PHILLIPS PETROLEUM COMPANY NORWAY

DRILLING SUMMARY REPORT

DRILLING AND ABANDONMENT OF WELL 2/7-13

November 1979

Approved By: F.L. Morgan

C O N T E N T S

I. GENERAL ENGINEERING DATA

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WELL DATA

Well Number	2/7-13
Drilling Rig	Dyvi Beta
Well Type	Exploration
Well Position	56° 29' 34.742" North
	03° 01' 58.383" East
Rotary Table	115' a.m.s.l.
Water Depth	240'
Total Depth	11,115' RKB

TIMING

Start Move	30.1.79
Spud	01.2.79
Drilling Operations Completed	26.3.79
Rig Release	21.4.79

HOLE SIZES

36"	to	583' RKB
26"	to	1,183' RKB
17½"	to	4,971' RKB
12"	to	8,930' RKB
8½"	to	11,115' RKB

CASING SIZES

30" Conductor: 1½" wall X-52 Vetco ALT connections 460 lbs/ft. 13 joints. Shoe at 576'.

20" Casing: 0.438" wall, 94 lbs/ft K-55 Buttress. 28 joints. Shoe at 1136' RKB.

13 3/8" Casing: 0.514" wall, 72 lbs/ft N-80 Buttress. 123 joints. Shoe at 4927 RKB.

9 5/8" Casing: 0.472" wall, 47 lbs/ft N-80 Buttress. 226 joints. Shoe at 8827'.

7" Liner: 0.408" wall, 29 lbs/ft C-95 Buttress. 65 joints. Shoe at 11,095'.

CEMENTING

30" Conductor: 1500 sacks of Class "B" with sea water, 16.2 ppg slurry weight. Total volume was 1710 cu. ft. calculated. Displaced with 10 bbl of sea water.

20" Casing-I: 700 sx Class "B" with 0.6 gal/sack Econolite mixed at 12.5 ppg. Total slurry volume 154.7 bbls calculated. Tailed with 250 sacks Class "B" neat mixed at 16.0 ppg. Tail volume was 285 bbls.

Due to a low leak-off after drillout, the 20" casing was cemented again.

20" Casing - II: Squeezed 565 sx Class "B" neat cement mixed at 16.0 ppg with 262 sx left in casing.

13 3/8" Casing: 1800 sacks Class "B" cement with fresh water and 0.6 gal/sack Econolite mixed at 12.5 ppg. Total slurry volume 708 bbls calculated. Tailed with 500 sacks Class "B" neat cement with fresh water mixed at 15.6 ppg. Tail volume was 103 bbls.

9 5/8" Casing: 1660 sacks Class "B" with 1.0 gal/sack LWL-CFR2L solution, 9.55 gal/sack fresh water, 2.08 lbs/sack Bentonite average slurry weight 13.0 ppg. Total slurry volume 440 bbls calculated. Tailed with 375 sacks Class "B" cement with 1.0 gal/sack LWL + 0.3 gal/sack CFR-2L, 4.08 gal/sack fresh water, average slurry weight 15.6 ppg. Tailed slurry volume 77.5 bbls.

7" Liner: 1100 sacks Class "B" with 1.25 GPS LWL + 0.36 GPS CFR2L and fresh water. Mixed at 15.6 ppg. Total slurry volume 227 bbls.

PLUGS

Plug No. 1	7.4.79	EZ drill retainer set at 10,375'. Squeezed with 300 sxs Class "B". Reversed out 3 bbls, t.o.c. at 10,285'. Slurry weight = 15.6 ppg.
Plug No. 2	10.4.79	EZ drill retainer set at 9905'. Squeezed with 300 sx Class B. Reversed out 8 bbls cement, t.o.c. at 9815'. Slurry weight = 15.6 ppg.
Plug No. 3	14.4.79	EZ drill retainer set at 8975'. Squeezed with 300 sx Class "B". Reversed out 7 bbls cement, t.o.c. at 8960'. Slurry weight = 15.6 ppg.
Plug No. 4	17.4.79	EZ drill retainer set at 8675'. Squeezed with 300 sx Class "B", reversed out 9 bbls cement, t.o.c. at 8129'. Slurry weight = 15.6 ppg.
Plug No. 5	18.4.79	Perf. at 2 shots per foot, 4938' to 4940'. Ran O.E.D.P. to 4924', laid 300 sx cement plug from 4924' to 4061'. Slurry weight = 15.6 ppg, t.o.c at 4304'.

Plug No. 6	19.4.79	Cement plug laid bottom at 750' to top at 368' with 202 sx Class B cement.
Plug No. 7	20.4.79	Cement plug laid 368' to M.L. with 60 sx Class B cement.

II DRILLING SUMMARY

DRILLING SUMMARY

Well 2/7-13 was drilled from the Dyvi Beta jack-up rig. The move to the 2/7-13 location began on the 30 January, 1979, and the rig was ready to move off on April 21, 1979. The total depth drilled was 11,115'. After the total depth was reached, the well was tested, cement plugs were set and the casing was cut and pulled. The well was permanently abandoned.

30" Section

The well was spudded February 1, 1979 with a 36" bit. The mudline was tagged at 355' RKB. The 36" hole was drilled to 583' RKB.

The 30" conductor pipe was set and cemented with the shoe at 576' RKB.

20" Section

The second section of the hole was drilled with a 17½" BHA and a 2000 PSI - 21 1/4" BOP stack, to the depth of 1,183'. The hole was then reamed with a 26" hole opener to the same depth.

The 20" casing was run and cemented with the shoe at 1136'. Additional leakoff tests were run 3 times and additional cement was squeezed and drilled 3 times before the hole was secured.

13 3/8" Section

The third section of the hole was drilled with a 17½" BHA to 4971'. A 2000 PSI - 21 1/4" BOP stack was used on this section of hole. The leak-off test was equivalent to a 12,9 ppg mud weight.

9 5/8" Section

The fourth section of hole was drilled with a 12" BHA to the depth of 8930 . A 13 5/8" - 10,000 PSI BOP system was used for pressure control. The obtained leak-off below the 13 3/8" shoe was equivalent to 14.44 ppg mud weight.

The well reached 8930 on February 27, 1979. Ran and cemented 9 5/8" CSG with shoe at 8827 ft.

7" Section

The final section of hole was drilled with $8\frac{1}{2}$" BHA,to the total depth of 11,115 ft. A 13 5/8" - 10,000 psi BOP system was used for pressure control. After a suite of Schlumberger logs were run and side wall cores were taken, it was decided to run a 7" liner. Liner shoe set at 11095 ft and hanger at 8478 ft.

It was decided to test several zones of interest. Tested interval no. 1 from 10,460' to 10,685', interval no. 2 from 9980 ft to 10,120 ft., interval no. 3 from 9210 ft to 9165 and 9100 ft to 8990 ft., interval no. 4 from 8850 ft to 8953 ft. Each interval was squeeze cemented after testing to isolate the zones.

The well was permanently abandoned with the highest casing string left 15' below the seabed. The seabed was inspected by divers and confirmed to be free of debris.

III. DRILLING DIARY

DYVI BETA

Well 2/7-13 Drilling Diary January, 1979

Jan 30		Started towing to 2/7-13 at 2200 hrs.
Jan 31		Moved on 2/7-13 location, started jacking-up rig.
Feb 1	PTD = 504 ft -	Mud Wt: 8.5 PPG, Visc: 200 sec. Finished jacking up to 58 ft air gap PU BHA tag sea floor at 355 ft RKB. Drld 36" hole to 504 ft. Repair rotary drive coupling.
Feb 2	PTD = 583 ft -	Mud Wt: 9.5 PPG, VISC: 100 sec. Drlg. 36" hole to 583 ft. Ran 30" Conductor Pipe and cemented shoe at 576 ft.
Feb 3	PTD = 853 ft -	Mud Wt: 8.6 PPG, VISC: 55 sec. Finishing Welding pad eyes on 30" and securing. Cut off 30" and welded on starter head. Nipple up 21 1/4" B.O.P. & diverter system. Work progressing slow due to high seas and wind.
Feb 4	PTD = 1183 ft-	Mud Wt: 8.9 PPG, VISC: 50 sec. Finished R/U 21 1/4" B.O.P. stack with diverter. Ran bottom hole assembly to 570'. Started drlg. with 17½" bit. Drilled cement and float shoe to 583'. Drld normally to 965'. Changed shaker screens and mudded up hole due to larger body of sand and salt. Drilled 965' to 1183'. Circulated out, dropped totco survey instrument & started P.O.O.H.
Feb 5	PDT = 1183 ft-	Mud Wt: 9.0 PPG, VISC: 34 sec. N.U. 21 1/4" B.O.P. stack w/diverter. Drld. 17½" hole to 1183 ft. N.D. B.O.P. R.I.H. w/26" H.O. and reamed to 1183 ft. Ran 20" csg.
Feb 6	PTD= 1183 ft-	Mud Wt: 8.5 PPG, VISC: 53 sec. Ran 20" csg shoe at 1138 ft., cmt. w/950 sxs Class "B" N.U. B.O.P.
Feb 7	PTD = 1193 ft-	Mud Wt: 8.6 PPG, VISC: 54 sec. Wtr. Loss: 8.0 CC. Test BOP, OK. Test csg to 500 psi. Held for a short time then bled slowly down to 100 psi. Drld 21 ft. of cement, washed down 27 ft and drld new hole f/1183 to 1193. Circ. and displ. hole w/Drispac mud RIH w/O.E. drillpipe to 1120 ft. Displace hole w/seawater. Cmt w/250 sx Class B cmt.

Feb 8 PTD = 1203 ft- Mud Wt: 8.6 PPG, VISC: 54 sec. Wtr. Loss: 8.5 CC.
WOC RIH w/drlg. assy. Tag cmt at 1168 ft. 32 ft. below shoe. POH RIH w/O.E. to 1123 ft. Cmt w/500 sx Cl. "B" neat cmt max and final press 300 psi WOC POH RIH w/drlg. assy. Tag cmt at 1121 ft. Test csg to 1000 psi, OK. Drld cmt from 1121 to 1193 ft. Drld 10 ft new hole. Leak off test equiv wt 9.6 ppg. Displ. Drispac mud w/sea water.

Feb 9 PTD = 1400 ft- Mud Wt: 8.7 PPG, VISC: 44 sec. Wtr. Loss 8.0 CC.
Displ. mud w/sea water. RIH w/O.E. D.P. to 728 ft squeezed 192 sx cmt Cl "B" with final and max press. 450 psi. 100 sx left in csg. WOC. Held press. for 1 hr. Press. bled to 350 psi and held. POH w/O.E. D.P. RIH w/drlg. assy. tag cmt at 1145 ft. tested to 300 psi. OK. Drld cmt and 10 ft. new hole. Leak off test, equiv. to 10.8 ppg. Drld ahead.

Feb 10 PTD = 2258 ft- Mud Wt: 9.9 PPG, Visc: 39 sec.
Pulled up to csg. shoe, made leak off test at 1407', equivalent to 11.05 ppg weight. RIH with drill string and continued drilling to 2258'. Made wiper trips into csg shoe from 1649', 1831' and 2043' without any problems. Est. pore press 9.2 ppg.

Feb 11 PTD = 3610 ft- Mud Wt: 9.8 PPG, VISC: 39 sec.
Drilled to 2975'. Made 4 wiper trips from 2258', 2438' 2621', 2894'. The trips were alternately made to the csg shoe or up 4 jts. Est. pore press 9.4 ppg.

Feb 12 PTD = 3610 ft- Mud Wt: 10.2 PPG, Visc: 42 sec. Wtr. Loss: Drld ahead to 3137 ft. Leak off test equiv. to 12.9 ppg. Drld ahead to 3610. Est. pore press 9.7 ppg.

Feb 13 PTD = 4390 ft- Mud Wt: 10.1 PPG, Visc: 44 sec. Wtr. Loss: 8.0 CC.
Drld ahead to 4390 ft. Est. pore press: 9.9 ppg.

Feb 14 PTD = 4948 ft- Mud Wt: 11.6 PPG, Visc. 45 sec.
Drld to 4796 ft. Increased MW to 11.6 ft. Drld ahead 4948 ft. Est. pore press: 10.9 ppg.

Feb 15 PTD = 3971 ft- Mud Wt: 11.7, Visc: 45 sec. Wtr. Loss: 9.0 CC.
Circ. out at 4971 ft. POH to log. Log incomplete. RD Schlumb. Due to rough seas securing lines broke on BOP stack. Rigged heavy slings on BOP, holding 100,000 pounds strain w/blocks. Unable to replace broken lines. WOW.

Feb 16 PTD = 4971 ft- Mud Wt: 11.4 PPG, Visc: 50 sec. Wtr. Loss: 9.0 CC.
Reattached broken lines on BOP stack. RIH to circulate and condition mud to complete logging. POOH and prepared to run csg. Cut M.W. to 11.4 ppg to improve flow properties of mud.

Feb 17 PTD = 4971 ft- Mud Wt: 11.4 PPG, Visc: 48 sec.
Circulated and condition mud for csg. run, drop totco survey, P.O.O.H. Run 13 3/8", csg shoe at 4927 ft.

Feb 18 PTD = 4971 ft- Mud Wt: 11.4 PPG, Visc: 41 sec.
Cmt. with a lead slurry of 1800 sacks class B cement. Mixed with fresh water + 0.6 GPS Econolite at 12.5 ppg. Tailed with 500 sacks neat cement with fresh water at 15.6 ppg. Plug bumped with 1300 psi, full returns throughout cmt. job. Set E.C.P. with 2500 psi, washed annulus to 383', tested E.C.P. with 1500 psi - O.K. N.D. 21 1/4" Stack & diverter hookup.Hang 13 3/8" csg. w/20,000 lb tension on slips. N.U. 13 5/8" stack.

Feb 19 PTD = 5020 ft- Mud Wt: 11.5 PPG, Visc: 51 sec. Wtr. Loss: 12.2 CC.
N.U. 13 5/8" BOP test, O.K. RIH w/bit and tested csg. to 2500 psi OK. Drld out cmt. and 10 ft. new hole. Conducted leak off test equiv. to 12.9 ppg, drld ahead w/12" BHA.

Feb 20 PTD = 5800 ft- Mud Wt: 12.2 ppg, Visc: 41 sec. Wtr. Loss: 5.6 CC.
Drld to 5251 ft. POH to csg shoe. Leak off test equiv. mud wt= 14.02 ppg. Drld ahead. Est. pore press.: 11.2 ppg.

Feb 21 PTD = 6557 ft- Mud Wt: 12.8 ppg, Visc: 46 sec. Wtr. Loss: 5.7 CC.
Drld to 6557 ft. and circ. btm. up. Drop survey, took leak off test w/equiv. mud wt = 14.44 ppg. POH. Estimated pore press: 12.2 ppg.

Feb 22 PTD = 2777 ft- Mud Wt: 13.0 ppg, Visc: 42 sec. Wtr. Loss: 6.4 CC.
POH and missed survey at 6557 ft. Installed wearbushing in wellhead, RIH to 6497, and reamed to 6557 ft. Drld ahead to 7222 ft. circ. for wiper trip. Est. pore press: 12.4 ppg.

Feb 23 PTD = 7830 ft- Mud Wt: 13.2 ppg, Visc: 48 sec. Wtr. Loss: 6.6 CC.
Drld ahead to 7830 ft. Circ. for wiper trip. Est. pore press: 12.4 ppg.

Feb 24 PTD = 8195 ft- Mud Wt: 13.2 ppg, Visc: 48 sec.
Made 7 std. wiper trip - no problem - Drld. 7830' to 7982', circulate bottoms up dropped totco survey. Pulled into 13 3/8" csg. shoe & performed formation leak off test, equiv. mud wt. 15.2 ppg. - POOH survey no good. RIH with bit No. 8. No problems. Continued drilling 7892' to 8012'. Deviation survey ran on wire line at 7830'. Drilled 8012' to 8195'.

Feb 25 PTD = 8561 ft- Mud Wt: 13.2 ppg, Visc: 48 sec.
Drilled to 8226', 7 Std. wiper trip, no problems. Drilled to 8317'. Ran deviation. Survey on wireline, 4 3/4° N76W at 8282'. Drilled to 8451', 7 std. wiper trip, no problem. Drilled to 8561'. circ. & ran dev. survey. P.O.O.H. for new bit.

Feb 26 PTD = 8837 ft- Mud Wt: 13.2 ppg, Visc: 46 sec. Wtr. Loss: 6.8 CC.
Drld ahead to 8837 ft. leak off test at 7982 ft. Est. equiv. MW= 15.2 ppg. Est. pore press: 8195 ft - 12.4 ppg, 8837-12.0, 8561-12.2. Trip gas: 34 units.

