D010 03 BD/
NR01605136

WA•2/4-04•11(4) = Deleted from open
WELL RECOMPLETION REPORT
PPC Duplicate

File

04 836

FROM:
PHILLIPS PETROLEUM COMPANY-NORWAY
P.O.BOX 72
4001 STAVANGER, NORWAY

TO

WELL RECOMPLETION REPORT

WELL 2/4-4AX

2/4-05

Form 7956 2-62

INTERNATIONAL DEPARTMENT

INDEX – INDIVIDUAL WELL RECORD

COUNTRY NORWAY LEASE 2/4 WELL NO. 4AX

FIELD EKOFISK DATE COMPLETED February 11, 1972

- [x] 1. Index, Form 7956
- [x] 2. Proposal and Authorization to Drill
- [ ] 3. Location Plat
- [x] 4. Reports to Governmental Agencies
- [ ] 5. Well Graph on Correlation Log
- [ ] 6. Individual Well Completion Record, Form 2266
- [x] 7. Perforating & Squeeze Record, Form 822
- [ ] 8. Exploration Record, Form 883
- [ ] 9. Hydrocarbon Mud Log
- [ ] 10. Well Logs –
- [ ] Logs –
- [ ] Logs –
- [ ] Logs –
- [ ] Logs –
- [ ] Logs –
- [ ] 11. Drill Stem Tests
- [ ] 12. Columnar Core Record, Form 2069
- [ ] 13. Core Analysis
- [x] 14. Individual Well Production Tests Previously submitted
- [ ] 15. Bottom Hole Pressure and Productivity Index Tests, Form 884
- [ ] 16. Water Analysis
- [ ] 17. Research Reports
- [ ] 18. Drilling Time and Bit Records
- [ ] 19. Hole Deviation Record
- [ ] 20. Mud Program and Record
- [ ] 21. Geological Summary
- [x] 22. Daily Report Detailed, Form 911
- [ ] 23. Proposal to Change Individual Well Status or to Repair or Replace Equipment, Form 902
- [ ] 24. Final Report Individual Well Status, Form 903
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]

PHILLIPS PETROLEUM COMPANY - NORWAY
STAVANGER

Well 2/4-4AX

WORK OVER PROCEDURE

1. Move the rig to the 2/4-4AX location. A spar buoy has been set approximately 60' south west of the subsea tree. With the spar buoy in the drill slot, confirm the correct location using Decca surveyors (Theodolite and Hydro dist).

2. Run out anchors. Have Decca surveyors assist anchor handling boat on anchors near flow lines.

3. Pump barge to working draft. Have divers locate the subsea tree, move the barge to the final position. Caution: As the top of the subsea tree is 35-40' above the sea floor care must be taken when searching for the tree with the diving bell.

4. Rig up the cellar deck, run the guide lines and the U.T.V. lines.

5. Remove one male junction box half from the 350' Payne hose bundle and replace with a female junction box. Note how the individual hoses are connected to the male junction box, and connect the hoses to the female junction box following the same pattern. Record and report how the individual hoses are connected.

6. Have the Gulftide bleed off all pressure from both the 2/4-4AX high and low pressure control systems at Koomey unit. Have divers disconnect the Payne hose bundle from the subsea tree. Connect the 350' hose from the Ocean Viking (female half) to the Gulftide hose.

7. Remove the junction box from the surface end of the 350' hose. Tag the individual hoses with the function number when disconnecting. Have the Gulftide operate the Koomey unit to pump through the individual hoses as the proper controls are operated, observe the individual hoses for flow and record the results. Have the divers disconnect the 350' hose from Gulftide hose, and retrieve. Remove the female junction box and install the male junction box with the hoses connected in the proper order.

8. Have the divers bleed pressure from below the corrosion cap. (The corrosion cap has needle valves for this purpose.) Back out the hold down screws on the corrosion cap.

9. Pull the corrosion cap with an air tugger.

10. Run the 5" riser with the tree connector and safety joint. Test each joint to 6000 psi with the Gator Hawk. Displace the riser with dyed water before latching. Latch riser and have divers make up the hold down screws.

11. Run the 350' Payne hose bundle and connect it to the tree, connect a separate control hose to the swab valve and the open needle valve.

12. Install the Otis test tree on the riser. Fill the riser, test tree and all surface lines with dyed water. Pressure test the riser and test tree with 5000 psi against the closed swab valve on the subsea tree.

    NOTE: The tree valves should now be as follows. Swab valve - closed, Hydraulic mater - closed, by pass - open, service wing - closed, production master-closed, hydraulic annulus - closed, manual annulus - closed, manual master - open, down hole safety - closed.

13. Bleed pressure on the riser to 4200 psi and open the swab valve. Record any change in pressure. Pressure test the subsea trre with 5000 psi. Have the divers inspect the tree during the pressure test. A small leak from a grease fitting in the Service Wing Valve may affect this test.

14. Bleed pressure in riser to 3500 psi and open the hydraulic master valve. Note any change in pressure. Have divers carefully inspect the subsea tree for leaks. Pay special attention to the Hydraulic master valve, manual master valve,three connector, and manual annulus valve. Carefully examine the manual annulus valve and flanges connecting it to tree for damage or indications of leaks.

15. Rig up the Baker lubricator and test it with 5000 psi. Make wire line dummy runs to 400' first with sinker bars then with gage ring. Run and set Baker type B-1 check valve in type "F" landing nipple at 328! Bleed pressure on riser to "0" psi and observe well for 1 hr.

16. Close Hydraulic master valve. Pressure riser and tree to 4500 psi, and open the service wing valve and record pressure (a drop in pressure should occur). Close the service wing valve. Pressure riser to 4500 psi, open the production wing valve and record the pressure (a drop in pressure should again occur). Close the production wing valve.

17. Have the divers close both flow line (McEvoy) valves.

18. Open the service and production wing valves. Pressure test the riser, tree and flow lines with 5000 psi. Have dives inspect the tree and flow lines for leaks. A small leak in a grease fitting on the service wing valve may be seen, in addition there may be some pressure loss through the closed McEvoy valve on the flow lines.

19. Bleed the pressure on the riser to 1000 psi and open the hydrualic annulus valve. Note any change in pressure. Increase pressure to 5000 psi and have divers inspect the annulus line between the two annulus valves for leaks. Bleed the pressure on the riser to 1000 psi and close haydraulic annulus valve. Have the diver hold his hand on the hydraulic annulus valve for any indication of operation.

20. Have the diver slowly open the manual annulus valve. Record any change in riser pressure. Report number of turns required to open valve. This should be done very carefully as it is suspected that the annulus is pressured.

21. Increase the pressure on the riser to 2000 psi. Open the hydraulic annulus valve and record the riser pressure.

a) A zero or very small decrease in pressure indicates that the valve probably did not open. Record, the volume of water required to increase the riser pressure from 2000 to 3000 psi. Bleed pressure back to 2000 psi, close the hydraulic annulus valve. Have the diver install a separate control hose on this valve. With 2000 psi on riser, reopen hydraulic annulus valve through separate control line. If there is still no change in riser pressure, again record the volume required to increase the riser pressure from 2000 psi to 3000 psi. If the volume pumped indicates that the annulus valve is not open contact Stavanger office for further instructions. If volume pumped indicater annulus valve is open increase pressure in 500 psi increments to 3500 psi and hold test for 30 min.

b) If riser pressure decreased. Increase riser pressure by 500 psi increments to 3500 psi. Have divers observe tree through-out test. Record volume required for each 500 psi increase. Hold 3500 psi test on annulus for 30 min.

c) If riser pressure increases to 4150 - 4200 psi bleed maximum 5 bbls from riser recording pressure each barrel. Close hydraulic annulus valve and contact the Stavanger office for instructions.

22. If annulus valve opens and if annulus pressure test is ok, bleed pressure on riser to 0 psi. Close the hydraulic annulus valve and both wing valves. Have the divers connect a test hose to the tree test port. Displace the hose with dyed water before connecting it. Open the hydraulic master valve and pressure the riser to 500 psi. Test through the tree test port increasing the pressure in 500 psi increments. Record the riser pressure and the down hole safety valve control pressure through-out test. If the recorded pressures do not increase, continue to increase the test pressure to 6500 psi. Have the diver inspect the tree for leaks.

No. Jts	Description	Length	RKB Depth
	T.D. @ Mule Shoe =		10,501.32'
3 Jts.	2 7/8" EUE 8rd 6.5# J55 Tbg. w/ Mule shoe and 15-1" Holes on Bottom Joint (7')	94.25	10407.07
—	2 7/8" EUE 8rd Pin x Atlas Brad. Flush Jt. Box X-Over	1.37	10405.70
14 Jts.	3 1/2" 9.2 J55 Atlas Bradford Flush Jt Tbg.	424.27	9981.43
—	3 1/2" Atlas Br. Flush Jt. Pin x 3 1/2 10rd. NU Box X-Over	1.47	9979.96
—	2 31/32" Baker "L" Sliding Sleeve Valve 2.31" Bore (Down-Closed) w/ 3 1/2" 10rd NU P & Box	4.60	9995.36
— (1 Pup)	3 1/2" 9.2# N80 10rd NU Pup Jt.	10.08	9965.28
—	3.875" OD x 3" ID Baker Flow Cplg.	4.03	9961.25
—	3 1/2 Baker "R" Nipple 2.25" Bore, 2.238 NoGo	1.02	9960.23
—	3.875" OD x 3" ID Baker Flow Cplg.	4.03	9956.20
— (1 Pup)	3 1/2" 9.2# N80 10rd NU Pup Jt	14.05	9942.15
— Set FB-1 Pkr. →	Baker Seal Assbly. for FB-1 Pkr	20.00	9922.15
—	Baker Locator Sub (Locator @ Bottom)	0.80	9921.35
—	3 1/2" EUE 8rd x 4 1/2" Avmco Box X-Over Sub	0.80	9920.55
— (1 Pup)	4 1/2" 12.6# N80 Avmco Seal Lock Pup Jt	3.00	9917.55
—	Baker "R" Nipple 3.688 Bore 3.676 NoGo	0.90	9916.65
—	4 1/2" Avmco Seal Lk. x 4 1/2" LT&C 8rd Box X-Over	2.80	9913.85
1 Jt.	4 1/2" 13.5# N80 LT&C 8rd Csg.	37.86	9875.99
—	4 1/2" Otis Slida SL. Valve 3.812" Bore (Up-Closed) Assbly. No 121 x D26	4.50	9871.49
— (1 Pup)	4 1/2" 13.5# N80 LT&C 8rd Pup Jt	8.12	9863.37
239 Jts	4 1/2" 13.5# N80 LT&C 8rd. CASING	9317.95	545.42
—	Otis 3.812" ID Safety Valve Nipple for "DD" Valve and "X" Profile.	2.60	542.82
—	5 1/2" OD x 4" ID Baker Flow Cplg	9.52	533.30
— (1 Pup)	4 1/2 LT&C 8rd Pin x 4 1/2" Avmco S.L. Box (X-Over) A	7.57	525.73

RE: 3/4-4 AX TBG. STRING ASSBLY (BUTTON TO TOP)
DESCRIPTION — (CONTINUED)

No. JTS.	DESCRIPTION	LENGTH	TOP @ RKB DEPTH
6 JTS	4½" 12.6# N80 Armco Seal Lk TBG.	196.92	329.81
—	BAKER "F" NIPPLE (3.812" MIN BORE)	1.00	327.81
1 JT.	4½" 12.6# N80 Armco Seal Lk. TBG	32.25	~~295.56~~
—	(1 Pup) 4½ Armco S.L. Pin x 4-½" 8rd LT & C Box X-Over	2.25	293.31
—	VETCO-4½" TUBING HANGER	4.00	289.31
	TOTAL TBG. ASSBLY =		

0' RKB TO TOP OF TBG. HANGER = 289.31
(WHEN PULLING WEAR BUSHING)

INTER-OFFICE CORRESPONDENCE
STAVANGER OFFICE

August 13, 1971

Re: 2/4-4AX Well - Procedure (Revised) to complete well - Drill out Bridge plugs and cement, and complete well. (Vetco Tree)

To : Drilling Supervisors
From : Paul Reynolds

GENERAL

Fig. 1 shows the present well status. Observe the casing is full of mud, cement and bridge plugs (cast iron). The wellhead is capped and has the seat protector removed.

		Neptune 7	Viking
RKB to Ocean Floor	-	300±	311±
RKB to Mean Sea Level	-	78±	89±
Water Depth	-	222±	222±
Top of Existing Vetco Head	-	279± RKB	290± RKB

Well Location:

Longitude = 3° 12' 11.82" E
Latitude = 56° 34' 27.25" N

PROCEDURE

1. Insert and replace any worn anchor chain when pulling anchors. Decca will also set Buoys at each required anchor location. Caution: Do not drop anchors near flow line.

   NOTE: A spare buoy has been installed on this wellhead. Before calling tugs, check to see if buoy is still on well.

2. Use two tugs for holding "Ocean Viking" over wellhead while setting anchors. Viking heading shall be approximately 309°. Test each anchor to 200000 lbs. pull.

3. Diver will perform the following work:
   (a) Attach guide lines.
   (b) Make provision for attaching and running TV and Diving Bell (Guide Frames, Guide lines etc.)

(c) Confirm compass direction of existing guide base and TV extension arms on base.

(d) Back out hold-down screws on corrosion cap. Use airtugger to pull cap to surface.

(e) Inspect and clean all seal surfaces on exposed wellhead (Top and I.D. - especially sealring surface)

(f) Confirm 14' Guide Frame Bean Height above ocean floor.

(g) Install 12' swivel arm on guide post no. 3 and tie-off to post no. 2.

(h) Install Brown & Root clamp on 30" casing as soon as possible. Also replace Vetco Union on end of each flow line with Cameron Hub Unions.

Note: After divers determine guide structure height have NORSCO cut off and install Cameron hubs on flow line extensions. The completed extensions should then be sent to the Ocean Viking.

4. Modify BOP stack for running as shown in figure no. 2. Assemble and test to 5000 psi on cellar deck using test stump. Carefully inspect 13 5/8" hydril rubber. This must be capable of closing on Schlumberger wireline.

(a) A Vetco tubing spool and a X-over spool (both w/guide arms) will be attached to and run below the present BOP stack assembly. After locking the Nat'l autolock connector, the connector hydraulic holes will be plugged. The hydraulic lines will be attached to the Vetco H-4 connector. The kill line outlets will be blanked off in order that the kill line can be xtended and attached to hand-operated valve on the tubing head outlet. (Valve will be open while running and operating inside of stack. Valve will be closed while running tree assembly).

(b) When assembling BOP stack, orient tubing head annulus outlet in direction of flow lines from "Gulftide".

(c) After assembly but prior to testing stack, run and install seat protector in tubing head.

(d) Install Payne Pod and check all BOP and valves for proper operations before running stack.

5. Use Phillips Procedure for running BOP Stack to prevent seal surface damage. Make certain all hold-down screws are backed out on Vetco Connector.

6. Run the BOP stack (w/killand choke lines) on drill pipe using bumper subs. Land BOP stack on the 13 5/8" wellhead housing. Have divers make up hold down screws on manual connector. Approximately 800 ft.lbs.

torque should be used. Make up screws first with 1" drive impact wrench then check with torque multiplier set at 800 ft. lbs. Pressure test stack and 9 5/8" casing to 4300 psi using pipe rams followed by a blind ram test after COOH w/drill pipe. Test kill and choke lines to 5000 psi.

7. COOH with running tool. Run 16" riser assembly (normal riser, kill and choke line lengths must be reduced because of added wellhead height) and latch to stack.

8. GIH w/8½" rock bit and drill out cement and bridge plug inside 9 5/8" casing to the top of the 7" liner. COOH and test casing to 4300 psi for 1 hr. Use light soda ash pre-treatment drilling cement. Use fine screens, double shaker etc. Bottom hole drlg. assembly - bit, stabilizer, collars, B.S. etc.

