A/S NORSKE SHELL

DRILLING PROGRAMME - LOCATION 17/11-CX

A. GENERAL

1. Location

a) A/S Norske Shell - Block 17/11 - Production Licence 010

b) Preliminary Sat. Nav. surface coordinates: N 58° 06' 52.1"
E 03° 22' 02.1"

c) Rig position permissible within a radius of 100 metres centred on the theoretical position which is shotpoint 6051 on seismic line 174005.

d) Well to be known as 17/11-2 after spudding.

2. Base

Tananger shore base - Location : 86 nM

3. Depth Reference

a) All depths are given with respect to the rotary table except where otherwise specified.

b) Expected water depth: ± 79 m below MSL

c) Barge ballasted to ± 21.3 m draught for drilling

d) Distance from rotary table to MSL : 32.5 m
Distance from derrick floor to seabed: 111.5 m (preliminary)

4. Type of Well

avgransingsboll 8

Expendable Exploration

5. Proposed Total Depth

± 2900 m or 50 m below Top Salt.

6. Drilling Installation

Chris Chenery - self-propelled semi-submersible drilling platform owned and operated by the International Drilling Co. Ltd., a subsidiary of the Offshore Co., Houston.

7. Objectives

To evaluate the Middle Jurassic and Triassic sands of a large monoclinal prospect flanking a long NW-SE striking salt wall. The primary objective is the Middle Jurassic sands.

8. Prognosis

Depth bdf	Stratigraphic Unit	Lithology
Seabed - 750 m	Pleistocene, Pliocene	Clays, sands
750 - 1170 m	Miocene, Oligocene	Clays
1170 - 1280 m	Eocene	Clays, Siltstone
1280 - 1340 m	Paleocene	Tuff, Shale
1340 - 1740 m	Danian, U. Cretaceous	Chalk Limestone
1740 - 2270 m	L. Cretaceous	Claystone, Marl
2270 - 2450 m	U. Jurassic	Dark Shales
2450 - 2780 m	M. Jurassic/Triassic	Sandstone, Shales
2780 - TD m	Permian	Anhydrite, Salt.

9. Pressures

Overpressures have not been encountered in this general area, however, the possibility of such an occurrence cannot be ignored.
Refer to Appendix II for comments.

10. Well Control

The possibility of encountering shallow gas pockets, although absent from surrounding wells, cannot be completely ruled out. (Found in the North Sea area from ± 150-600 m).
For this reason after the 30" conductor is set, a 17½" pilot hole will be drilled to the 20" casing setting depth using a marine riser with diverter.

Only if gas shows have not been encountered will the riser be pulled and the hole opened up to 26" using a hole-opener. If gas shows have been encountered then the riser will be retained and the hole opened up using an under-reamer. The hole will then be circulated to mud of appropriate density prior to pulling the riser.

Whilst drilling this section, 400 bbls of heavy mud of density 0.570 psi/ft (11 lbs/gallon) will be available. In addition at least 20 m tonnes of cement will be available at all times from spud in.

Close control of bit cleaning, circulation and very slow pulling and running in should be made to avoid pressure surges. In any event, every single should be circulated out when pulling the bit and when considered necessary additional wiper trips should be made to ensure that gas influx has not occurred.

Pressure control will be maintained from the 20" casing point to T.D. in accordance with the company's well control policy.

11. Deviation Control

a) Magnetic single shot readings of azimuth as well as inclination to be taken from below the 20" shoe down to T.D. at intervals not exceeding 100 m.

b) Dog leg severity should not exceed 2 deg per 30 m interval.

NOTE: At no time may the well position be more than maximum 15 metres from the last known geographical position (Ref NPD regulations section 19.7 page 26 effective 1st Oct. 1975), The WSPE is responsible for maintaining a "bottom-hole position plot".

12. Casing Summary

Size	Grade	Weight (lbs/ft)	Coupling	P.test (psig/15mins)	Intervals (ft)
30"	1" WT	310	ST	-	SB - 185 m
20"	K-55	106.5	BTS	250	SB - 425 m
13-3/8"	N80	72	BTS	2500	SB -1300 m
9-5/8"	N80	47	BTS	4000	SB - 800 m
	P110	47	VAM	4000	800 -2900 m

(Reference should be made to Appendix III for Casing String Design sheets).

Test surface and intermediate casings after 30 days drilling (or sooner if considered necessary) with RTTS packer set above top cement in annulus.

13. Wellhead

Cameron wellhead equipment as specified in Appendix VIII will be used.

14. Formation Strength Test

Test will be carried out just below the 13-3/8" casing shoe in order to assess the shoe pressure at which the formation takes fluid. From this value maximum allowable mud gradients and back-pressures can be calculated for well control purposes. It is essential however, that the tests are terminated at the point of leak-off in order that formation fracturing does not occur, and the volume of drilling fluid squeezed away is kept to a minimum (0.5 - 1.5 bbl).

The procedure for carrying out the test is:

1) Drill 10 m below casing shoe and circulate to homogeneous mud density.

2) Pull to shoe, close pipe rams and hang off drillstring.

3) Using cement unit, pump down kill-line at uniform rate as slowly as possible, ($<$ 0.5 bbl/min).

4) Plot volume pumped vs surface pressure on graph paper. Allow for initial fill-up and compression of trapped air.

5) Continue pumping until a decrease in the slope of the graph is encountered (leak off), or the limit in the note below reached.

6) Stop pumps, bleed off pressure and record volume of mud returned to tank.

7) Report depths, mud gradient, pressures and volumes to base.

NOTE:

Under no circumstances should the test pressure of the casing or a formation strength gradient of 0.95 psi/ft measured from seabed + water depth hydrostatic head be exceeded.

15. BOP Tests

a) Pressure tests

It is required that the BOP's be tested during installation to full working pressure, after setting each casing string

to the maximum pressure allowed for that casing string, and at regular intervals during normal operations. In any event the time between tests should not exceed a period of one week. Additionally, following repairs requiring disconnection of a pressure seal, the BOP's must be tested to full working pressure. (Refer NPD regulations, Section 44)

NOTE:

That bag-type preventers should only be tested to a maximum of 70% of their working pressure.

b) Function Tests

There are required as follows

Ram type preventers	- Once each trip and at least once per day.
Bag type preventers(around DP)	- At least once per week.

NOTE:

All pressure and function test results should be recorded on the daily log.

B. SUMMARY OF OPERATIONS

1. During anchor pre-tensioning make an observation dive to ensure sea-bed is clear of obstructions.

2. Carry out penetration test with a 26" conventional rock bit and 36" hole opener. Penetrate seabed approximately 3 m (record penetration rates). Calculate from results the water depth and the distance from rotary table to sea-floor, taking into account the drilling draught and prevailing tidal conditions.

