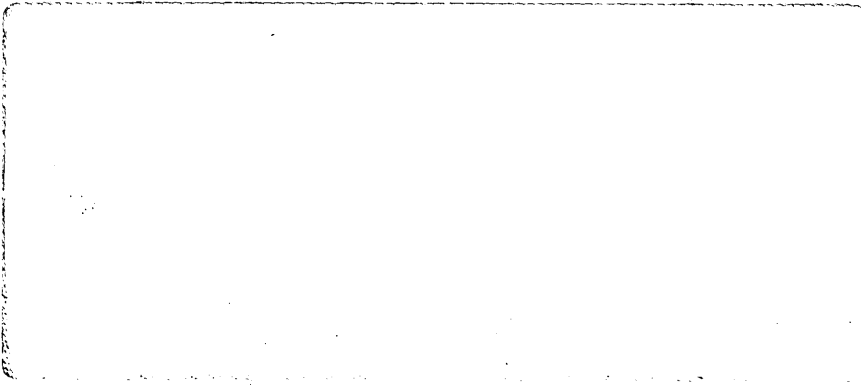


909463 001

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BEACH PETROLEUM N.L.

(Incorporated in South Australia)

909463 002

BEACH PETROLEUM N.L.

DRILLING PROGRAM

WESTGATE NO. 1

07 FEB 1986

OIL and GAS DIVISION

BEACH PETROLEUM N.L.

WESTGATE -1

DRILLING PROGRAM

909463 003

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FIGURES

Table 1 - Casing and Cementing Program

Location Map

Structure Map - Top Pebble Point Formation

APPENDIX

Drill Site Location Plan

Rig Specifications

DRILLING PROGRAM

WESTGATE -1

909463 004

A. GENERAL

1. RIG LOCATION (Surface)

Latitude: 38° 27' ~~58"~~ S
Longitude: 142° 53' ~~13"~~ E
Elevation: GL:88.0 m ASL
KB:94.0 m ASL