Feb 27 PTD = 8930 ft- Mud Wt: 13.1 ppg, Visc: 45 sec. Wtr. Loss: 6.8 CC.
Drld. to 8915 ft flowcheck circ. btm up for sample. Drld to 8930 ft flowcheck. Circ. btm. up for sample, drop dev. survey, POH to log. No problems. Ran ISF log. Est. pore press: 12.0 ppg. Trip gas: 14 units.

Feb 28 PTD = 8930 ft- Mud Wt: 13.1 ppg, Visc: 45 sec. Wtr. Loss: 7.1 CC.
Ran ISF Sonic and Gamma Ray logs. RIH w/bit and wash 60' to TD. Circ. btm. up. RIH w/HDT log. Est. pore press: 12.0 ppg.

Mar 1 PTD = 8930 ft- Mud Wt: 13.1 ppg, Visc: 50 sec. Wtr. Loss: 13 CC.
Ran HDT log, test BOP, circulate and condition mud. Ran 9 5/8" csg. Trip gas: 25 units. Est. pore press: 12.0 ppg.

Mar 2 PTD = 8930 ft- Mud Wt: 13.1 ppg, Visc: 49 sec. Wtr. Loss: 8.1 CC.
Ran 227 jts. 9 5/8" csg. 47 lb N-80. Shoe at 8827 ft. Cmt. w/1660 sx Cl "B" cmt. lead, 375 sx tail, lost 75 sx during displacement. Est. pore press: 12.0 ppg.

Mar 3 PTD = 8930 ft- Mud Wt: 13.1 ppg, Visc: 49 sec.
W.O.C. L.D. 12" B.H.A. Prepare 9 5/8" Wellhead R.U. and R.I.H. with Schlumberger temp. survey. R.D. Schlumberger. Ran Sperry Sun multi shot survey.

Mar 4 PTD = 8930 ft- Mud Wt: 13.1 ppg, Visc: 49 sec.
Nipple up 9 5/8" wellhead & 13 5/8" B.O.P. Tested B.O.P. choke manifold, kelly valves & inside B.O.P. as per PPCoN Specs. Ran Schlumberger CBL log. Made up bottom hole assembly, ran in hole with bit No. 10 - 8½", rubber each std. D.P.

Mar 5 PTD = 8935 ft- Mud Wt: 13.2 ppg, Visc: 49 sec. Wtr. Loss: 8.1 CC.
Ran multishot survey N.D. BOP, cut and dress 9 5/8" csg NU 9 5/8" wellhead and 13 3/8" BOP test OK. RIH w/bit No. 10 rubber each std. Drld 3 ft. new hole leak off test equiv. mud wt = 15.8 ppg. Wash back to T.D. D.P. rubbers stripped off while circ. and working pipe, POH.

Mar 6 PTD = 8937 ft- Visc: 53 sec. Wtr. Loss 6.5 CC.
POH. Circ. out D.P. rubbers. Recovered 86 of 88 rubbers. RIH rec. circ., basket cut 1' of hole. POOH. Recovered junk. RIH w/basket to 9 5/8" shoe. Trip gas: 2520 units. Est. pore press: 12.0 ppg.

Mar 7 PTD = 8940 ft- Mud Wt: 13.2 ppg, Visc: 53 sec.
RIH w/Rev. Circ. Basket, Break circ. drop balls, cut 1" hole. P.O.O.H. Recovered 10 lbs. junk + core. RIH with bit No. 10, & 2 junk subs. Circ. and worked junk subs, cut 1' new hole. P.O.O.H., clean out J-subs with recovery of 10 lbs junk. RIH with reverse circ. basket. Break circ. drop balls and cut 1' hole. P.O.O.H. with pipe spinner. Clean out basket, recovered 5 pieces small junk, RIH with 2 junk subs, near bit stabilizer. Continued to work J-subs.

Mar 8 PTD = 8937 ft- Mud Wt: 13.2 ppg, Visc: 50 sec. Wtr. Loss: 6.0 CC.
P.O.H. w/junk subs. Recovered less than ½ lbs small pieces junk. R.I.H. w/core bbl. Cut core f/8942-8973. P.O.H. Recovered core. Service core bbl. R.I.H. w/same. Est. pore press: 12.0 ppg.

Mar 9 PTD = 9003 ft- Mud Wt: 13.2 ppg, Visc: 50 sec. Wtr. Loss: 5.5 CC.
Core 8973-8985 ft. 100% recovery. Drld. 8985 to 9003 ft. POH test BOP OK. PU DST tools. Est. pore press: 12.0 ppg. Trip gas: 37 units.

Mar 10 PTD = 9003 ft- Mud Wt: 13.3 ppg, Visc: 50 sec. Wtr. Loss: 5.3 CC.
RIH w/test string and test OK. RU surface equipment test OK. Set pkr at 8723 ft. Flow well, initial flow: 64/64 choke 9 BWPD FTP: 0. Final flow: 7.7 BWPD.

Mar 11 PTD = 9104 ft- Mud Wt: 13.2 ppg, Visc: 47 sec.
Well shut in for final build up. Unset pkr POH and LD test tools RIH w/bit and drld. to 9104 ft. circ. btm. up for sample. Gas units up to 500. Raised MW to 13.3 ppg. Complete loss of power. Bit 50 ft f/btm. Check well for flow/ slight flow close pipe rams 0 psi on DP 0 psi on annulus.

Mar 12 PTD = 9118 ft- Repair electrical problems. Circ. RIH and core 9104-9118 ft. POH service core bbl RIH.

Mar 13 PTD = 9136 ft- Mud Wt: 13.3 ppg, Visc: 52 sec. Wtr. Loss: 5.3 CC.
Core 9118-9136. 73% recovery. P.U. testing tools.

Mar 14 PTD = 9136 ft- Mud Wt: 13.2 ppg, Visc: 52 sec. Wtr. Loss: 5.3 CC.
RIH w/test string. Test OK. Flanged up test tree-test OK. Pkr set at 8725 F. Open well to test. Clean up: rate 77 BWPD. No CO_2 or H_2S. FTP: 50 psi. Total water recovered: 40 bbls.

Mar 15 PTD = 9136 ft- Mud Wt: 13.3 ppg, Visc: 51 sec. Wtr. Loss: 5.4 CC.
Flow well, press up annulus to 1100 psi. Reverse out fluid in D.P. Unseat pkr. RD test tree. POH w/test string. M U bit and RIH wash and ream 15 ft. to btm. Circulate and condition mud and hole. Drop deviation survey. POH. RIH to clean out to TD.

Mar 16 PTD = 9176 ft- Mud Wt: 13.4 ppg, Visc: 48 sec. Wtr. Loss: 5 CC.
RIH w/bit to 9029 ft. Wash and ream to 9136 ft. Drld ahead to 9138. Circ. btm. up max. gas unit 100, POH, RIH w/core bbl and core 9138-9154 ft. POH, 80 PCT recovery, RIH w/bit and drld to 9176 ft.

Mar 17 PTD = 9627 ft- Mud Wt: 13.3 ppg, Visc: 48 sec.
Drld to 9627 ft. Circ. btm. for sample at 9198, 9221 and 9559 ft. No show.
Est. pore press: 12.8.

Mar 18 PTD = 9856 ft- Mud Wt: 13.3 ppg, Visc: 45 sec.
Drld to 9856 ft. No show.
Est. pore press: 12.8.

Mar 19 PTD = 10004 ft-Mud Wt: 13.3 ppg, Visc: 51 sec. Wtr. Loss: 4.6 CC.
Drld to 10114. Circ. btm. up at 10083 ft. Poor show. Est. pore press: 12.6.

Mar 20 PDT = 10371 ft-Mud Wt: 13.2 ppg. Visc: 47 sec. Wtr. Loss: 5.2 CC.
Drld to 10122 ft., flow ck drilling break circ btm up no show, gas 39 units max.
Drld to 10204 ft. Flow checked, OK.
Drld ahead to 10371'. Directional Drilling Data: Survey depth (ft/meters): 10237/3120. Angle (Deg) 4½. Direction: N 60 W.

Mar 21 PTD = 10554 ft- Mud Wt: 13.2 ppg, Visc: 44 sec. Wtr. Loss: 5.7 CC.
Drld to 10554 ft, flow check at 10381 ft and 10457 ft. Circ. btm. up. No show.
Losing mud to formation. Added 150 bbls. mica in the last 24 hours. Est. pore press: 12.8 ppg.

Mar 22 PTD = 10753 ft- Mud Wt: 13.2 ppg, Visc: 51 sec. Wtr. Loss: 5.3 CC.
Drld ahead to 10738'. POH, mud loss 112 bbls. Added mica. Hole taking correct amount mud when POOH. Est. pore press = 13.8 ppg. Survey depth (ft/meters): 10524/3211, Angel (Deg): 4.75, Direction: N 58 W.

Mar 23 PTD = 10753 ft- Mud Wt: 13.2 ppg, Visc: 50 sec. Wtr. Loss: 5.9 CC.
POH. Test BOP choke manifold. All OK after changing ram rubbers on upper and lower pipe rams. RIH, no problems. Drld 10738-10753 ft. Mud loss on trip: 15 bbl. No mud loss at present. Est. pore press: 12.8 ppg.

Mar 24 PTD = 10880 ft- Mud Wt: 13.2 ppg, Visc: 46 sec.
Drill 10753' to 11082' max gas up to 16. Circ. btms. up for sample - no show. Drill 10082' to 10880' Present R.O.P.= 6 ft/hr.

Mar 25 PTD = 11000 ft- Mud Wt: 13.2 ppg, Visc: 44 sec.
Drilled from 10880' to 10954'. Wiper trip to 9 5/8" shoe and back - OK. Drilled to 11000' ROP. = 7 ft/hr.

Mar 26 PTD = 11058 ft- Mud Wt: 13.2 ppg. Visc: 43 sec. Wtr. Loss: 5.8 CC.
Drld to 11058 ft. Pump press. started to slowly decrease to a total of 600 psi loss. POH, found wash out in DC connection, laid out two washed out DC. RIH w/bit. Est. pore press: 12.9 ppg.

Mar 27 PTD = 11115 ft- Mud Wt: 13.4 ppg. Visc: 53 sec. Wtr. Loss: 5.2 CC.
RIH w/bit No. 14. Drld to 11097. Work and reamed out tight hole and drld. to 11115. Brought mud wt. to 13.4 ppg. Circ. btm. up. Circ. hole clean and spotted LCM pill in open hole. Dropped survey and POH. Lost 87 bbls mud to formation. Est. pore press: 12.9 ppg.

Mar 28 PTD = 11115 ft- Mud Wt: 13.4 ppg. Visc: 54 sec. Wtr. Loss: 5.2 CC.
Ran ISF-BHC-GR f/11097 ft. and FDC-CNL-GR-CL f/11093-8797 ft. Working on Schlumberger generator prior to run DLL-GR-CAL. Losing 1 bbl mud to formation pr. hour.

Mar 29 PTD = 11115 ft- Mud Wt: 13.4 ppg. Visc: 54 sec. Wtr. Loss: 5.3 CC.
Ran DLL-MSFL-GR logs f/11101-8798 ft. and HDT/FIL f/11130-8827. Took velocity surveys at 11 levels. Preparing to run side wall cores.

Mar 30 PTD = 11115 ft- Mud Wt: 13.4 ppg. Visc: 54 sec. Wtr. Loss: 5.3 CC.
RIH w/core guns attempted 60 shots, only 49 fired and 45 samples recovered. Did weekly BOP test. Circ. btm. up. RIH w/bit and circ. btm up. Conditioned mud and hole to run 7" liner. No mud loss to formation.

Mar 31 PTD = 11012 ft- Mud Wt: 13.4 ppg. Visc: 50 sec. Wtr. Loss: 7.1 CC.
RIH with 7" liner. Cmtd with 1100 sx Class "B" mix with fresh water + 1.25 GPS LWL + 0.36 GPS CFR2 at 15.6 ppg. Total slurry 235 bbl followed with 10 bbl fresh water. Bump plug with 2000 psi. No mud loss, release pkr. reverse out 93 bbl Cmt. 7" shoe at 11095 ft/3382 m. Hanger at 8478 ft/2584 m.

April 1 PTD = 11014 ft- Mud Wt: 13.4 ppg. Visc: 50 sec. Wtr. Loss: 7.1 CC.
RIH Drl 2 ft cmt. and flapper valve. Tag landing collar at 11014 ft/3357 m. RU run gyro survey.

April 2 PTD = 11014 ft- Mud Wt: 41.3 ppg. Visc: 58 sec. Wtr. Loss: 6.4 CC.
Complete gyro survey run. CBL showed good bond. RIH with 7" csg scraper to landing collar at 11014 ft/3357 m. Circulate and condition mud. Test csg. to 3000 psi, RU Schlumberger perforating gun for run No. 1 (30' x 1 SPF).

April 3 PTD = 11115 ft- Mud Wt: 13.4 ppg. Visc: 55 sec.
Perforating interval No. 1 from 10460' to 10685'.

April 4 PTD = 11053 ft- Mud Wt: 13.4 ppg. Visc: 55 sec. Wtr. Loss: 6.2 CC.
Complete perf. interval No. 1 10515 ft/3205m to 10460 ft/3188 m (55 ft/17 m.) Total perf interval 10460 ft/3188 m to 10685 ft/3257 m. for 225 ft/69 m at 1 SPF. RIH with hydrospring tester with a full water cushion. Pkr set at 10346 ft/3153 m. Tail pipe at 10450 ft/3185 m. Open hydrospring 0507 hrs. for 2 hr. press. build up.

April 5 PTD = 11053 ft- Mud Wt: 13.4 ppg. Visc: 55 sec. Wtr. Loss: 6.2 CC.
DST No. 1 (3188 m-3257, 69m 3 SPM). Open hydrospring 0708 hrs. 200 psi ISITP. Open 1" ck 0 psi FTP, died. 0776 hrs. to 0743 hrs - Pump 4 bbl water. Form broke from 4200 psi to 3850 psi. Pump 4 bbl. water 0.8 BPM 3950 psi final. Open 1" ck 0743 hr. Dribble flow. 0 psi FTP. Press up to 3500 psi and release press. three times to clear perfs. at 1014 hrs. eatablished injection rate of 5 BPM at 4450 psi. Press. up annulus to 1000 psi. 1300 hrs. Start acid job.

April 6 PTD = 11115 ft- Mud Wt: 13.4 ppg. visc: 46 sec. Wtr. Loss: 8.5 CC.
Conducting DST No. 1. Choke at 1.5 inches.
1340 hr. Opened for flow to metering tank.
1400 hr. 864 BPD, 3 PCT oil, 140,000 ppm. Chlorides. Ph = 4.2.
1415 hr. 2160 BPD, 1.5 PCT oil, FTP less than 50 psi DWT.
1430 hr. 2304 BPD, 1.5 PCT oil, FTP less than 50 psi DWT.
1445 hr. 28.80 BPD. 1.5 PCT oil, FTP less than 50 psi DWT.
1455 hr. 3168 BPD, 1.5 PCT oil, FTP less than 50 psi DWT. Ph = 4.2.
1500-1530 hrs. Empty metering tank FTP 60-70 psi DWT.
1540 hrs. Shut in at Apr. 14 sampler (downhole). Reverse out test string. Release pkr. POOH, break down test tools. Rig up Schlumberger and running cmt. Retainer to set at 10,375 ft.

April 7 PTD 2 10375 ft- Mud Wt: 13.6 ppg. Visc: 45 sec.
P.O.O.H. and rigged down Schlumberger.
RIH w/D.P. to squeeze below packer.
Cond. mud wt. Pressure tested D.P. & E.Z. drill retainer to 5000 psig stung into packer and established injection rate. Squeezed perforations with 300 sacks class "B" cmt. Mixed with 1.25 GPS L.W.L., at 15.6 ppg. P.O.O.H. 1 std. D.P. & reversed out 3 bbls cmt. P.O.O.H. with D.P. Slip and cut drill line. Rigged up Schlumberger and started perforating interval No. 2.

