in the zone 1255 to 1381m.

The "wet" sand in the interval 1335.5 to 1345.2m did in fact have gas shows and is partially gas saturated. A zone no thicker than 0.4m (1335.5 to 1335.9m) with Sw ~.49 is discounted from pay tallies as it is (a) isolated and (b) nearly 50% water wet.

Archie provides the most pessimistic (highest Sw) analysis for OGIP estimates and has been applied. Higher GIP volumes would result from using "shaley" sandstone model results (sic. Total Shale, Indonesia or Dispersed Shale Models).

Archie provides the most optimistic (highest Sxo) analysis for recovery of gas in pay. The average difference between gas saturation (1-Sw) and residual gas saturation (1-Sxo) corresponds to a recovery factor of ~.77% whilst trapped gas measures in core 1 (see reference 2f) suggest a lower ($\leq$ 67%) recovery factor.

One could mix a shaley model for Sxo with Archie Sw to mimic a lower recovery factor. However, shaley models seem inappropriate for the rather "clean" reservoir pay sandstones in the Waare of Iona no. 1. Archie values for Sxo are recommended, though probably "optimistic".

Archie Sw also provides a credible transition zone from <.5 Sw above 1324.6m to ~.5 Sw in the zone 1324.8m.

The following tabulations are provided on Table 7:

Net pay (Archie Sw <.501, VSH <.301 and ø >.149) in the intervals 1255 to 1381 at .2m increments. Tabulations are given for:

- depth (m RKB)
- vshale (soft fm model, GRCOR CLEAN = 10/GCOR SHALE = 100
- NDPHI SC/HC (shale & hydrocarbon corrected neutron-density phi).
- Di (small slam diameter of invasion)
- Rt (small slam Rt using bore hole corrected values for LLS, LLD and MSFL)
- Rxo (based on MW and hole size corrected MSFL)
- Archie Sw
- Total Shale Sw
- Indonesia Sw
- Dispersed Shale Sw
- Archie Sxo
- Total shale Sxo
- Indonesia Sxo
- Dispersed Shale Sxo
- (1-Archie Sw) = Gas saturation.

The water saturation equations employed are as follow where:

$Rsh = 7$

$Rw = .2$ @ 63°C

$n = 2.08$

$m = 1.74$

$a = 1$

$F = a/phi **m$

$Ro = F * Rw$

$I = Rt/Ro$

$x = ((Ro * Vsh(1-vsh))/(2*Rsh))$

Archie $Sw = (1/I)**1/n$

Dispersed Shale $Sw=((((((PHI*I)+(VSH*(RSH-Rt)))/(2*Rsh))**2)/(phi-vsh))**0.5)-(((Vsh*(Rsh+Rw))/(2*Rsh))$

Total Shale $Sw=((Ro/Rt+((Ro*VSH)/(2xRsh))**2)**.5)-((Ro*Vsh)/(2*Rsh))$

Indonesia: $Sw=(((Ro*(1-Vsh))/(Rt+(x**2)))**.5)-x$

SENSITIVITY OF PAY TALLIES TO CUTOFFS

Net pay totals are relatively insensitive to rather severe cutoffs (see **table 8**). The variation in net pay between a lax suite of cutoffs ($phi \geq 12\%$ Archie $Sw \leq .6$ and $Vsh \leq .3$) and a severe set of pay constraints ($phi \geq 20\%$, Archie $Sw \leq 0.45$ and $Vsh \leq .3$) is 22m (lax) vs 18.2m (severe) net pay respectively.

The Waare Fm in Iona is a consistently good reservoir above the interpreted LKG@ 1324.7m.

Table 9 provides values for Vshale, phi and Archie Sw in interpreted pay.

TABLES

FIGURES

Figure 1	Time structure at near top Flaxmans (~ top Waare) by AR Hoare (8/87) with an optimistic contour option illustrating "blue sky" potential for ~700 acre area inside the interpreted LCC.
Figure 2	Extrapolated BHT Graph: Temperature vs (t + T/ t)
Figure 3	Pickett Plot: Log Rt vs Log Ø Constraints on input: Vsh < .3 Sw > .7 Ø > .07 Interpreted water line slope = m = 1.74 with its intercept at 100% ✓Ø = Rw = .24 ohm ∸ m^2 52.4°C (midpt BHT).
Figure 4	Soft Formation Vshale Model (VSHGR-TERT'Y) vs Linear (older rocks) Vshale Model for Iona no. 1, 1255 to 1381m.
Figure 5	Restored State Core PHI Functions.
Figure 6	Log plot of VSH, PHI, (1-Sw)*PHI and (Sxo-Sw)*PHI

REFERENCES

1) Kozma, G (29.3.88) Iona 1 SFT Survey, Bridge Memo 502/81/GK/kn

2) Sample Studies (and related correspondence).