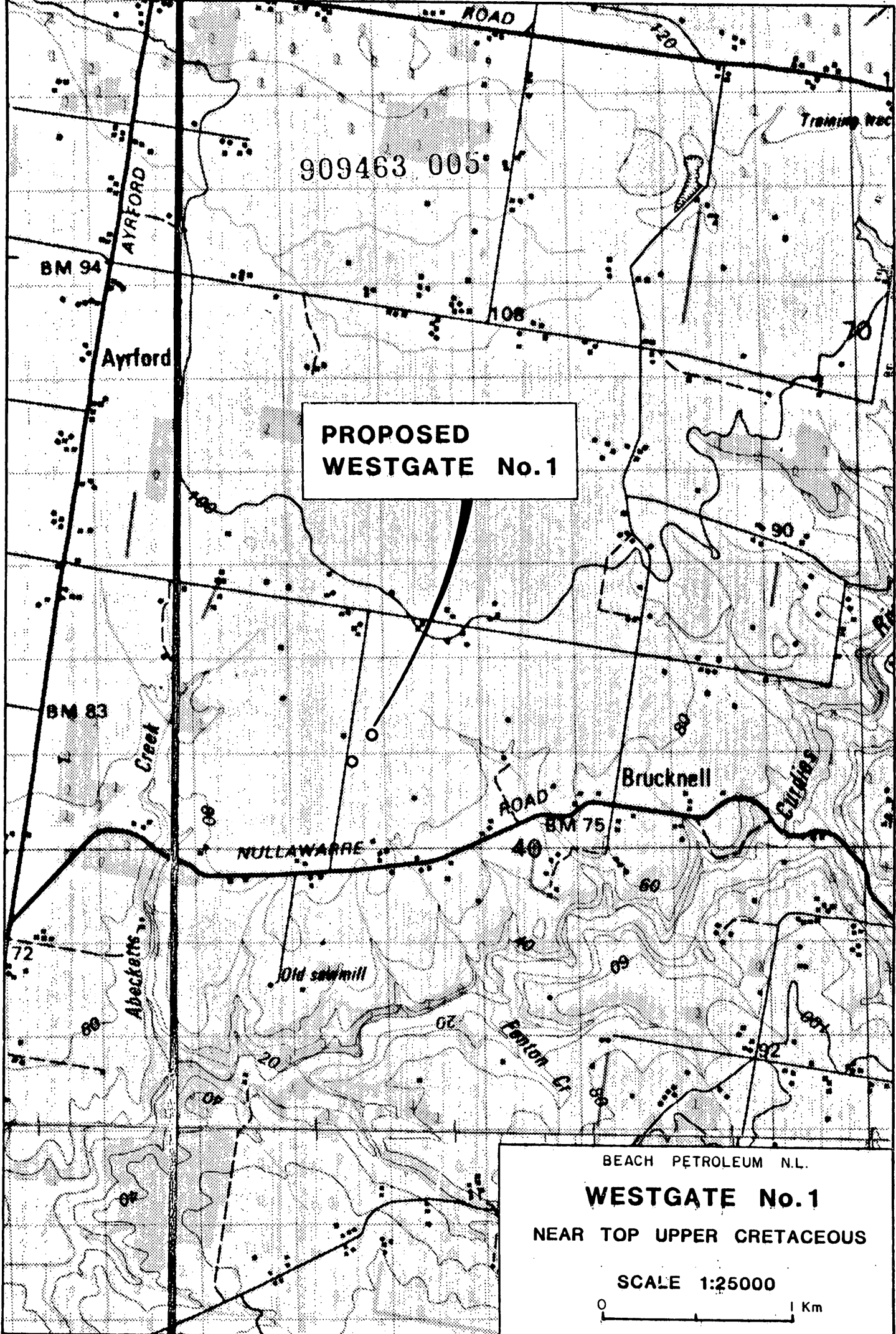
2. TARGET ELEVATIONS

Two targets are programmed for this well, one in the Pebble Point Formation and one in the Waarre Formation. Both targets are circles of radius 100 m and 50 m respectively with their centres referenced as follows:

	<u>Pebble Point</u>	<u>Waarre</u>
Shot Point:	172	185
Seismic Line:	TME 400	TME 400
Latitude:	38° 27' 53" S	38° 27' 44" S
Longitude:	142° 53' 18" E	142° 53' 28" E
Depth, m TVD KB:	789.0	1554.0
Bearing from Rig:	37° 30'	37° 30'
Distance from Rig (Horizontal):	180 m	570 m

Both targets have hard boundaries all round.

Cont'd.



909463 005

**PROPOSED
WESTGATE No.1**

BM 94

AYRFORD

Ayrford

BM 83

Creek

Abeckatts

NULLAWARRE

Old sawmill

ROAD

BM 75

Brucknell

Creeks

Empton Cr

BEACH PETROLEUM N.L.

WESTGATE No.1

NEAR TOP UPPER CRETACEOUS

SCALE 1:25000



909463 006

3. WELLBORE PATH

Total Depth: 1654 m TVD (1817 m AHD)
Average Angle: 27° 00'
Kick-Off-Point: 125 m