April 8 PTD = 10375 ft- Mud Wt: 13.6 ppg. Visc: 48 sec. Wtr. Loss: 6.3 CC.
Complete perforating DST No. 2 9980 ft/3042 m to 10120 ft/3084 m (140 ft/42.7 m)
RIH with Howco DST tools with full water cushion. Set pkr at 9868 ft/3008 m. Open hydrospring 1902 hrs. 445 psi ISITP. Open 1" ck 0 psi FTP died. SI tester 1917 hrs. for 2 hr. press. build up. Open tester 2118 hrs. 650 psi ISITP. Open 1" ck, FTP dropped immediately to 0 psi. Acid frac with 28 PCT HCL using ball diversion. Pumped a total of 1083 bbl fluid. Formation broke from 5400 psi to 4800 psi. Max. treat press: 6300 psi. Min. 3800 psi. Max treat rate 13 BPM. Min. 10 BPM avg. 400 psi increase on divert stages. ISIP= 2200 psi. 5 min SIP= 2200 psi. Job completed 0042 hrs. Open well 0100 hrs. 1.5" ck.; 0130 hrs. 370 FTP; 0300 hrs. 340 pri FTP. 9360 BWPD, 0 BOPD, 3.5 Ph, 0 PCT H_2S, 10 PCT CO_2, 0 mercaptans; 0400 hrs. 317 psi FTP; 0500 hrs. 310 psi FTP 149,000 ppm Cl.

April 9 PTD = 10285 ft- Mud Wt: 13.6 ppg. Visc: 48 sec. Wtr. Loss: 6.3 CC.
Flowing on DST No. 2 with 1½" choke.

Hrs	FTP	BWPD	BOPD	SCFGPD	Ph	Cl	CO2	H_2S
0600	301	9288	0	TR	4.5	-	10	0
1045	280	Turn thru test separator.						
1130	417	9073	0	103M	5.5	150M	-	0
1230	-	10199	0		5.5	150M	-	0
1230	By pass test separator.							
1300	274	-	-	-	-	-	-	-
1500	272	Turn thru test separator.						
1530	445	9279	0	121.6M	5.5	150M	-	0
1600	442	9731	0	118.9M	5.5	150M	13	0
1730	443	8990	0	117.1M	5.5	150M	-	0
1730	SI for press. build up.							

April 10 PTD = 9905 ft- Mud Wt: 13.7 ppg. Visc: 51 sec. Wtr. Loss: 7 CC.
Complete 17½ hr. press. build up. Unseat pkr. Reverse circulated fluid from D.P. and displaced with mud, kill well. POOH. Wireline set cmt. ret. 9905 ft/3019m. RIH to sqz cmt.

April 11 PTD = 9815 ft- Mud Wt: 13.2 ppg. Visc: 45 sec. Wtr. Loss: 6.5 CC.
Sqz cmt DST No. 2 perfs 9980 ft/3042 m to 10120 ft/3048 m with 300 sx cmt. Perforate for DSt No. 3 from 9210 ft/2807 m to 9165 ft/2793 m and 9100 ft/2774 m to 8990 ft/2740 m with 1 SPF 4" hyperdome scallop gun, 6 runs. Weekly BOP test. MU BHA test tools.

April 12 PTD = 9815 ft- Mud Wt: 13.2 ppg. Visc: 47 sec. Wtr. Loss: 6.5 CC.
RIH w/Howco DST tools - full water cushion - DST No. 3: I.F. at 15:56 hr: weak blow - ISI at 16:12 hr - FFP at 18:12 hr: weak blow - acidize - init. injec. rate 12 BPM/5200 psi - acid at formation 13 BPM/5800 psi - final displace. 12.5 BPM/5900 psi - (total 28,500 gal 28% HCL w/124 balls) -Flow on 1.5" choke: good blow 445 psi decreasing to 50 psi after 2 hrs. - F.S.I. to build press. to catch sample/tool closed - in bottom.

April 13 PTD = 9815 ft- Mud Wt: 13.2 ppg. Visc: 47 sec. Wtr. Loss: 6.5 CC.
Open tool 02:48 hr. - reverse circ. out catching samples (trace of oil) - Unseat packer.

April 14 PTD = 8960 ft- Mud Wt: 13.2 ppg. Visc: 48 sec. Wtr. Loss: 6.5 CC.
P.O.H. - R/U Schlumberger - Set EZ drill retainer at 8975' - RIH w/stinger on Dp - Squeeze w/300 sx Class B cmt. Reverse out 7 bbls at 8960', circ. btms. up. POOH - R/U. Schlumberger - Perf. DST No. 4 interval 8850 ft/2697 m to 8953 ft/2729 m.

April 15 PTD = 8960 ft- Mud Wt: 13.2 ppg. Visc: 47 sec. Wtr. Loss: 6.3 CC.
RIH Howco hydrospring DST tools for DST No. 4 full water cushion. Pkr 8745 ft/ 2665 m tailpipe 8850 ft/2697 m. 1707 hrs. open tool 1800 psi SITP., 1711 hrs. open 1½" ck., 1/8 BPM, less than 50 psi FTP, 1726 hrs. SI for 2 hr. press. Build up; 1926 hrs. open tool 1050 psi SITP; 1928 hrs. open 1½" ch., 1/10 BPM, less than 50 psi FTP; 1941 hrs. SI for acid frac. 28 PCT HCL, divert with ball sealers. Pumped total 905 bbl fluid. Max. treat press. 6000 psi. Min. 5200 psi. Max. treat rate: 13 BPM. Min. 10 BPM. ISIP= 3600 psi; 10 min. SITP. 3400 psi. Job complete at 2227 hrs; 2313 hrs. open well 3350 psi SITP; 2314 hrs. open 18/64" ck, 1 BPM 1600 psi FTP; 2336 hrs. 1½" ck. 1½ BPM, 217 psi FTP, 75°F FTT. Ph= 3; 0300 hrs. 1½" ck. 1½ BPM, 217 psi FTP, 75°F FTT. Ph= 3; 0300 hrs. 1½" ck, less than 50 psi FTP, 60°F FTT. Ph= 4, 432 BWPD; 0500 hrs. 1½" ck less than 50 psi FTP, 62°F FTT, Ph= 4, 384 BWPD.

April 16 PTD = 8960 ft- Mud Wt: 13.2 ppg. Visc: 46 sec. Wtr. Loss: 6.5 CC.
Flowing on test. 0600 hrs. 1½" ck, less than 50 psi FTP, 61°F FTT. Ph= 4, 384 BWPD; 1000 hrs. 1½" ck, less than 50 psi FTP, 63°F FTT. Ph= 4 130,000 ppm Cl 384 BWPD. SI for 18 hrs. press. build up. Total flow period 10 hrs. 46 min. Begin to kill well and reverse out.

April 17 PTD = 8129 ft- Mud Wt: 13.2 ppg. Visc: 48 sec. Wtr. Loss: 6.5 CC.
POOH with DST tools. Set cmt. ret. 8675 ft/2644 m. Sqz cmt. Dst No. 4 perfs. 8850 ft/2967 m - 80953 ft/2729 m with 300 sx class B cmt. at 15.6 ppg.; Perf. 4938 ft/ 1505M - 4940 ft/1506M with 2 SPF. RIH to sqz cmt across 13 3/8" shoe for abandonment.

April 18 PTD = 4304 ft- RIH w/OE D.P. to 4924, laid cmt plug. Top of plug at 4304 ft. cut 9 5/8" csg at 550 ft POH ND 13 5/8" BOP stack.

April 19 PTD = 4303 ft- Attempted to pull 9 5/8" csg. No success. Recut at 450 ft. Pulled out 154 ft. of same. The mud line hanger became stuck inside the 13 3/8" csg. Released and backed out the 9 5/8" running tool. At the hanger at 229 ft and laid down. Cut immediately below and removed 13 3/8" slips from well head. Speared into 13 3/8" and attempted to back out at the mud line hanger. The 20" started backing out w/the 13 3/8". Picked up spear and speared into 13 3/8" and pulled 20" - 13 3/8" - 9 5/8" together. The bottom 80 ft of the 20" and 13 3/8" were cmt bonded together. RIH with O.E. D.P. to 750 ft to lay cmt. plug, circ. W/sea water and preparing to cmt.

April 20 PTD = 368' RKB Set cmt. plug 202 sx class "B" 750 to 372 ft. Cut 30" csg at 370 ft. recover 30" csg. RIH to 368 ft. Set 60 sx cmt. plug at 368 ft. LD DP. Divers made seafloor inspection area all clean. Prepare rig for skid.

NOTE: Seafloor originally tagged at 355' RKB. Mud line suspension hanger at 383' RKB.

April 21 Rig jacked down and released at 1100 hr.

IV. DIRECTIONAL SURVEY

PHILLIPS PETROLEUM COMPANY NORWAY
2/7-13

SU3-066-130-NOR
3 APRIL 1979

TOTAL DEPTH	DIRECTION DEG MIN	ANGLE DEG MIN	VERTICAL DEPTH	LATITUDE FEET	DEPARTURE FEET	VERTICAL SECTION	DOG LEG
	N 0 0 E	0 0	.00	.00 N	.00 E	.00	.00
400	S 85 2 E	0 30	399.99	.16 S	1.76 E	-1.76	.13
500	N 48 27 E	0 23	499.98	.03 N	2.45 E	-2.41	.37
600	N 70 57 E	0 22	599.98	.36 N	3.00 E	-2.89	.15
700	S 83 19 E	0 53	699.97	.37 N	4.06 E	-3.94	.58
800	S 59 16 E	0 47	799.96	.07 S	5.41 E	-5.34	.36
900	S 51 26 E	0 54	899.95	.91 S	6.60 E	-6.66	.16
1000	S 71 35 E	0 28	999.94	1.52 S	7.59 E	-7.74	.49
1100	S 55 47 E	0 27	1099.94	1.87 S	8.30 E	-8.50	.13
1200	S 84 58 W	0 15	1199.94	2.11 S	8.41 E	-8.64	.67
1300	N 85 10 W	0 23	1299.93	2.10 S	7.85 E	-8.09	.14
1400	S 71 38 W	0 13	1399.93	2.13 S	7.33 E	-7.58	.20
1500	S 73 40 W	0 11	1499.93	2.24 S	6.99 E	-7.27	.04
1600	S 73 40 W	0 8	1599.93	2.32 S	6.71 E	-7.01	.05
1700	S 77 36 W	0 9	1699.93	2.38 S	6.46 E	-6.78	.02
1800	S 58 0 W	0 11	1799.93	2.50 S	6.19 E	-6.53	.07
1900	S 48 42 W	0 9	1899.93	2.67 S	5.96 E	-6.33	.05
2000	S 74 18 W	0 16	1999.93	2.81 S	5.63 E	-6.03	.16
2100	S 38 14 W	0 8	2099.93	2.97 S	5.33 E	-5.76	.18
2200	S 31 30 W	0 11	2199.93	3.21 S	5.17 E	-5.64	.05
2300	N 81 32 W	0 8	2299.93	3.33 S	4.97 E	-5.47	.18
2400	N 58 57 W	0 13	2399.93	3.22 S	4.69 E	-5.17	.11
2500	S 76 50 W	0 7	2499.93	3.14 S	4.42 E	-4.89	.16
2600	N 83 21 W	0 21	2599.93	3.13 S	4.01 E	-4.49	.23
2700	S 87 22 W	0 8	2699.92	3.10 S	3.60 E	-4.08	.22
2800	N 76 41 W	0 9	2799.92	3.08 S	3.36 E	-3.84	.04
2900	S 75 14 W	0 20	2899.92	3.12 S	2.95 E	-3.45	.21
3000	N 74 21 W	0 7	2999.92	3.17 S	2.57 E	-3.08	.24
3100	N 87 32 W	0 9	3099.92	3.13 S	2.34 E	-2.85	.04
3200	S 82 30 W	0 15	3199.92	3.16 S	1.99 E	-2.51	.11
3300	S 88 58 W	0 11	3299.92	3.19 S	1.61 E	-2.14	.07
3400	S 68 32 W	0 7	3399.92	3.23 S	1.36 E	-1.90	.09
3500	S 43 48 W	0 7	3499.92	3.34 S	1.19 E	-1.75	.05
3600	S 78 54 W	0 9	3599.92	3.44 S	1.00 E	-1.58	.08
3700	N 22 15 W	0 4	3699.92	3.41 S	.86 E	-1.43	.15
3800	S 46 5 W	0 6	3799.92	3.42 S	.77 E	-1.35	.14
3900	S 1 2 W	0 20	3899.92	3.78 S	.70 E	-1.34	.28
4000	S 26 25 W	0 24	3999.91	4.38 S	.54 E	-1.29	.17
4100	S 22 8 W	0 28	4099.91	5.07 S	.23 E	-1.11	.09
4200	S 39 39 W	0 36	4199.90	5.86 S	.27 W	-.76	.20

PHILLIPS PETROLEUM COMPANY NORWAY
2/7-13

SU3-066-130-NOR
3 APRIL 1979

TOTAL DEPTH	DIRECTION DEG MIN	ANGLE DEG MIN	VERTICAL DEPTH	LATITUDE FEET	DEPARTURE FEET	VERTICAL SECTION	DOG LEG
4300	S 30 1 W	0 29	4299.89	6.62 S	.81 W	-.36	.14
4400	S 32 18 W	0 33	4399.89	7.39 S	1.28 W	-.03	.07
4500	S 64 48 W	0 38	4499.88	8.03 S	2.04 W	.60	.34
4600	S 75 49 W	0 40	4599.87	8.41 S	3.10 W	1.59	.13
4700	S 62 37 W	0 48	4699.86	8.88 S	4.28 W	2.67	.22
4800	S 68 41 W	0 53	4799.85	9.48 S	5.62 W	3.89	.11
4900	S 82 35 W	1 23	4899.82	9.91 S	7.53 W	5.69	.57
5000	S 80 38 W	1 28	4999.79	10.28 S	9.99 W	8.05	.10
5100	S 87 29 W	1 37	5099.75	10.55 S	12.67 W	10.64	.24
5200	S 84 35 W	1 42	5199.71	10.75 S	15.55 W	13.45	.11
5300	S 78 23 W	1 52	5299.66	11.22 S	18.63 W	16.39	.26
5400	S 76 23 W	2 10	5399.59	11.99 S	22.07 W	19.65	.31
5500	S 75 36 W	2 15	5499.52	12.93 S	25.81 W	23.18	.09
5600	S 82 10 W	2 10	5599.44	13.68 S	29.59 W	26.77	.27
5700	S 81 56 W	2 13	5699.36	14.20 S	33.37 W	30.40	.05
5800	S 81 20 W	2 25	5799.28	14.79 S	37.37 W	34.24	.21
5900	S 80 21 W	2 20	5899.19	15.45 S	41.47 W	38.16	.09
6000	S 81 40 W	2 48	5999.09	16.15 S	45.90 W	42.40	.47
6100	S 83 47 W	2 43	6098.97	16.76 S	50.68 W	47.00	.13
6200	S 83 49 W	2 45	6198.85	17.28 S	55.43 W	51.59	.04
6300	S 86 31 W	2 53	6298.73	17.69 S	60.32 W	56.34	.18
6400	S 87 58 W	2 52	6398.60	17.93 S	65.32 W	61.22	.07
6500	S 89 44 W	2 55	6498.47	18.03 S	70.36 W	66.16	.11
6600	S 89 4 W	2 56	6598.34	18.08 S	75.47 W	71.18	.04
6700	S 88 14 W	3 7	6698.20	18.21 S	80.74 W	76.35	.18
6800	S 89 47 W	3 9	6798.05	18.30 S	86.19 W	81.71	.09
6900	N 87 20 W	3 19	6897.89	18.18 S	91.82 W	87.27	.23
7000	N 86 27 W	3 27	6997.71	17.86 S	97.71 W	93.13	.15
7100	N 87 41 W	3 36	7097.52	17.54 S	103.86 W	99.24	.17
7200	N 81 35 W	3 34	7197.32	16.96 S	110.08 W	105.47	.38
7300	N 82 7 W	3 37	7297.12	16.07 S	116.30 W	111.74	.06
7400	N 79 47 W	3 33	7396.92	15.09 S	122.48 W	118.00	.16
7500	N 80 11 W	3 48	7496.71	13.97 S	128.79 W	124.41	.24
7600	N 79 39 W	4 6	7596.47	12.76 S	135.58 W	131.31	.31
7700	N 80 50 W	4 15	7696.21	11.53 S	142.75 W	138.59	.16
7800	N 80 7 W	4 23	7795.92	10.28 S	150.18 W	146.11	.15
7900	N 73 33 W	4 34	7895.61	8.50 S	157.76 W	153.89	.54
8000	N 74 58 W	4 29	7995.30	6.36 S	165.34 W	161.73	.14
8100	N 75 47 W	4 44	8094.98	4.34 S	173.11 W	169.73	.26
8200	N 75 12 W	4 38	8194.64	2.29 S	181.01 W	177.87	.10