3. Run and set Temporary Guide Base (TGB).
Check position of TGB with Regan slope indicator mounted on the running tool and by TV and/or divers.

4. Spud the first 3-6 m and then drill ahead to ± 195 m (± 82.5 m into seabed), with sea-water. Make a totco survey after 10 meters penetration and check TGB for tilting. Flush hole with viscous mud when adding a single. Make check trip, flush hole and then fill hole with viscous mud.

5. Run Permanent Guide Base with 30" conductor (± 75 m) to ± 7 m above bottom of hole. Install Regan slope Indicators on PGB and 30" running tool.

6. Cement the 30" conductor to seabed using a stand of 5" drillpipe as stinger and displace to ± 10 m above float shoe. If no backflow, release and pull running string.

7. Use divers to attach MGB to TGB using wire slings and shackles. Divers to take soil and cement samples to confirm cement returns.

8. Check cement samples and, if hard, drill out shoe track with 26" hole opener and 17-1/2" pilot bit and start 17-1/2" hole. Lay down 26" hole opener.

9. Install 24" Marine riser, flowlines and diverter, and fill riser with seawater. Observe fluid level. Check diverter line valves, booster line and record amount of water required to fill up marine riser through booster line.

10. With drillpipe at $\pm$ 150 m circulate well to mud and check pin connector and marine riser for leaks by TV observation. If satisfactory close diverter and circulate with minimum pressure through diverter lines to check valves and manifold rig up.

11. Drill 17-1/2" pilot hole to 435 m using a seawater/bentonite suspension of gradient $\pm$ 0.460 psi/ft. Barytes and additional chemicals must be available in order that the mud density can be increased at short notice if any hole problems are encountered. Use float sub above bit. The drilling of this hole should be carefully controlled with maximum penetration rates of 0.5 metres per minute.
The string should be circulated out each trip. Totco surveys required at $\pm$ 300 m and at TD.

12. At TD, circulate and condition mud. Circulate pipe out of hole. Displace marine riser to water when bit is in 30" housing. Run back to shoe and observe for 15 mins. Run in to bottom and circulate hole to seawater, checking for gas influx. If no influx pull out. One tank of mud of density 0.570 psi/ft should be available in case of hole problems.

13a) Pull mariner riser and open hole to 26" using a hole-opener with a 17-1/2" pilot bit. Circulate hole to viscous mud and pull out. When pulling do not rotate pipe, check for swabbing and make flow check at 30" shoe.

or 13b) If gas shows have been observed whilst drilling the pilot hole, retain mariner riser.
Run BGT and open hole to 26" using an under-reamer. Circulate hole content to mud of sufficient density to ensure control once the riser is removed and pull to 30" housing. Circulate riser contents to seawater and observe for influx. If no influx run to bottom, circulate bottoms-up and check for gas shows. If no shows, pull to shoe checking for swabbing. Make flow check and pull out.
Circulate riser content to seawater and pull riser.

NOTE: If influx is observed in 12, 13a) or 13b) above refer to procedure plan Appendix II page 3.

14. Run 20" casing to 425 m (see note below) and cement to seabed as per Appendix IV
Use subsea cementing equipment.

NB: 20" 200 ton elevators and 20" casing spear to be available on rig whilst running casing.

15. Install 24" mariner riser and 21-1/4" BOP stack. For BOP test requirements refer to A.15. Test casing to 250 psi.

16. Drill 17-1/2" hole to 1320 m with mud (refer APPENDIX VI)

17. Log (Refer Appendix V)

18. Run 13-3/8" casing to 1300 m and cement 150 m inside 20" casing. Bump plug with 250 psi above pumping pressure. If pressure holds, pressure up to 2500 psi in stages. If pressure drop is noted, release remaining pressure and check for backflow.

19. Pull 21-1/4" BOP stack and install 13-5/8" BOP stack. For BOP test requirements refer A.15. Test casing to 2500 psi if this was not done in 18 above.

20. Drill out shoe track with a 12-1/4" bit and make formation strength test ± 10 m below shoe (refer A.14).

21. Drill 12-1/4" hole to TD (2900 m or Top Salt).

22. Log and make velocity survey. Run FIT's as required.

23. Run and cement 9-5/8" casing if required. √ Segment

24. Make production tests if required - a separate programme will be issued.

25. Abandon or suspend well - a separate programme will be issued.

C. EVALUATION

1. Logging - refer to Appendix V for Logging Programme.

2. Mud and Formation Logging - full surveillance and reporting of mud, formation and hydrocarbon indications will be carried out by NEC Gas Analytic Services Int. Ltd., starting below the 30" conductor (± 185 m). All significant changes will be reported immediately to Shell representatives.

3. Mud sampling - mud samples from flowline are to be collected and analysed whilst circulating before every logging or testing job.

4. Ditch cuttings - samples are required every 10 m down to 2000 m

and thereafter every 3 m down to T.D. Four full plastic bags are required over each interval - unwashed but lightly rinsed and fully labelled. Samples are required for Norske Shell, SIPM, The Norwegian Petroleum Directorate, and exchange purposes. Also 1 set of washed and dried samples in small bags are required.

5. Coring et al - full provision to be made for coring at any depth below 500 m.

6. Testing

a) Testing in open hole will be by Schlumberger FITS for qualitative assessments.

b) Production tests may be required using 3-1/2" tubing and an OTIS subsea test tree. These tests will only be conducted from the bottom of the hole upwards.

eqpt program

7. The mud loggers to record the following information in addition to cutting description.

I) A log of penetration rate (mins/m) WOB, RPM, rate of circulation, bit types etc.

II) A separate log of modified d-exp., shale density, flowline and mud pit temperatures.

D. RESPONSIBILITY ON THE RIG

1. Toolpusher The Shell Toolpusher is the Company Representative on the rig and he will supervise the drilling operations to ensure that drilling standards conform to accepted Group practice.
   He is the only man authorised to give instructions to the Drilling Contractor and it is his duty to see that Shell policies, practices and instructions are adequately understood and carried out. He should familiarise himself with the well programme in detail and acquaint himself with the area in which the well will be drilled.