4. REASON FOR DRILLING

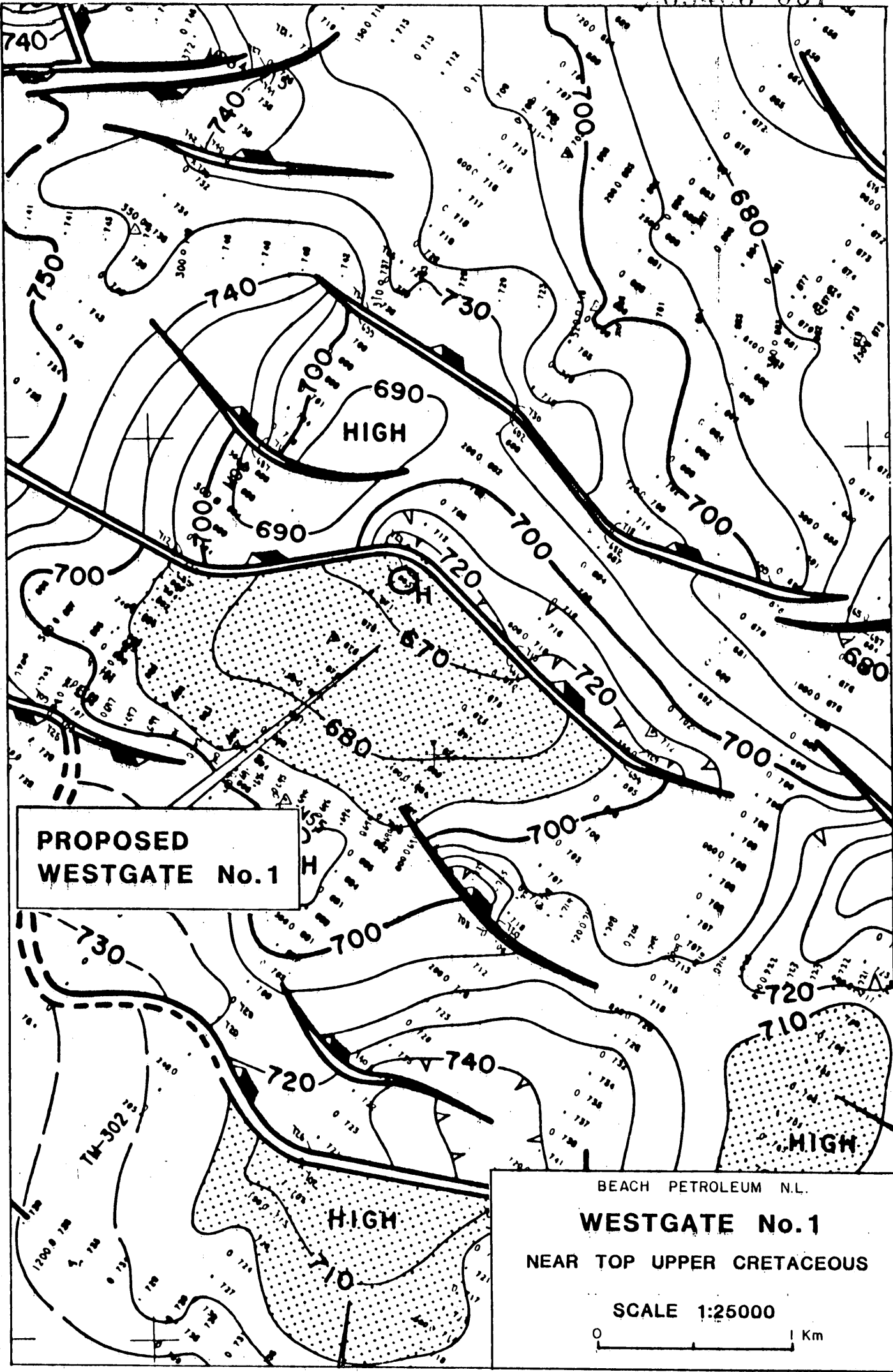
The proposed well will primarily test the hydrocarbon potential of the basal Tertiary Pebble Point Formation and the basal Upper Cretaceous Waarre Formation.

Westgate No. 1 is located within a fault dissected platform that separates two major faults. The prospect is a seismically defined horst block, with the Waarre and Pebble Point plays formed by a prominent down to the north east normal fault.

The Westgate horst block is an asymmetric structure causing the Pebble Point Formation high points to be offset laterally by 390 m, with the Waarre high lying to the north east. To intersect both primary targets at their crest the well bore requires a deviation of approximately 27° from the vertical throughout the Upper Cretaceous Formation.

Hydrocarbon prospectivity is potentially good. Oil fluorescence has been noted in the Pebble Point Formation at Timboon No. 5, 7.5 km east south east. In addition the Westgate No. 1 prospect is in the same geological province that contains the North Paaratte gas fields and the Port Campbell No. 4 oil recovery.

Cont'd.



**PROPOSED
WESTGATE No.1**

BEACH PETROLEUM N.L.
WESTGATE No.1
 NEAR TOP UPPER CRETACEOUS
 SCALE 1:25000
 0 ————— 1 Km

909463 008

5. GEOLOGICAL PROGNOSIS

<u>Stratigraphic Unit</u>	<u>Depth Below</u>	<u>Depth Below</u>
	<u>KB TVD</u> (m)	<u>KB AHD</u> (m)
Port Campbell Limestone	Surface	Surface
Gellibrand Marl	168	171
Clifton Formation	388	398
Narrawaturk Formation	408	419
Mepunga Formation	444	459
Dilwyn Formation	499	521
Pember Mudstone	755	808
Pebble Point Formation	789	846
Paaratte Formation	824	886
Skull Creek Mudstone	1289	1408
Nullawarre Greensand	1352	1479
Belfast Mudstone	1494	1638
Flaxmans Formation	1504	1649
Waarre Formation	1554	1705
Otway Group	1582	1736
T.D.	1654	1817

6. CONTRACTOR AND RIG

Richter - Rig 8.