9. Under supervision by Mr. Pipe, have Baroid catch an undiluted and a cement contaminated mud samples while circulating mud from the top of the 7" liner hanger. Run packer mud tests at 275°F in order to determine mud treatment required to prevent high temperature gelation and barite settlement for a 14.3 lbs/gal. mud weight. (450 psi overblance).

10. GIH with a 6" Servci Mill and 2 - 6" stabilizers and drill out the cement and bridge plugs in the 7" liner to 10838+' (top of float collar). COOH. Bottom hole drlg. assbly. : Mill, 2-stabilizer, collars, B.S., ect.

11. GIH w/6" bit (w/o jets), casing scraper and stabilizer. Work and rotate scraper through 9620-9720' interval several times to assure a successful packer setting. With 6" bit within 50 ft. of bottom. Reverse out mud by pumping down the choke line.

12. Condition mud with final treatment for desired packer mud properties and for a 14.3 lbs/gal. weight. Use fine screens, double shaker, desilters, etc.

13. Perforate well as per attached schedule I using 4" Hyperjet Casing Gun with 1 shot per ft. Contiuous hole observation will be required to assure a hole full of mud.

14. GIH to BOP stack with jetting sub wash out and work rams and hydril several times to clear jund. POOH.

15. GIH open ended to lo,530 and w/8½" stabilizer below casing scraper at 9720, work casing scraper through 9600 to 9720'interval several times. Close hydril and reverse out. COOH to BOP stack circ. out

and max. pump note until shaker screen are clean.

16. Run 8½" wurekube hybj basjet ti 9720 COOH. Wireline set a Baker "DB" packer at ± 9660' RKB - approximately 60' above liner (use collar locator to assure packer is not set in 9 5/8" pipe coupling) Clean and coat packer and 18' extension I.D. with Baker Packer grease.

17. Pull seat protector from tubing head using 13 5/8" seat protector retrieving tool. Obtain exact pipe footage distance to seat protector with respect to fixed mark on the guide line. This measurement is critical for tubing hanger space-out in step (18).

18. GIH w/4½" tubing string as shown in fig. No. 3a (figure 3b shows string after space out) drift each joint during pick-up. Also pressure test each threaded connection while running string. The Gator-Hawk unit will be used to test each pipe coupling to 5900 psi. On connections that cannot be tested with Gator-Hawk unite, a 6000 psi. internal test will be made using end plugs. ±

NOTE: Habe Baker pass running tools, shifting tools etc., through all downhole nipples before running tubin string.

(a) Pipe will be numbered, tallied, drifted and each thread will be visu visually inspected and cleaned just prior to shipm ent to the rig.

(b) A special Baker Packer grease will be applied to the Baker seal assembly. Grind off all burrs on 3.92" O.D. couplings on pipe and on seal nipple assembly.

(c) Baker Seal will be used on all the 3½ and 4½" API 8rd. thread connections. Use API modified lub. on seal lock thds.

(d) Tubing torque recommendation:
4½" LT&C - Make-up joint until coupling is warm. Indicating thread interference indicating thread interference. Torque range should be between 2500 and 3500 ft. lbs. Use tong torque reading after 5th. joint.

4½" Seal Lock (Riser Pipe) - This is a shouldered type joint that required 1300 to 1800 ft. lbs. torque.

(e) Use 5" Drill Pipe in top part of 4½" tubing string during space-out. (See Fig. 3a).

(f) Paint joint coupling on last 6 stands of drill pipe white to determine low-side of hole during space out. Maintain proper orientation while running and pulling painted space out pipe.

(g) Land seal nipples in packer obtain exact pipe measurement with

(g) Land seal nipples in packer obtain exact pipe measurement with respect to guide line mark. Close hydril. Pressure annulus to 2500 psi to test packer and seals.

(h) Space out string so that there will be a maximum of 5000 lbs. on packer when hanger is landed. Install space out pups below Otis "X" nipple.

(i) Observe painted couplings to determine low side of hole.

(j) Connect 1/4" hydraule tubing to safety valve landing nipple using sweedge lock connector. Rotate 4½" tubing so that 1/4" will be on high side of hole. After installing 4½" 8rd. to seal lock X-over above safety valve nipple, run Otis Drift plug through nipple.

(k) Use Monel Straps to band 1/4" to 4½" tubing. Fill 1/4" tubing with special Fina Kerosine. After installing Vetco hanger attach 1/4" line to hanger using swedge lock connector.

(l) After installing 4½" LT&C to seal lock X-over on S.V. nipple, land dummy mandrel insafety valve seating nipple and pressure test 1/4" tubing to 10000 psi. Plug 1/4" hoel in tubing hanger using Allon plug w/teflon tape.

(m) Install Vetco tubing hanger installation tool on top of tubing hanger and finsih GIH.

19. Ran tubing on 5" riser. Prior to landing seals in packer and with spaced with joint of 3½"tubing packer assembly, pump in 200 bbls. mud. Land hanger in wellhead and confirm maximum of 5000 lbs. weight on packer when landed. Open hydril to test hanger seals.

(a) Pressure 9 5/8" annulus to test packer by pressuring kill line to 2500 psi.

(b) Pull "Dummy" mandrel from safety valve seating nipple. Land Otis plug in Otis "No-Go" nipple at 9744'. Pressure 4½" tubing to 6000 psi with kill line open. COOH w/No-Go plug.GIH and open S.S. valve. Land plug in "DO" nipple (packoff port) at ± 511', pressure test to 6000.

20. Pull 4000± lbs strain on 5" riser using air tugger w/swivel hook. Back-out riser assembly using right hand rotation and power tongs. COOH standing riser in derrick.

21. Have diver perform following:

(a) Close tubing spool outlet valve. <u>Disconnect BOP kill line from tubing spool outlet</u>.

(b) Make-up tubing hanger hold-down screws with 300 ft. lbs. torque

(c) Observe disengagement of H-4 connector. (Use torque wrench for final make-up set at 300 ft. lbs.).

22. Pull 16" riser, BOP, hydraulic operated H-4 connector, and choke and kill line.

23. Prior to running tree assembly; with tree on test stump.

(a) Check that lock down screws on H-4 are backed out.

(b) Install vertical flow line extensions to tree unit and pressure test to 7000 psi. Fill tree with 1:10 Kontol - Diesel mixture and actuate valves in mixture several times.

(c) Attach Payne Hose bondle to tree. Test all valves for proper operations. Operating valve from "Gulftide". Carefully opserve all connections for leaks. Properly tag all surface and subsurface control valves.

(d) Orient tree flow line outlets in the direction of the flow line from the "Gulftide" when attaching tree to guide line.

(e) Attach 3½" annulus pipe and 2" Chicksan to service flow line outlet.

(f) Attach 10,000 lbs hydraulic hoses to ½" needle valve used for testing 2" clamp between both annulus valves and to the swab valve for operating the swab valve.

(g) Attach flow line template to no. 1 flow line riser and tie off to tree.

24. Run and pressure test each connection in riser, Otis tree, Otis lubricator, and tree assembly to 7000 psi. Pull Otis tree to 60' in derrick Have diver pull 1/4" plug from hanger.

25. Fig. 4 shows valve positions prior to landing tree. Valves III, V and VI closed. Have diver: (1) make up hold-down screws w/800 ft. lbs. torque energize and test seals. Also pressure and hold 800 psi on 1/4" hydraulic line (2) connect tree to annulus valve outlet, and (3) close both annulus valves. Pressure test between valves with 6000 psi to test annulus valve-tree connection. Open manual annulus valve. Pressure test 4½" tbg. to 6000 psi. Monitor 4½" - 9 5/8" annulus pressure. Release pressure on 4½" and 1/4" tubings. Maintain tension on riser with 2 air tuggers.

26. At convenient time take tamplate measurement for No. 1 flow line spool connector. Fabricate install and test No. 1 spool.

27. Pull plug from ported nipple. Displace 1/4" line with Bray oil. Displace tubing with water and 25 bbls XC polymer spacer to within 200'

of but not below sliding sleeve. Close sliding sleeve valve. Pressure test annulus to 2500 psi. and observe casing and tubing pressures. COOH with shifting tool.

28. Connect the flow lines to the separator and pressure test all surface equipment.

29. After checking out all equipment and approval is given by test foreman. Gradually open well wide open to clear perforations. (Maintain at least 300 psi on wellhead). Reduce flow to satisfy test equipment capacity as required. Perform test and continuously monitor annulus pressure.

30. After cleaning up perfs., acidize well as per instructions. Follow this with production test.

31. Immediately after cleaning up well, actuate each hydraulic valve several times to flush valves.

32. After clean up period, shut in well to install subsurface safety valve. Run and install Otis safety valve in nipple. To flow well, close swab valve, open safety valve then open swab valve. Carefully observe pressure pump and gage for leads in safety valve. After test displace tubing with 500' of Kontol 147 mixture. Back flow 200' Kontol and close in well.

33. To close well following test, close Otis Head, then master, swab and annulus valves. Release hydraulic pressure on all hydraulic hoses to valves. Have diver remove rig hoses from all ½" valves, close valves and install protection plugs. Disconnect 500' hose bundle from Payne junction box and connect bundle from "Gulftide". Remove 2" line from service flow line outlet. Release tree riser connector. Pull and lay down 5" riser. Install cap on top of tree. Disconnect all guide lines. Install surface spare buoy using 1½ cubic meter concrete anchor.

34. Rig will be released when final flow line tie has been completed and well flowed to "Gulftide" for 6 hrs.

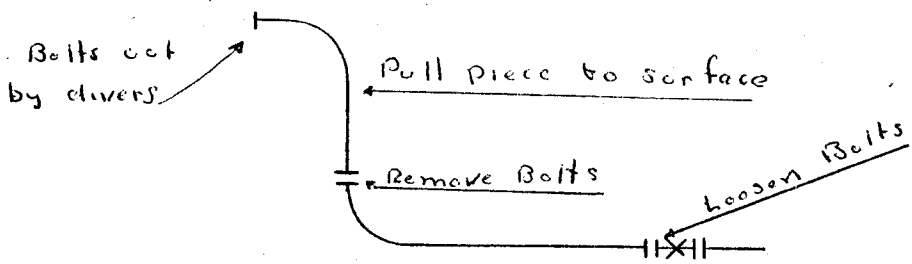
PHILLIPS PETROLEUM COMPANY - NORWAY
STAVANGER

WELL 2/4-4AX

Work over Procedure December 1, 1971

After laying down tubing.

1. Remove flow line risers. Remove bolts in Cameron flanges at bottom at risers, do not cut.

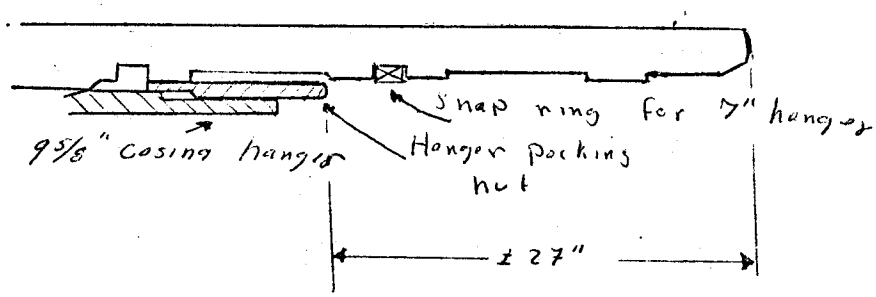


2. Loosen bolts on end Cameron flange of tie-in spools. Lay spools over on sea bed so they are out of way when tree is re-run.

3. Have diver release the manual connector below the Vetco tubing spool. Release and pull 16" riser. Pull BOP stack and Vetco tubing spool.

4. Have diver measure from the top of the 9 5/8" casing hanger (Packing nut) to the top of the 13 5/8" well head. Inspect inside of 13 5/8" well head to see if snap ring for 7" casing hanger is in place.

13 5/8" Well Head



If top of 9 5/8" hanger is high contact Stavanger office for further instructions.

If the snap ring is not in place inform Vetco service man and Stavanger office.

5. Run BOP stack, choke and kill line and 16" riser. Restore choke and kill lines to normal operations set up.

6. Test BOP's connectors, adaptor and 9 5/8" casing hanger packing with Vetco test plug. Observe 20" x 13 3/8" with T.V. while testing. If 9 5/8" packing is leaking returns should be from 20" x 13 3/8" annulus.

7. If the 9 5/8" casing hanger packing is leaking, Replace hanger packing nut as per Vetco procedure. If difficulties are encountered in pulling packing nut consult Stavanger office. Caution: The packing nut is very difficult to pull through the 13 5/8" stack. After replacing packing nut retest.

8. If casing hanger packing holds with test plug: POOH, close blind rams and test casing with 4300 psi in 500 psi increments. ~~If casing leaks~~.

9. If casing leaks Run Halliburton RTTS packer on D.C.'s and drill pipe. Test above packer with 1000 psi each stand while going in hole.

10. When leak is found locate top and bottom of leak, by pressuring above and below packer. After top and bottom are isolated, GIH 1 more stand and test 9 5/8" casing below packer to 1500 psi.

11. After leak is isolated and casing tested COOH and lay down RTTS packer.

12. A procedure for squeezing leak and/or running and the 7" tie back string will be issued later.

INTER-OFFICE CORRESPONDENCE
STAVANGER OFFICE

December 5, 1971

WELL 2/4-4AX
Work over Procedure

After installing hold down ring for 7" casing hanger. Run and test BOP stack - with 3½" and 5" rams - choke and kill line and 16" riser.

1. Pick up following drilling assembly and GIH
   - 1 — 8½" bit with size 14 nozzles
   - 1 — Bit sub
   - 3 — 6½" DC's
   - 1 — Bumper sub
   - 3 — 6½" DC's
   - ____ ft — 5" Drill Pipe

2. Drill out cement plug in 9 5/8" casing to top of liner at 9722'. COOH.
3. Pick up 6" pit and 3 4 1/8" DC's. GIH and drill out cement to 50' below top of liner, COOH.
4. Pick up Brown Oil Tool tie back mill and GIH. Clean out liner tie back sleeve with mill. COOH laying down 5" drill pipe. -
5. 7" tie back string as follows:
   - 1 Brown Oil Tool tie back stem
   - 1 7" 29 lbs/ft. N-80 LT & C casing
   - 1 Brown Oil Tool Orfice float collar
   - ± 600' 7" 29 lbs/ft. N-80 LT & C casing
   - 2 Brown Oil Tool Casing slide joints
   - remainder of casing.

   a) Install 1 Weatherford positive centralizer every third joint through out string.
   b) Test each joint with 5000 psi using the Gator Hawk unit. -

c) Use Baker seal thread lubricant on all connections.

d) Recommended make up torque is: Optimum 3800 ft-lbs minimum 2800 ft-lbs maximum 5700 ft-lbs.

6. Space out string as per the attached Brown Oil Tool procedure. Install Vetco tubing hanger using 7" casing above hanger running tool.

7. Cement tie back string with 1400 sxs class "E" cement mixed at 16,5 ppg using fresh water. Pump in 10 bbls of fresh water behind bottom plug. Release top plug and displace with 359 bbls of 14,3 ppg mud. Do not over displace. Cement thickening time is 6 hrs.

8. Release pressure and land 7" hanger in 13 5/8" well head as per the Vetco procedure - attached. Wash out BOP stack through choke and kill lines with fresh water.

9. Make up casing hanger packing and test with 5000 psi as per the Vetco procedure. Pick up running string and wash out well head and riser with fresh water. COOH with running string.

10. Close blind rams and test casing with 5000 psi.

11. Install special secondary seal unit and test.

12. Pull riser and BOP stack. Modify BOP's for use with Vetco tubing spool. Install 3½" and 4½" pipe rams. Run and test Vetco tubing spool, BOP stack, choke and kill line and riser. Connect kill line to tubing spool side outlet and test.