PHILLIPS PETROLEUM COMPANY NORWAY
2/7-13

SU3-066-130-NOR
3 APRIL 1979

TOTAL DEPTH	DIRECTION DEG MIN	ANGLE DEG MIN	VERTICAL DEPTH	LATITUDE FEET	DEPARTURE FEET	VERTICAL SECTION	DOG LEG
8300	N 73 4 W	4 28	8294.32	.12 S	188.65 W	185.77	.24
8400	N 71 26 W	4 13	8394.04	2.19 N	195.86 W	193.26	.29
8500	N 70 45 W	3 48	8493.79	4.45 N	202.46 W	200.16	.42
8600	N 79 37 W	2 41	8593.63	6.00 N	207.88 W	205.77	1.19
8700	N 81 8 W	2 41	8693.51	6.83 N	212.50 W	210.46	.12
8800	N 79 33 W	3 7	8793.38	7.73 N	217.49 W	215.53	.46
8900	N 72 49 W	3 35	8893.20	9.19 N	223.14 W	221.35	.56
9000	N 71 18 W	3 52	8992.99	11.19 N	229.31 W	227.77	.30
9100	N 71 11 W	4 0	9092.75	13.40 N	235.81 W	234.55	.15
9200	N 71 1 W	4 6	9192.50	15.69 N	242.50 W	241.54	.10
9300	N 71 28 W	4 12	9292.23	18.02 N	249.36 W	248.70	.10
9400	N 72 21 W	4 10	9391.96	20.28 N	256.29 W	255.92	.07
9500	N 74 11 W	4 25	9491.68	22.43 N	263.45 W	263.34	.29
9600	N 78 29 W	4 17	9591.39	24.23 N	270.81 W	270.90	.35
9700	N 74 10 W	4 16	9691.11	25.99 N	278.04 W	278.32	.32
9800	N 69 12 W	4 2	9790.84	28.25 N	284.91 W	285.48	.42
9900	N 68 6 W	4 17	9890.58	30.90 N	291.66 W	292.59	.26
10000	N 66 11 W	4 15	9990.30	33.79 N	298.52 W	299.85	.15
10100	N 61 44 W	4 35	10090.00	37.18 N	305.43 W	307.24	.48
10200	N 64 49 W	4 57	10189.65	40.90 N	312.86 W	315.20	.44
10300	N 62 28 W	4 47	10289.30	44.66 N	320.45 W	323.34	.26
10400	N 61 36 W	5 10	10388.91	48.73 N	328.11 W	331.58	.39
10500	N 62 4 W	5 27	10488.48	53.10 N	336.26 W	340.37	.28
10600	N 62 11 W	5 51	10588.00	57.70 N	344.96 W	349.73	.40
10700	N 65 9 W	6 13	10687.44	62.35 N	354.38 W	359.81	.49

THE DOGLEG SEVERITY IS IN DEGREES PER ONE HUNDRED FEET.
THE VERTICAL SECTION WAS COMPUTED ALONG N 80 1 W.

BASED UPON MINIMUM CURVATURE TYPE CALCULATIONS. THE BOTTOM HOLE DISPLACEMENT IS 359.81 FEET, IN THE DIRECTION OF N 80 1 W.

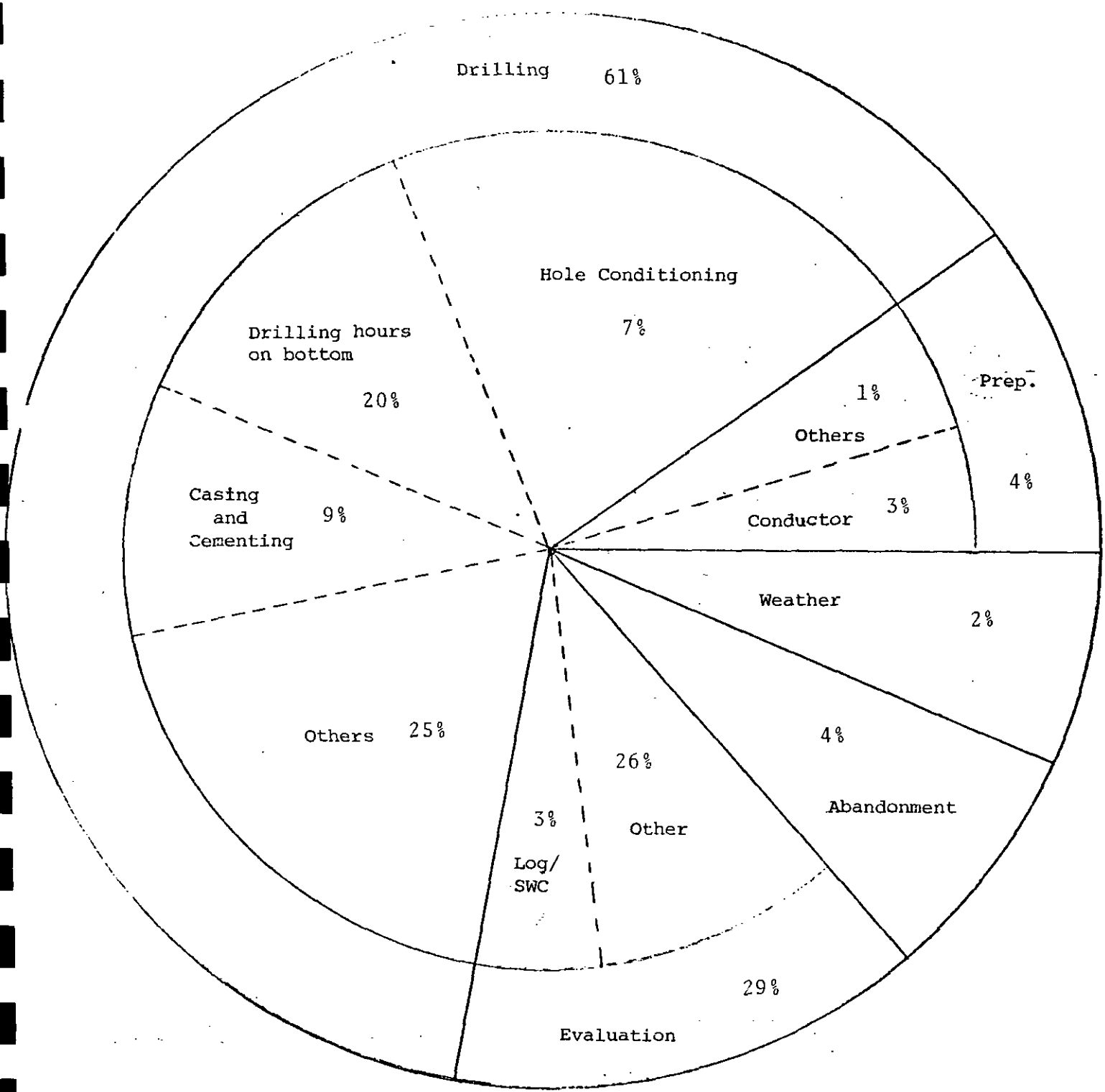
V. RIG TIME ANALYSIS

RIG TIME ANALYSIS - WELL 2/7-13

	Hours	% of Phase	% of Total
I. Preparation Phase			
1) Conductor Driving/Setting	51	59	2.6
2) Rig Move	22	25	1.0
3) Remaining Subcategories	13.5	16	0.7
TOTAL	86.5	100	4.3
II. Drilling Phase			
1) Hole Conditioning	126.5	11	6.5
2) Drilling Hours on Bottom	393.5	33	20.3
3) Casing & Cementing	182.0	15	9.4
4) Remaining Subcategories	476.0	41	24.5
TOTAL	1178.0	100	60.7
III. Evaluation Phase			
1) Logging	57.5	10	3.0
2) Down Time	16.5	3	0.9
3) Remaining Subcategories	490.0	87	25.3
TOTAL	564.0	100	29.2
IV. Completion Phase	0	0	0
V. Abandonment Phase			
1) Abandonment	79.5	94	4.1
2) Remaining Subcategories	4	6	0.2
TOTAL	83.5	100	4.3
I-V. WOW	29	100	1.5
WELL TOTAL	1941	100	100

PHILLIPS PETROLEUM CO.
WELL 2/7-13

RIG TIME ANALYSIS



Rig Time Breakdown

Rig: Dyvi Beta
Field: Greater Gamma
Month: January

Well: 2/7-13
Type Well: Exploratory
Year: 1979

		M	T	W	T	F	S	S	Week Total	Well Total	REMARKS
		29	30	31							
I	PREPARATION PHASE										
	Rigmove		2	20					22	22	
	Positioning Barge								0	0	
	Jacking up/down			4					4	4	
	UWE handling								0	0	
	Conductor driving/setting								0	0	
	Downtime								0	0	
	Subtotal Preparation Phase								26	26	
II	DRILLING PHASE										
	Drilling hours on bottom										
	Drilling hours on roundtrips										
	Coring hours on bottom										
	Coring hours on roundtrips										
	Reaming/enlarging										
	Hole cond.										
	Circ. & Cond. Mud Properties										
	Fishing										
	Deviation (Turbine) incl. trips										
	Casing & Cementing										
	UWE handling										
	Downtime										
	Directional surveys										
	NU/ND & Test BOP										
	Misc.										
	Subtotal Drilling Phase										
III	EVALUATION PHASE										
	Logging/SWC										
	DST (Time on botton)										
	Perforating										
	Stimulating to test										
	Pressure test surf. equip. & BOP										
	Squeeze interval incl. trip										
	Trips										
	Fishing										
	Misc.										
	Downtime										
	Subtotal Evaluation Phase										
IV	COMPLETION PHASE										
	Tubing/downhole equip.										
	Perforating										
	NP BOP, NU x-mas tree										
	Stimulating										
	Prod. testing										
	Fishing & milling										
	UWE handling										
	Downtime										
	Misc.										
	Subtotal Completion Phase										
V	ABANDONMENT PHASE										
	Abandonment										
	UWE handling										
	Downtime										
	Subtotal Abandonment Phase										
I-V	Weather Downtime										

TMC 23/2/79

Rig Time Breakdown

Rig: Dyvi Beta
Field: Greater Gamma
Month: February

Well: 2/7-13
Type Well: Exploratory
Year: 1979

		M	T	W	T	F	S	S	Week Total	Well Total	REMARKS
					1	2	3	4			
I	PREPARATION PHASE										
	Rigmove								0	22	
	Positioning Barge								0	0	
	Jacking up/down				5				5	9	
	UWE handling								0	0	
	Conductor driving/setting				14½	24	12	½	51	51	SPUD 1-2-79
	Downtime				4½				4½	4½	
	Subtotal Preparation Phase								60½	86½	
II	DRILLING PHASE										
	Drilling hours on bottom							11	11	11	
	Drilling hours on roundtrips							3½	3½	3½	
	Coring hours on bottom								0	0	
	Coring hours on roundtrips								0	0	
	Reaming/enlarging								0	0	
	Hole cond.							3½	3½	3½	
	Circ. & Cond. Mud Properties								0	0	
	Fishing								0	0	
	Deviation (Turbine) incl. trips								0	0	
	Casing & Cementing								0	0	
	UWE handling								0	0	
	Downtime								0	0	
	Directional surveys							1	1	1	
	NU/ND & Test BOP						12	4½	16½	16½	
	Misc.										
	Subtotal Drilling Phase								35½	35½	
III	EVALUATION PHASE										
	Logging/SWC										
	DST (Time on bottom)										
	Perforating										
	Stimulating to test										
	Pressure test surf. equip. & BOP										
	Squeeze interval incl. trip										
	Trips										
	Fishing										
	Misc.										
	Downtime										
	Subtotal Evaluation Phase										
IV	COMPLETION PHASE										
	Tubing/downhole equip.										
	Perforating										
	NP BOP, NU x-mas tree										
	Stimulating										
	Prod. testing										
	Fishing & milling										
	UWE handling										
	Downtime										
	Misc.										
	Subtotal Completion Phase										
V	ABANDONMENT PHASE										
	Abandonment										
	UWE handling										
	Downtime										
	Subtotal Abandonment Phase										
I-V	Weather Downtime										

Rig Time Breakdown

Rig: Dyvi Beta
Field: Greater Gamma
Month: February

Well: 2/7-13
Type Well: Exploratory
Year: 1979

		M	T	W	T	F	S	S			
		5	6	7	8	9	10	11	Week Total	Well Total	REMARKS
I	PREPARATION PHASE										
	Rigmove									22	
	Positioning Barge										
	Jacking up/down									9	
	UWE handling										
	Conductor driving/setting									51	
	Downtime									4½	
	Subtotal Preparation Phase									86½	
II	DRILLING PHASE										
	Drilling hours on bottom					5	18	15½	38½	49½	
	Drilling hours on roundtrips	10		5	3	3	1		22	25½	
	Coring hours on bottom									0	
	Coring hours on roundtrips									0	
	Reaming/enlarging	4½							4½	4½	
	Hole cond.	3½		2	1		3	3½	13	16½	
	Circ. & Cond. Mud Properties									0	
	Fishing									0	
	Deviation (Turbine) incl. trips									0	
	Casing & Cementing	6	11	11	20	16	1		65	65	
	UWE handling									0	
	Downtime						1	5	6	6	Pump repairs
	Directional surveys									1	
	NU/ND & Test BOP		13	6					19	35½	
	Misc.										
	Subtotal Drilling Phase								168	203½	
III	EVALUATION PHASE										
	Logging/SWC										
	DST (Time on bottom)										
	Perforating										
	Stimulating to test										
	Pressure test surf. equip. & BOP										
	Squeeze interval incl. trip										
	Trips										
	Fishing										
	Misc.										
	Downtime										
	Subtotal Evaluation Phase										
IV	COMPLETION PHASE										
	Tubing/downhole equip.										
	Perforating										
	NP BOP, NU x-mas tree										
	Stimulating										
	Prod. testing										
	Fishing & milling										
	UWE handling										
	Downtime										
	Misc.										
	Subtotal Completion Phase										
V	ABANDONMENT PHASE										
	Abandonment										
	UWE handling										
	Downtime										
	Subtotal Abandonment Phase										
I-V	Weather Downtime										

TMC 23/2/79

Rig Time Breakdown

Rig: Dyvi Beta
Field: Greater Gamma
Month: February

Well: 2/7-13
Type Well: Exploratory
Year: 1979

		M	T	W	T	F	S	S			
		12	13	14	15	16	17	18	Week Total	Well Total	REMARKS
I	PREPARATION PHASE										
	Rigmove									22	
	Positioning Barge										
	Jacking up/down									9	
	UWE handling										
	Conductor driving/setting									51	
	Downtime									4½	
	Subtotal Preparation Phase									86½	
II	DRILLING PHASE										
	Drilling hours on bottom	13	19	14½	½				47	96½	
	Drilling hours on roundtrips	6½	1	4½	1				13	38½	
	Coring hours on bottom								0	0	
	Coring hours on roundtrips								0	0	
	Reaming/enlarging								0	4½	
	Hole cond.	2½	3½	2	6½	4	4½		23	34½	
	Circ. & Cond. Mud Properties			1		2			3	3	
	Fishing								0	0	
	Deviation (Turbine) incl. trips								0	0	
	Casing & Cementing	2					16½	12	30½	95½	
	UWE handling								0	0	
	Downtime		½	2					2½	8½	
	Directional surveys						3		3	4	
	NU/ND & Test BOP							12	12	47½	
	Misc.								0	0	
	Subtotal Drilling Phase								134	337½	
III	EVALUATION PHASE										
	Logging/SWC				5				5	5	
	DST (Time on bottom)										
	Perforating										
	Stimulating to test										
	Pressure test surf. equip. & BOP										
	Squeeze interval incl. trip										
	Trips										
	Fishing										
	Misc.										
	Downtime										
	Subtotal Evaluation Phase								5	5	
IV	COMPLETION PHASE										
	Tubing/downhole equip.										
	Perforating										
	NP BOP, NU x-mas tree										
	Stimulating										
	Prod. testing										
	Fishing & milling										
	UWE handling										
	Downtime										
	Misc.										
	Subtotal Completion Phase										
V	ABANDONMENT PHASE										
	Abandonment										
	UWE handling										
	Downtime										
	Subtotal Abandonment Phase										
I-V	Weather Downtime				11	18			29	29	