2. Petroleum Engineer The Norske Shell Petroleum Engineer is responsible for supervising the well evaluation contractors for services such as electrical and mud logging, mud engineering and formation testing. He ensures that quality control is maintained at the required level and collects all well technical evaluation data which he reports in a clear, concise manner.
   He maintains a "bottom-hole position plot" in accordance with Norwegian Regulations (refer to A.11.c), keeps track of the well progress by correlation with nearby wells, and advises the Norske Shell Toolpusher of any formation changes which are likely to occurr, hydrocarbon shows, or significant changes in the mud properties.
   Additionally, it is the responsibility of the Petroleum Engineer to ensure that adequate stocks of mud material, cement and sundry equipment for coring, FIT etc. are maintained on the rig at all times.

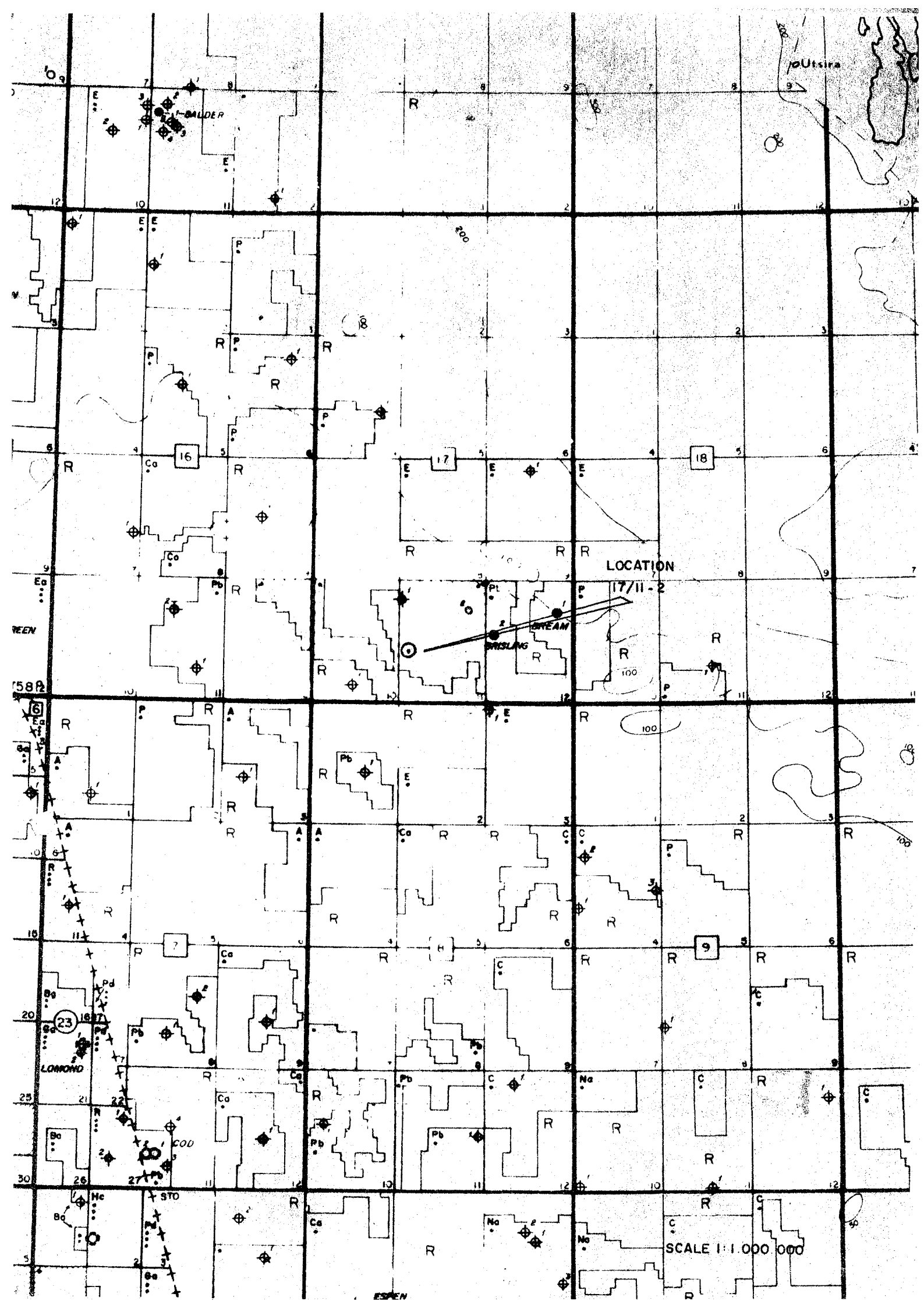
3. Contractors The responsibilities outlined above do not relieve contractors of responsibilities in their own particular field.

4. Secrecy This is a tight hole and vital information such as depths, formations, shows, test results etc. must NOT be passed in clear by radio.

Chief Petroleum Engineer	Drilling Superintendent
Geologist	Operations Engineer

A P P E N D I C E S

I	- Situation map Block 17/11 location
II	- Problems with Shallow Gas
III	- Casing Programme and Design Charts
IV	- Cementing Requirements
V	- Logging Programme
VI	- Mud Programme
VII	- Blowout preventers and equipment
VIII	- Wellhead equipment
IX	- Preferred orientation and anchor pattern.


LOCATION
17/11 - 2
SCALE 1 : 1.000.000

PROBLEMS WITH SHALLOW GAS

1. The presence of Shallow gas from a few hundred metres below seabed down to depths in excess of 600 m has already been well established in the North Sea area. Generally this gas is normally pressured and of erratic geographic distribution. Nonetheless its presence can be a serious problem and two wells (Amoco and Phillips) have been lost due to shallow gas problems. The erratic distribution can be seen from the fact that a rig move of a few hundred metres to a new location after the loss of a first hole has sometimes resulted in a shallow gas free second well. No fully satisfactory indirect means of detecting this shallow gas presently exists and therefore the probability of encountering it is completely random.

2. Any increase in gas indications whilst drilling should be reported and checked by making a flow check; circulating and then controlling by increased mud weight (if absolutely necessary). Care should be taken when raising the mud weight not to exert an excessive pressure on the formation at the 30" conductor shoe. The difference between the air/seawater column outside and the mud column inside must not be enough to hazard an outside equalisation break-through through the formation. 500 psi mud assumed a formation value of 730 psi/1000 ft which is high for seabed formations. Mudweight increases must be viewed with great caution.