13. Pick up following drilling assembly and GIH.

1 6" bit
1 bit sub
3 4 1/8" DC's
1 x-over
2500' 3½" 9.5 lbs/ft N-80 EUE tubing
3½" 12.95 lbs/ft. N-80 EUE tubing

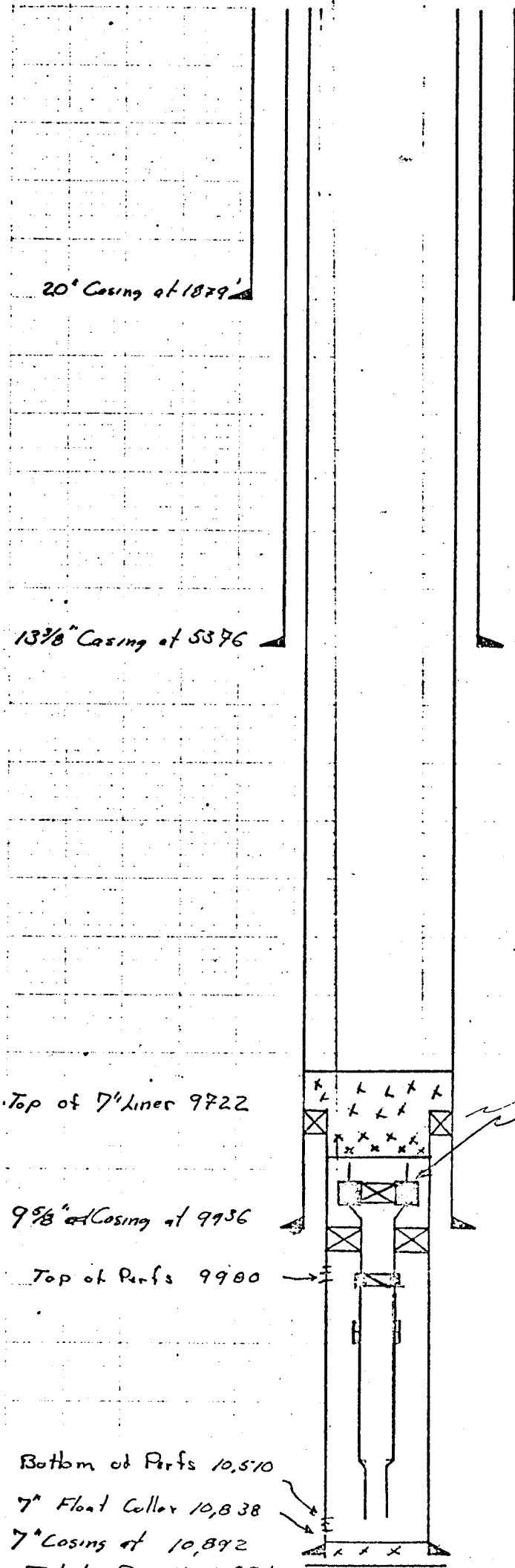
14. Drill out cement in tie back string. Test casing with 5000 psi.

15. Drill out cement plug in 7" liner. Care should be taken not to damage the top of the 4½" tubing at 9890'. COOH.

..... 3

16. This fishing will be discussed.
    Pick up fishing tools and recover 4½" tubing, seal assembly and tail pipe COOH. Care should be taken to obtain proper fill up while COOH. 10 - 90' stands of 3½" 12.95 lb/ft tubing displaces. 4,2 bbls.
17. GIH with 6" bit, tag packer at 9922' and circulate out. COOH.
18. GIH with 3½" tail pipe to reach below bottom of perf at 10,510'. Circulate and condition mud to desired packer fluid properties. COOH.
19. Complete well as per the original completion procedure.

Well bore temp. survey



20" Casing at 1879'

13 3/8" Casing at 5376

Top of 7" Liner 9722

9 5/8" Casing at 9936

Top of Perfs 9980

Bottom of Perfs 10,510

7" Float Collar 10,838

7" Casing at 10,892

Total Depth 10,894

Cut off at ± 9891 Layed 100 sx cement plug from 9885' to 9550'

Top of 4½" tubing at 9870'

Otis Slidinding Sleeve	9871'
Baker "R" Nipple	9917
4½" x 3½" x-over	9920
Baker Seal Assembly	9922
Baker "R" Nipple	9966
Baker Sliding Sleeve (open)	9975
3½" x 2 7/8" x-over	10,406
Mule shoe at	10,501

Ro 115

TIE BACK STEM

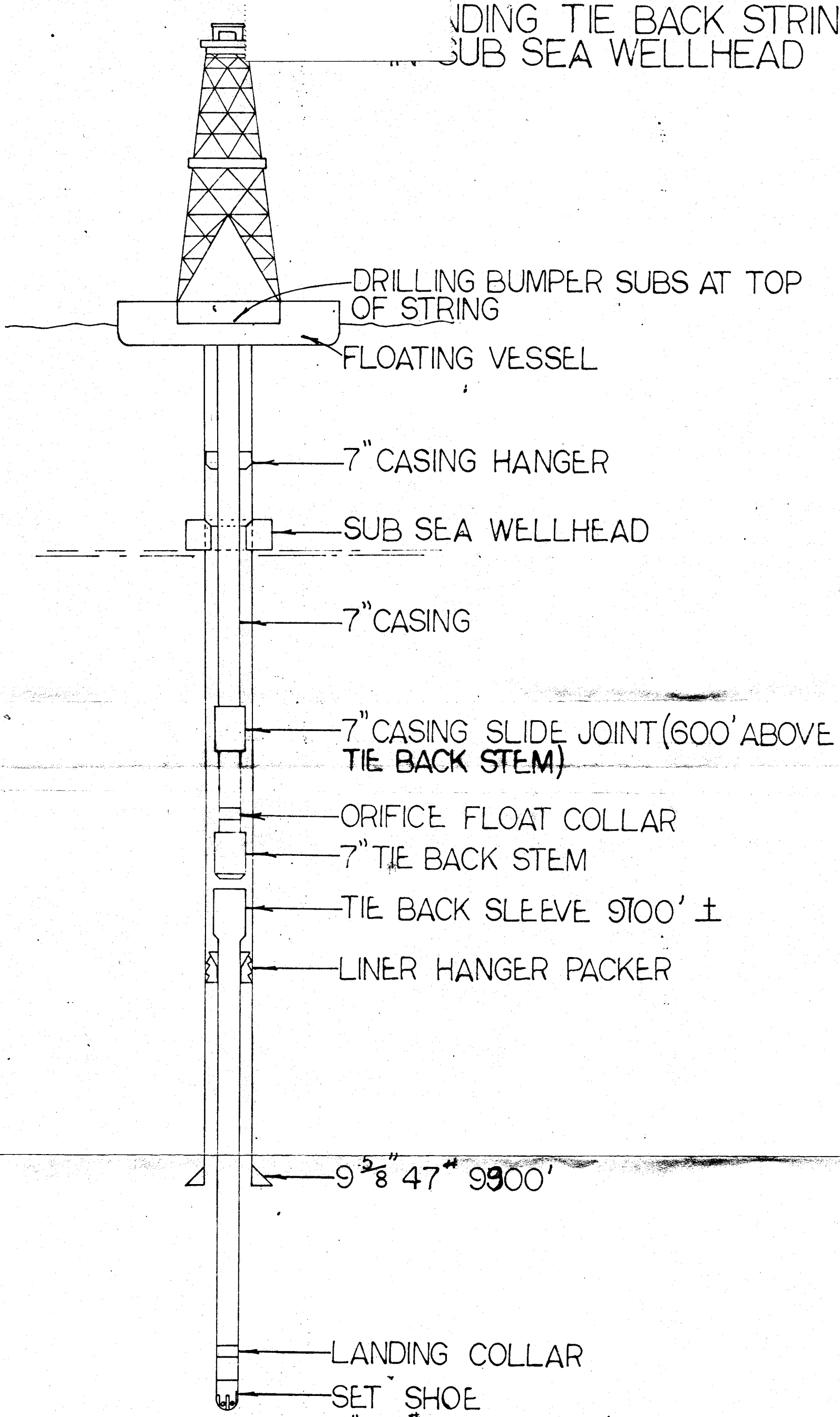
OPERATION TO TIE BACK LINER TO SUBSEA WELLHEAD USING FLOATING DRILLING VESSEL:

After cleaning out the tie back sleeve with the sleeve mill, the tie back stem is run on casing with the orifice float collar a joint or two above the tie back stem, and with one or more six-foot casing sliding joints spaced approximately 600' above the tie back stem. Drilling spline joints are not run at this time. When the tie back stem reaches the tie back sleeve, it is carefully stabbed into the sleeve and approximately 15,000 pounds weight applied. This is the approximate weight of casing below the sliding joint. The sliding joint allows sufficient weight for stabbing the tie back stem without placing the entire weight of the casing string on the tie back sleeve. The sliding joint will also facilitate spacing out the subsea casing hanger. Assurance that the tie back stem is properly stabbed into the sleeve can be obtained with the pump, as the well can be circulated with the stem above the sleeve, but not when the stem is in the tie back sleeve.

With the tie back stem stabbed into the sleeve, the casing should be marked at the top of the marine riser pipe, or some fixed reference point. Then enough casing should be pulled to space out and install the subsea casing hanger. Casing pup joints should be on hand for spacing out.

The casing with subsea hanger installed is lowered until the tie back stem is a few feet above the tie back sleeve. Drilling spline joints are run at the top of the string as required. Casing is then cemented as desired, with cement followed by a cementing plug which bumps up at the orifice float collar. The string is lowered, placing the tie back stem in the tie back sleeve, and landing the casing in tension in the subsea wellhead. Casing would normally be cemented with sufficient cement to extend up above the casing slide joint.

Depending on type of subsea wellhead equipment, the 7" casing hanger may be lowered on either casing or drill pipe. If casing is used, the cement is pumped down using a casing cementing plug. If drill pipe is used to install the casing hanger, then a liner wiper plug is positioned below the casing hanger setting tool (either in a plug holder bushing or by attachment to the setting tool) and pumped down with (and by) a pump down plug. The plug dropping head is required for holding and releasing the pump down plug.



Note: All Angles 45° Unless Otherwise Noted

A	F	L	S
B	G	M	T
C	H	N	U
D	J	P	V

SHEET ____ OF ____

SKETCH

PROPERTY OF
BROWN OIL TOOLS, INC.

DRAWN BY RA | TCD. BY | CHECKED

DATE
12-18-68

PART USED IN BOOKS

VETCO OFFSHORE INDUSTRIES, INC.

USE AND CARE

VETCO 13-5/8" FLOW-BY CASING HANGERS AND DIRECT DRIVE RUNNING TOOLS

WEAR BUSHINGS RUN SEPARATELY

I. TOOL FUNCTIONS:

The Vetco casing hanger and direct drive running tool are used together to perform the following operations:

A. Run and land casing strings.

B. Perform cementing operations.

C. Set the casing hanger seal and test the seal.

All of the above operations are performed in one trip. The hanger-running tool assembly can be run with drill pipe or casing as the running string. The wear bushing is installed after the hanger is run and sealed.

II. SPECIFICATIONS:

A. Pressure Ratings:

1. The working pressure of the sealed hanger assembly is 5,000 p.s.i.

2. The test pressure of the sealed hanger assembly is 10,000 p.s.i.

(Working and test pressures are defined as the pressure which can be applied against the sealing unit of the hanger, and are not related to the burst pressure ratings of casing.)

B. Dimensional Data:

1. The largest outside diameter of the casing hangers and running tools is 13.500".

2. The smallest inside dimensions of the casing hangers and running tools are as follows:

SIZE	MINIMUM I.D. HANGER BODY	MINIMUM I.D. RUNNING TOOL
13-5/8" x 10-3/4"	9.938	
13-5/8" x 9-5/8"	8.812	5.656
13-5/8" x 7-5/8"	7.000	
13-5/8" x 7"	6.375	5.656
13-5/8" x 5-1/2"	5.000	

VETCO 13-5/8" FLOW-BY CASING HANGERS AND DIRECT DRIVE RUNNING TOOLS

WEAR BUSHINGS RUN SEPARATELY

II. B. 3. Length:

Refer to the drawings for lengths of the tools when made up.

4. Thread Data:

a. The internal thread in the casing hanger body is a 2-pitch left hand modified square thread.

b. The external thread on the bottom of the running tool is a 2-pitch left hand modified square thread.

c. The external thread on the upper section of the casing hanger body is a 4-pitch right hand modified square thread.

d. The internal thread in the packing nut is a 4-pitch right hand modified square thread.

III. ROUTINE OPERATION:

A. Pre-Operational Checks:

1. Make certain that the left hand thread of the running tool is completely made up in the casing hanger. This is done by observing the position of the running tool with respect to the top of the casing hanger body and by measuring the standoff of the packing nut.

The position of the running tool with respect to the casing hanger body can be checked visually by looking through the ports in the pack off assembly. When properly made up, the running tool is 0" to 1/4" from the top of the hanger body. (The hanger body can be identified by the external threads on it.)

The standoff distance of the packing nut is not to be more than 3" or less than 2-3/4".

2. Inspect the seal unit and make certain it is not damaged. Also, the seal element should rotate freely.

B. Running Procedure:

1. Commence running casing. Pick up the Vetco casing hanger-running tool assembly and make it up in the casing string. Be careful when making it up - the entire hanger-running tool assembly is to be treated as one unit, and the running string is not to be rotated under any circumstances at this time.

VETCO 13-5/8" FLOW-BY CASING HANGERS AND DIRECT DRIVE RUNNING TOOLS

WEAR BUSHINGS RUN SEPARATELY

III. B. 1. If casing is to be used as a running string, Vetco recommends that the running string joints be made up with 1,000 ft/lbs more torque than that used to make up the casing joints below the hanger. This extra torque will result in less "make-up" in the string when the packing is being set.

2. Run the hanger down through the riser and B.O.P. stack. Note the load on the weight indicator.

Lower the string on down and land the hanger in the seat in the housing. Let it set for a moment, then pick up on the running string, carefully, with 20,000 to 30,000 pounds over the hook load, in order to verify that the lock ring in the housing has moved outward and has the hanger locked down. If not locked down, pick up on the string about 12", and set it back down. Slack off all weight on the running string. Note: If lock down rings are not installed in the wellhead, no pickup test should be performed.

3. Circulate down through the running string. Perform cementing operations, bump the plug and close stage collars. Don't pick up on the running string under any circumstances at this time. If there is any thought of cement being up in the B.O.P. stack, open the choke and kill lines and circulate down through them. This will wash out the interior of the B.O.P. stack and riser.

4. With cementing operations finished, put tongs (preferably power tongs) on the running string and commence turning the string to the right (making it up). In deep water, Vetco recommends that internal pressure be applied to the running string, as this exerts a lifting force on the running string thereby reducing the friction while disengaging the running tool from the casing hanger. To assist operators in selecting the proper internal pressure to be used, Vetco has prepared a booklet containing internal pressure charts for all sizes of running strings. When possible, Vetco recommends that the casing hanger be landed using drill pipe as the running string, as drill pipe tool joints won't make up during rotation as casing joints sometimes do, and drill pipe strings are easier to handle, especially when bumper subs are used. Rotation of the running string does two things; first, it backs the left hand running thread out of the casing hanger body and, second, at the same time moves the packing unit down into the seal area on the casing hanger body.

III. B. 4. After 5 to 6 turns the running string will "jump" because the left hand thread on the bottom of the running tool will be completely disengaged. (This "jumping" can be felt in the pipe string if you have your hand on it.) Continue turning the running string to the right, however, because it requires a total of 11 to 12 turns to make up the packing tight.

5. As the packing is driven down and starts to be compressed, the required torque will build up rapidly. If power tongs are used, this build-up is easily noted. If rig tongs and a cathead are used, it is best to use as few wraps on the cathead as possible at the start of the operation in order to have better control over "feel" of the packing tightening.

6. Decide which line (choke or kill) will be used to test the packing seal and pressure up this line against the closed valve to the pressure which will be used to test the casing seal. This will show whether or not there are any leaks in the test line down to the B.O.P. stack.

7. Open the valves on the cement head on top of the running string. Next, open the kill or choke line. Close the Hydril, using Hydril Company's recommended pressure on the closing side of the Hydril.