7. REMARKS

Unless otherwise stated all depths in this program are relative to the kelly bushing (RKB) and all bearings are relative to true north (azimuth).

Cont'd.

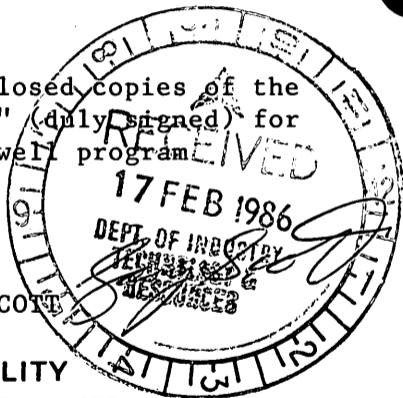
909463 009

for the attention of

JOHN MORGANS



Please find enclosed copies of the
"approvals page" (duly signed) for
the WESTGATE 1 well program



with compliments of

GARY SCOTT

BEACH PETROLEUM NO LIABILITY

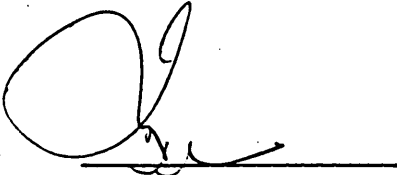
4TH FLOOR, 685 BURKE ROAD, CAMBERWELL, VICTORIA, 3124

(P.O. BOX 360, CAMBERWELL, VICTORIA, 3124)

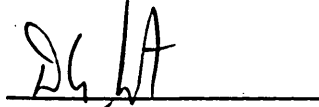
TELEPHONE: (03) 813 3311 TELEX: AA36500. FAX: (03) 813 3902

909463 010

8. APPROVALS



EXECUTIVE DIRECTOR



EXPLORATION DIRECTOR



OPERATIONS MANAGER

8. APPROVALS

EXECUTIVE DIRECTOR

EXPLORATION DIRECTOR

OPERATIONS MANAGER

B. PROGRAM

1. SUMMARY DRILLING PROGRAM

1.1 20" conductor will be set to 9.0m (approx.) during location preparation.

1.2 Use a 12¼" drilling assembly to drill to the KOP at approximately 125m. At this point POOH and pick up a dyna-drill with 2½° bent sub. Orient the dyna-drill and kick off the well using a build rate of around 2½°/30m. Once an inclination of approximately 15° has been achieved, pull the dyna-drill and RIH with a building assembly. Build angle until the average angle of 27° has been obtained or until sufficient angle is available to penetrate both targets. Based on the proposed well path, this should occur at approx. 453m AHD (441m TVD). Surface casing should be set at this depth, although the actual depth will be determined on site once the casing has been measured so as to provide 3m of hole below the casing shoe.

Progress should be closely monitored against the directional company's proposed well path and the directional program adjusted as needed in consultation with the Operations Manager.

1.3 Strap out of hole to the 6¼" DC's to check pipe tally.

1.4 RIH with 12¼" bit to T.D.

1.5 Circulate and clean hole.

1.6 POH to run 9⁵/₈" casing.

Cont'd.