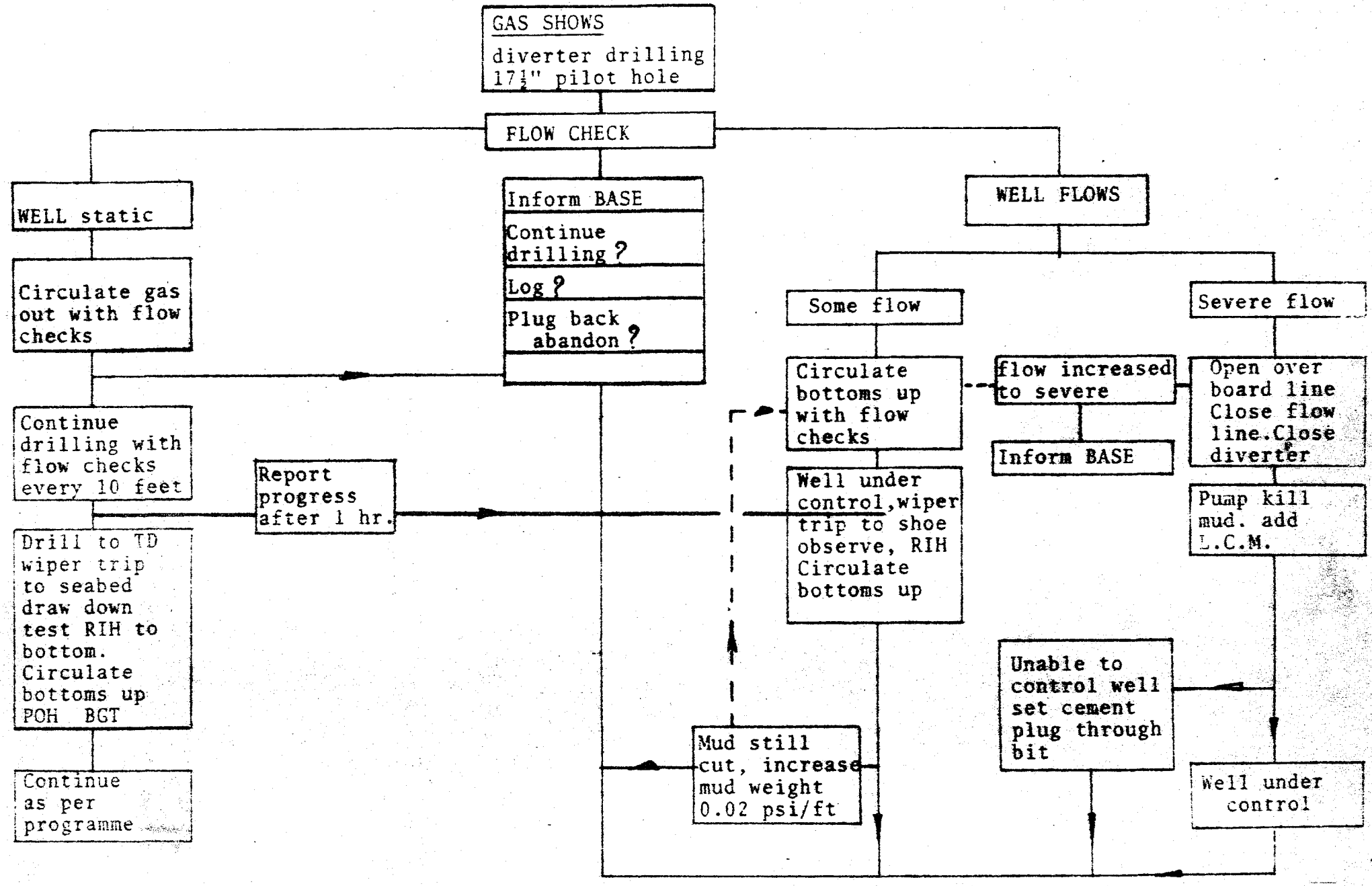
3. The principal trigger cause of shallow gas problems would appear to be swabbing whilst pulling partially balled up bottom hole assemblies. The gumbo shale intervals provide excellent balling up material and some swabbing is very likely unless extreme care is taken to avoid it. The following points are suggested.

a) Mud properties to be carefully supervised and prolonged hole/assembly cleaning circulations to be carried out.

b) The start of every roundtrip with 26" assemblies must be extremely slow (3 m per minute) and a maximum of one single pulled before checking fluidlevels both inside drillpipe and in the annulus. The comparative volumes of 26" hole and inside 5" dp have a ratio of 37:1 which implies that the complete swabbing of a 10m single can empty the drillpipe for more than 370m . The implications of this are obvious and must be avoided.

It is appreciated that these procedures are already well established and known to all personnel, but the problems caused by shallow gas are such that reiteration of the preventive measures is fully justified.

As a means of assisting the decision making process with respect to gas indications occurring in the 17-1/2" pilot hole prior to opening up to 26" reference should be made to the attached schematic diagram. This gives the basic steps which should be carried out to evaluate the significant and future action to be taken.


GAS SHOWS
diverter drilling
17½" pilot hole
FLOW CHECK
WELL static
Circulate gas out with flow checks
Continue drilling with flow checks every 10 feet
Report progress after 1 hr.
Drill to TD wiper trip to seabed draw down test RIH to bottom. Circulate bottoms up POH BGT
Continue as per programme
Inform BASE
Continue drilling ?
Log ?
Plug back abandon ?
WELL FLOWS
Some flow
Severe flow
Circulate bottoms up with flow checks
flow increased to severe
Inform BASE
Open over board line Close flow line. Close diverter
Pump kill mud. add L.C.M.
Well under control, wiper trip to shoe observe, RIH Circulate bottoms up
Mud still cut, increase mud weight 0.02 psi/ft
Unable to control well set cement plug through bit
Well under control

CASING PROGRAMME

(all depths below derrick floor)

A. 30" Conductor at ± 185 m

30" x 1" wall, approximately 310 lbs/ft, Vetco ST squnch joints. 1 joint complete with float shoe. 1 cross over joint from wellhead Betco ATD squnch joint (R.B.) box down to Vetco ST squnch joint connection.

B. 20" casing at ± 425 m

20" 106.5 lbs/ft, K-55, Range-3, BTS thread.
Float shoe on bottom 1 crossover from wellhead Vetco type L LH BTS pin down to BTS thread. 2 rigid centralisers to be positioned inside 30" conductor.

C. 13-3/8" casing at ± 1300 m

13-3/8", 72 lbs/ft, N-80, Range-3, BTS Thread, float shoe and float collar two joints above shoe.

6 spring centralisers over the bottom 12 joints and 2 inside 20" casing.

D. 9-5/8" casing at ± 2900 m (TD) - if required

9-5/8", 47 lbs/ft, N-80, Range-3, BTS thread and
9-5/8", 47 lbs/ft, P-110, Range-3, VAM thread.
Float shoe and float collar two joints above shoe.
Centralizers will be required over any reservoir to be tested.