TMC 23/2/79

Rig Time Breakdown

Rig: Dyvi Beta
Field: Greater Gamma
Month: February

Well: 2/7-13
Type Well: Exploratory
Year: 1979

		M	T	W	T	F	S	S			
		19	20	21	22	23	24	25	Week Total	Well Total	REMARKS
I	PREPARATION PHASE										
	Rigmove									22	
	Positioning Barge										
	Jacking up/down									9	
	UWE handling										
	Conductor driving/setting									51	
	Downtime									4½	
	Subtotal Preparation Phase									86½	
II	DRILLING PHASE										
	Drilling hours on bottom	1½	16	15	13½	14½	11	16½	88	184½	
	Drilling hours on roundtrips	9½		2	4	1½	6	2	25	63½	
	Coring hours on bottom									0	
	Coring hours on roundtrips									0	
	Reaming/enlarging									4½	
	Hole cond.		5½	4½	6½	7	2	3	28½	68	
	Circ. & Cond. Mud Properties	1	1						2	5	
	Fishing									0	
	Deviation (Turbine) incl. trips									0	
	Casing & Cementing	10	1½	1			2		14½	110	
	UWE handling									0	
	Downtime					1		1	2	10½	
	Directional surveys			1½			3	1½	6	10	
	NU/ND & Test BOP	2							2	49½	
	Misc.									0	
	Subtotal Drilling Phase								168	505½	
III	EVALUATION PHASE										
	Logging/SWC								0	5	
	DST (Time on bottom)										
	Perforating										
	Stimulating to test										
	Pressure test surf. equip. & BOP										
	Squeeze interval incl. trip										
	Trips										
	Fishing										
	Misc.										
	Downtime										
	Subtotal Evaluation Phase								0	5	
IV	COMPLETION PHASE										
	Tubing/downhole equip.										
	Perforating										
	NP BOP, NU x-mas tree										
	Stimulating										
	Prod. testing										
	Fishing & milling										
	UWE handling										
	Downtime										
	Misc.										
	Subtotal Completion Phase										
V	ABANDONMENT PHASE										
	Abandonment										
	UWE handling										
	Downtime										
	Subtotal Abandonment Phase										
I-V	Weather Downtime								0	29	

Rig Time Breakdown

Rig: Dyvi Beta
Field: Greater Gamma
Month: February

Well: 2/7-13
Type Well: Exploratory
Year: 1979

		M	T	W	T	F	S	S	Week Total	Well Total	REMARKS
		26	27	28							
I	PREPARATION PHASE										
	Rigmove									22	
	Positioning Barge										
	Jacking up/down									9	
	UWE handling										
	Conductor driving/setting									51	
	Downtime									4½	
	Subtotal Preparation Phase									86½	
II	DRILLING PHASE										
	Drilling hours on bottom	14	5½						19½	204	
	Drilling hours on roundtrips	6	2						8	71½	
	Coring hours on bottom								0	0	
	Coring hours on roundtrips								0	0	
	Reaming/enlarging									4½	
	Hole cond.	2½	5	7½					15	83	
	Circ. & Cond. Mud Properties								0	5	
	Fishing								0	0	
	Deviation (Turbine) incl. trips								0	0	
	Casing & Cementing								0	110	
	UWE handling								0	0	
	Downtime								0	10½	
	Directional surveys	1½	½						2	12	
	NU/ND & Test BOP			4½					4½	54	
	Misc.									0	
	Subtotal Drilling Phase								49	554½	
III	EVALUATION PHASE										
	Logging/SWC		6½	12					18½	23½	
	DST (Time on bottom)										
	Perforating										
	Stimulating to test										
	Pressure test surf. equip. & BOP										
	Squeeze interval incl. trip										
	Trips										
	Fishing										
	Misc.		4½						4½	4½	Flowcheck/circ for sample
	Downtime										
	Subtotal Evaluation Phase								23	28	
IV	COMPLETION PHASE										
	Tubing/downhole equip.										
	Perforating										
	NP BOP, NU x-mas tree										
	Stimulating										
	Prod. testing										
	Fishing & milling										
	UWE handling										
	Downtime										
	Misc.										
	Subtotal Completion Phase										
V	ABANDONMENT PHASE										
	Abandonment										
	UWE handling										
	Downtime										
	Subtotal Abandonment Phase										
I-V	Weather Downtime								0	29	

TMC 23/2/79

Rig Time Breakdown

Rig: Dyvi Beta
Field: Greater Gamma
Month: March

Well: 2/7-13
Type Well: Exploratory
Year: 1979

		M	T	W	T	F	S	S	Week Total	Well Total	REMARKS
					1	2	3	4			
I	PREPARATION PHASE										
	Rigmove									22	
	Positioning Barge										
	Jacking up/down									9	
	UWE handling										
	Conductor driving/setting									51	
	Downtime									4½	
	Subtotal Preparation Phase									86½	
II	DRILLING PHASE										
	Drilling hours on bottom								0	204	
	Drilling hours on roundtrips						2	1	3	74½	
	Coring hours on bottom									0	
	Coring hours on roundtrips									0	
	Reaming/enlarging									4½	
	Hole cond.				13½				13½	96½	
	Circ. & Cond. Mud Properties									5	
	Fishing									0	
	Deviation (Turbine) incl. trips									0	
	Casing & Cementing				2½	24	10	15½	52	162	
	UWE handling									0	
	Downtime				3½				3½	14	
	Directional surveys						11		11	23	
	NU/ND & Test BOP				3		1	7½	11½	65½	
	Misc.									0	
	Subtotal Drilling Phase								94½	649	
III	EVALUATION PHASE										
	Logging/SWC				1½				1½	25	
	DST (Time on bottom)										
	Perforating										
	Stimulating to test										
	Pressure test surf. equip. & BOP										
	Squeeze interval incl. trip										
	Trips										
	Fishing										
	Misc.									4½	
	Downtime										
	Subtotal Evaluation Phase									29½	
IV	COMPLETION PHASE										
	Tubing/downhole equip.										
	Perforating										
	NP BOP, NU x-mas tree										
	Stimulating										
	Prod. testing										
	Fishing & milling										
	UWE handling										
	Downtime										
	Misc.										
	Subtotal Completion Phase										
V	ABANDONMENT PHASE										
	Abandonment										
	UWE handling										
	Downtime										
	Subtotal Abandonment Phase										
I-V	Weather Downtime									29	

TMC 23/2/79

Rig Time Breakdown

Rig: Dyvi Beta
Field: Greater Gamma
Month: March

Well: 2/7-13
Type Well: Exploratory
Year: 1979

		M	T	W	T	F	S	S			
		5	6	7	8	9	10	11	Week Total	Well Total	REMARKS
I	PREPARATION PHASE										
	Rigmove									22	
	Positioning Barge										
	Jacking up/down									9	
	UWE handling										
	Conductor driving/setting									51	
	Downtime									4½	
	Subtotal Preparation Phase									86½	
II	DRILLING PHASE										
	Drilling hours on bottom					½		2	2½	206½	
	Drilling hours on roundtrips	5				7		3½	15½	90	
	Coring hours on bottom				5	4½			9½	9½	
	Coring hours on roundtrips				14½	4½			19	19	
	Reaming/enlarging								0	4½	
	Hole cond.					2½			2½	99	
	Circ. & Cond. Mud Properties	11						1	12	17	
	Fishing		24	24	4½				52½	52½	
	Deviation (Turbine) incl. trips								0	0	
	Casing & Cementing	7							7	169	
	UWE handling								0	0	
	Downtime							4½	½	14½	
	Directional surveys								0	23	
	NU/ND & Test BOP	1				5			6	71½	
	Misc.										
	Subtotal Drilling Phase								127	776	
III	EVALUATION PHASE										
	Logging/SWC									25	
	DST (Time on bottom)						9	7½	16½	16½	
	Perforating										
	Stimulating to test										
	Pressure test surf. equip. & BOP						3	3	3	3	
	Squeeze interval incl. trip										
	Trips						12	7½	19½	19½	
	Fishing										
	Misc.							2	2	6½	Circ.up btm gas.
	Downtime										
	Subtotal Evaluation Phase								41	70½	
IV	COMPLETION PHASE										
	Tubing/downhole equip.										
	Perforating										
	NP BOP, NU x-mas tree										
	Stimulating										
	Prod. testing										
	Fishing & milling										
	UWE handling										
	Downtime										
	Misc.										
	Subtotal Completion Phase										
V	ABANDONMENT PHASE										
	Abandonment										
	UWE handling										
	Downtime										
	Subtotal Abandonment Phase										
I-V	Weather Downtime									29	

TMC 23/2/79

Rig Time Breakdown

Rig: Dyvi Beta
Field: Greater Gamma
Month: March
Well: 2/7-13
Type Well: Exploratory
Year: 1979

		M	T	W	T	F	S	S			
		12	13	14	15	16	17	18	Week Total	Well Total	REMARKS
I	PREPARATION PHASE										
	Rigmove									22	
	Positioning Barge										
	Jacking up/down									9	
	UWE handling										
	Conductor driving/setting									51	
	Downtime									4½	
	Subtotal Preparation Phase									86½	
II	DRILLING PHASE										
	Drilling hours on bottom					2½	19	12	33½	240	
	Drilling hours on roundtrips	4½			4	8		7½	24	114	
	Coring hours on bottom	3	4			2½			9½	19	
	Coring hours on roundtrips	14	4½			8½			27	46	
	Reaming/enlarging									4½	
	Hole cond.				6½	1½			8	107	
	Circ. & Cond. Mud Properties	1½							1½	18½	
	Fishing									52½	
	Deviation (Turbine) incl. trips									0	
	Casing & Cementing									169	
	UWE handling									0	
	Downtime	1				1			2	16½	
	Directional surveys				½		1½	2½	4½	27½	
	NU/ND & Test BOP									71½	
	Misc.										
	Subtotal Drilling Phase								110	886	
III	EVALUATION PHASE										
	Logging/SWC									25	
	DST (Time on bottom)			18½	4½				23	39½	
	Perforating										
	Stimulating to test										
	Pressure test surf. equip. & BOP		2½	1½					4	7	
	Squeeze interval incl. trip										
	Trips		13	4	8½				25½	45	
	Fishing										
	Misc.						3½	2	5½	12	Circ for sample/
	Downtime										flowchecks
	Subtotal Evaluation Phase								58	128½	
IV	COMPLETION PHASE										
	Tubing/downhole equip.										
	Perforating										
	NP BOP, NU x-mas tree										
	Stimulating										
	Prod. testing										
	Fishing & milling										
	UWE handling										
	Downtime										
	Misc.										
	Subtotal Completion Phase										
V	ABANDONMENT PHASE										
	Abandonment										
	UWE handling										
	Downtime										
	Subtotal Abandonment Phase										
I-V	Weather Downtime									29	

Rig Time Breakdown

Rig: Dyvi Beta
Field: Greater Gamma
Month: March

Well: 2/7-13
Type Well: Exploratory
Year: 1979

		M	T	W	T	F	S	S			
		19	20	21	22	23	24	25	Week Total	Well Total	REMARKS
I	PREPARATION PHASE										
	Rigmove									22	
	Positioning Barge										
	Jacking up/down									9	
	UWE handling										
	Conductor driving/setting									51	
	Downtime									4½	
	Subtotal Preparation Phase									86½	
II	DRILLING PHASE										
	Drilling hours on bottom	21½	21	21½	18½	3	22½	22	130	370	
	Drilling hours on roundtrips				2	6½			8½	122½	
	Coring hours on bottom									19	
	Coring hours on roundtrips									46	
	Reaming/enlarging									4½	
	Hole cond.				1½			2	3½	110½	
	Circ. & Cond. Mud Properties									18½	
	Fishing									52½	
	Deviation (Turbine) incl. trips									0	
	Casing & Cementing									169	
	UWE handling									0	
	Downtime									16½	
	Directional surveys	1	1½		2				4½	32	
	NU/ND & Test BOP					14½			14½	86	
	Misc.										
	Subtotal Drilling Phase								161	1047	
III	EVALUATION PHASE										
	Logging/SWC									25	
	DST (Time on bottom)									39½	
	Perforating										
	Stimulating to test										
	Pressure test surf. equip. & BOP									7	
	Squeeze interval incl. trip										
	Trips									45	
	Fishing										
	Misc.	1½	1½	2½			½		7	19	Circ btm for sample
	Downtime										
	Subtotal Evaluation Phase								7	135½	
IV	COMPLETION PHASE										
	Tubing/downhole equip.										
	Perforating										
	NP BOP, NU x-mas tree										
	Stimulating										
	Prod. testing										
	Fishing & milling										
	UWE handling										
	Downtime										
	Misc.										
	Subtotal Completion Phase										
V	ABANDONMENT PHASE										
	Abandonment										
	UWE handling										
	Downtime										
	Subtotal Abandonment Phase										
I-V	Weather Downtime									29	

Rig Time Breakdown

Rig: Dyvi Beta
Field: Greater Gamma
Month: March

Well: 2/7-13
Type Well: Exploratory
Year: 1979

		M	T	W	T	F	S	S			
		26	27	28	29	30	31		Week Total	Well Total	REMARKS
I	PREPARATION PHASE										
	Rigmove									22	
	Positioning Barge										
	Jacking up/down									9	
	UWE handling										
	Conductor driving/setting									51	
	Downtime									4½	
	Subtotal Preparation Phase									86½	
II	DRILLING PHASE										
	Drilling hours on bottom	13	9½						22½	392½	
	Drilling hours on roundtrips	5	3½	5		5	10		28½	151	
	Coring hours on bottom					1½			1½	20½	
	Coring hours on roundtrips					8			8	54	
	Reaming/enlarging									4½	
	Hole cond.		10			5	1		16	126½	
	Circ. & Cond. Mud Properties									18½	
	Fishing									52½	
	Deviation (Turbine) incl. trips									0	
	Casing & Cementing						13		13	182	
	UWE handling									0	
	Downtime	4	1						5	21½	
	Directional surveys	2							2	34	
	NU/ND & Test BOP					4½			4½	90½	
	Misc.								6	6	L.O.O.P.
	Subtotal Drilling Phase								107	1154	
III	EVALUATION PHASE										
	Logging/SWC			11	10½				21½	46½	
	DST (Time on bottom)									37½	
	Perforating									0	
	Stimulating to test									0	
	Pressure test surf. equip. & BOP									7	
	Squeeze interval incl. trip									0	
	Trips									45	
	Fishing									0	
	Misc.				6				6	25	
	Downtime			8	7½				15½	15½	
	Subtotal Evaluation Phase								43	178½	
IV	COMPLETION PHASE										
	Tubing/downhole equip.										
	Perforating										
	NP BOP, NU x-mas tree										
	Stimulating										
	Prod. testing										
	Fishing & milling										
	UWE handling										
	Downtime										
	Misc.										
	Subtotal Completion Phase										
V	ABANDONMENT PHASE										
	Abandonment										
	UWE handling										
	Downtime										
	Subtotal Abandonment Phase										
I-V	Weather Downtime									29	

TMC 23/2/79

Rig Time Breakdown

Rig: Dyvi Beta
Field: Greater Gamma
Month: April

Well: 2/7-13
Type Well: Exploratory
Year: 1979

		M	T	W	T	F	S	S	Week Total	Well Total	REMARKS
								1			
I	PREPARATION PHASE										
	Rigmove									22	
	Positioning Barge									0	
	Jacking up/down									9	
	UWE handling									0	
	Conductor driving/setting									51	
	Downtime									4½	
	Subtotal Preparation Phase									86½	
II	DRILLING PHASE										
	Drilling hours on bottom							1	1	393½	
	Drilling hours on roundtrips							4½	4½	155½	
	Coring hours on bottom									20½	
	Coring hours on roundtrips									54	
	Reaming/enlarging									4½	
	Hole cond.									126½	
	Circ. & Cond. Mud Properties							2½	2½	21	
	Fishing									52½	
	Deviation (Turbine) incl. trips									0	
	Casing & Cementing									182	
	UWE handling									0	
	Downtime									21½	
	Directional surveys							3	3	37	
	NU/ND & Test BOP									90½	
	Misc.							10	10	16	L.D. & P.U. D.P.
	Subtotal Drilling Phase							21	21	1175	
III	EVALUATION PHASE										
	Logging/SWC									46½	
	DST (Time on bottom)									39½	
	Perforating									0	
	Stimulating to test									0	
	Pressure test surf. equip. & BOP									7	
	Squeeze interval incl. trip									0	
	Trips									45	
	Fishing									0	
	Misc.									25	
	Downtime									15½	
	Subtotal Evaluation Phase									178½	
IV	COMPLETION PHASE										
	Tubing/downhole equip.										
	Perforating										
	NP BOP, NU x-mas tree										
	Stimulating										
	Prod. testing										
	Fishing & milling										
	UWE handling										
	Downtime										
	Misc.										
	Subtotal Completion Phase										
V	ABANDONMENT PHASE										
	Abandonment										
	UWE handling										
	Downtime										
	Subtotal Abandonment Phase										
I-V	Weather Downtime									29	