   Pressure down through the choke or kill line. This pressuring operation is testing the Hydril seal, the seal in the Vetco "H-4" Connector, the seal provided by the two O-Rings on the bottom of the casing hanger running tool, and the packing element which was set by the rotation of the running string.

8. After getting a satisfactory test on the hanger, pick up slowly on the running string to make certain it is free, then come on out of hole with it.

C. Post Operational Maintenance:

1. Clean the threads and O-Rings. (Usually the lower thread of the left hand thread on the bottom of the running tool is slightly burred after a job, and it may be necessary to file the burrs off this thread before it can be used again.)

2. Grease the threads and install the thread protector on them.

VETCO 13-5/8" FLOW-BY CASING HANGERS AND DIRECT DRIVE RUNNING TOOLS

WEAR BUSHINGS RUN SEPARATELY

IV. RECOMMENDED SPARE PARTS:

A. Casing Hangers:

All Vetco 13-5/8" casing hangers use identical packing assemblies. One spare packing assembly is recommended for each group of hangers.

B. Running Tools:

O-Ring seals are the only spare parts recommended. See table below.

SIZE RUNNING TOOL	O-RING NO.	RECOMMENDED SPARES
13-5/8" x 10-3/4"	568-448	2 (for each well planned)
13-5/8" x 9-5/8"	568-447	2 (for each well planned)
13-5/8" x 7-5/8"	568-443	2 (for each well planned)
13-5/8" x 7"	568-440	2 (for each well planned)
13-5/8" x 5-1/2	568-432	2 (for each well planned)

V. ASSEMBLY AND TEST PROCEDURE:

A. It is best to assemble the casing hanger and running tool vertically. On drilling vessels the common practice is to set the parts over a post on the catwalk. This helps to stabilize and index the tools.

B. To commence the assembly of the casing hanger and running tool, first clean the internal left hand thread and the external right hand thread of the casing hanger body with solvent, then apply grease (not thread dope) to the threads.

C. Clean the internal threads of the packing nut assembly with solvent and apply grease (not thread dope) to these threads also. Install the packing nut on the casing hanger body and turn it to the right, thereby screwing it down onto the casing hanger body. Run it all the way down until it bottoms out on the shoulder, then back it off until the standoff is 1-5/8" between the packing nut and the shoulder.

D. Apply grease (not thread dope) to the left hand threads and O-Rings on the bottom of the casing hanger running tool. Inspect the threads, especially if the running tool has been used before, to make certain that the lead thread is not damaged. If necessary, file the lead thread to remove burrs.

V. E. Pick the running tool up with the crane and lower it down through the hanger and packing unit, to where the left hand thread sets down, with the 4 drive lugs on the tool located in the 4 milled slots in the packing nut.

F. Put chain tongs on the running tool and back up chain tongs on the casing hanger body, always below the circulation ports. (Never put tongs on the seal surface of the casing hanger body.) Rotate the running tool to the left, with all the weight slacked off. The tool will make up approximately five turns. Do not make left hand thread too tight - just snug, (one man on chain tongs).

G. Measure the distance from the shoulder to the packing nut. This measurement should be 2-7/8". This distance is critical, but it can be 2-3/4" to 3". It should never be more than 3" however. The tool is now ready to run into the well.

VI. TECHNICAL TOOL DESCRIPTION:

A. The Vetco Direct Drive Casing Hanger Running Tool is a rugged, field proven unit which is used to land Vetco Flow-By Casing Hangers in subsea wellheads. It can be provided for full bore or pump-off plug cementing operations.

The tool is simple in construction, basically being only two moving parts. The sleeve assembly is built to turn freely on the main body, serving primarily as a stabilizer and also as a guard to keep cement out of the critical wellhead areas. The tool is easy to make up to the hanger assembly, and is easily cleaned upon recovery.

B. Vetco Flow-By casing Hangers are basically two piece units, consisting of a casing hanger body and a packing assembly. The packing assembly is always run with the casing hanger, thereby eliminating the problem of attempting to stab and make up a threaded connection down-hole.

The casing hanger body is always made with a female casing thread down, into which a pin by pin casing pup joint is made up. The hanger body has an internal left hand running thread and seal area for testing the set casing hanger seal; the two O-Rings on the bottom of the running tool will be in this eal area when the running tool has been backed out of the running threads.

VETCO 13-5/8" FLOW-BY CASING HANGERS AND DIRECT DRIVE RUNNING TOOLS

WEAR BUSHINGS RUN SEPARATELY

VI. B. The external thread on the outside of the upper part of the casing hanger body is a right hand square 4-pitch thread, blunt start. The packing nut is made up to this thread; rotation of the running tool drives the packing nut down on this thread until the rubber seal element is compressed to the point where a satisfactory seal is achieved.

The packing nut assembly is designed with a bearing section which reduces the possibility of any detrimental shearing action on the seal element as it is driven down into final position. The inner surface of the packing nut assembly is machined to receive the four drive lugs of the running tool and also to provide a flow-by area when running the assembly to the ocean floor.

C. Location of Collars on the Running String:

When running the Vetco Flow-By Casing Hanger Running Tool assembly using casing as the running string, it is absolutely necessary that the collars on the running string be spaced in such a way that when the Hydril is closed to test the casing hanger seal, it does not close on a casing collar.

If the Hydril is closed on a casing collar in the running string and an attempt made to test the hanger seal by pressuring through the choke or kill line, the entire casing running string will be lifted by the test pressure and mud will flow back to the rig floor through the casing string. This occurs because the O.D. of the casing collars on the running string is greater than the O.D. of the running tool at the point where the two O-Ring seals are located, and this greater area on the casing collars is sufficient to cause the entire running string to act as a piston. It will move upwards until the seal unit moves out of the inside of the casing hanger.

If the casing hanger is run on drill pipe, the location of a tool joint is not critical.

D. Changing the Seal Unit on a Vetco Single-Trip Casing Hanger:

1. Pulling the Seal Unit:

a. Check out the pressure operated 13-5/8" Seat Protector Running and Retrieving Tool.

b. Make up the tool to drill pipe and strap weld the tool joints as the drill string will be rotated to the left in the operation. Use a bumper sub in the string, one joint above the tool.

VI. D. 1. c. Run the tool into the well and land it in the seat protector. Pick up on the drill string and stroke the bumper sub to avoid pulling on the seat protector at this time.

d. Torque the drill string to the right to verify that the torque lugs on the retriever tool are in the J-slot grooves in the seat protector. Slack off on the torque and make a careful pick-up test to verify that the lock ring of the retriever tool has engaged the groove in the top of the seat protector.

e. Rotate the drill string slowly to the left, with the bumper sub open, approximately 20 turns. Pick up on the pipe carefully. Pull the tool to the rig floor, being careful not to rotate the pipe while pulling.

f. Remove the retrieved seal unit from the bottom of the seat protector by rotating the unit until it "un-jays" from the seat protector.

2. Running the Seal Unit:

a. Install the new seal unit on the bottom of the seat protector. Turn the seal unit to the left until the 4 torque lugs on the bottom of the seat protector are stopped against the right side of the T-slot in the top of the seal unit.

b. Run the new seal unit into the well, landing on top of the casing hanger body. Use tongs and turn the pipe to the right slowly. Approximately 17 turns should be required to tighten the seal unit. The final torque should be 4,000 to 5,000 foot pounds.

c. Make a pick-up test to verify that the seal unit is made up. (Pick up 10,000 to 20,000 pounds over the weight of the string.)

d. Pressure the drill pipe to 1,000 p.s.i., hold pressure and a slight right hand torque on the drill string and pick up on the drill string, releasing the seat protector running and retrieving tool from the seat protector. Pull the tool to the rig floor.

Well File

Run - Jan. 1, 1972

WELL 2/4-4AX - Completion String

No. of jts.	Description	Length	Depth RKB
	Tail Pipe at		10,503,08
3	2 7/8" OD, 6.5 lbs J-55, EUE 8Rd Tbg with mule shoe on btm. and 15 - 1" holes in bottom 7"	94.25	10,408,83
1 ea	X-over 2 7/8" EUE 8 Rd pin x 3½" Atlas Bradford box	1.37	10,407,36
14	3½" OD, 9.2 lbs, J-55, Atlas Bradford Tbg.	424,27	9,983,19
1 ea	X-over 3½" Atlas Bradford Pin x 3½" NU 10 Rd Box	1,47	9,981,72
1 ea	Baker Model "L" sliding Sleeve (Down Closes) 2.31" bore with 3½" NU 10Rd box and pin	4,60	9,977,12
1 ea	3½" OD, 9.2 lbs, J-55, NU 10 Rd pup jt.	10,08	9,967,04
1 ea	3,875" OD x 3" ID Baker Flow coupling with 3½" NU 10 Rd box and pin	4,03	9,963,01
1 ea	Baker Model "R" Landing Nipple 2.25" Bore 2,238" No. 60 with 3½" NU 10 Rd box and pin	1,02	9,961,99
1 ea	3,875" OD x 3" ID Baker Flow Coupling with 3½" NU 10 Rd Box and pin	4,03	9,957,96
1 ea	3½" OD, 9.2 lbs, N-80 NU 10 Rd Pup Jt.	14,05	9,943,91
1 ea	Baker Seal Assembly Size 84-40 for 7" Model FB - 1 Packer	16,73	9,927,18
1 ea	Baker Locator Sub (locator on bottom)	0,80	9,926,38
1 ea	X-over 3½" EUE 8 Rd pin x 4½" Armco Seal Lock Box	0,80	9,925,38
1 ea	4½" OD 12.6 lbs. N-80 Armco Seal Lock pup jt.	3,23	9,922,35
1 ea	Baker Model "R" Landing Nipple 3,688" Bore 3,676" No 60, 4½" Armco Sea Lock Box and Pin	1,00	9,921,35
1 ea	X-over 4½" Armco Seal Lock Pin x 4½" 8 Rd Lt & C Box	2,75	9,918,59

cont...

cont.:

No. of Jts.	Description	Length	Depth RKB
1 jt.	4½" OD, 13,5 lbs. N-80 8 Rd LT & C Tbg	39,46	9,879,13
1 ea	Otis Sliding Sleeve Valve 3,812" bore (up close) with 4½" LT & C 8 Rd box and pin (Assy NO 121 XD 26)	4,31	9,874,82
1 ea	4½" OD, 13,5 lbs N-80 8Rd LT & C Pup Jt	8,10	9,866,72
239	4½" OD, 13,5 lbs N-80 8 Rd LT & C Tbg.	9317,22	549,50
1 ea	4½" OD, 13,5 lbs N-80 8 Rd LT & C Pup Jt	4,07	545,43
1 ea	4½" OD, 13,5 lbs N-80 8 Rd LT & C Pup Jt	6,10	539,33
1 ea	4½" OD, 13,5 lbs N-80 8 Rd LT & C Pup Jt	2,05	537,28
1 ea	Tubing Guide with 4½" 8 Rd LT & C Box and Pin	1,23	536,05
1 ea	Otis Safety Valve Landing Nipple for Otis Type OD Safety Valve with X" profile. Bore 3,812"	2,40	533,65
1 ea	x-over 4½" 8Rd LT & C Pin c 4½" Armco Seal Lock Box	7,59	526,06
1 ea	4½" OD, 12.6 lbs. N-80 Armco Seal Lock pup Jt..	6,27	519,79
6	4½" OD, 12.6 lbs, N-80, Armco Seal Lock Tbg.	193,46	326,33
1 ea	4½" OD 12,6 lbs. N-80 Armco Seal Lock pup Jt.	2,12	324,21
1 ea	Baker Model "F" Landing Nipple 3,812" Bore with 4½" Armco Seal Lock Pin and box	1,00	323,21
1 ea	4½" OD, 12.6 lbs. N-80 Armco Seal Lock Tbg.	30,27	292,94
1 ea	X-over 4½" Armco Seal Lock Pin x 4½" 8 Rd LT & C Pin	2,20	290,74
1 ea	Vetco 11" Nom x 4½" Tubing Hanger 4½" LT & C 8 Rd box down x 5" 8 Rd LT & C Box up	4,16	286,58
	Total Tubing in Hole	10,216,50	
	RKB to top of tubing hanger	286,58	- 0 -
	Tail Pipe at 10,503,08		

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33031

Stavanger, September 28, 1971

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From 20 Sept. To 26 Sept. Well No. 2/4-4AX (Min. No. 5)

	M	T	W	Th	F	S	S
Total Depth Beginning:							876
Total Depth End:							1427
Hole Size:							

Geological Formations Drilled:
1.
2.
3.
4.

Drilling Fluid Characteristics:
Mud Density (lbs/gal) 14.3 Viscosity (API) 55 sec
Water Loss 8.5 Chloride 22,000 ppm pH 10
Plastic Viscosity 33 Yield Point 18 Oil trace

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc:

Moved from 2/4-1AX to 2/4-4AX on Sept. 21.
Ran tubing hanger, BOP and 16" riser.
Tested BOP and 9 5/8" casing to 4300 psi, OK
Drld. cement from 876' to 1427' RKB

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment:

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary

Details of Fire Drills held:

22nd - Drill Crew Safety Meeting
23rd - " " " "
23rd - Roustabout Crew Safety Meeting

P.W. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, October 5, 1971

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From 27 Sept. To 3 Oct. 1971 Well No. 2/4-4AX (Min.No. 5)

	M	T	W	Th	F	S	S
Total Depth Beginning:	1427	9458	9908	10345	-	-	-
Total Depth End:	9458	9908	10345	10720	-	-	10720
Hole Size:							

Geological Formations Drilled:
1.
2.
3.
4.

Drilling Fluid Characteristics:
Mud Density (lbs/gal) 14.3 Viscosity (API) 50 sec
Water Loss 7,2 Chloride 18,000 ppm pH 11.0
Plastic Viscosity 29 Yield Point 15 Oil 1%

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc:

Drilled out cement and bridge plugs to top of 7" liner
Tested 9 5/8" casing and top of 7" liner with 4300 psi
Drilled cement and bridge plugs in 7" liner to 10720'
Perforated 10510' -10380; 10310'- 10190' and 10090' - 9980' with 2 shots per foot. Tested sub sea tree on test stump with 7500 psi.

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment:

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary

Details of Fire Drills held:

Sept. 27 - 1 Pit Drill - Reaction time 20 secs
Sept 28 - 1 Safety drill - Results good
Sept. 29 - 1 Pit Drill - Reaction time 15 secs.

P.W. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger 12. Oct. 1971

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From 4 Oct. 1971 To 10 Oct. 1971 Well No. 2/4-4AX (min.No. 5)

	M	T	W	Th	F	S	S
Total Depth Beginning:	10720	-	-	-	-	-	-
Total Depth End:	-	-	-	-	-	-	10720
Hole Size:							

Geological Formations Drilled:
1. _____
2. _____
3. _____
4. _____

Drilling Fluid Characteristics:
Mud Density (lbs/gal)____ Viscosity (API)____sec
Water Loss_____ Chloride_____ppm pH_____
Plastic Viscosity____ Yield Point____ Oil_____

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc: Set Baker Model FB-1 production packer at 9920', Ran completion string, tested each joint with 5900 psi with Gator Hawk unit. Tested complete string to 6000 psi. Installed Vetco subsea tree and tested with 6000 psi. Tested down hole safety valve control line with 7500 psi. Displaced tubing with water and polymer spacer Opened well, flowed on 1½" choke to clean up. Tested well on 25/64 th choke, rate 3125 BOPD flowing tubing pressure 3880 psi.

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment:

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary

Details of Fire Drills held: 9th - 1 Safety Drill - Results good
loth - 2 Safety Drills - Results good

P.M. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, Oct. 19, 1971

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From 11 Oct. 1971 To 17 Oct. 1971 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:							
Total Depth End:							
Hole Size:							

Geological Formations Drilled:
1.
2.
3.
4.