NB:

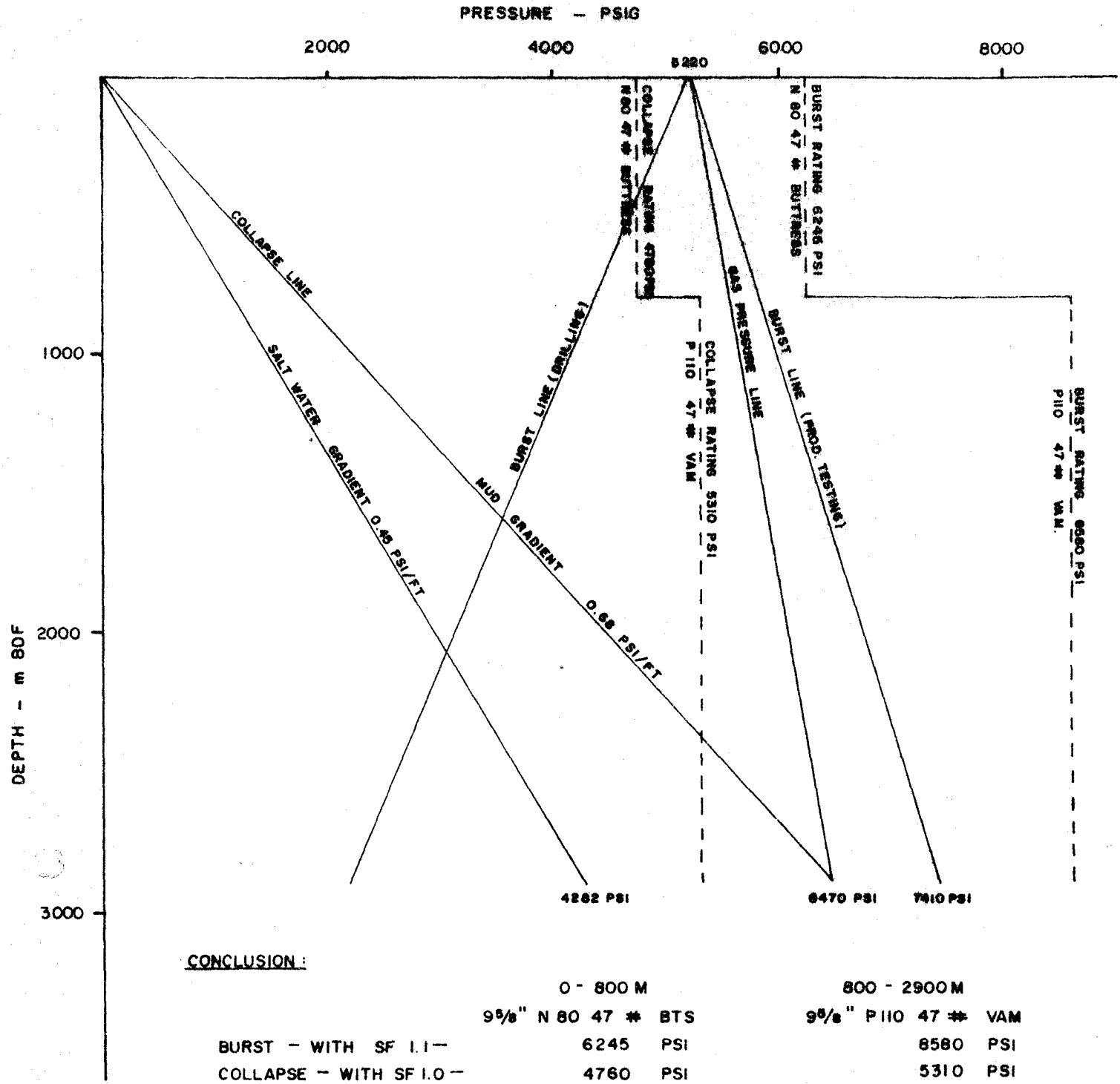
1. Centralizers should not be put around collars but in the middle of the joint.

CASING DESIGN CRITERIA 17/11-CX

SETTING DEPTH m	DESIGN DATA	BURST RESISTANCE S.F.1.1	COLLAPSE RESISTANCE S.F.1.0	TENSILE LOAD CAPACITY S.F.1.6	STRING WT IN AIR lbs	CUM. STRING WT. IN AIR lbs
800 - 2900	9-5/8" P100 47 lbs/ft VAM	8582	5310	933.750	323.835	
Seabed - 800	9-5/8" N80 47 lbs/ft BTS	6245	4750	678.750	106.017	429.852
Seabed - 1500	13-3/8" N80 72 lbs/ft BTS	4891	2670	1038.125	280.525	
Seabed - 425	20" K55 106.5 lbs/ft BTS	2191	770	1051.875	109.195	