TMC 23/2/79

Rig Time Breakdown

Rig: Dyvi Beta
Field: Greater Gamma
Month: April

Well: 2/7-13
Type Well: Exploratory
Year: 1979

		M	T	W	T	F	S	S			
		2	3	4	5	6	7	8	Week Total	Well Total	REMARKS
I	PREPARATION PHASE										
	Rigmove									22	
	Positioning Barge									0	
	Jacking up/down									9	
	UWE handling									0	
	Conductor driving/setting									51	
	Downtime									4½	
	Subtotal Preparation Phase									86½	
II	DRILLING PHASE										
	Drilling hours on bottom									393½	
	Drilling hours on roundtrips									155½	
	Coring hours on bottom									20½	
	Coring hours on roundtrips									54	
	Reaming/enlarging									4½	
	Hole cond.									126½	
	Circ. & Cond. Mud Properties	2							2	23	
	Fishing									52½	
	Deviation (Turbine) incl. trips									0	
	Casing & Cementing									182	
	UWE handling									0	
	Downtime									21½	
	Directional surveys	1							1	38	
	NU/ND & Test BOP									90½	
	Misc.									16	
	Subtotal Drilling Phase								3	1178	
III	EVALUATION PHASE										
	Logging/SWC	11							11	57½	
	DST (Time on bottom)			½	19	11		3	33½	73	
	Perforating	1	24	6			7	2½	40½	40½	
	Stimulating to test				2½			7	9½	9½	
	Pressure test surf. equip. & BOP	1½		6	2½			2½	12½	19½	
	Squeeze interval incl. trip					1	16		17	17	
	Trips	7½		11½		9		9	37	82	
	Fishing									0	
	Misc.					3			3	28	
	Downtime						1		1	16½	
	Subtotal Evaluation Phase								165	343½	
IV	COMPLETION PHASE										
	Tubing/downhole equip.										
	Perforating										
	NP BOP, NU x-mas tree										
	Stimulating										
	Prod. testing										
	Fishing & milling										
	UWE handling										
	Downtime										
	Misc.										
	Subtotal Completion Phase										
V	ABANDONMENT PHASE										
	Abandonment										
	UWE handling										
	Downtime										
	Subtotal Abandonment Phase										
I-V	Weather Downtime									29	

TMC 23/2/79

Rig Time Breakdown

Rig: Dyvi Beta
Field: Greater Gamma
Month: April

Well: 2/7-13
Type Well: Exploratory
Year: 1979

		M	T	W	T	F	S	S			
		9	10	11	12	13	14	15	Week Total	Well Total	REMARKS
I	PREPARATION PHASE										
	Rigmove									22	
	Positioning Barge									0	
	Jacking up/down									9	
	UWE handling									0	
	Conductor driving/setting									51	
	Downtime									4½	
	Subtotal Preparation Phase									86½	
II	DRILLING PHASE										
	Drilling hours on bottom									393½	
	Drilling hours on roundtrips									155½	
	Coring hours on bottom									20½	
	Coring hours on roundtrips									54	
	Reaming/enlarging									4½	
	Hole cond.									126½	
	Circ. & Cond. Mud Properties									23	
	Fishing									52½	
	Deviation (Turbine) incl. trips									0	
	Casing & Cementing									182	
	UWE handling									0	
	Downtime									21½	
	Directional surveys									38	
	NU/ND & Test BOP									90½	
	Misc.									16	
	Subtotal Drilling Phase									1178	
III	EVALUATION PHASE										
	Logging/SWC									57½	
	DST (Time on bottom)	24	6		9½	23½		9	72	145	
	Perforating			9			3½		12½	53	
	Stimulating to test				2½			1½	4	13½	
	Pressure test surf. equip. & BOP			4½	1		2	3	10½	30	
	Squeeze interval incl. trip		4	9			13		26	43	
	Trips		7½	1½	11	½	15½	10½	46½	128½	
	Fishing									0	
	Misc.		6½						6½	16½	
	Downtime								178	521½	
	Subtotal Evaluation Phase										
IV	COMPLETION PHASE										
	Tubing/downhole equip.										
	Perforating										
	NP BOP, NU x-mas tree										
	Stimulating										
	Prod. testing										
	Fishing & milling										
	UWE handling										
	Downtime										
	Misc.										
	Subtotal Completion Phase										
V	ABANDONMENT PHASE										
	Abandonment										
	UWE handling										
	Downtime										
	Subtotal Abandonment Phase										
I-V	Weather Downtime									29	

TMC 23/2/79

Rig Time Breakdown

Rig: Dyvi Beta
Field: Greater Gamma
Month: April

Well: 2/7-13
Type Well: Exploratory
Year: 1979

		M	T	W	T	F	S	S			
		16	17	18	19	20	21		Week Total	Well Total	REMARKS
I	PREPARATION PHASE										
	Rigmove									22	
	Positioning Barge									0	
	Jacking up/down									9	
	UWE handling									0	
	Conductor driving/setting									51	
	Downtime									4½	
	Subtotal Preparation Phase									86½	
II	DRILLING PHASE										
	Drilling hours on bottom									393½	
	Drilling hours on roundtrips									155½	
	Coring hours on bottom									20½	
	Coring hours on roundtrips									54	
	Reaming/enlarging									4½	
	Hole cond.									126½	
	Circ. & Cond. Mud Properties									23	
	Fishing									52½	
	Deviation (Turbine) incl. trips									0	
	Casing & Cementing									182	
	UWE handling									0	
	Downtime									21½	
	Directional surveys									38	
	NU/ND & Test BOP									90½	
	Misc.									16	
	Subtotal Drilling Phase									1178	
III	EVALUATION PHASE										
	Logging/SWC									57½	
	DST (Time on bottom)	24							24	169	
	Perforating									53	
	Stimulating to test									13½	
	Pressure test surf. equip. & BOP									30	
	Squeeze interval incl. trip		12½						12½	55½	
	Trips		6						6	134½	
	Fishing									0	
	Misc.									34½	
	Downtime									16½	
	Subtotal Evaluation Phase								42½	564	
IV	COMPLETION PHASE										
	Tubing/downhole equip.										
	Perforating										
	NP BOP, NU x-mas tree										
	Stimulating										
	Prod. testing										
	Fishing & milling										
	UWE handling										
	Downtime										
	Misc.										
	Subtotal Completion Phase										
V	ABANDONMENT PHASE										
	Abandonment		5½	24	24	20	6		79½	79½	
	UWE handling						4		4	4	
	Downtime										
	Subtotal Abandonment Phase									83½	
I-V	Weather Downtime									29	

TMC 23/2/79

VI. BIT RECORD

BIT RECORD

Company PPCo Contractor Dyvi Offshore Rig No. Beta

Field Delta Block Well No. 13 Province Country NORWAY

BIT NO.	BIT MFGR.	BIT SIZE	BIT TYPE	JET SIZE 1	2	3	SERIAL NO. OF BIT	DEPTH OUT	FTGE.	HOURS RUN	WEIGHT 1000 LBS.	ROTARY R.P.M.	VERT. DEV.	PUMP PRESS.	PUMPS No.	Liner	SPM	MUD Wt.	Vis.	DULL CODE T	B	G
1RR	HTC	26"	OSC 3AJ	18	18	18	CC115	583	227	11	15	80/120		1200	½	7"	220	8.5	80	3	4	I
2	SMITH	17½"	DSJ	14	14	14	WE876	1183	600	11	10/15	60/120	½°	3100	½	7"	151	9.1	49	3	3	I
3	SMITH	17½"	DSJ	16	16	16	WE950	3137	1954	44½	8/15	120	½°	3200	½	7"	174	9.8	42	3	5	I
4	SMITH	17½"	DSJ	18	18	18	WD193	4530	1393	32½	10/20	120		3200	½	7"	174	10.2	44	3	4	I
5	SMITH	17½"	DSJ	20	20	20	WE196	4971	441	10½	10	120	1°	3200	½	7"	180	11.4	45	2	4	I
6	HTC	12"	X19	15	15	15	LM 123	6557	1586	32½	5/15	120	MIS RUN	3400	½	6½"	144	12.8	46	5	4	I
7	HTC	12"	X16	15	15	15	LM 154	7982	1425	32	10/20	120	4½°	3400	½	6½"	144	13.2	48	4	4	IN
8	HTC	12"	XV	15	15	15	LP 169	8560	578	23½	20/50	90/120	43°	3400	½	6½"	144	13.2	48	6	4	IN
9	HTC	12"	XV	15	15	15	LF 162	8930	370	19½	30/50	80/100	2½°	3400	½	6½"	144	13.2	48	4	3	IN
10	SEC	8½"	MAAL	11	11	11	4034	8935	164	4	20	50	-	3000	½	6½"	75	13.1	55	5	2	IN
COR 1	CHRIS	8 15/32	C22	-	-	-	P33446	8984	72	8½	12	70	-	550	½	6½"	40	13.2	50	2		
11	SEC	8½"	MAAL	11	11	11	4032	9003	19	1	5/15	75	-	3000	1	6½"	75	13.2	50	2	2	I
RR 11	SEC	8½"	MAAL	11	11	11	4032	9104	101	2	20	75	-	3000	1	6½"	75	13.2	50	2	2	I
COR KR1	CHRIS	8 15/32	C-22	-	-	-	P33446	9136	32	7	5/10	90/110	-	600	1	6½"	40	13.4	50	3		
RR 11	SEC	8½"	MAAL	11	11	11	4032	9138	2	½	5/10	60	2 3/4°	3000	1	6½"	75	13.4	52	2	2	I
COR RR1	CHRIS	8 15/32	C-22	-	-	-	P33446	9154	16	2½	10/22	10/110	-	750	1	6½"	44	13.4	52	5		
RR 11	SEC	8½"	MAAL	11	11	11	4032	9837	683	35	25/30	90	4 1/4°	3000	2	6½"	75	13.4	50	5	6	I
12	REED	8½"	FP51	11	11	11	434865	10738	901	83	35/40	75	4 3/4°	3000	2	6½"	75	13.3	50	2	7	I
13	REED	8½"	FP51	11	11	11	839047	11058	320	60½	35/40	80	-	3000	1	6½"	75	13.3	50	3	7	I
14	REED	8½"	FP51	10	10	11	434788	11115	57	9½	35	67	-	3100	1	6½"	67	13.3	57	1	1	I

VII MUD REPORT

MUD PROGRAM

Summary of Events*

The Mud Supplier for well 2/7-13 was Anchor Drilling Fluids A/S. The following is a summary of the significant events as reported by Anchor.

Mud control for the 36" hole

The surface hole was drilled to 576' and conductor casing was set without any problems.

Mud control for the 26" hole

Drilled 17-1/2" hole to 1183'. Opened hole to 26". Set casing at 1136' with no problems.

Mud control for the 17½" hole

Built new volume due to leaking valves. Had problems with leak off tests but finally able to drill ahead. Large volumes of mud were lost at the commencement of 17½" hole due to leaks and poor fitting valve.

Solids removal equipment not working well and Gumbo clays not inhibited sufficiently enough to prevent high increases in rheology.

Equipment on surface attended to and losses rectified. Drilled to casing depth and hole is in good shape. Logs and casing run with no problems.

Mud control for the 12" hole

The 13 3/8" casing shoe was drilled out using the mud left over from the last section which had been deluted and treated. The mud weight was initially 11.4 ppg. and progressively raised to 13.2 ppg. by 7300'. No hole problems were experienced and the mud was stable throughout the section. Some tight hole was experienced when pulling off bottom for trips and wiper trips down to about 8000', but once the hole had been tripped no further tight hole occured and there was virtually no fill at any time. Good drilling practices were observed in wiping the hole approximately every 5 hours and this undoubtedly contributed to the good hole condition.

Just prior to penetrating the Danian some mud was lost to the formation (~250 bbls) but this was cured by adding Mica at 10 sacks per hour + reducing the mud weight to 13.1 all round. No losses were noted during logging and the clean up trips prior to running 9 5/8" casing.

It is noted shortly after drilling out that the mudcleaner was not functioning efficiently and so a service engineer was requested. Once the equipment had been serviced and overhauled it's efficiency was much improved. During this section the centrifuge was also not operating properly for a time but after maintenance and attention by a service engineer it functioned well. 60 mesh screens were used on all 3 shakers without any problems. It would have been possible to use 80 mesh in one or two shakers, but I felt that increased screen breakage would not justify this.

Substantial dilution and treatment with thinners was necessary through most of the section in order to control the gel strengths within reasonable limits but no mud problems occurred. The water loss remained well below 10 cc's throughout and quite stable. Towards the end of the section an addition of ± 1 ppg. of Idflo was made and this reduced the water loss from about 9.5 to 6.5 cc's, where it remained. We did not feel that the addition of Soltex was required due to the generally good hole condition and nature of the cuttings on the shaker.

Mud control for the 8½" hole

The 9 5/8" shoe was drilled out using the mud from the previous section with a mud weight of 13.2 ppg. Idflo + Drispac Superlo were used for water loss control and proved to be cheap and very stable for a considerable length of time.

After coring and testing 2 intervals below the shoe drilling continued at 9136' with a 13.4 ppg. mud weight. No more coring was required and the section reached T.D. - 11115'.

The mud weight was very slowly reduced to about 13.2+ in order to improve penetration rate and was held there until about 30 ft. from T.D. when it was raised to 13.4 in order to reduce sloughing from a pressured shale which was penetrated at about 11000'. No losses were experienced until about 10425' when ±8 bbl. per hour seepage losses occurred. Mica was added at on increased rate but the seepage continued most of the way to T.D. The hole however remained full when the well was static. These losses necessitated the building of ±300 bbls. new mud.

Throughout the section the mud remained very stable and only minimum daily maintenance treatment was required. Just prior to reaching T.D. the water loss was reduced + viscosity increased with Drispac S.

The pressured shale at ±11000 ft. resulted in ±60' of fill when running back in the hole after a trip at 11058' and caused some difficulty in making the final connection. When the weight had been increased to 13.4 ppg. a wiper trip was made to the shoe and ±15 ft. of fill was encountered. At this time the seepage losses increased + the hole was remaining full when the well was static so it was decided not to further increase the mud weight. Before pulling out to run logs a 200 bbl. pill with ± 20 ppg. LCM was spotted in the open hole. No hole problems occurred during the logging program and the hole only required ±15 bbls. to keep it full.

CONCLUSIONS

(MUD SUMMARY - EXPLORATION WELL 2/7-13)

The 36" and 26" holes were drilled as programmed using a minimum amount of spud mud. No problems were encountered with the casing run normally in both cases.

Three cement squeezes were performed at the 20" casing shoe to strengthen the formation at that point. In each instance the Drispac mud was displaced w/sea water for the leak off test. This resulted in some loss of fluid on each displacement and with each squeeze job. Minor losses to the hole continued during drilling of the entire 17½" section. In addition, a considerable amount of mud was lost through leaking dump valves in the early stages of drilling. It was necessary to increase mud weight to 11.7 ppg which had not been anticipated. This required using a better, more costly fluid than had been programmed for this hole section. Cost/foot amounted to $ 15.31 which was higher than expected. Casing was run w/no problems, but channelling on the cement job resulted in the dumping of 875 barrels of contaminated mud which otherwise would have been used to drill out the 12" hole. Mud losses must be controlled.

Again excessive mud losses were experienced in the 12" intermediate section. However, most was due to faulty solids control equipment. On future wells more attention should be given to the proper maintenance of this valuable equipment.

Large amounts of mud were lost due to plugged mud cleaner cones and over blender and torn shaker screens. There are only two Milchem shale shakers on this rig with no top shakers. This is inadequate for good solids control in drilling Gumbo shale formations. The usual benefits of the centrifuge were not consistently realized because they worked only occasionally. More severe gumbo than usual was encountered in this hole section, necessitating large volumes of dilution. At $ 22.87, the cost per foot bears this out in heavy barite and chemical comsumption. An estimated 8900 barrels of fluid were built throughout this section which is abnormally high. Nevertheless, the hole was drilled, logged and cased in 11 days which is better than average.

The mud program in the 8½" hole was typical of an Ekofisk area well with the exception that considerable problems with loss of circulation were the rule throughout the section. Approximately 700 barrels of mud were lost. In addition to the expense of rebuilding this volume, the cost for LCM was quite high, more than 18% of the total for the section. Still the cost per foot was commendably low at $ 15.52 considering the delicate mud weight balance that was required. Some loss of barite occurred through unchecked venting. This is a potentially very costly loss which must be constantly watched and corrected.

The testing procedure on 2/7-13 went normally as far as the mud program was concerned. Of note during this phase were two occasions when mud was lost to the formation after unseating the RTTS packer. A total of ~1000 barrels were lost. This happens regularly in limestone formation in this area following acidization and must be expected.

In summary, fluid properties were generelly good and manageable throughout this well. Some viscosity problems did develop in the 12" hole but were not persistent and can be controlled with more attention to solids control. The cost of that section contributed most to making the total mud bill slightly higher than average, compared to our development wells.