- 1.7 Run 9⁵/₈" casing complete with float shoe, float collar (on top of first joint) and 5 centralisers on 5 lower joints. Tack weld bottom of collar on shoe joint. Make-up float shoe and all connections between shoe joint and one above with threadlocking compound. Fill casing every 2 - 3 joints as it is run in the hole. Chain down casing prior to cementing.
- 1.8 Cement casing to surface using top plug only as per Table 1. Bump cement plug and pressure test casing to 1000 psi. Check float valves are holding, if okay bleed off. Do not leave slips in rotary table. Collect 2 samples per mix of cement and store in a dry warm place.
- 1.9 If samples are hard after 8 hours, slack-off travelling block.
- 1.10 Backoff landing joint. Install casing head and BOP's and pressure test to 1000 psi against cup type test plug.
- 1.11 Pressure test all valves in the choke manifold to 100 psi.
- 1.12 RIH with a long tooth soft formation 8¹/₂" bit, drill out cement plugs, shoe track and approx. 5m of new hole.
- 1.13 Carry out Pressure Integrity Test using cementing pump, taking care to shut down pumps once the PIT limit has been established.
- 1.14 Drill 8¹/₂" hole to T.D. at 1820 AHD (1654m TVD).
- 1.15 Electric log and evaluate the well as necessary. Run velocity survey.
- 1.16 Complete or abandon the well as the case may be.

Cont'd.

Note: 5½" cased hole APR testing equipment will be available.

2. BIT PROGRAM

<u>Hole Size</u>	<u>Interval</u> m AHD	<u>Metres</u>	<u>Anticipated Usage</u>	<u>Bits to be Avail.</u>
30"	GL-9	3	Back hole & auger dig.	
12¼"	9-453	444	1 x L3A 1 x 5335	1 x L3A* 2 x 5335
8½"	444-1820	1376	1 x 5335 2 x S44G 1 x 582F	1 x 5335 3 x S44G 2 x 582F

* Denotes already in Cobden stock.

3. HYDRAULIC PROGRAM

3.1 12¼" Hole

Spud in and drill the first 30m of hole with circulation rates of 300 - 350 gpm.

Use jets and flow rates as determined by dyna-drill hydraulic requirements. Maintain sufficiently high circulation rates to ensure good hole cleaning.

3.2 8½" Hole

Jet sizes should be chosen to optimise bit hydraulics whilst maintaining circulation rates of the order of 250 - 300 gpm. In general 10/32 jets should be used.

Cont'd.

4. DEVIATION AND BOTTOM HOLE ASSEMBLIES

4.1 12 1/4" Hole

While dyna-drilling, take surveys after every connection until it is evident that the well is building angle at the required rate and the well path is predictable. Thereafter run surveys as required.

A building assembly will be run following the dyna-drill and surveys should be made after every 30m until its behaviour is established when surveys may again be taken as required.

Consult with Directional Company for recommended BHA configurations.

4.2 8 1/2" Hole

Drill out the surface casing with a holding assembly taking surveys as required to ensure the well is maintaining course. However, do not exceed a coarse length of 150 m between surveys.

Consult with Directional Company for recommended BHA configurations.

5. MUD PROGRAM

See Mud Engineering companies recommendations for further details.

<u>Hole</u>	<u>Interval</u>	<u>Wt. ppg</u>	<u>Vis. Sec.</u>	<u>W.L. cc</u>	<u>Notes</u>
12 1/4"	8-453	8.6	35	N.C.	Water plus visc, slugs.
8 1/2"	453-1820	9.2-9.5	40 - 45	8 - 12	KCL/polymer

909463 015

Note:

- (a) A lightly treated non-dispersed mud system containing 10 lb/bbl of KCL will reduce the likelihood of mud ring problems occurring.
- (b) Drilling Detergent should be available to eliminate bit balling if required.
- (c) Stuck pipe spotting fluid will be available on site.

Full mud checks will be performed twice daily under normal circumstances by the mud engineer.

Running checks of mud weight and viscosity in and out will be performed by the rig crew every $\frac{1}{2}$ hour whilst circulating. A routine check will be taken twice each tour.

A formation leak off test will be taken after drilling 5m of new hole below the 9⁵/₈" casing shoe.

6. CASING AND CEMENTING PROGRAM

Refer Table 1 attached.

7. FORMATIONS SAMPLING

7.1 Cuttings

Shaker samples will be taken at 10m intervals to approx. 510m (top of Dilwyn), and thereafter at 3m intervals to T.D. These samples are to be washed and dried and stored in labelled polythene bags. Four sets are required. In addition a fifth set of samples, unwashed and air dried will be collected from 510m to T.D. This set is to be compounded over 9m intervals by combining 3 sets of 3m interval samples.

Cont'd.