9⅝" PRODUCTION STRING

WELL: 17/11 - 2

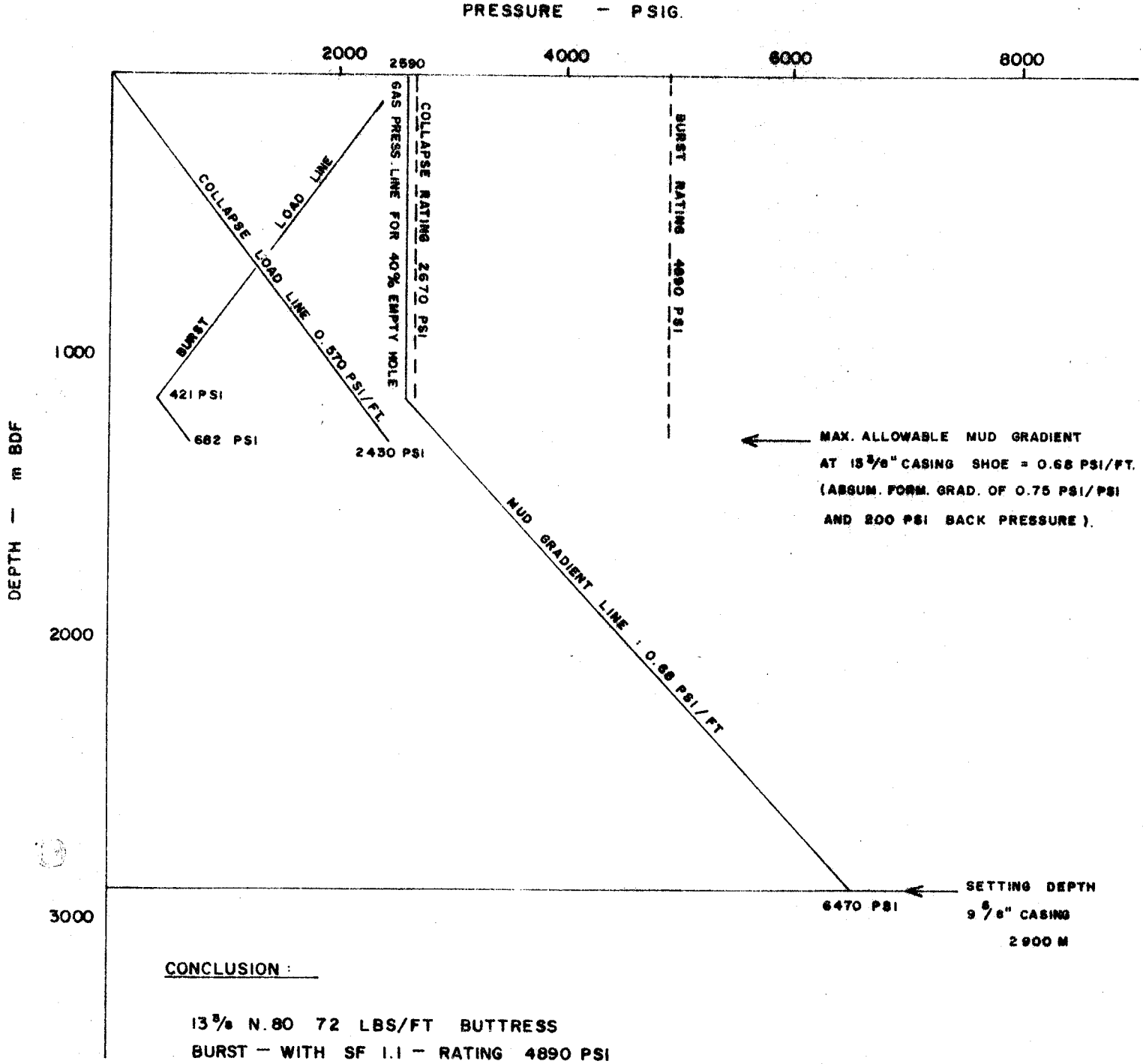


CONCLUSION :

	0 - 800 M		800 - 2900 M	
	9⅝" N 80 47 #	BTS	9⅝" P 110 47 #	VAM
BURST — WITH SF 1.1 —	6245	PSI	8580	PSI
COLLAPSE — WITH SF 1.0 —	4760	PSI	5310	PSI
TENSION — WITH SF 1.6 —	725.600	PSI	937.500	PSI
STRING WT IN AIR —	446.500 LBS			

13 3/8" SURFACE STRING

WELL : 17/11 - 2

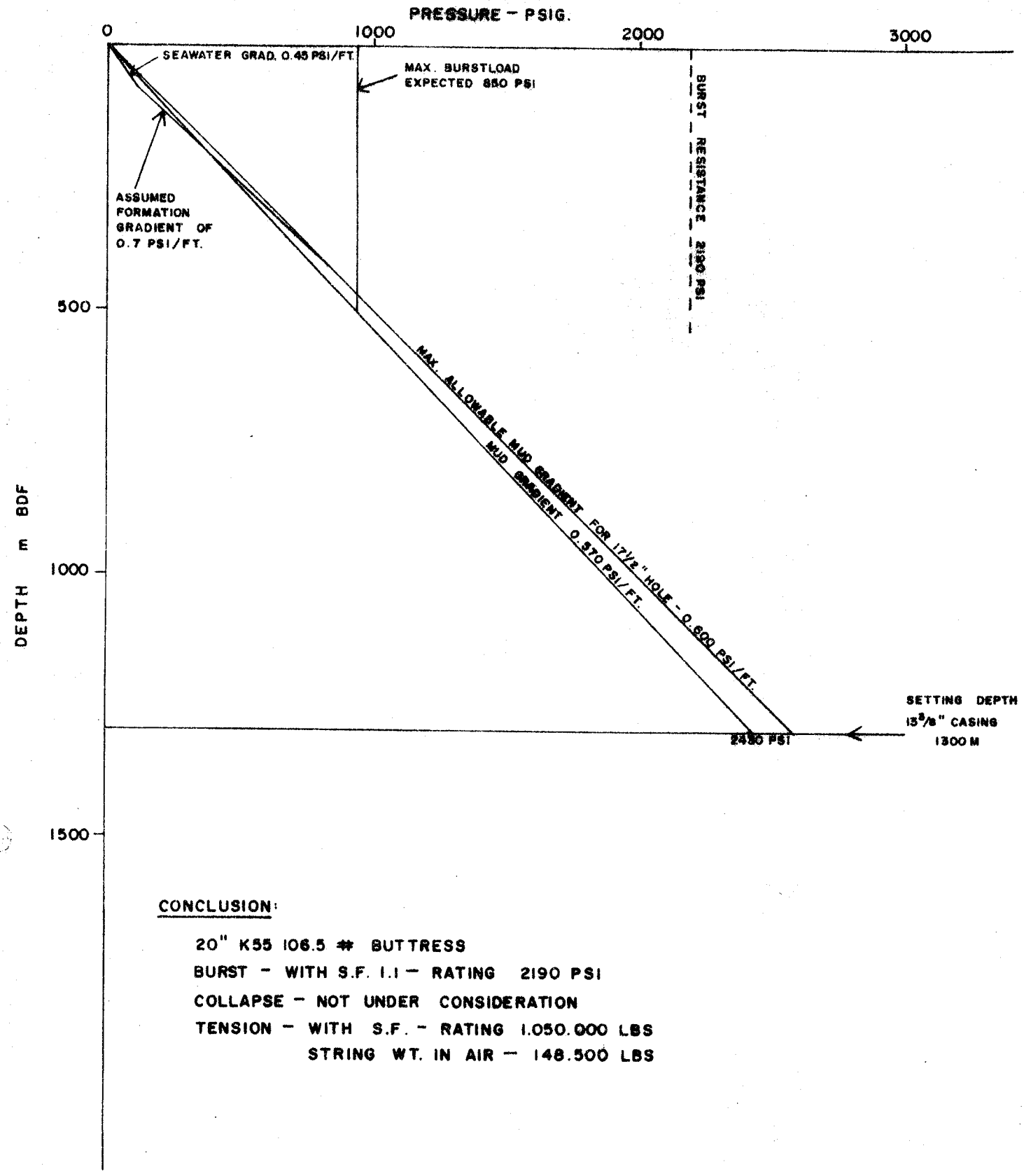


CONCLUSION :