Drilling Fluid Characteristics:
Mud Density (lbs/gal)____ Viscosity (API)____ sec
Water Loss____ Chloride____ ppm pH____
Plastic Viscosity____ Yield Point____ Oil____

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc:

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment: Treated well with 48,598 gallons of BJ 92-8 acid and 48,598 gallons of SAC in 11 stages. Shut in for 3 hours acid contact time. Flowed well for 3½ hours clean up period on 1½" choke. Ran 6 hours completion test on 24/64th choke, flow rate 3124 bopd. Installed down hole safety valve and tested the valve operation. Pulled the marine riser and installed the corrosion cap on the sub sea tree. Now making the flow line tree connection

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary: NONE

Details of Fire Drills held: NONE

R. N. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, October 26, 1971

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From Oct. 18, 1971 To Oct. 24, 1971 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:							
Total Depth End:							
Hole Size:							

Geological Formations Drilled:
1. _____
2. _____
3. _____
4. _____

Drilling Fluid Characteristics:
Mud Density (lbs/gal) _____ Viscosity (API) _____ sec
Water Loss _____ Chloride _____ ppm pH _____
Plastic Viscosity _____ Yield Point _____ Oil _____

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc: Finished making flow line tree connection. Connected hydraulic control hose from Gulf Tide to sub sea tree. Tested flow line and flow line tree connection with 5750 psi. WOW to flow well.

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment:

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary: NONE

Details of Fire Drills held: 23rd - 1 Safety Drill - Results good
24th - 1 Fire Drill - Results good

P.W. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, 2 November 1971

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From 25 Oct. 1971 To 26 Oct. 1971 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:							
Total Depth End:							
Hole Size:							

Geological Formations Drilled:
1. _____
2. _____
3. _____
4. _____

Drilling Fluid Characteristics:
Mud Density (lbs/gal)____ Viscosity (API)____sec
Water Loss_____ Chloride_____ppm pH_____
Plastic Viscosity____ Yield Point____ Oil_____

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc: Flowed well to Gulf Tide, divers inspected flow line tie-ins.

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment:

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary

Details of Fire Drills held:

P.W. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, November 10, 1971

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From November 2 To November 7 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:							
Total Depth End:							
Hole Size:							

Geological Formations Drilled:
1. _____
2. _____
3. _____
4. _____

Drilling Fluid Characteristics:
Mud Density (lbs/gal)____ Viscosity (API)____ sec
Water Loss_____ Chloride_____ ppm pH_____
Plastic Viscosity____ Yield Point____ Oil_____

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc: Towed Ocean Viking to Ekofisk area. WOW to move on to location.

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment:

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary: NONE

Details of Fire Drills held: 6th - 2 Safety Drills

Fred A Reynolds

P.W. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, November 16, 1971

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From 8 Nov. 1971 To 14 Nov. 1971 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:							
Total Depth End:							
Hole Size:							

Geological Formations Drilled:
1. _____
2. _____
3. _____
4. _____

Drilling Fluid Characteristics:
Mud Density (lbs/gal)_____ Viscosity (API)____sec
Water Loss_____ Chloride_____ppm pH_____
Plastic Viscosity____ Yield Point____ Oil_____

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc: Arrived on 2/4-4AX location on November 10, 1971. Positioned barge and ran out all anchors. Checked hydraulic control system and connected control hose from Ocean Viking to subsea tree. Waiting on weather to run marine riser.

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment:

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary

Details of Fire Drills held: 10th - 2 Safety drills

P.W. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, November 23, 1971

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From Nov. 15 1971 To Nov. 21, 1971 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:							
Total Depth End:							
Hole Size:							

Geological Formations Drilled:
1.
2.
3.
4.

Drilling Fluid Characteristics:
Mud Density (lbs/gal) 14.3 Viscosity (API) 50 sec
Water Loss 14 Chloride 18,000 ppm pH 10.5
Plastic Viscosity 32 Yield Point 18 Oil 0

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc: Observed leak between 13 3/8" and 20" annulus. Killed well and observed well, well static. Attempted to pull safety valve, pulling tool stopped at 294' RKB

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment:

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary: NONE

Details of Fire Drills held: NONE

P.W. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, November 30, 1971

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From 22 Nov. 1971 To 28 Nov. 1971 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:							
Total Depth End:							
Hole Size:							

Geological Formations Drilled:
1. _____
2. _____
3. _____
4. _____

Drilling Fluid Characteristics:
Mud Density (lbs/gal)____ Viscosity (API)____sec
Water Loss_____ Chloride_____ppm pH_____
Plastic Viscosity____ Yield Point____ Oil_____

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc: Ran & tested 5" riser to 5000 psi. Killed well, pulled safety valve & ran plugs in "R" nipples at 9960 ' & 9917'. Ran plug in "F" nipple at 328'. Pulled 5" riser & x-mass tree.

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment:

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary: NONE

Details of Fire Drills held: 22nd - 1 Safety Drill

Fred A Kemp

for P.W. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, December 7, 1971

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From November 29 To December 5 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:							
Total Depth End:							
Hole Size:							

Geological Formations Drilled:
1.
2.
3.
4.

Drilling Fluid Characteristics:
Mud Density (lbs/gal) 14.4 Viscosity (API) 53 sec
Water Loss 7.4 Chloride 19,000 ppm pH 11
Plastic Viscosity 33 Yield Point 18 Oil 0

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc: Ran BOP & 16" riser, pulled "FWG" plug from "F" nipple at 328', tested 9 5/8" casing, it leaks. Cut 4½" tubing at 9891'. Set cement plug from 9551' to 8639'

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment:

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary

Details of Fire Drills held: 4th - 1 Safety Drill
5th - 1 Safety Drill

P.W. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, December 14, 1971

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From Dec. 6 1971 To Dec. 12 1971 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:							
Total Depth End:							
Hole Size:							

Geological Formations Drilled:
1.
2.
3.
4.

Drilling Fluid Characteristics:
Mud Density (lbs/gal) 14.4 Viscosity (API) 50 sec
Water Loss 8.5 Chloride 20,000 ppm pH 10.8
Plastic Viscosity 35 Yield Point 18 Oil -

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)
7" tie back	29	N-80	9410	1	9722

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc: Tested BOP to 5000 psi, OK & ran same with 16" mud riser. Drld. cement from 9555' to 9722'. Ran 7" tie back casing from 9722' back to surface.

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment:

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary: NONE

Details of Fire Drills held: NONE

P.W. Reynolds

P.W. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, December 1971

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From Dec. 13 1971 To Dec. 19 1971 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:	9699	-	-	-	-	-	-
Total Depth End:	-	-	-	-	-	-	9699
Hole Size:							

Geological Formations Drilled:
1.
2.
3.
4.

Drilling Fluid Characteristics:
Mud Density (lbs/gal) 14.4 Viscosity (API) 49 sec
Water Loss 8.1 Chloride 19.500 ppm pH 10.6
Plastic Viscosity 32 Yield Point 16 Oil -

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)
7"	29 lbs/ft	N-80		1	9722'

Cementing Details: Cmtd. 7" tie back string with 1400 sxs. class "E" cement

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc: Ran 7" tie back string, tested and ran BOP stack & 16" riser, Ok. Tested again found leak outside choke line valve.

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment:

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary

Details of Fire Drills held: 19th - 1 Safety Drill

P.W. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, December 28, 1971

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From Dec. 20, 1971 To Dec. 26, 1971 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:						9699	
Total Depth End:	9699'	9699	9699	9699	9699	9890	
Hole Size:					6"	6"	

Geological Formations Drilled:
1.
2.
3.
4.

Drilling Fluid Characteristics:
Mud Density (lbs/gal) 14,4 Viscosity (API) 60 sec
Water Loss 8 Chloride 20000 ppm pH 11
Plastic Viscosity 32 Yield Point 14 Oil

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc:

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment:

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary

22nd - Mr. Arnestad cought hand behind wire line and bruised fingers. Was taken in for x-rays to insure no bones broken.

Details of Fire Drills held:

20th - 1 Safety Drill

21st - 1 Safety Drill

22nd - 1 Safety Drill

P.W. Reynolds

for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, January 4, 1972

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From Dec. 27,1971 To Jan. 2, 1972 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:	9908'	10720'	10720'	10720'	10720'	10720'	10720'
Total Depth End:	-	-	-	-	-	-	-
Hole Size:	6"	6"	6"	6"	6"	6"	6"

Geological Formations Drilled:
1.
2.
3.
4.

Drilling Fluid Characteristics:
Mud Density (lbs/gal) 14.4 Viscosity (API) 52 sec
Water Loss 7.5 Chloride 20000 ppm pH 11
Plastic Viscosity 33 Yield Point 17 Oil

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc:

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment: Run 4½" production string. Tested string to 6000 psi. Rigged up test tree.

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary: NONE

Details of Fire Drills held: 1st - 1 Safety Drill

for R. M. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, January 11, 1972

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From Jan. 3, 1972 To Jan. 4, 1972 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:	10720'	-	-	-	-	-	-
Total Depth End:	-	-	-	-	-	-	-
Hole Size:	6"	-	-	-	-	-	-

Geological Formations Drilled:
1. _____
2. _____
3. _____
4. _____

Drilling Fluid Characteristics:
Mud Density (lbs/gal)____ Viscosity (API)____ sec
Water Loss_____ Chloride_____ ppm pH_____
Plastic Viscosity____ Yield Point____ Oil_____

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

PHILLIPS PETROLEUM COMPANY - NORWAY
STAVANGER

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc:

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment: Installed connections and tested x-mas tree. Cleaned up well and flowed well through test separator, rate 3048 BOPD, GOR 1163, FTP 4059 on 25/64. Acidized well & flowed through test separator rate 3072 BOPD, FTP 4200 psi, GOR 1204 on 24/64.

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary

Details of Fire Drills held:

P.W. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, January 18, 1972

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From Jan. 10, 1972 To Jan. 16, 1972 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:	10720	-	-	-	-	-	-
Total Depth End:	-	-	-	-	-	-	10720
Hole Size:	-	-	-	-	-	-	-

Geological Formations Drilled:
1. _____
2. _____
3. _____
4. _____

Drilling Fluid Characteristics:
Mud Density (lbs/gal)____ Viscosity (API)____sec
Water Loss____ Chloride____ppm pH____
Plastic Viscosity____ Yield Point____ Oil____

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc:

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment: WOW for dive to tie in service flow line

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary

Details of Fire Drills held: 14 - 1 Safety Drill
15 - 1 Safety Drill
16 -1Safety Drill

P. W. Reynolds

P.W. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

file

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, January 25, 1972

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From Jan. 17, 1972 To Jan. 23, 1972 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:	10720	-	-	-	-	-	10720
Total Depth End:	-	-	-	-	-	-	-
Hole Size:	-	-	-	-	-	-	-

Geological Formations Drilled:
1. _____
2. _____
3. _____
4. _____

Drilling Fluid Characteristics:
Mud Density (lbs/gal)____ Viscosity (API)____ sec
Water Loss_____ Chloride_____ ppm pH_____
Plastic Viscosity____ Yield Point____ Oil_____

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc:

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment: Towed barge back over location and ran anchors. Inspected x-mas tree - looked ok.

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary: Seaman on Kent Shore Mr. Vaerholm killed on January 22, 1972 while handling anchors.

Details of Fire Drills held:

P.W. Reynolds

for PHILLIPS PETROLEUM COMPANY-NORWAY

file

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, February 1, 1972

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From January 24 To January 30 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:							
Total Depth End:							
Hole Size:							

Geological Formations Drilled:
1. _____
2. _____
3. _____
4. _____

Drilling Fluid Characteristics:
Mud Density (lbs/gal)____ Viscosity (API)____sec
Water Loss_____ Chloride_____ppm pH_____
Plastic Viscosity____ Yield Point____ Oil_____

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc: WOW and repositioned barge over wellhead.

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment:

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary: 26th - Steinar Tengs (workman) was at bottom of port pump room shaft changing guide wire for riding belt counter weight. Top end of wire revolved and unscrewed itself from turn buckle and wire and turn buckle both fell on workman. Struck right shoulder and left hip. Taken in for examination. No serious injury.

Details of Fire Drills held: 27th - 1 Safety Drill

30th - 2 Safetty Drills

P W Reynolds

P.W. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, February 8, 1972

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From Jan.31/72 To Feb.6/72 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:	10720	-	-	-	-	-	10720
Total Depth End:	-	-	-	-	-	-	-
Hole Size:							

Geological Formations Drilled:
1.
2.
3.
4.

Drilling Fluid Characteristics:
Mud Density (lbs/gal)____ Viscosity (API)____ sec
Water Loss_____ Chloride_____ ppm pH_____
Plastic Viscosity____ Yield Point____ Oil_____

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc:

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment: Connected up service & prod. spools and retightened Cameron clamps. During pressure testing prod. & service lines to 6000 psi, Gulftide developed leaks.

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary

Details of Fire Drills held: 31st - 2 Safety Drills

1st - 2 Safety Drills
2nd - 1 Safety Drill
4th - 1 Safety Drill

P.W. Reynolds
for PHILLIPS PETROLEUM COMPANY-NORWAY

PHILLIPS PETROLEUM COMPANY-NORWAY
UTENLANDSK AKSJESELSKAP
P.O.BOX 72 - STAVANGER, NORWAY - PHONE 41 340, 41 391 - CABLE: PHILLSTAV - TELEX: 33081

Stavanger, February 15, 1972

CONFIDENTIAL

The Ministry of Industry
Akersgaten 42
OSLO 1

ATTENTION: Petroleum Section

PHILLIPS PETROLEUM COMPANY-NORWAY - WEEKLY DRILLING REPORT

From Feb. 7, 1972 To Feb. 13, 1972 Well No. 2/4-4AX

	M	T	W	Th	F	S	S
Total Depth Beginning:	10720						10720
Total Depth End:	-						~~10720~~
Hole Size:							

Geological Formations Drilled:
1.
2.
3.
4.

Drilling Fluid Characteristics:
Mud Density (lbs/gal)____ Viscosity (API)____ sec
Water Loss____ Chloride____ ppm pH____
Plastic Viscosity____ Yield Point____ Oil____

Casing Details:

Diameter (Inches)	Weight (lbs/ft.)	Grade (API)	Length (Feet)	Condition	Depth (Feet)

Cementing Details:

Shows: (Oil, Gas, Water, etc.):

Logging Details:

Deviation Surveys, Formation Tests, Pressure Tests, Temperature Measurements, etc: Retrieved corossion cap, pressure tested service & production lines from Gulftide to 6000 psi, OK. Opened safety valve & observed wellhead while flowing well on Gulftide, OK.

Details of Fishing Jobs, Shooting, Perforating, Fracturing, Acidizing, Completion or Abandonment: Moved rig to well 2/4-3X on February 11, 72. WOW Positioning barge over 2/4-3X wellhead on Feb. 13.

Details of Steps taken to protect Underwater Telecables, if requested:

Details of Accidents, Damages, Injuries and other as Ministry deems necessary: NONE

Details of Fire Drills held: NONE

P.W. Reynolds

for PHILLIPS PETROLEUM COMPANY-NORWAY

Form 882 12-57 A 59362
Printed in U.S.A.