ANCHOR DRILLING FLUIDS AS

OSLO – STAVANGER

Drilling Fluid & Material Consumption Report

MUD SYSTEM: SPUD MUD + DRISPAC SEAWATER

WELL NAME: 2/7-13 AREA: NORTH SEA

OPERATOR: PHILLIPS PETROLEUM RIG: DYVI BETA

ENGINEERS: ASBJØRNSEN, BLANCHARD, CLEMENT, ÅRSETH, VIGEN

DAY	DATE	ESTIMATED DAILY MUD VOLUMES: LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BULK MATERIALS: BARITE	BENTONITE	SACK MATERIALS: CAUSTIC SODA	THINNERS: LIGNO-SULFONATE	LIGNITE	DESCO	POLYMERS: DRISPAC REGULAR	DRISPAC SUPERLO	OTHERS: LIME	SODA ASH	FLOSAL	MICA
	31.1															
2	1.2			750		165	6						6	6		
3	2.		400	400				END OF 36"/30" SECTION								
4	3.															
5	4.		461	700		73	9						16		70	
6	5.		1260	421		34		END OF 26"/20" SECTION					8		88	
7	6. *		150	1320			14				42			3		
8	7.		20	260			9				24			1		
9	8.		100	350			6				14			3		
10	9.		275		NO MATERIALS USED											
11	10.	67	110	450			23				41	2			20	57
12	11.		25	350	100	30	31				19	7				13
13	12.			485			39			34	3	17				6
14	13.		176	250	1345		36	8		36	3	17				6
	FORWARD															
	ESTIMATED TOTALS	67	2977	5736	1445	302	173	8		70	146	43	30	13	178	82

REMARKS: * Mixed new Drispac mud.

ANCHOR DRILLING FLUIDS AS

OSLO — STAVANGER

Drilling Fluid & Material Consumption Report

WELL NAME 2/7-13 AREA NORTH SEA

OPERATOR PHILLIPS PETROLEUM RIG DYVI BETA

MUD SYSTEM DRISPAC/SEAWATER ENGINEERS ASBJØRNSEN, BLANCHARD, CLEMENT, ÅRSETH, VIGEN

Day No	DATE 1979	ESTIMATED DAILY MUD VOLUMES: LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BULK MATERIALS: BARITE	BENTONITE	SACK MATERIALS: CAUSTIC SODA	IDFLO	MATERIALS ADDED TO CONTROL PROPERTIES — THINNERS: LIGNO SULFONATE	LIGNITE	DESCO	POLYMERS: DRISPAC REGULAR	DRISPAC SUPERLO	OTHERS: LIME	SODA ASH	FLOSAL	MICA	AL. STEARATE
15	14.		111	319	508		39		15		58		6					
16	15.		80	43	2536		12		8		6		1					
17	16.	100															1	
18	17.	90		332			6		14			END OF 17½"/13-3/8" SECTION						
19	18.		726	100			10					20						
20	19.		400	479	824		6		3		22	20			3			
21	20.		349	100	1763		11		35		48		16					
22	21.		132	280	1102		21		8		49	9	10				29	
23	22.		232	75	330		19		4		51		10				18	
24	23.		300	450	2203		25		46		19	5	6				22	
25	24.		290	276	749		25		7		29		9				19	
26	25.		136	250	1322		32		47		64		11				24	
27	26.		80	265	704		8	35	14		52		10				14	
28	27.	250	50	215	902		22		33		25		5				114	
FORWARD		67	2977	5736	1445	302	173		8		70	146	43	30	13	178	82	1
ESTIMATED TOTALS		507	5863	8920	14388	302	409	35	242		493	200	127	30	16	178	322	1

REMARKS:

ANCHOR DRILLING FLUIDS AS

OSLO – STAVANGER

Drilling Fluid & Material Consumption Report

WELL NAME 2/7-13 AREA NORTH SEA

OPERATOR PHILLIPS PETROLEUM RIG DYVI BETA

MUD SYSTEM DRISPAC/SEAWATER ENGINEERS ASBJØRNSEN, BLANCHARD, CLEMENT, ÅRSETH, VIGEN

Day No	DATE 1979	ESTIMATED DAILY MUD VOLUMES: LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BULK MATERIALS: BARITE	BENTONITE	SACK MATERIALS: CAUSTIC SODA	IDFLO	THINNERS: LIGNOSULFONATE	LIGNITE	DESCO	POLYMERS: DRISPAC REGULAR	DRISPAC SUPERLO	OTHERS: LIME	SODA ASH	FLOSAL	MICA	AL. STEARATE	BICARBONATE	SOLTEX
29	28.		10		242	** 28	(-7)		(-7)		(-9)	(-7)	(-24)		(-2)	** 4	6		** 2	
30	1.3		20		792		3		2		2						9			
31	2.	80	485	95		* 37	10		53		9	END OF 12"/9-5/8" SECTION					20			
32	3.		160																	40
33	4.			100	550		6	40												
34	5.			7	352		6	40					1				20			
35	6.		14						16											
36	7.			1	110								4							
37	8.			53	704		5					4								
38	9.			3			4					3								
39	10.																			
40	11.		62																	
41	12.		14		330		2					4					6			
42	13.		21				5													
FORWARD		507	5863	8920	14388	302	409	35	242		493	200	127	30	16	178	322	1		
ESTIMATED TOTALS		587	6649	9179	17468	367	443	115	306		495	204	108	30	14	182	383	1	2	40

REMARKS: ** Stock check - Inventory correction + cost addition. * Bentonite used in cement slurry.

(-) Stock check - Inventory correction + cost deduction.

ANCHOR DRILLING FLUIDS AS

OSLO — STAVANGER

Drilling Fluid & Material Consumption Report

WELL NAME 2/7-13 AREA NORTH SEA

OPERATOR PHILLIPS PETROLEUM RIG DYVI BETA

MUD SYSTEM SEAWATER/DRISPAC

ENGINEERS ASBJØRNSEN, BLANCHARD, CLEMENT, ÅRSETH, VIGEN

Day No.	DATE 1979	ESTIMATED DAILY MUD VOLUMES: LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BULK MATERIALS: BARITE	BENTONITE	SACK MATERIALS: CAUSTIC SODA	IDFLO	MATERIALS ADDED TO CONTROL PROPERTIES: THINNERS: LIGNO-SULFONATE	LIGNITE	DESCO	POLYMERS: DRISPAC REGULAR	DRISPAC SUPERLO	OTHERS: LIME	SODA ASH	FLOSAL	MICA	AL. STEARATE	BICARBONATE	SOLTEX
43	14.			1			1		2		1									
44	15.		31																	
45	16.	20	36				4						3				12			
46	17.		64	35	66								6				15			
47	18.			65			1		9			1					19			
48	19.		72	20			3		12			3					19			
49	20.		40	52			9									8	12			
50	21.	150	20	52			8										62			
51	22.	112	NIL	40	550*		8	20	10				2				48			
52	23.	14	NIL	NIL																
53	24.	53	40	275	528		12	20	12			4		3			32			
54	25.	NIL	NIL	21										13						
55	26.	10	26	72					16				4	4		8	23			
56	27.	87	10	10	88								6			1	27			
	FORWARD	587	6649	9184	17468	367	443	115	306		495	204	108	30	14	182	383	1	2	40
	ESTIMATED TOTALS	1033	6988	9822	18145	367	489	155	367		496	212	129	50	14	199	652	1	2	40

REMARKS: * Barite not used - settled in tanks? - Inventory correction.

ANCHOR DRILLING FLUIDS AS

OSLO – STAVANGER

Drilling Fluid & Material Consumption Report

WELL NAME 2/7-13 AREA NORTH SEA

OPERATOR PHILLIPS PETROLEUM RIG. DYVI BETA

MUD SYSTEM DRISPAC/FRESHWATER

ENGINEERS ASBJØRNSEN, BLANCHARD, CLEMENT, ÅRSETH, VIGEN

Day No.	DATE 1979	ESTIMATED DAILY MUD VOLUMES: LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BULK MATERIALS: BARITE	BENTONITE	SACK MATERIALS: CAUSTIC SODA	IDFLO	THINNERS: LIGNO-SULFONATE	LIGNITE	DESCO	POLYMERS: DRISPAC REGULAR	DRISPAC SUPERLO	CMC	OTHERS: LIME	SODA ASH	PLOSAL	MICA	NUT	KWIK SEAL	AL. STEARATE	BICARBONATE	SOLTEX
57	28.	25	35	15														35	17	25			
58	29.	12	NIL	NIL		+13		+10	*11			+1	10/7*			14*			36*		2*	1*	8*
59	30.	3	45	NIL																			
60	31.		108			(120)	(80)				(100)				(50)		(50)						(170)
61	1.4		20			(40)			38	(40)				(90)				(25)	(9)			10	(30)
62	2.								4				3										
63	3.																						
64	4.		100		88			<60>					1										<60>
65	5.											1											
66	6.	456		640	990		6					10	1										
67	7.	71		20	220							5											
68	8.											3											
69	9.											1											
70	10.	448		820	990		5					26											
FORWARD		1033	6988	9822	18145	367	489	155	367		496	212	129		50	14	199	652			1	2	40
ESTIMATED TOTALS		2048	7296	11317	20235	514	580	215	420	40	596	257	151	90	100	28	249	712	62	25	3	13	308

REMARKS: * Material not used - Lost, broken & water-damaged sacks - not charged for. ( ) = Materials back loaded.
+ = Inventory correction + cost deduction - 13 sxs Bentonite made up of 12 from report 29 which should not have been charged for + further correction today. Drispac Superlo previously undercharged due to stock check error on report 29 + excessively

ANCHOR DRILLING FLUIDS AS

OSLO — STAVANGER

Drilling Fluid & Material Consumption Report

WELL NAME 2/7-13 AREA NORTH SEA

OPERATOR PHILLIPS PETROLEUM RIG DYVI BETA

MUD SYSTEM DRISPAC/FRESHWATER ENGINEERS ASBJØRNSEN, BLANCHARD, CLEMENT, ÅRSETH, VIGEN

Day No	DATE 1979	ESTIMATED DAILY MUD VOLUMES: LOSSES SUB SURFACE	LOSSES SURFACE	VOLUME MUD BUILT	BULK MATERIALS: BARITE	BENTONITE	SACK MATERIALS: CAUSTIC SODA	IDFLO	THINNERS: LIGNO-SULFONATE	LIGNITE	DESCO	POLYMERS: DRISPAC REGULAR	DRISPAC SUPERLO	CMC	OTHERS: LIME	SODA ASH	FLOSAL	MICA	NUT	KWIK SEAL	AL. STEARATE	BICARBONATE	SOLTEX
71	11.			5	176																		
72	12.					20											10						
73	13.				1408																		
74	14.	50	73														18						
75	15.				66											1							
76	16.																13						
77	17.	56	90																				
78	18.																						
79	19.																						
80	20.																						
81	21.																						
82	22.																						
83	23.																						
84	24.																						
FORWARD		2048	7296	11317	20235	514	580	215	420	40	596	257	151	90	100	28	249	712	62	25	3	13	308
ESTIMATED TOTALS		2154	7459	11322	21885	534	580	215	420	40	596	257	151	90	100	29	290	712	62	25	3	13	308

REMARKS: * Final Consumption Report.

ANCHOR DRILLING FLUIDS AS
OSLO – STAVANGER

Drilling Mud Properties Record

WELL NAME 2/7-13 AREA NORTH SEA

OPERATOR PHILLIPS PETROLEUM RIG. DYVI BETA

MUD SYSTEM SPUD MUD/DRISPAC SEAWATER

ENGINEERS ASBJØRNSEN, BLANCHARD, CLEMENT, ÅRSETH, VIGEN

Day No.	DATE 1979	DEPTH FEET ☒ METERS ☐	MUD PROPERTIES: DENSITY PPG ☒ SG ☐	VISCOSITY: sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P cc's	pH	Filtrate Analysis: Cl ppm x1000	Ca ++ ppm	Pf/Mf	RETORT: % OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
1	31.1																							
2	1.2	413	8.5	210	61	9	94	18/62	NC			10.0												Spud mud
3	2.	576	8.5	60	29	9	40	14/22	NC			10.0												Spud mud
4	3.	576	8.6	50	20	8	25	17/21	NC			10.0												Spud mud
5	4.	1183	9.1	49	20	3	34	9/15				10.0												
6	5.	1183	9.0	34	15	8	13	7/12				9.5												
7	6.	1136	8.5	53	27	18	17	2/3	15.0	TR		10.0	25	450	.4/.7		2					.87	.13	Drispac Seawater
8	7.	1136	8.6	54	27	17	20	2/4	8.0			9.5	25	520	.35/.55		2					.52	1.45	
9	8.	1136	8.6	54	27	19	20	2/4	8.5			9.5	25	550	.52/1.45		2					.52	1.45	
10	9.	1130	8.7	44	18	13	9	1/2	8.0			9.5	23	480	.67/.22		2.5					.67	.22	
11	10.	2156	9.9	39	20	15	10	2/6	6.0			9.5	23	480	.2/.4		10	1	10			.68	.35	
12	11.	2900	9.8	42	20	13	13	2/20	7.5			9.0	27	280	.15/.30		12.5	1.5	12.5			.58	.68	
13	12.	3519	10.0	40	19	13	12	3/27	8.5	1/32		9.8	25	250	.2/.35		13	1	15			.60	.51	
14	13.	4295	10.2	44	25	15	19	4/32	8.0	1/32		10.0	26	200	.26/.40		14	1	17.5			.52	.135	

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO – STAVANGER

Drilling Mud Properties Record

WELL NAME 2/7-13 AREA NORTH SEA
OPERATOR PHILLIPS PETROLEUM RIG. DYVI BETA
MUD SYSTEM SEAWATER/DRISPAC
ENGINEERS ASBJØRNSEN, BLANCHARD, CLEMENT, ÅRSETH, VIGEN

Day No.	DATE 1979	DEPTH FEET ☐ METERS ☐	MUD PROPERTIES: DENSITY PPG ☒ SG ☐	VISCOSITY: sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32nds	H.T.H.P. cc's	Filtrate Analysis: pH	Cl⁻ ppm x1000	Ca ++ ppm	Pf	RETORT: % OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
15	14.	4827	11.4	45	24	14	20	9/34	8.5	1/32		10.0	25	150	.3/.5	19		18			.5	1.5	Logging.
16	15.	4971	11.7	45	31	21	29	8/35	9.0	1/32		10.0	25	100	.2/.4	20	1	20			.61	.91	Circ. hole before casing.
17	16.	4971	11.6+	48	30	18	24	8/32	9.5	1		9.0	23	280	TR	20	1	25			.51	1.75	Run 13-3/8" casing.
18	17.	4971	11.4	42	27	18	18	8/30	9.2	1		10.1	23	200	.26/.56	18.5	1/4	22.5			.58	.97	Cement 13-3/8" casing.
19	18.	4971	11.4	41	22.5	16	13	4/18	9.0	1		9.8	23	240	.18/.42	18.0	Gd. Tr.	20.0			.63	.57	Nipple up bops, cleaned traps.
20	19.	4980	11.4	51	29	20	18	6/22	12.2	3		11.4	25	200	.60/.90	7.5	1/4	13.75			.61	.86	Drill out 13-3/8" shoe
21	20.	5707	12.0	41	29	22	14	2+/22	5.6	1+		9.8	27.5	160	.20/.63		Gd. Tr.	15.0			.68	.51	Drilling ahead.
22	21.	6557	12.8	46	31.5	22	19	6/33	5.7	2		9.2	28	144	.13/.57		Gd. Tr.	18.75			.69	.63	Drilling ahead.
23	22.	7133	12.9	47	22	14	16	8+/36	6.4	2		9.6	28	140	.30/.84		Gd. Tr.	22.5			.55	.97	Trip o.k. Drilling ahead.
24	23.	7760	13.2	48	22	14	16	8/38	6.6	2		9.8	28	140	.28/.81		Gd. Tr.	21.25			.55	.97	Drilling ahead. No problems.
25	24.	8130	13.2	48	24.5	13	23	9/39	7.8	2		9.8	27.5	80	.15/.68		Gd. Tr.	20.0			.44	2.30	Drilling + trip - o.k.
26	25.	8560	13.2	48	26.5	13	27	9/41	8.0	2		10.5	27.5	60	.40/1.30	19.6	Gd. Tr.	19.0			.40	3.20	Drilling ahead. No problems.
27	26.	8798	13.2	46	24.5	13	23	8/36	6.8	2		9.4	26	88	.10/.38	17.8	1/4	18.0			.44	2.30	Drilling + good trip.
28	27.	8930	13.1+	45	22	12	20	7/31	6.8	2		10.2	26	80	.20/1.0	18.0	1/4	19.0			.46	1.83	Drilling lost 250 bbls. to hole.