2a) AMDEL (27.5.88) Special Core Analysis, Iona no. 1 Core Plugs, Fm Resistivity factor and Resistivity Index (at Restored State) (sent to Beach) Rpt no F7197/88

2b) Beach (14.4.88) Special Core Analysis, Iona no. 1 Recommendation for SCAL studies. (Facsimile from Beach to Bridge).

2c) AMDEL (14.4.88) Core Porosity at Overburden Conditions and Sieve Analysis (sent to Beach) Rpt no F5179/88.

2d) AMDEL (21.7.88) XRD of Core Samples (sent to Beach) Rpt no F7266.

2e) AMDEL (?) Ambient Phi, K, SG and Grain Density Measures, Core 1, Iona 1 (sent to Bridge by Beach on 23/33/88 - no AMDEL reference.

2f)Core Lab (19/7/88) Preliminary Residual Gas Saturation Results for Core No. 1 (Including Re-analyse of Ambient Phi and K).

3) Roberts, R. (19.3.88) Preliminary Log Analysis, Iona No.1, Bridge file note 502/488/24/RR/kd.

4) Roberts, R. (19.3.88) Preliminary OGIP Estimate, Iona. Bridge file note 502/488/65/RR/kd.

5a) Frith, R. (16.3.88) Preliminary Gas Analysis (transcript of phone call with Garry Scott, Beach).

5b) Gas and Fuel Labs. (10.6.88) Compressibility and Analysis of Iona gas. Rpt No. 88/252/c Sample Book No. 88/711.

6) Log Prints from wellsite 1:200 scale as follow:

6a) DLL/MSFL/GR (Note: 2.6m shift of core depths <u>up</u> required to match log depths).

6b) SLD/CNS/GR

6c) BCS/GR

7) Core no. 1 - Colour photo.

FIGURES

Figure 1	Time structure at near top Flaxmans (~ top Waare) by AR Hoare (8/87) with an optimistic contour option illustrating "blue sky" potential for ~700 acre area inside the interpreted LCC.
Figure 2	Extrapolated BHT Graph: Temperature vs (t + T/ t)
Figure 3	Pickett Plot: Log Rt vs Log O Constraints on input: Vsh <.3 Sw >.7 O >.07 Interpreted water line slope = m = 1.74 with its intercept at 100% O = Rw = .24 ohm - m^2 52.4°C (midpt BHT).
Figure 4	Soft Formation Vshale Model (VSHGR-TERT'Y) vs Linear (older rocks) Vshale Model for Iona no. 1, 1255 to 1381m.
Figure 5	Restored State Core PHI Functions.
Figure 6	Log plot of VSH, PHI, (1-Sw)*PHI and (Sxo-Sw)*PHI

TABLES

PE906657

This is an enclosure indicator page.
The enclosure PE906657 is enclosed within the container PE902192 at this location in this document.

The enclosure PE906657 has the following characteristics:
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CONTAINER_BARCODE = PE902192
NAME = Table 1, Appendix 19
BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Mneumonics for Terralog, Table 1, Appendix 19
REMARKS =
DATE_CREATED = 18/08/88
DATE_RECEIVED =
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE906658

This is an enclosure indicator page.
The enclosure PE906658 is enclosed within the container PE902192 at this location in this document.