Lease 2/4 North Sea - Norway

PERFORATING AND SQUEEZE RECORD

Well 4AX

Date	Size of Casting	Perforating		No. of Feet Perforated	No. of Holes	Size of Holes	Gun Diameter	Gun Type	Perforating Company
		To	From						
1.10.71	7"	10510	10380	130	2/ft.				Schlumberger
1.10.71	7"	10310	10190	120	2/ft				"
1.10.71	7"	10090	9980	110	2/ft				"

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 1

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Sept. 22 P.T.D. 10894'TD	2½ hrs	Finish running in anchors No.1 & 8 - Bolstered 0830 hrs - finish no. 1AX well
	3½ hrs	Under tow to 2/4-4AX and changing out pennant lines no. 1 & 8 anchors
	10 hrs	Positioning barge and running 1-3-4-5-6-7-8 anchors
	4½ hrs	Make dive no.1 and locate well head take measurements and connect 4 guide lines - 3 meters from sea bed to PGB
	3½ hrs	changing out anchor chain no.2 - and running no.2 and re-running no.1
	0700	Running no.2 and re-running no.1
		Released tugs - Hudson, Michiel, Gerling and Orinoco
Sept. 23 P.T.D. 10894''	11½ hrs	changing out chain no 2 anchor, made dive no 1 cut cable from 30" conductor and cleared wellhead of all debre and pulled corrosion cap
	2½ hrs	No 8 anchor chain broke, between fairlead in front of winch and fair lead at anchor bolster, made surface dive to run rope through fairlead and rigging up 30" clamp
	2 hrs	Made dive and run 30" clamp and installed on 30" conductor
	3½ hrs	Rigging vetco tubing hanger and national x-over
	2½ hrs	Stringing 2" pennent wire to No 8 anchor
	2 hrs	prepairing to run vetco tubing hanger and national x-over with national running auto lock.
	0700	Same as above
Sept. 24 P.T.D. 10894'	7 hrs	Run Vetco tubing hanger well head on vetco H-4 connector and national well head hub, Ran on national auto-lock and running string Made dive No 1, run in hole down screws on Vetco H-4 connector, pull test to 50000 lbs, pull and lay down running string.
	5 hrs	Rig and test BOPS in cellar deck, install new laurent seals before running.
	5 hrs	Run BOP stack and choke and kill lines, with 5" rams closed on stinger
	2 hrs	Made dive No 2 to free UTV lines from around well head
	2½ hrs	Stab and latch BOP, pressure test BOPS and

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 2

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Sept. 24, continued		9 5/8" casing to 4300 psi, pull running string 2½ hrs Running 16" mud riser 0700 WOW riser not latched, present depth of riser just above MSL, 30' above
Sept. 26 P.T.D. 1427' cmt		½ hr. Finish nippling up cellar deck 2 hrs Test choke and kill line to 5000 psi 5 hrs Made up bit BHA and GIH, top of cement 876' 6½ hrs drilling out cement 1 hr. repair swivel packing--out 9 hrs Drilling cement. Made one dive to connec chicksan from choke line to Vetco tubing hanger well head, adn tested to 5000 psi 0700 Drilling cement. Mw: 14.3, ViS. 55, Pv: 33, Yp: 18
Sept. 25 P.T.D. 10894'		½ hr. Running 16" riser 18½ hrs WOW 4 hrs Run and latched 16" mud riser, pull test 70000 lbs 1 hr. Nippling up cellar deck 0700 Nippling up cellar deck
Sept. 27 P.T.D. 9458'		3 hrs Drilling cement at 1427' to 1489' bottom wash to 1596' 2½ hrs COOH, cleaned out junk subs and RIH to 1596' 4 hrs Pick up 5" DP and GIH to 4189', break circulation (1980' and 3270') 3 hrs Wash from 4189' to 4885' top of cement 3½ hrs Drill out cement 4885' to 5008' top of bridge plug 3 hrs Drilling bridge plug 5 hrs Pick up 5" drill pipe 0700 Circulating at 9458', Made one dive to loosen bolts on flow line spools Mw: 14.7, Vis: 45, Pv: 26, Yp: 10
Sept 28 P.T.D. 9908'		3 hrs Wash from 9458' to 9722' ½ hr. Drill on bridge plug junk on top of liner 2 hrs Circulate and condition mud 3½ hrs COOH SLM no correction, recovered bridge plug junk in junk basket 1½ hrs Test 9 5/8" csg. and top of liner with 4300 psi

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 3

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Sept. 28 continued		2 hrs Make up BHA and 30 jts 3½" DP ½ hr. Slip drilling line 2 hrs Finish GIH, to top of liner 2 hrs Drilling on beidge plug junk on to of liner 7" 5½ hrs pushing and drilling on junk to 9908' 1 hr. Drilling on bridge plug 9908' 0630 Same Made dive and finish removing bolts in flow line loop and retrieved loop Mw: 14.3, Vis: 49, Pv: 26, Yp: 16
Sept. 29 P.T.D. 10345' PBD		4 hrs Drilling on bridge plug 9908' 6½ hrs Trip for new bit 2½ hrs Finish drilling bridge plug at 9908' ½ hr. Push bridge plug to top of cement 9988' 1½ hrs Drilling cement and bridge plug junk to bridge plug at 10115' 1 hr. Drilled bridge plug-10115', pushed junk to bridge plug 10169' 4 hrs Drilled bridge plug and bridge plug junk 10169' 1 hr. Pushed to top of cement at 10215' 1½ hrs Drilled bridge plug junk and cement to 10345' 1½ hrs Drilling on bridge plug at 10345' 0630 Same Mw: 14.3, Vis: 48, Pv: 29, Yp: 15
Sept. 30 P.T.D. 10720' PBD		4 hrs Finish drilling bridge plug at 10345' 2½ hrs Drilling bridge plug junk cement and cement stringers at 10540' & washed down to 10720' 1½ hrs Circulating and condition mud 4 hrs COOH SLM no correction left one cone in hole (old retainer here when Neptune 7 was in hole 3 hrs RIH with casing scraper, to top of liner 1 hr. Cut and slip drilling line 1 hr. Finish GIH, 10670' (rotated and scraped packer area 9840' to 10000') & rotated through tight hole 10150' 4½ hrs Reverse circulate and condition mud, recovered small amount of junk and cement 2½ hrs Circulate conventional for final treatment of mud, for packer mud properties

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 4

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Sept. 30 continued		2 hrs COOH 0630 COOH Dive and connected junction box to G/T from O/V to check out hose, and found p-1 and p-2 crossed and p-3 and 4 crossed at Koomey unit G/T. Checked out productio and service line not crossed. Checking volume of fluid through hose bundle does no seem to be enough, believe problem is on G/T Koomey unit, Divers closed Mc Evoy valve on production line, found Brown&Root had not installed hand wheels on valves. Mw: 14.3, Vis: 51, Pv: 31, Yp: 18
Oct.1 P.T.D. 10720 PBD		1 hr. Finish COOH ½ hr. Run jet sub and cleaned out BOPS, circulated out some small amount of junk 17 hrs Perforate with 2 hyperjets per foot, 10510' to 10380', 10310' to 10190', 10090' to 9980' total of 720 perforations had 2 misruns and rig down ½ hr. Run jet sub and clean out BOPS 2 hrs Laying down drill collars and pick up 10 jts 3½" drill pipe 3 hrs GIH with 3½" drill pipe open ended x-ove to 5" drill pipe to reverse out Test payne hose bundle to O/V, takes 9 to 12 mi to pressure up to 1500 psi, on P-1-3-4-5, 2½ " to pressure up to 3500 psi on P-2. Pressure immediately on accumulator, Checking out tree
Oct. 2 P.T.D. 10720' PBD		1 hr. Finish GIH open ended to 10600' 2 hrs Reverse circulate condition mud, recovered shooting junk 2½ hrs Circulate conventional 2½ hrs COOH 16 hrs While waiting on down hole tubing equipm. actuated all valves, test tree to 7500psi avg. 6 minutes to actuate all valves, made dive and removed payne junction box from G/T to O/V, removed all studs from flange on ends of flow lines 0630 Waiting on down hole equipment Mw: 14.4, Vis: 51, Pv: 29, Yp: 22

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 5

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Oct. 3	15½ hrs	Waiting on downhole equipment for tubing string. Made up crossover sub to tubing hanger, drifting subs, etc.
P.T.D. 10720	3 hrs	WIH w/3½ DP open, ended on 5½ DP to 10600
	3 hrs	Circulate & condition mud
	2½ hrs	COOH laying down DP
	At 0630	Laying down DP
	Mw: 14.3, Vis: 50, Pv: 29, Yp: 15	
Oct 4	2½ hrs	Finish laying down 5" drill pipe
P.T.D. 10720'PBD	½ hr.	Retrieve Vetco bore protector
	1 hr.	Lay down 40 jts 3½" drill pipe
	5 hrs	Run wire line junkbasket to 9960' no recovery, ran and set Baker FB 1 prod. packer with 18' seal protector at 9920'
	15 hrs	Running, cleaning and drifting production string and testing each coupling to 5900 psi with Gator/Hawk
	0630	Running production string
	Made dive to install stub spools on flow lines and install wheels on Mc Evoy Valves.	
Oct. 5	5 hrs	Running 4½" 1t&c tubing and testing each coupling to 5900 psi
P.T.D. 10720'PBD	2 hrs	Circulate and condition mud at 10060'
	3 hrs	Run space out string and set seal assembly in packer and test with 2500 psi, COOH with space out string and check low side of hole
	5½ hrs	Pick up Otis safety valve and Baker flow coupling connect and test 1/4" ss line to 6000 psi, pick up 4½" seal lock tubing (all above flow coupling) and "F" nipple test all connections to 5900 psi with gato hawk
	1½ hrs	Made up tubing hanger and 1/4" ss tubing and test to 7500 psi, run and landed tubin hanger
	½ hr.	Test tubing hanger packing to 3000 psi
	1 hr.	Rig up Otis test tree and lubricator
	½ hr.	Pull dummy mandrel in safety valve
	1½ hr.	Set plug in Baker "R" nipple test tubing to 6000 psi--COOH with plug at 9961
	3½ hrs	Run Otis shifting tool to open sliding sleeve 9883'
	0630	Saem

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 6

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Oct. 6 P.T.D. 10720'	8 hrs	Pull Otis shifting tool add 10' sinker bar, RIH and shift sliding sleeve 9871', circulated through sleeve
	½ hr.	Run dummy mandrel in Otis safety valve at 542'
	1 hr.	Run "FWG" blanking plug in "F" nipple at 327', test 1500 psi
	1½ hrs	Lay down Baker lubricator and Otis test tree and pull string
	2 hrs	Pull choke and kill line
	3½ hrs	Nipple down cellar deck and pull 16" riser
	2½ hrs	Made up stinger and Auto-lock to pull BOPS
	5 hrs	WOW
	0630	WOW
Oct.7 P.T.D. 10720' PBD	16 hrs	WOW
	4½ hrs	Pull BOP stack and secure on cellar deck
	3½ hrs	GIH with landing string latch up auto-lock to national-vetco x-over, made dive to connect hose to hydraulic opening side of H-4 connector
	0630	COOH with national vetco x-over
	0700	On cellar deck
Oct. 8 P.T.D. 10720'	1 hr.	COOH-- national Vetco X-over
	12½hrs	Rig and test tree in cellar deck to 6000 psi, test X-over subs for riser (5") to 6000 psi install 2 chick-san joints to service line, run tree on bumper subs and drill collars
	6½ hrs	running tree position barge and land tree (made dive to check wellhead)
	2½ hrs	Charge bell preparing to dive
	1½ hrs	Made dive to connect tree, tree set down, set screws tight
	0700	landing string released packing, seals with stick packing, nippling up tree on bottom.
Oct. 9	0700	Flowing well for clean up
	1½ hrs	Finished dive time on bottom. Hook up annulus line, tighten tree connector, test to 6000 psi. Release landing tool
	1 hr.	Pull landing string
	3 hrs	Run 5" riser
	3 hrs	Make up hold down bolls on 5" riser connector. open annulus valve, test down hole safety valve to 7500 psi. Test "P" packing No's 1,2, & 3 to 6000 psi.
	3½ hrs	Rig up Baker, Pull "FWG" plug and dummy mandrel. Set FB-1 check valve in "F" nipple at 327'. Tested all surface lines and tubing with 5000 psi, retrieve check valve
	1 hr.	Displace tubing with 20 bbls polymer mud and

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 7

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Oct.9 continued		125.5 bbls sea water. Tubing pressure 3000 psi after displacing 3 hrs Close sliding sleeve at 9871'.Test annulus to 1500 psi 2 hrs Run Dummy mandrel in safety valve seating nipple at 542'. 6 hrs Flowing well for clean up.Clean up. At 0020 hrs Tubing press 3000 open well 1½" choke At 0040 hrs Gas to surface tubing press 1475 At 0600 hrs Oil with 2% mud tubing press 1975 Mw: 8.6, Vis: 6.3, Pv: 10, Yp: 34
Oct. 10		6½ hrs Flowing well for clean up 3½ hrs Flowing well to separator on 25/64 ths choke 3/25 bopd 3880 ftp 7 hrs Leak developed in thread between tubing cap and riser, pulled riser,cleaned thread & tested to 8000 psi for 15 min. OK. Ran riser, made dive to tighten holddown bolts on tubing cap 2 hrs Divers decompressing 5 hrs Flowing well thru separator 25/64 ths choke 3158 bopd (based on 4½ hrs) 3910 ftp 87°F WHT 36,5°API at 60°F MCFD 1136 GOR 0% BS&W 4160 SIP before test At 0700 well shut in 4255 SIP
Oct. 11		At 0700 WOW 8½ hrs Well shut in for pressure build up 2 hrs WOW closed master and swab valves on sub sea tree. Rigged down Otis test tree. 3 hrs Checked tubing pressure to see if tree valves were holding. Press on test tree built up to 560 psi in 2½ hrs 2½ hrs Open well flowed 1 min to clear tree. Pumped into tubing mixture of 55 gal Kontol 147 & 55 gal methanol displaced with 5½ bbls diesel. Worked each valve 3 times. Bled pressure off of 5" riser, checked for leaks - all ok. 8 hrs WOW
Oct. 12		24 hrs WOW to offload acid from Imkenturm

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 8

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Oct. 13		0700 Preparing to take 6 hr production test
		1½ hrs WOW to off load acid
		1½ hrs Offload acid
		7 hrs Mixing acid, tested 5" riser and test tree with 5000 psi - ok. Bled off pressure, RU BJ acidizing head Hydraulic master and swab valves on sub sea tree started leaking
		3 hrs Checking out hydraulic master and swab valves Pressured 5" riser to 4100 psi. Opened master and swab valves, pumped 1 bbl preflush into riser. Closed swab valve, bled pressure on riser to 2500 psi, pressure increased to 2900 psi in 1 min. and continued increasing. Opened swab valve and closed master valve, bled press to 2500 psi. Pressure increased to 2600 psi in 1 min. and 2900 psi in 5 min. Opened master master valve, pumped 10 bbls diesel into riser Actuated each valve 3 times. Closed and checke each valve at 0 psi riser press - all ok. Closed swab valve, pressure up on riser, released pressure, swab valve started leaking. Pressure riser to 4100 psi, opened swab valve.
		½ hr. Pressured annulus to 2200 psi and down hole safety valve control line to 5100 psi.
		4hrs Acidizing well and spotting methanol.
		3 hrs Shut in for contact time. Actuated each valve 3 times as per program. RD BJ acidizing head RU DWT. SI pressure after 3 hrs 2450 psi.
		3½ hrs Flow well on 1½" choke to flare line, FTP at 0600 3220 psi. Had gas to surface in 10 min.
Oct. 14 P.T.D. 10720		0630 Making dive to release riser and disconnect 2 3/8" annulus
		2½ hrs Repaired leak in union on floor. Replaced leaking union on separator, started heater, flowing well through test separator
		6 hrs Ran completion test No 3 after acid job
		12 hrs Final 12 hr SI period. Spotted mixture of 1bbl Kontol, 1 bbl methanol and lo bbls of diesel past safety valve seating nipple at 542'. Took SI pressure readings for 15 min. Actuated hydr master valve 3 times, closed valve and bled pressure on riser to 0 psi, master valve held ok. Followed same procedure on swab valve held ok. RU Baker wire line lubricator tested with 500 psi - ok. Retrieved Otis separation sleeve from safety valve seating nipple at 542'. Displace the 1/4" ss control line with Bray Oil. Opened Baker Model "L"

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 9

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Oct. 14 continued		sliding sleeve set at 9925'.Ran and set Otis type "D.B." safety valve in safety valve seating nipple at 542'. Checked safety valve operation with 3800 psi tubing pressure could not open with 4500 psi, with 4000 psi tubing pressure could not open with 4500 psi, with 4250 psi tubing pressure opened valve with 6000psi control pressure. Operated valve 3 times ok. Bled pressure from control line and tubing, safety valve closed and held ok. Pressured tubing, opened safety valve,flowed well for 15 min on 1½" choke - ok. Spotted mixture of 1 bbl Kontol 2 bbl methanol and 12 bbls diesel in tubing. Actuated sub sea valves 3 times. Final SI pressure after 12 hrs 4100 psi.
		1 hr. Bled pressure off down hole safety valve control line closing safety valve. Observe well for 1 hr. - ok.
		2½ hrs Closed hydraulic master and swab valves. RD lubricator and test lines. Preparing to dive.
Oct. 15		0730 RU OSI diving equipment, building pipe line targets
		2 hrs Made dive, released 5" riser connector, released 2 3/8 annulus line, closed needle valve on swab valve and disconnected hose, released junction box.
		2 hrs Pulled 2 3/8 annulus line, swab valve control line, hose bundle and 5" riser.
		2 hrs Ran Vetco corrosion cap, preparing to dive
		1 hr. Dive to install corrosion cap. Cleared cellar deck
		17 hrs Moving OSI diving equipment to cellar deck, RU diving equip. Welders fabricating pipe line targets for 4½" spools
		Note: Comex diving team reduced to 4 men at 1600 hrs 14 Oct. 1971
Oct. 16		0630 Continue building 4½" tie-in spools
		3 hrs RU OSI diving gear, fabricated pipe line targets
		6½ hrs Divers disconnected guide lines 1 and 4 Disconnect No 3 guide line and moved to post No 4. Disconnected No 2 guide line and TV guide lines. Moved rig 15' to the stern.
		4 hrs Divers took measurements for templates.Lowered made up and retrieved templates
		14 hrs Welders building flow line tie in spools.