7.2 Cores

Conventional cores will not be cut in this well. Sidewall cores will be taken after logging for formation evaluation and for palynological purposes.

8. LOGGING PROGRAM

Logs run prior to the setting of the 9⁵/₈" casing:

- (i) ISF - SLS - 454m AHD to conductor pipe.

At T.D. the following Schlumberger logs will be run:

- (i) DLL - MSFL - T.D. to 9⁵/₈" casing.
- (ii) SLS - T.D. to 9⁵/₈" casing.
- (iii) LDL - CNL - T.D. over zones of importance.
- (iv) SHDT - T.D. over zones of importance.
- (v) CST - 30 shots.
- (vi) WSS - 20 levels.

In the event that significant hydrocarbons from logs are encountered it may be that after discussion with Bridge Oil, other logs may be run.

9. TESTING PROGRAM

In the event of significant hydrocarbon shows, it may be decided to conduct a drill stem test. Any decision in this regard will be made after consultation with Bridge Oil.

All testing will be conducted using Annular Response Tools. A recommended running procedure and program will be issued in the event a test is called.

CASING SIZE (INS)	HOLE SIZE (INS)	DEPTH (MAHD)	WEIGHT (lbs/ft)	GRADE CONNECTION	COLLAPSE	SAFETY FACTORS		CEMENTED TO	CEMENT & ADDITIVE
						BURST	TENSION		
20	30	0-9		Conductor	H	H	H	Surface	25sxs construction cement.
9 5/8	12 1/4	0-454	36	J55 STC	H	H	H	Surface	340sxs A.B. Class A cement with 2% prehydrated bentonite followed by 160sxs A.B. Class A cement neat.
5 1/2	8 1/2	0-1820	17	J55 STC	1.2	1.4	1.9		150sxs A.B. Class A cement with 2% prehydrated bentonite 0.4% HR-7 followed by 250sxs A.B. Class A cement neat with 1.0% CFR-2 and 0.2% HR12.

NOTES:

- (a) A 20bb1 water pre flush will be used on all jobs
- (b) The shoe joint and four above will be centralized.
- (c) Top and bottom cement plugs will be used.
- (d) The 5 1/2" casing will be centralized through all hydrocarbon bearing intervals.
- (e) Pressure on the 9 5/8" 36 lb/ft J55 casing must not exceed 2000 psi.
- (f) A.B. = Adelaide Brighton.

ASSUME:

- (a) 9.2 ppg mud behind 9 5/8" casing, 10.00 ppg mud behind 5 1/2" casing.
- (b) Normal formation pressure of gas sands 0.44 psi/ft.
- (c) Gas gravity 0.6.