13 3/8 N.80 72 LBS/FT BUTTRESS
BURST — WITH SF 1.1 — RATING 4890 PSI
COLLAPSE — WITH S.F. 1.0 — RATING 2670 PSI
TENSION — WITH S.F. 1.6 — RATING 1.060.000 LBS
STRING WEIGHT IN AIR = 307100 LBS

20" CONDUCTOR STRING

WELL 17/11-2



CONCLUSION:

20" K55 106.5 # BUTTRESS
BURST - WITH S.F. 1.1 - RATING 2190 PSI
COLLAPSE - NOT UNDER CONSIDERATION
TENSION - WITH S.F. - RATING 1.050.000 LBS
STRING WT. IN AIR - 148.500 LBS

CEMENTATION 17/11-2

Casing size (inches)	Casing depth m bdf	Annular fill (m bdf) from to	Open hole excess	Cement inside casing (feet)	Total slurry volume (cu ft)	Slurry gradient psi/1000'	Type of cement +additives	Sacks of cement	Thickening time hrs	Mixing water bbls seawater	Remarks
30" (1" WT)	185	185 seabed	200%	30	1650	700 (13.5 lb/gall)	Pozmix plus 1½% $CaCl_2$	1025	4 +	193	Or until cement returns are seen on seabed
20" (106.5 lbs/ft)	425	425 seabed	100%	40	3151	700 (13.5 lb/gall) increase to 722(13.9 lb/gall) for last 500 sx	Pozmix	1950	4 + 4 +	366	
13-3/8" (72 lbs/ft)	1300	1300-325	30%	40	2951	700 820 (13.5 lb/gall) (15.8 lb/gall)	Pozmix Class G	1500 500	3 + 2½ +	282 60	Fresh-water
9-5/8" (47 lbs/ft)	2900	2900-1200	10% over caliper	80	To be calc.	820 (15.8 lbs/gall)	Class G plus 0.75% CFR2 0.2 % HR7	To be calc	+		Fresh water

+ Cement to be tested by Halliburton to confirm amounts of additives and thickening times

Appendix IV

LOGGING PROGRAMME

1. At 20" Casing Depth (17½" pilot hole to ± 435 m)

Only log required will be
BGT,
unless formation logging has indicated zones of interest.
DST, IES and BHC/GR to be available.

2. At 13-3/8" Casing Depth (17½" hole to ± 1325 m)

1) BHC/GR/TTI	: TD - Casing shoe	1:500	1:200
	: (GR to seabed)		
2) DST/GR	: TD - Casing shoe	"	"
3) IES	: TD - Casing shoe	"	"
4) BGT	: TD - Casing shoe	"	

3) At T.D. (12-1/4" to 2900 m or Top Salt)

1) BHC/GR/CAL/TTI	: TD - Casing shoe	1:500	1:200
2) DST/GR/MSFL	: TD - Casing shoe	"	"
NOTE: MSFL only if required	:		
3) CNL/FDC/GR	: TD - Casing shoe or		
	Top of Prospective Section	"	"
4) HDT	: TD - Casing shoe		"
5) FIT	: If required		
6) CST	: 3 guns to be available		

NOTES:

a) A velocity will also be carried out at TD

b) Intermediate logging may be run at any time if considered necessary.

c) All logs will be taped

d) All logs will be recorded on a metric scale

e) All logs will be run with 3 thermometers and all values will be recorded on the log heading.

MUD PROGRAMME

The mud type to be used will be advised after proposals are received from the mud contracting companies.

Mud gradients to be used are:

1. 36" hole (seabed - 185 m)

   Seawater with viscous slugs

2. 17-1/2" pilot hole with diverter (185 - 425 m)

   Seawater/Bentonite mud with maximum gradient of 0.520 psi/ft.

3. 26" hole-opening without mariner riser (185 - 425 m)

   Seawater with viscous slugs.

4. 17-1/2" hole (425 - 1300 m)

   0.520 - 0.540 psi/ft.

5. 12-1/4" hole (1300 - TD)

   0.520 - 0.540 psi/ft.

BOP SPECIFICATIONS

21-1/4" Stack - 2000 psi WP

from bottom to top

1)	21-1/4"	- Vetco type H4 hydraulic connector	- 2000 psi WP
2)	21-1/4"	- Cameron single ram BOP type 'U'	- 2000 psi WP
3)	21-1/4"	- Hydril preventer MSP-2000	- 2000 psi WP
4)	21-1/4"	- Vetco mandrel with pin profile type H4. Kill line assembly with 2 x 3" Cameron fail safe, hydraulically operated 2000 psi valves.	

13-5/8" BOP Stack - 10000 psi WP

from bottom to top

1)	13-5/8"	- Vetco type H4 hydraulic connector	- 10.000 psi WP
2)	13-5/8"	- Cameron type 'U' double BOP	- 10.000 psi WP
3)	13-5/8"	- Cameron type 'U' double BOP	- 10.000 psi WP
4)	13-5/8"	- Hydril, type GL, preventer	- 5.000 psi WP
5)	13-5/8"	- Vetco H4 connector mandrel	- 10.000 psi WP
6)	13-5/8"	- Hydril preventer type GL	- 5.000 psi WP
7)	21-1/4"	- Regan GR 1 pressure compensated ball joint. Type Z single ball joint assembly.	
8)	4 x 3"	- Cameron failsafe hydraulic operated valves	- 10.000 psi WP
9)	3"	- Killine	- 10.000 psi WP