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 10

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Oct. 17 P.T.D. 10720	18 hrs	Welders finished flowing spools, X-rayed same - OK
	6 hrs	WOW At 0630 WOW Preparing BOP stack for drilling operation
Oct. 18	0630	WOW
	1 hr.	WOW
	12 hrs	Made 6 dives, installed production and service line spools. Bolts on clamps hammer tight only
	1 hr.	WOW
Oct. 19	At 0700	preparing to dive
	3 hrs	WOW
	4 hrs	Made 2 dives to tighten bolts with hydrauli impact wrench
	17 hrs	WOW
Oct. 20	14 hrs	Made 5 dives, tightened all Cameron clamp bolts Connected Payne hose bundle junction box. Pressured each control hoes and tested individually. Pressure tested 4½" flow lines as follows: Closed annulus valve, pressured lines to 4300 psi from Gulf Tide, closed both Mc Evoy flow line valves, pressure tie-ins and tree loop to 6000 psi from Ocean Viking, pressure bled back slowly, lost 200 psi in 10 min, pressure lines fro Gulf Tide to 6150 psi, held 5750 psi on tie-ins an loop for 2 hrs - ok. Bled pressure to 2800 psi. Opened annulus valve, both Mc Evoy valves, disconnected test hose, closed needle valve and plugged.
	10 hrs	WOW
Oct. 21	0700 WOW Gulf Tide reports accummulator line in the hydraulic control system leaking	
Oct. 22	3 hrs	WOW
	5½ hrs	Make 5 dives to check O-rings in Payne junction box, Gulf Tide pressured hoses bundle to check for leaks - ok. (Gulf Tide reported leak at0600) Moved the 30 in. clamp and installed clamps on 4½ in. flowlines
	15½ hrs	WOW
	At 0700	WOW

DAILY REPORT DETAILED

LEASE 2/4- WELL NO. 4AX SHEET NO. 11

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Oct 23	24 hrs	WOW 1 tug arrived
Oct. 24	0700	WOW
	24 hrs	WOW Made 1 dive to inspect Payne junction box no leaks Second tug arrived at 2340 hrs 2 tugs standing by
Oct. 25	0700	Flowing well
	7½ hrs	WOW
	16½ hrs	Gulf Tide flowing well. Made 2 dives to check for leaks - all ok 3 tugs stand by 3rd tug arrived 1115 hrs
Oct. 26 P.T.D. 10720BPD	19 hrs	Made inspection dive, loading out OSI diving equipment, moved rig 60' ahead and set spar buoy, pumped barge up and secure rig for move, ran in all anchors and last anchor bolstered 0050 hrs Oct. 26 1971 End of report on 2/4-4AX Called G/T to shut in well 2/4-4AX at 1600 hrs, rig clear of location 0100 hrs called G/T to open well

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 1

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Nov. 2	24 hrs	Under two---position 56.70 51 N 03° 23 E Heading 205° ETA 1000 hrs Pacific-Atlas and Bugsier 26 Tugs towing O/V
Nov. 3	6 hrs	Rig under tow
	18 hrs	WOW--Barge at 70' draft--0600 position 6.5 miles west of 2/4-4AX
	3 tugs,	Pacific, Atlas And Bugsier 26 in towing position Holding.
Nov. 4	6 hrs	WOW
	7 hrs	Under tow, have Atlas and Bugsier 26 holding stern and Pacific holding bow
	2½ hrs	Kent Shore found spar buoy marking location 4AX now Ansgariturm standing by on spar buoy.
	8½ hrs	Dove barge to 70' draft and WOW 0600 position 56° 34N 06 E 3.5 K miles west of 2AX
Nov. 5	22 hrs	WOW
	2 hrs	Under tow to position over well At 0600 hrs 2.2 miles NNW of location 56° 36 N 03° 10 E Heading of 140° Tugs Pacific, Atlas and Bugsier 26
Nov. 6	3 hrs	Under two to 2/4AX Unaale to get positioned over well due to heavy seas
	21 hrs	WOW position at 0600 56° 36.1 N & 03° 05.5' E.
	Tugs Pacific, Bugsier 26 & Hermes. Hermes arr. at 2230 hrs, Atlas departed for Eksberg, Denmark to refuel & then return to replace Hermes.	
Nov. 7	24 hrs	WOW. Position at 0600: 56° 27.5' N & 03° 13' E 310° T. 7 nautical mi. S. 4AX
Nov. 8	24 hrs	WOW 10½ miles south of 4AX location 56° 24 N 03° 12.6 E Heading of 235°
	Tugs Pacific, Bugsier 26 & Hermes	
Nov. 9	24hrs	WOW position 56° 23.5 N 03°--08° 350° heading--Tug Pacific on bow lead tow lin Tug Hermes broke tow line on stern 1255 hrs. Tug Bugsier 26 broke stern tow lin 0230 hrs, will re-connect tow lines in first daylight hrs.

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 2

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Nov. 10	22½ hrs	WOW
	1½ hrs	Under tow and pumping up barge Tugs Atlas, Hermes and Pacific 10n miles south of location 4AX heading
Nov. 11	7 hrs	Under tow to 4AX location and positioned barge within 35' of well head
	13 hrs	Run all anchors and re-ran No 5. Positioned barge approximately over well and pump barge down to 80' draft. Ran UTV and locate well head slightly to starboard
	1 hr.	Install 4 guide lines and 2 UTV lines. Divers disconnected junction box from tree and inspected tree for leaks--gas bubbles coming from 20"X 13/8" annulus-same as when drilled well--opened ½" needle valve on corossion cap for 5 minutes pressure did not bleed off.
	3 hrs	centering "O/V" over well--offloading supply boat and installing decompression chamger no 2--in cellar deck.
		0615 hrs installing de-compression chamber in cellar deck and decompressing divers
Nov. 12	7½ hrs	Finish installing de-compression chamger no 2 in cellar deck & decompress divers. Pump through O/V payne hose bundle to see if all lines are in order-observing this operation visually with Payne hose bundle on O/V cellar deck.
	2 hrs	Made dive connect O/V Payne hose bundle to G/T Payne hose bundle-connected hose from O/V cellar deck to ½" valve on corossion cap, check P-2 Hose on x-tree junction box to confirm P-2 in correct position
	4½ hrs	Pressure reading on corossion cap 4200 psi bled down in 10 min. build u- to 4200 psi in 2½ hrs. G/T pumped through each hose in hose bundle (Payne) with end of hose visually observed on O/V cellar deck--found G/T-P-1=O/V-P-5---G/T-P2=O/V-P4---G/T-P3=O/V-P3---G/T-P-4=O/V-P2 (this line P-2 plugged (on O/V-P4 had diesel oil in returns) G/T-P5=O/V-P1 G/T changed Koomey panel to equal junction on tree and O/V hose bundle---G/T pressure up on P-2 with 5000 psi line still plugged-O/V pressured up on P2 to 600 psi still plugged
	7½ hrs	Dive, closed manual master valve & connected hose direct to swab valve-check all ½" plugs in tree found to be secure--decompress divers and bleed pressure from corossion cap (can close manual 2" annulus valve and open hydraulic 2" annulus to bleed

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 3

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Nov. 12 continued		off pressure and install gauge and ½" valve between the two valves to check pressure in annulus made dive and greased swab valve and operated it 3 times--disconnect P-2 hose on G/T side of junction box--G/T pumped 15 bbl through P-2 is unplugged---O/V pumped through P-2, found line clear--disconnect corossion cap and pull to surface--disconnect junction box O/V & G/T Payne hose bundle and pulled hose to surface--Corossion cap seals alright do not show to be leaking 2½ hrs Rig up and test and prepare to run 5" riser--and testing to 6000 psi on safety joint and connector 5" riser 0630 Running riser 5"
Nov. 13		5 hrs Ran 5" riser and test to 6000 psi with Gator Hawk. 1 hr. Displace riser with dye water mixed with methanol 5½ bbls 1 hr. Run payne hose bundle to x-tree 2 hrs Made dive connect junction box to x-tree from O/V checked manual annulus valve, valve was in closed position-as reported-inspected tree for leaks and 2" vetco union from annulus to service flow line 9 hrs WOW 3' to 5' heave with 14' swells, did not latch up 5" riser-and De-compress divers. 6 hrs WOW 0630 WOW 10' swells Mw: 14.3, Vis: 50, Pv: 28, Yp: 22
Nov. 14		24 hrs WOW Made dive - greased hydraulic master valve & two wing valves. Pulled 5" riser to cellar deck. Checked 1/4" stainless steel tubing, has 1800 psi pressure, bled cumulated gas off, pressure gack to 0. Pressure built up to 500 psi in 2 hours, bled back to 0. Pressure built up to 150 psi in 2 hours & stabilizes, bled back to 0. Pressu Pressure built up to 100 psi in 2 hours, bled back to 0 at 0600 hrs. At 0630 hrs Pressure 0 psi

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 4

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Nov. 15	8½ hrs	WOW - Pressure increased on 1/4" SS down hole safety valve line 0 to 600 psi in(8hrs)
	1 hr.	Ran 5" riser---COOH with 5" riser-Gale warning
	8½ hrs	WOW---
	6 hrs	Ran 5" riser-displace with 5½bbl methanol and dye water, landed and divers tightened all studs on riser connector,installed Otis tree, installed Baker wire line BOP and tested riser to 5000 against closed tree swab valve,bled pressure on riser back to 1000 psi,opened swab valve pressure up to 1200 psi, open hydraulic master pressure up to 1250 psi indicating both valves open, Tested manual master with 5000 psi for ½hr. bled pressure back to 1000 psi opened service wing valve pressure dropped to 0 psi, closed service wing valve and pressured up on - production wing valve with 1000 psi, opened product. wing valve, pressure dropped to 0 psi, closed product wing valve, made dive and closed both Mc Evoy valves on flow lines, opened and closed Hydraulic annulus valve, diver reports valve worked properly, open production and service wing valves and test to 5000 psi,divers checked for leaks, bled pressure to 1000 psi, open Hydraulic annulus valve no pressure change, increased pressure to 4300 psi, bled pressure back to 1000 psi, closed Hydraulic 2" annulus valve, Open 2" manual annulus valve slowly 16 3/4 turns,increased pressure on 2" Hydraulic annulus valve to 2000 psi, open hydraulic 2" annulus valve pressure dropped down to 100 psi immediately, pumped 2 3/4 bbl into annulus at 250 psi, stopped pumping pressure down immediately to 125 psi, De-compressing divers.
	At 0630	Pressure build up on 1/4" ss down hole safety valve line, in 4½ hrs 240 psi
Nov. 16	3 hrs	De-compress divers
	4 hrs	Pump 5 bbl dye water at 250 psi into annulus shut down pump pressure immediately down to 100 psi, observe tree on UTV and could see leak on 20" x 13 3/8" annulus, made dive and pumped 10 bbl dye water into annulus (4½" tubing x 9 5/8")divers reported after pumping 4 bbls dye water was coming out the 20" x 13 3/8" annulus indicating the 9 5/8" casing and the 13 3/8" casing was split,pump pressure was 250 psi when pumps shut down pressure down to 100psi immediately, closed service and production wing valves and pressured riser to 1000 psi and closed Hydraulic master valve.

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 5

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Nov. 16 continued		17 hrs WOW At 1700 hrs Closed swab valve and pulled riser (rotated riser and unscrewed from safety joint, just above connector, pressure on 1/4" SS-down hole safety valve from 0100 to 0600---380 psi 0630 WOW MW: 14.3, Vis: 50, Pv: 32, Yp: 18
Nov. 17		24 Hrs WOW----- 1/4" ss down hole safety line static with 380 psi last 18 hrs --- Disconnect hose bundle in celler deck of O/V
Nov. 18		24 hrs WOW
Nov. 19.		6 hrs WOW 9 hrs Run and test 5" riser and test to 6000 psi with Gator Hawk, screw into safety joint and make dive and back out hold down studs on riser connector, pull riser and check safety joint re-run riser testing connections with 6000 psi, made dive and run in hold down studs on connector 2½ hrs Rig up Otis tree and test all lines and tree with 6000 psi. Tested riser with 5000 psi, reduced riser pressure to 1000 psi opened swab valve, pressure increased to 1250 psi 1½ hrs Made dive and opened manual master valve full open with 17 3/4 turns--de-compress divers and pressure riser to 3000 psi, open Hydraulic master valve, pressure on riser increased to 3550 psi 3 hrs Started pumping into tubing with down hole safety valve in closed position with initia pressure of 4300 psi, rate 1½ bblpm at 30 bbl in pressure 3500 psi at 60 bbl in 2500 psi-- at 90 bbl in 1500 psi-- 130 bbl in 325psi, reduced pumping rate to 1bblpm at 140bbl in 140 psi, reduced pumpoi g rate to ½bblpm at 150 bbl in 0psi---168bbl in 0psi small flow back for 20 min. 2 hrs Opened safety valve with 4000 psi, pumped in slowly 50bbl mud, let set 30 min, pumped 25bbl, obtained fill up, total 14.3ppg mud pumped into tubing 243 bbls

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 6

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Nov.19 continued		0630 Well static, observing well,will observe for 6 hrs before pulling down hole safety valve. Mw: 14.3, Vis: 50, Pv: 34, Yp: 15
Nov. 20		At 0630 tubing pressure "0" psi ½ hr. Pump 25 bbls of 14.3 ppg mud into tubing obtained fill up. 2½ hrs Observed well. Started flowing back, closed in, had "0" pressure. 1 hr. Open well to B.J. tanks, flowed back 1½ bbls in 1½ min. Shut in, press increased to 100 psi. 1 hr. Pumped in 51½ bbls of 14.3 ppg mud at 1 bpm. Pressure decreased to 0 after pumping 10 bbls. 4½hrs Observed well, pressure built up to 150 psi. 1 hr. Pumped in 50 bbls of 14.3 ppg mud at 1 bpm. Initial pumping press 150 psi, decreased to 0 psi after pumping 15 bbls. 6½hrs Observed well, 0 pressure. 1½ hrs Tubing pressure increased to 100 psi. Opened in 1 bbl, opened well flowed back 1 bbl in 26 min. 1 bbl in 20 min, 1 bbl in 18 min, 1 bbl in 9 min, 1 bbl in 5 min, shut in, pressure 250 psi. 1 hr. Pumped in 55 bbls of 14.3 ppg mud at 1 bpm, maximum pumping pressure 450 psi, minimum pumping pressure 100 psi, shut i pressure 0 psi. 3hrs Observed well, pressue 0 psi. Mud pit volume 870 14.3 ppg. Mw: 14.3, Vis: 50, Pv: 30, Yp: 18
Nov. 21		5 hrs Observe well, no flow. Filled tubing wit 3 bbls mud 4½hrs RU Baker. Ran 3 5/8" OD safety valve pulling tool stopped at 299'. Made 4 run with 3 3/4" OD Impression block, stopped each time at 294. Made 1 run with 3½" OD impression block, stopped at 296' then fell through, ran to 546' (old Baker wire line measurement for down hole safety valve 546') Impression showed top of safety valve. Ran 3 7/8" OD Impression block, stopped at 294'. Impression on 4½" seal lock pin