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Mud Properties Record

MUD SYSTEM SEAWATER/DRISPAC

WELL NAME 2/7-13 AREA NORTH SEA

OPERATOR PHILLIPS PETROLEUM RIG. DYVI BETA

ENGINEERS ASBJØRNSEN, BLANCHARD, CLEMENT, ÅRSETH, VIGEN

Day No.	DATE 1979	DEPTH FEET ☒ METERS ☐	MUD PROPERTIES: DENSITY PPG ☒ SG ☐	VISCOSITY: sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	@250°F T.H.P. cc's	pH	Filtrate Analysis: Cl⁻ ppm x1000	Ca ++ ppm	Pf /Mf	RETORT: % OIL	% SOLIDS (Corr)	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
29	28.	8930	13.1+	45	24.5	15	19	9/34	7.1	2		9.7	26.5	80	.15/.80	18.5	1/4	19.0			.52	1.29	Logging + clean up trip.
30	1.3.	8930	13.1+	50	25.5	13	25	9/40	7.6	2		9.2	26.5	100	.15/.70	18.5	1/4	19.0			.42	2.70	Logging + cond. for casing
31	2.	8930	13.1	49	18.5	13	11	3/26	8.1	2		9.5	24	80	.18/.80	18.0	1/4	18.0					Run 9-5/8" casing + cement.
32	3.	8930	13.1	55	23	16	13	6/32	9.0	2		9.5	24	100	.15/.8	18.0	TR	18.0			.63	.50	
33	4.	8930	13.1	54	20	15	9	4/29	6.0	1		10.0	24	100	.5/1.3	18.0	TR	18.0			.7	.3	Nipple up 8½" hole.
34	5.	8933	13.2	48	22	17	9	4/39	6.5	1/32	13	11.0	24	240	.8/2.0	18.0	TR	18.0			.67	.43	Fish for junk
35	6.	8937	13.2	53	17	13	7	2/18	6.5	1	13.5	10.0	23	160	.45/1.4	18.0	TR	18.0			.65	.37	Run reverse Tool for junk.
36	7.	8940	13.2	52	17	14	6	2/20	6.3	1	10.0	10.5	23	160	.5/1.3	18.0	TR	18.0			.76	.17	Fishing for junk.
37	8.	8973	13.2	50	15	10	10	2/13	6.0	1	16	10.5	22	160	.5/1.2	19.0	TR	15.0			.58	.54	RIH Corebarrel.
38	9.	9004	13.2	50	15	12	6	2/11	5.5	1	15.8	10.8	22	120	.8/1.5	19.0	TR	15.0			.73	.19	Core + prepare to that.
39	10.	9004	13.2+	47	13	10	6	4/12	5.8	1	17	10.8	22	120	.55/1.8	19.0	TR	15.0			.7	.2	Run RTTS tool.
40	11.	9078	13.1	47	18	14	8	2/24	5.5	1	17	10.8	22	160	.6/1.6	19.0	TR	15.0			.7	.28	Test RIH with bit.
41	12	9118	13.3+	50	21	16	9	2/14	5.3	1	17	10.7	22	100	.75/1.7TR	20.0	TR	15.0			.68	.30	Coring.
42	13.	9136	13.3+	52	18	13	9	4/25	5.3	1	15	10.8	22	80	.7/1.5 TR	20.0	TR	15.0			.68	.30	Prepare to test.

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Mud Properties Record

WELL NAME 2/7-13 AREA NORTH SEA

OPERATOR PHILLIPS PETROLEUM RIG: DYVI BETA

MUD SYSTEM SEAWATER/DRISPAC ENGINEERS ASBJØRNSEN, BLANCHARD, CLEMENT, ÅRSETH, VIGEN

Day No	DATE 1979	DEPTH FEET ☒ METERS ☐	MUD PROPERTIES: DENSITY PPG ☐ SG ☐	VISCOSITY: sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	pH	Filtrate Analysis: Cl⁻ ppm x1000	Ca ++ ppm	Pf	RETORT: % OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
43	14.	9136	13.4	53	17	13	7	4/15	5.0	1/32	14	11.0	22	80	1.0/1.9	20	TR	15			.71	.23	Testing.
44	15.	9147	13.3+	51	17	13	8	4/31	5.4	1/32	16	10.0	27	120	.5/1.5	19	TR	15			.69	.28	Run in hole with condition mud.
45	16.	9154	13.4	48	16	12	7	3/17	5.0	1/32	16	10.9	24	120	.8/1.6	19	TR	12.5			.7	.24	Core.
46	17.	9544	13.3+	48	23	17	12	2+/23	4.9	1	16	10.5	23.5	60	.35/1.30	15.6	TR	13.75			.66	.475	Drl. 8½" hole.
47	18.	9837	13.3+	45	18.5	14	9	4/20	4.9	1	16	10.0	23	80	.17/.88	16.2	TR	13.75			.68	.33	Drl. 8½" hole. Trip.
48	19.	10084	13.3+	51	24	18	12	5/28	4.6	1	15	9.8	24	80	.08/.61	17.2	TR	13.75			.67	.44	For N.B. drill 8½" hole.
49	20.	10340	13.2+	47	20	15	10	4/21	5.2	1	16.2	10.1	23	40	.23/.99	17.3	TR	13.75			.67	.375	Drl. 8½" hole.
50	21.	10507	13.2+	44	19	14	10	3+/23	5.7	1	17.2	10.4	23.5	32	.29/1.18	17.2	TR	12.5			.67	.48	Drl. 8½" hole. Seepage losses.
51	22.	10735	13.2+	51	23.5	17	13	6/30	5.3	1	16.2	10.5	22	24	.37/1.29	18.0	TR	12.5			.64	.55	Drl. 8½" hole. Seepage losses.
52	23.	10738	13.2+	50	23.5	17	13	6/29	5.4	1	16.6	10.4	22	24	.31/1.20	18.0	TR	12.5			.64	.55	Trip for N.B. test hops.
53	24.	10865	13.2+	46	22.5	16	13	5/27	5.6	1	17.0	10.8	23	24	.66/1.58	18.3	TR	12.5			.63	.58	Hole o.k. drill 8½" hole.
54	25.	10974	13.2+	44	20	16	8	2+/20	5.8	1+	17.2	11.1	19	12	.68/1.53	18.2	TR	12.5			.73	.26	Drl. 8½" hole.
55	26.	11058	13.2+	43	20	16	8	3/22	5.8	1	16.8	11.0	19	24	.46/1.28	18.1	TR	12.5			.73	.26	Drl. 8½" hole.
56	27.	11115	13.4	53	22.5	17	11	6/33	5.2	1	15.4	10.5	19	48	.25/.70	18.8	TR	15.0			.68	.40	Drl. 8½" to T.D. Wiper trip.

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO – STAVANGER

Drilling Mud Properties Record

MUD SYSTEM DRISPAC/FRESHWATER

WELL NAME 2/7-13 AREA NORTH SEA

OPERATOR PHILLIPS PETROLEUM RIG. DYVI BETA

ENGINEERS ASBJØRNSEN, BLANCHARD, CLEMENT, ÅRSETH, VIGEN

Day No.	DATE 1979	DEPTH FEET ✱ METERS □	MUD PROPERTIES: DENSITY PPG ✱ SG □	VISCOSITY: sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	GELS 0/10	FLUID LOSS 30 Min cc's	CAKE 32 nds	H.T.H.P. cc's	pH	Cl⁻ ppm ✱1000	Filtrate Analysis: Total Hardness as Ca ++ ppm ✱	Pf /Mf	RETORT: % OIL	% SOLIDS (corr)	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
57	28.	11115	13.4	54	25	19	12	7/35	5.2	1	15.6	10.4	19	48	.23/	65	18.8	TR	15.0			.69	.415	Circ. hole clean, P.O.O.H. log.
58	29.	11115	13.4	54	25	19	12	7/35	5.3	1	16.0	10.4	19	48	.22/	63	18.8	TR	15.0			.69	.415	Logging.
59	30.	11115	13.4	54	25	19	12	7/35	5.3	1	16.0	10.4	19	48	.22/	63	18.8	TR	15.0			.69	.415	Logging and trip to cond. hole.
60	31.	11115	13.4	67	27	19	16	15/51	6.0	1	18.0	9.0	19	*120	-/.5		20.2	TR	15.0			.62	.74	Cement liner. Dump cont. mud.
61	1.4	11095	13.4	50	17	13	8	5/21	7.1	1	19.0	10.7	19	*160	.62/	.62	20	TR	15.0			.56	.70	Drill cement in liner.
62	2.	11095	13.4	58	18	13	9	4/27	6.4	1	22.0	11.0	19	*200	.7/1	.7	21	TR	15.0			.68	.32	Run CBL + Gyro.
63	3.	11095	13.4	55	20	15	10	3/21	6.2	1	22.0	10.9	19	*160	.6/1	.6	21	TR	15.0			.67	.38	Perforate.
64	4.	11095	13.4	47	13	10	6	2/7	6.5	1	22.5	10.7	15	*80	.5/1	.5	20	TR	15.0			.7	.2	Run DST.
65	5.	11095	13.4	47	20	16	9	2/13	6.3	1	22.0	10.7	15	*80	.5/1	.5	20	TR	15.0			.71	.31	Acidize+Flow Well.
66	6.	11095	13.2	48	35	25	20	3/6	8.5	1	24.0	10.1	9	*200	.3/.9		17	TR	4			.63	.9	Mud losses when packer released.
67	7.	11095	12.6	45	16	13	6	2/12	6.3	1	22.0	9.8	11	*120	.4/1	.0	15	TR	10			.74	.19	Build mud- run squeeze job.
68	8.	11095	12.6	48	17	13	6	2/4	6.3	1	24.0	9.8	10	*120	.35/	1.0	15	TR	10			.7	.24	Perforate-Acidize.
69	9.	11095	12.6	48	16	13	5	2/4	6.3	1	22.0	9.8	10	120	.3/1	.0	15	TR	10			.78	.13	Flow well - shut in well.
70	10.	11095	12.7	51	16	13	6	2/3	7.0	1	-	110.0	15	80	.8/1	.3	15	TR	5			-	-	Mix mud

REMARKS

ANCHOR DRILLING FLUIDS AS
OSLO — STAVANGER

Drilling Mud Properties Record

WELL NAME 2/7-13 AREA NORTH SEA

OPERATOR PHILLIPS PETROLEUM RIG. DYVI BETA

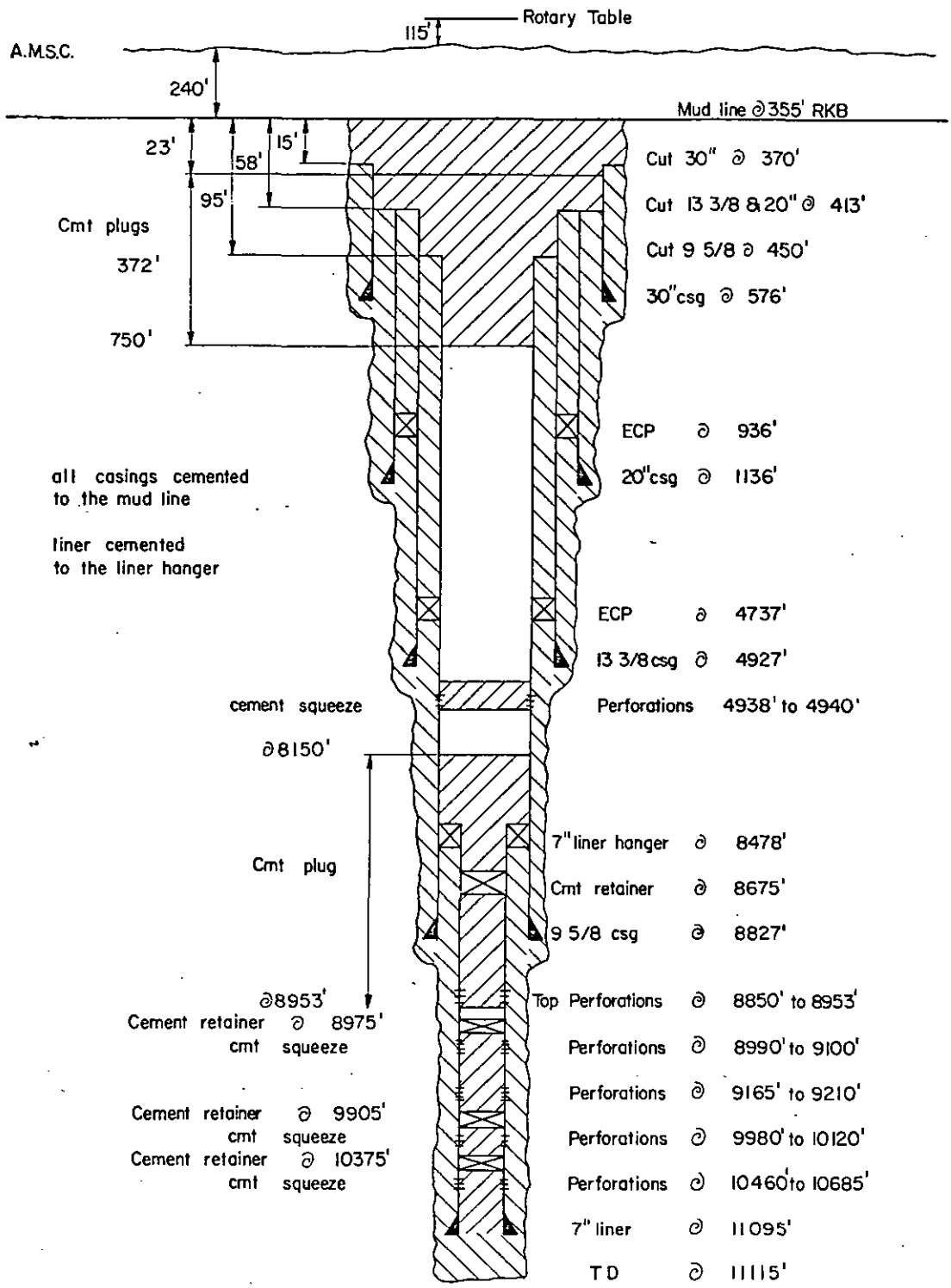
MUD SYSTEM DRISPAC/FRESHWATER ENGINEERS ASBJØRNSEN, BLANCHARD, CLEMENT, ÅRSETH, VIGEN

Day No.	DATE 1979	DEPTH FEET (*) METERS (□)	MUD PROPERTIES: DENSITY PPG (*) SG (□)	VISCOSITY: sec/qt	A.V. cps	P.V. cps	Y.P. #/100 sq.ft.	GELS: 0/10	FLUID LOSS 30 Min cc's	CAKE 32nds	H.T.H.P. cc's	pH	Filtrate Analysis: Cl⁻ ppm x1000	Ca⁺⁺ ppm	Pf /Mf	RETORT: % OIL	% SOLIDS	% SAND	BENTONITE #/BBL	POTASH #/BBL	POLYMER #/BBL	"N"	"K"	OPERATION REMARKS
71	11.	11095	13.2	45	15	12	5	2/4	6.5	1	25	9.0	18	100	.3/.9	17	TR	7.5			.73	.18	Mixmud - Run squeeze job.
72	12.	11095	13.2	47	14	10	8	2/5	7.0	1	27	9.2	18	80	.25/.9	17	TR	9.0			.61	.42	Perforate-Run test string.
73	13.	11095	13.2+	48	18	15	5	2/4	7.1	1	26	9.0	15	150	.25/.9	17	TR	9.0			.69	.28	Test - Shut in well. Play of perf.
74	14.	11095	13.2+	48	17	13	8	2/4	6.5	1	26	9.0	15	150	.25/.9	17	TR	9.0			.69	.28	Squeeze job.
75	15.	11095	13.2	47	15	12	5	2/4	6.3	1	27	9.0	15	120	.25/.9	17	TR	9.0			.76	.15	Perforate - Run test string.
76	16.	11095	13.2	46	20	16	7	2/7	6.5	1	27	9.0	15	120	.2/.9	17	TR	9.0			.76	.19	Shut in well for 18 hours.
77	17.	11095	13.2	47	17	14	6	3/6	6.5	1	-	9.0	15	100	.2/.9	17	TR	7.5			.76	.12	Squeeze perforations.
78	18.																							Plug well.
79	19.																							
80	20.																							

REMARKS

VIII. ABANDONMENT DIAGRAM

2/7-13 Abandonment



L.M. 26-10-79