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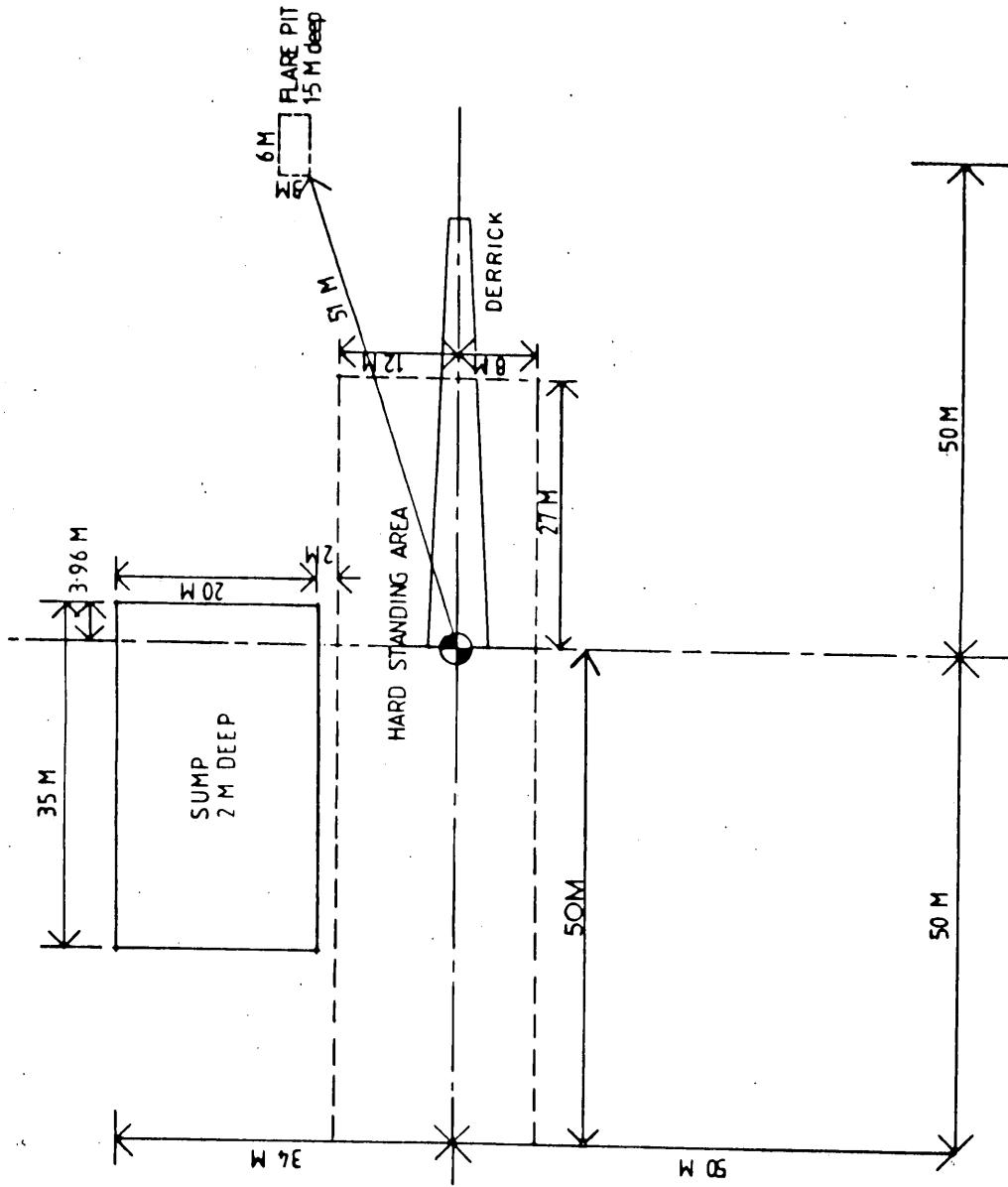
RICHTER DRILLING PTY. LTD.

RIG 8

DRILL SITE LOCATION PLAN

RIG 8

DRILL SITE LOCATION PLAN



909463 019

SCALE 1 : 750

NOTE : ALL MEASUREMENTS IN METRES (AREA MUST BE LEVEL)

909463 020

RICHTER DRILLING PTY. LTD.

NATIONAL 80B - RIG NO. 8

RIG SPECIFICATIONS

RICHTER DRILLING PTY. LTD.

909463 021

NATIONAL 80B - RIG NO. 8

DRAWWORKS

National 80B, 1-1/4" Drill Line.
National type B1 Catheads, Parmac Hydromatic
brake, driven off compound.

POWER

3 each Superior PTDS6, each rated at
600 HP at 900 RPM.

COMPOUND

National B24, 3 Section.

MUD PUMPS

2 each National 9-P-100 Triplex 1000 HP
6-3/4" X 9-1/4" equipped with 6-1/4" liners
and pistons with hydril K20-5000 pulsation
dampeners. Both with independent drive - CAT D399TA
industrial engines.

MAST

Lee C. Moore, 142 ft. 860000 lbs. capacity.
1 x 60" - 5 x 48" sheaves in crown.

SUBSTRUCTURE

Main substructure 10' 6" high, plus pony
substructure 11 ft. high for total height
of 20'6".

Motor substructure, total height 12' high
composed of three subs, 5' plus 4'9".

MATTING

1 set sectionilized hardwood matting.

ROTARY TABLE

National C275, 27-1/2".

HOOK BLOCK

National Type G, 350 ton.

SWIVEL

Ideal RB3

KELLY DRIVE

Baash Ross, Type 2 RCH 6.