The enclosure PE906658 has the following characteristics:

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PERMIT = PEP108
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SUBTYPE = DIAGRAM
DESCRIPTION = Net Pay Summary, Iona-1, Table 2, Appendix 19
REMARKS =
DATE_CREATED = 18/08/88
DATE_RECEIVED =
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE906659

This is an enclosure indicator page.
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The enclosure PE906659 has the following characteristics:

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PERMIT = PEP108
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SUBTYPE = DIAGRAM
DESCRIPTION = Shale Characteristics, Iona-1, Table 3, Appendix 19
REMARKS =
DATE_CREATED = 18/08/88
DATE_RECEIVED =
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE906660

This is an enclosure indicator page.
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CONTAINER_BARCODE = PE902192
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BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Sandstone Characteristics, Iona-1, Table 4, Appendix 19
REMARKS =
DATE_CREATED = 18/08/88
DATE_RECEIVED =
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE906661

This is an enclosure indicator page.
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CONTAINER_BARCODE = PE902192
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BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Correlation of Log to Restored State Core Phi, Table 5, Appendix 19
REMARKS =
DATE_CREATED = 18/08/88
DATE_RECEIVED =
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

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PE906662

This is an enclosure indicator page.
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PERMIT = PEP108
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Sw in Net Sand, Iona-1, Table 6, Appendix 19
REMARKS =
DATE_CREATED = 18/08/88
DATE_RECEIVED =
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

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PE906663

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The enclosure PE906663 has the following characteristics:

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PERMIT = PEP108
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SUBTYPE = DIAGRAM
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REMARKS =
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DATE_RECEIVED =
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

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PE906664

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BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Sensitivities of Pay Tallies, Table 8, Appendix 19
REMARKS =
DATE_CREATED = 18/08/88
DATE_RECEIVED =
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE906665

This is an enclosure indicator page.
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The enclosure PE906665 has the following characteristics:

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CONTAINER_BARCODE = PE902192
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BASIN = OTWAY
PERMIT = PEP108
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SUBTYPE = DIAGRAM
DESCRIPTION = Net Pay, Iona-1, Table 9, Appendix 19
REMARKS =
DATE_CREATED = 18/08/88
DATE_RECEIVED =
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE906666

This is an enclosure indicator page.
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CONTAINER_BARCODE = PE902192
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BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Compressibility Evaluation, Table 10, Appendix 19
REMARKS =
DATE_CREATED = 18/08/88
DATE_RECEIVED =
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE906667

This is an enclosure indicator page.
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CONTAINER_BARCODE = PE902192
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BASIN = OTWAY
PERMIT = PEP108
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SUBTYPE = HRZN_CNTR_MAP
DESCRIPTION = Figure 1, App 19, TWT to Near Top Flaxmans Formation
REMARKS =
DATE_CREATED = 31/08/87
DATE_RECEIVED =
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE906668

This is an enclosure indicator page.
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The enclosure PE906668 has the following characteristics:

ITEM_BARCODE = PE906668
CONTAINER_BARCODE = PE902192
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BASIN = OTWAY
PERMIT = PEP108
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SUBTYPE = DIAGRAM
DESCRIPTION = Figure 2, App 19, Iona-1, Static BHT
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DATE_CREATED = 28/07/88
DATE_RECEIVED =
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

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CONTAINER_BARCODE = PE902192
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PERMIT = PEP108
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Figure 3, App 19, Iona-1, Picket Plot
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE906670

This is an enclosure indicator page.
The enclosure PE906670 is enclosed within the container PE902192 at this location in this document.

The enclosure PE906670 has the following characteristics:

ITEM_BARCODE = PE906670
CONTAINER_BARCODE = PE902192
NAME = Figure 4, VSHALE Plot
BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Figure 4, App 19, Iona-1, VSHALE Plot
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE906671

This is an enclosure indicator page.
The enclosure PE906671 is enclosed within the container PE902192 at this location in this document.

The enclosure PE906671 has the following characteristics:
ITEM_BARCODE = PE906671
CONTAINER_BARCODE = PE902192
NAME = Figure 5, Restored State Core Data
BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Figure 5, App 19, Iona-1, Restored State Core Data
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)

PE906672

This is an enclosure indicator page.
The enclosure PE906672 is enclosed within the container PE902192 at this location in this document.

The enclosure PE906672 has the following characteristics:

ITEM_BARCODE = PE906672
CONTAINER_BARCODE = PE902192
NAME = CPI Analysis Log
BASIN = OTWAY
PERMIT = PEP108
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = CPI Analysis Log, Appendix 19, Iona-1
REMARKS =
DATE_CREATED =
DATE_RECEIVED =
W_NO = W970
WELL_NAME = IONA-1
CONTRACTOR =
CLIENT_OP_CO = BEACH PETROLEUM

(Inserted by DNRE - Vic Govt Mines Dept)