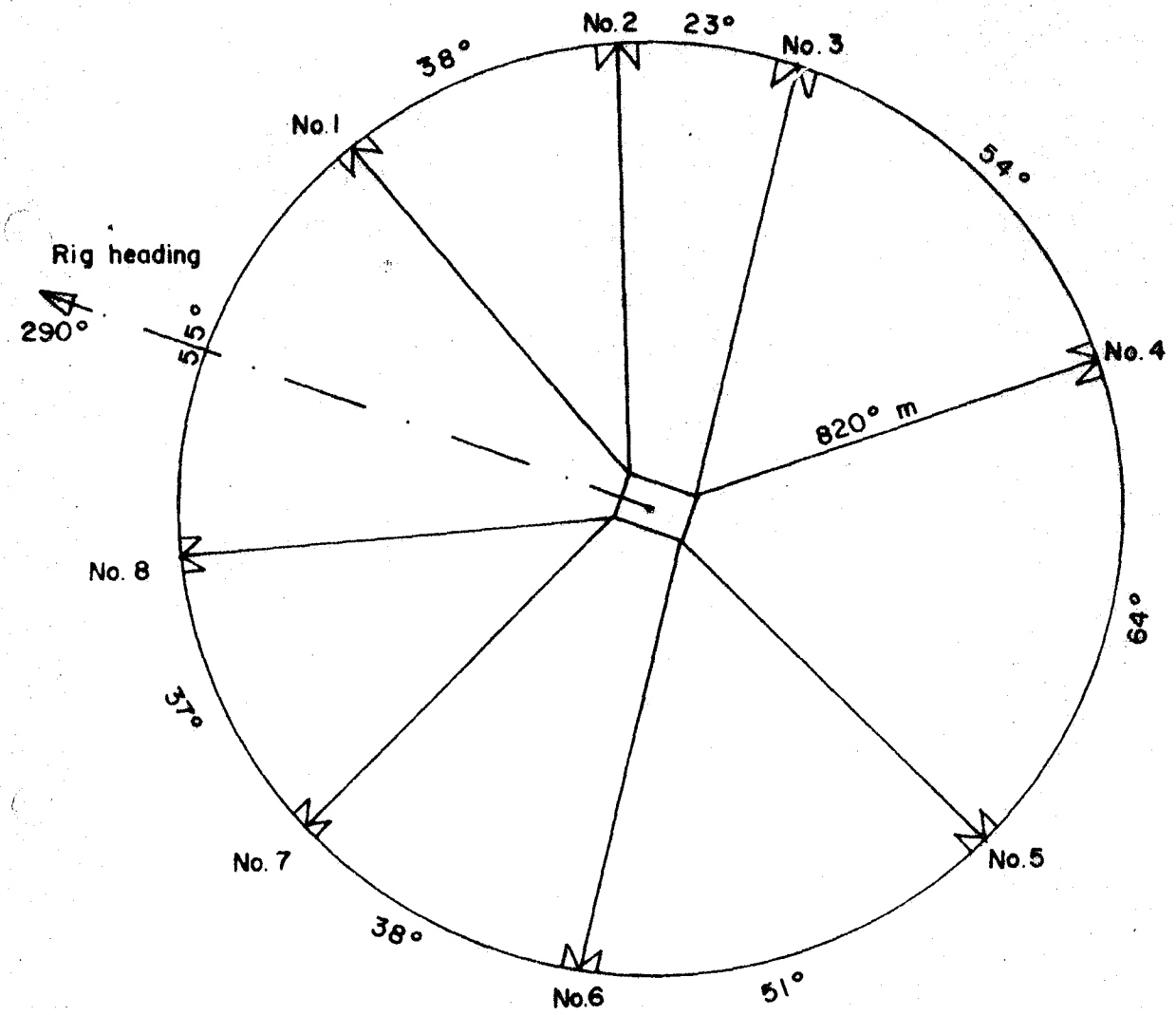
WELLHEAD EQUIPMENT 17/11-2

The Cameron wellhead system for 30" x 20" x 13-3/8" x 7" casing programme will be used.

The main components of the wellhead are:

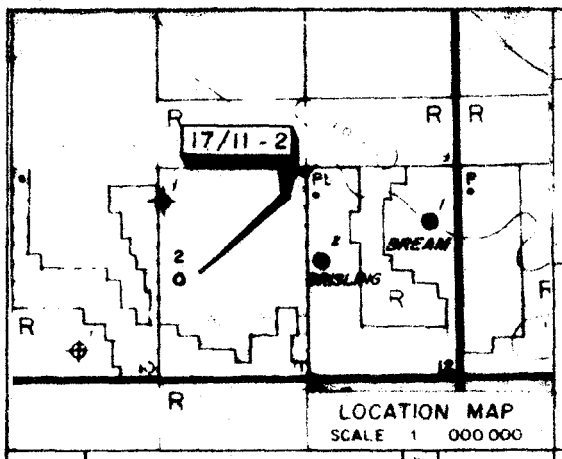
1) Temporary guide base
2) Permanent guide base
3) 30" UWC housing with Vetco 30" ATD squnch joint (R.B.) box down.
4) 20-3/4" UWC housing 2.000 psi W.P. with Vetco type L, LH BTS thread pin down.
5) 13-5/8" UWC housing with 13-3/8" BTS casing thread pin down.
6) 9-5/8" casing hanger and seal assembly with 9-5/8" BTS casing thread box down.
7) 7" casing hanger and seal assembly with 7" XL box down.

CHRIS CHENERY ANCHOR PATTERN
FOR LOCATION 17/11-2



WATERDEPTH : 80.5 m

A/S NORSKE SHELL E & P



A/S NORSKE SHELL

NORSKE SHELL 17/11-2

WELL PROGNOSIS SHEET

SCALE 1:10 000

COORDINATES: N 58°06'52.1" E 03° 22'02.1"
ELEVATION DF 32.5 RIG:
WATER DEPTH 79 m SPUDDED
TOTAL DEPTH 2900 m or COMPLETED
50m below Top Salt TYPE COMPL.

WELL PROGNOSIS SHEET
FEB. 1976

DEPTH IN METER	STRATIGRAPHY	ENVIRONMENT	CASING CORES SWS	LITHOLOGY - INDICATIONS - TEST RESULTS REMARKS	LOGS
				32.5m SEA LEVEL	
100				111.5 m SEA BED	
200	PLEISTOCENE —		30" 185m (607')	S crs i/b Cl	
300					
400	PLIOCENE		20" 425m (1394')	Cl gy (slt) sticky S strks	
500					
600					
700				750m (2460')	
800	MIOCENE			Cl S strk a/a	
900					
1000	OLIGOCENE				
1100					
1170 m (3840')					
1200	EOCENE			Cl i/b Slst gn - gy	
1280m (4200')			13⅜" 1300m (4265')	Tf, i/b Sh	
1300	PALEOCENE				
1340 m (4400')					
1400	DANIAN —			Chk Lime Mdst wh mod hd	
1500	UPPER				
1600	CRETACEOUS				
1700					
1740m (5709')					
1800				Clst dk gy i/b Mrl	
2000	LOWER				
2100	CRETACEOUS				
2200					
2270m (7448')					
2300	UPPER			Sh blk fis carb	
2400	JURASSIC				
2480m (8039')					
2500	MIDDLE			Sst gn - gy f dol & anh cmt i/b Clst gn - gy incr. w depth	PRIMARY OBJECTIVE
2600	JURASSIC /				
2700	TRIASSIC				
2780m (9121')				Anhydrite Salt	
2800	PERMIAN				
2900			9⅝" ?	T.D. 2900m (9515') or 50m BELOW TOP SALT.	
3000					
3100					