MUD AGITATORS

2 "Lightnin" Mixers.
2 Brandt MA 7.5

909463 022

MUD TANKS

Shaker 37' x 8' x 4'6"
Intermediate tank 34' x 8' x 5'
Suction tank 37' x 8' x 5'
750 BBL capacity

SHALE SHAKER

Brandt Dual Tandem

DEGASSER

Drilco Standard Pit

DESANDER

Demco 4 cone, with BJ 5" x 6" pump

DESILTER

Pioneer 12 x 4" Cones, with pump

GENERATING PLANT

2 Cat D3408 Generator sets

CHOKE MANIFOLD

3" x 5000 psi wt 2" H2 chokes

BOP'S & ACCUMULATOR

- . Annular, Stamco 13-5/8" 5000 psi
- . 2 - Cameron 13-5/8 x 5000 psi U Type
- . Accumulator, koomey 35120-35, 12 bottles
- . Hydril 10000 psi Upper Kelly Cock
- . Gray inside BOP, 4-1/2" XH
- . Hydril Lower Kelly Cock

DRILLING RECORDER

- . Martin Decker 6 pen
- . Pit Volume/Automatic Driller/Flo Sho/Stroke Counter/Rotary RPM/Rotary Torque

RIG LIGHTING

Hutchinson system of 48" double tube fixtures

COMPRESSORS

- . 1 x Atlas Copco BT4 (on compound)
- . Sullair Rotary Compressor (elec driven)

WELDING AND CUTTING

- . Lincoln model 400AS electric welding machine
- . Oxy and acetylene cutting equipment

MUD LAB

Baroid model 821

DEVIATION SURVEY

Totco unit No. 6, 8° double recorder

KELLY

5-1/4" Hex, 4-1/2" IF Pin, 40 ft long, 37 ft working space.

909463 023

DRILL PIPE

10000 ft 4-1/2" OD, 20 lb/ft,
Grade E, Range 2
15 joints heavy wate drill pipe 42 lb/ft

PUP JOINTS

1 x 5' - 1 x 10' - 1 x 20' Gr "G" 4-1/2" OD

DRILL COLLARS

12 x 8" OD, 6-5/8" API Reg
24 x 6-1/4" OD, 4-1/2" XH

HANDLING TOOLS

- . Power tongs, Farr 13-3/8
Jaws for 7", 9-5/8" and 13-3/8"
- . Varco SSW10 Spinning Wrench

TONGS

BJ type B with lug jaws, 3-1/2" to 13-3/8"
BJ type SDD with jaws for 8-1/2" to 12"
BJ/Wilson for 20" casing

ELEVATORS

BJ type BB 275 ton for 4-1/2 DP
Elevators and single joint elevators for:

- 5-1/2" casing
- 7" casing
- 9-5/8" casing
- 13-3/8" casing
- 20" casing

Varco type HS spider for 20" casing

SLIPS

- . Varco SDML slips for 3-1/2" & 4-1/2" Drill Pipe
- . Drill collar slips, DCS-R
- . Casing slips, CMXL

FISHING TOOLS

Bowen model 150 overshots

- . 11-3/4" OD, FS
- . 9-5/8" OD, FS
- . 8-1/8" OD, FS

Bowen type Z hydraulic jars, 6-1/4" OD

Bowen reverse circ junk basket, 8-1/8" OD

- 1 Junk Sub for 8-1/2" hole
- 1 Junk Sub for 12-1/4" hole
- 1 Bowen magnet 7" OD #32300

GENERATOR HOUSE

40' x 10' x 9'

MECHANICS WORKSHOP

36' x 8'6" x 9'

FUEL TANK

6000 gallons, skid mounted

909463 024

WATER TANK

400 barrel

WATER PUMP

Southern Cross 2 x 1-1/2" powered by Petters diesel

JUNK BOX

21' x 7' x 6'4"

TOOL HOUSE

27' x 9' x 9'

DOGHOUSE

26' x 9' x 9'

TRANSPORT

1 Oilfield rig truck

1 Toyota Landcruiser Utility 4WD

1 Toyota Landcruiser Wagon - 4WD (11 seater)

1 Clark 504 Forklift

CAMP

3 - 40' x 10' 10 man air-conditioned accommodation units

1 - 40' x 10' kitchen unit with freezer and cold unit

1 - 40' x 10' diner unit

1 - 40' x 10' ablution unit

1 - 40' x 10' canteen unit

All skid mounted