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 7

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Nov. 21 continued		undergage, on block
		4 hrs Made dive, removed hose tray and re-connected TV guide lines to lower TV to observe 20" x 13 3/8" annulus. Closed manual master valve 23 1/4 turns, opened manual master valve 23 1/4 turns - fully open.
		1½ hrs Tubing started to flow, pumped in 25 bbls of mud at 750 - 700 psi
		4 hrs Observe well filling tubing as necessary, used 4 bbls of mud total.
		5 hrs Observing well - static.
Nov. 22		
		3 hrs Observe well-static. Gas bubbles working through mud to surface.
		2 hrs Close hydraulic master valve and swab valve, no decrease in bubbles. Opened valves and pumped 2½ bbls of mud into tubing at 1 bpm. 700 psi pumping press. Closed hydraulic master valve, tested with 2000 psi - OK. Increased pressure to 2500 psi, closed swab valve. Released pressure on riser
		1 hr. Observed mud in top of riser no bubbles.
		1½ hrs Released 5" riser at safety joint, pulled riser (seas 20' - 30')
		16½hrs WOW At 1815 closed down hole safety valve and disconnected hose bundle at cellar deck. BFA Helicopter from Great Yarmouth turned back due to weather.
		Mw: 14.3, Vis: 54, Pv: 39, Yp: 15
Nov. 23		24 hrs WOW
Nov. 24		24 hrs WOW and offloading work boat
Nov. 25		14 hrs Finish running 5" riser install Otis tree-displace riser with mud latch into safety joint, pressure hosebundle leak in junctic box, made dive disconnect junction box on tree, closed ½" needle valve on swab valve disconnect hose on swab valve pulled hose to cellar deck, pull payne hose bundle to cellar deck (all on dive No 1) replace swab valve hose with new hose section and test hose, found accumulator hose backed off in junction box, tested all lines in junction box, made dive No 2, ran swab valve hose and payne hose bundle and connected junction box

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 8

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Nov. 25 continued		to tree and swab valve and opened ½" needle valve on swab valve, test riser and Otis tree to 5000 psi, bled riser pressure to 1500 psi. Opened swab valve pressure on riser 1550 psi, bled riser pressure to 0 psi, opened Hydraulic master valve pressure increased to 550 psi, bled pressure to 0 psi, recovered 3½ bbl gas cut mud to BJ tank, pressure riser to 360 psi, opened down hole safety valve pressure on riser up to 650 psi, bled pressure back to 100 psi recovered 12½bbl gas cut mud, pressured riser to 400 psi ran impression block 2 times checking measurements, impression same as before and measurements check out to be tubing connection screwed into tubing hanger, measurements check out with Vetco drawing, after 4 hrs pressure on well is 550 psi, pumpedinto well with 15 bbl mud 1½bbl pm - 1850 psi, shut down pressure 1550 psi, closed hydraulic master valve- down hole safety valve and pressured riser to 2500 psi, closed swab valve 10 hrs. WOW, pulled 5" riser
Nov. 26		18 hrs WOW, 6 hrs Waiting on equipment Mw: 14.4, Vis: 50, Pv: 34, Yp: 14
Nov. 27		2 hrs Offloading jars from supply boat 22 hrs Ran 5" riser unable to stab due to vessel heave, pull riser, made dive no. 1 to loosen studs in connector and retrieved connector, made up connector on 5" riser and reran-displaced riser with mud, tested all riser connections with 5000 psi Gator Hawk, landed riser and made dive no. 2 tighten hold down studs on connector, installed Otis test tree and test tree and riser to 5000 psi, bled pressure on riser back to 1500 psi open swab valve, pressure increased to 1600 psi, bled pressure back to 950 psi, open hydraulic master valve pressure drop to 750 psi, pressured up to 4200 psi on riser 6000 psi on opening line to down hole safety valve,

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 9

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Nov. 27 continued		unable to open down hole safety valve, bled pressure on riser down 1500 psi, opened down hole safety valve pressure on riser, dropped to 1200 psi, killed well with 270 bbl 14.4 ppg mud max pump pressure 2250 psi, rate 5 bpm, shut down pressure 950 psi, in 1½ hrs shut down pressure to 30 psi, open well to BJ tank well pressure to 0 psi immediately recovered 1 bbl mud to BJ tank, observe well for 1 hr., well dead and static, nipple up Bowen BOP and stripper head, ran 3 3/4" od-rote-cam casing swedge, on 2 3/8" tubing with 3 3/4" bowen jars up in riser, did not touch anything, COOH, RIH with 3 3/8" roto cam swedge unable to get swedge through bottom of riser, COOH, RIH with 3.875 3 point casing roller, tightplace 282' 294' rotated and passed and spud through for 2 hrs on tight palces, free down to 321'-COOH Lay down tubing and tools, rig down stripper head and Bowen BOP, rig up 5" riser and Baker lubricator closed swab valve and pump through valve with 700 psi, unable to make valve hold pressure from above, open swab valve and pump 15 bbl mud into riser with 3000 psi on opening line of down hole safety, 1100 psi max pump pressure, bled pressure to 0 psi immediately, ran GS safety valve retrieving tool, worked valve loose by hand at 543', pulled valve up to 410' sheeve fouled on top of lubricator, 0630 Safety valve pulled and on rig floor last chopper overnight on O/V , fogg 0630 In route to Forus
Nov. 28		3½ hrs Finish COOH with down hole safety valve and repair and re-rig lubricator, left 5 packing chevron seals in tubing from safety valve 2½ hrs Ran "RGB" back pressure valve to 9700' ran out of 3/16 line COOH and changed out 3/16th line for .092 7 hrs Ran and set "RGB" BPV to 9960' holds from below only, ran "RZB" to "R" nipple at 9917' holds pressure from both ways, Ran and set "FWG" plug in "F" nipple at 328' rig down Lubricator Otis test tree and 5" riser 1 hr. Pulled 5" riser 4 hrs Made dive and removed connector from tree, cut bolts on cameron clamps on

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 10

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Nov. 28, Continued		flow lines and 2" clamp on 2" annulus, decompress divers, rig to pull tree
		6 hrs WOW
		0630 WOW
Nov. 29		3 hrs WOW
		4 hrs Dive No 1, impact wrench failed to work, water depth cold water caused hydraulic fluid to thicken, pulled wrench to surface and thinned hydraulic fluid with bray oil
		3 hrs Dive no 2, stab x-tree connector tighten hold down studs and loosened hold down studs on bottom x-tree conn.
		3½ hrs COOH with x-tree, divers reported when tree picked up dye water came to surfac
		4 hrs Dive no 3 cleaned surface of seal area and installed plug in tubing hanger down hole safety valve port, divers found damaged P-seal laying on top of hanger, landed x-over vetco to national closed H-4 connector and pull test to 100000 lbs COOH with running string
		6½ hrs Preparing to run BOP stack
		0630 Prep. to run BOP stack.
Nov. 30		4 hrs Ran BOP stack and Choke and kill lines latched stack and pull test 100000 lbs
		½ hr. COOH with running string
		7 hrs Run 16" riser
		1½ hrs Nipple up cellar deck
		2 hrs Dive No 1 work on 2" annulus line and run 5" riser and test riser connections with 6000 psi. Displace riser and made up riser safety joint to tubing hanger
		4 hrs Rig up Otis test tree and lubricator made dive No 2 connected "2" annular line and tested to 5000 psi opened annular valve and pulled "FWG" plug
		1 hr. Test 9 5/8" casing pumping through 2" annular line with 9½ bbl mud 0 psi, observed mud returns 13 3/8" x 20" casing annulus, closed Hydril and tested tubing hanger packing, laurent seals, AX gasket and 5" riser safety joint with 3500 psi, Retest 9 5/8" annulus with 2½ bbl mud immediate communication, 0 psi
		4 hrs Open sliding sleeve at 9871'
		0630 COOH with shifting tool
		Mw: 14.4, Vis: 53, Pv: 33, Yp: 18

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 11

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Dec. 1	½ hr.	COOH with shifting tool
	2½ hrs	Displace 4½" tubing and 9 3/8" casing with 942 bbl 14.4 ppg mud, had circulation while displacing, lost est. 50 bbl mud
	½ hr.	Pressure test 9 5/8" casing to 900 psi, holding, increased pressure to 1200 psi, pressure dropped immediately to 0 psi, observed leak 13 3/8" x 20" annulus, let set 10 min pumped into tubing with 1½ bbl 0 psi and leak same as before, all pressure was applied through open sliding sleeve, and mud was circulated through sliding sleeve, 9871' shale shaker had small pieces of plastic coming over screen, this plastic probably stopped leak in casing and held 900 psi
	5½ hrs	Made two runs to close sliding sleeve properl tested to 3000 psi, Dive No 1 to release hold down studs on tubing hanger
	1 hr.	Rig down baker wire line unit.
	3½ hrs	Rig up Schlumberger-- WO divers to decompress
	2½ hrs	Dive No 2, finish releasing tubing hanger hold down studs and pick up tubing hanger 6" tubing hanger free
	4 hrs	Schlumberger ran in hole with Mc Cullogh 4½" chemical tubing cutter, tubing hanging wt. 136000lbs PU to 156000 lbs cut off tubing at 9891' tubing wt down immediately to 136000lbs COOH with tubing cutter
	1½ hrs	Tubing cutter dragging from 2500' to 1575' would not go back down, stuck failed to work loose pulled out of rope socket, COOH
	2½ hrs	Ran SCH. rope socket and x-over to Baker finishing tool pulled fish up to 1468' sheared pin in fishing tool, COOH and dressed latching tool with new shear pins, RIH and failed to latch into fish, COOH and with latch tool redressed tool with new shear pins
	0630	GIH with latching in tool
Dec. 2 P.T.D. 9891'	4 hrs	Fishing and jaring Mc Cullogh chemical cutter from 1468' to 550' came free and COOH
	1½ hrs	Pick up tubing 5' pump 20 bbl mud mix and pump 100 sx class "E" 16.5 ppg slurry cement and displaced with 114.4 bbl mud

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 12

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Dec. 2 continued	1½ hrs	COOH laying down 5" riser and 4½" tubing to 8639' pump 20 bbl mud through tubing
	9½ hrs	COOH laying down 4½" tubing washed, tubing inside and out, cleaned and doped all boxes and pins, broke out all subs and tools, recovered 15.5' of cut joint, perfect cut
	3½ hrs	Nipple down cellar deck pull choke and kill lines and yellow pod, Dive No 1 disconnect 2" annular line
	3½ hrs	Pull mud riser
	½ hr.	Prep to pull BOPS 0630 rigging up running auto lock.
		Mw: 14.4, Vis: 50, Pv: 30, Yp: 15
Dec. 3 P.T.D. 9551'	4½ hrs	Pick up running string, pull BOPS and set on cellar deck
	1½ hrs	Run landing string prep to pull tubing hanger adapter spool
	1½ hrs	Dive No 1, release hold down studs on tubing hanger spool adapter, pick up spool and diver checked for wear bushing and measured from 13 5/8" well head down to top of packing nut 9 5/8" casing 29 3/4 checked for snap ring hold down for 7" casing, not in well head
	1½ hrs	Pull tubing hanger adapter spool to cellar deck, at same time pulle blocking plug in kill line side of BOP stack
	2½ hrs	Run National x-over to Vetco spool, pull test to 100000 lbs, dive No 2 to change hydraulic hose from Vetco H-4 connector to National auto-lock and release running auto-lock
	½ hr.	Pull landing string
	5 hrs	Test BOP stack to 5000 psi prep. to run and install new laurent ring in BOP bottom auto lock
	7 hrs	Hung BOP in cellar deck over slot, ran and stab stinger into well head running BOP and choke and kill line
	0630	Running BOPS

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4 AX SHEET NO. 13

DATE	TOTAL DEPTH		NATURE OF WORK PERFORMED
Dec. 4 P.T.D. 9551'		2½ hrs	Ran BOP stack
		4 hrs	Run 16" mud riser
		1 hr.	Nipple up cellar deck
		1 hr.	Run seat protector retrieving tool
		1½ hrs	Run 9 5/8" test plug, close 5" rams, test packing seal on 9 5/8" casing with 1000 psi, down to 0psi in 2 min. Pressure up to 2500 psi down to 0 psi in 2 min. mud returns on 13 3/8" x 20" annulus observed with UTV, COOH
		4 hrs	PU-6 x 6½" drill collars run below test plug 9 5/8" set plug to re-test 9 5/8" packing seal, closed rams 5" pressured annulus side to 975 psi down to 0 psi 2 min. pressured to 3000 psi 8 min. holding, pressured to 4000 psi down to 3900 psi in 5 min pressure to 4300 psi down to 3200 psi in 2 min. pressure to 4300 psi down to 4200 psi in 6 min 4200 psi down to 4050 psi in 28 min with 4050 psi on annulus pressured inside 9 5/8" casing to 100 psi, holding, pressure up to 2000 for 12 min. holding, during this time, pressure drop on annulus from 4050 psi down to 3950 psi in 30 min release pressure opened rams and COOH
		2 hrs	Closed master gate and pressured up on 9 5/8" casing and packing seal on annulus with 200 psi down to 100 psi in 5 min. pressured up to 1000psi down to 975 psi in 3 min pressured up to 3500 psi holding for 5 min. pressured up to 4300 psi down to 3700 psi in 5 min. observed mud returns on UTV 13 3/8" x 20" annulus, release psi.
		5½ hrs	Pick packing nut retrieving tool, checked tool on floor worked properly ran tool in hole strap welded, all tool joints on running string, backed out packing nut and COOH, recovered packing nut and 3½" of rubber packing element rest still in hole
		2½ hrs	Run 9 5/8" tap and washing tool RIH and re-strap all tool its. made up tap with 20 rounds, wash out and back out tap 15 turns re-tighten tap, back out tap and COOH when bumper sub started to hang up
		0630	Have ran new packing nut, ran and made up to proper torque.

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 14

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Dec. 5 P.T.D. 9551PBD	1 hr.	RIH with 9 5/8" Vetco packing nut, and made up tight with 20 turns, COOH
	16½ hrs	Closed master gate and test (no 1,2,3,4) 9 5/8" casing and seal to 4300 psi, leaked down to 3750 psi in ½ hr. found choke valve leaking in BOP, RIH and check packing nut was tight, close blind gate and test 9 5/8" casing with 4300 psi leaked down to 4250 psi in ½hr GIH with 9 5/8" test plug and test 9 5/8" packing seal to 4300 psi for ½ hr , COOH and retest 9 5/8" casing to 4300 psi leaked down to 4250 psi in ½ hr.
	3½hrs	Pull marine 16" riser
	1½ hr.	Pull choke & kill line
	2½hrs	Run stinger and latch running auto lock
	3½hrs	Pull BOPS
	2½hrs	Made dive and connect hose to Vetco H-4 conn.
	0630	Vetco x-over on cellar deck
Dec. 6 P T D 9551'PBD	½ hr.	Pull Vetco x-over to national spool
	7½hrs	Repair snap lock on 16" riser
	2½hrs	Rig up to run snap ring and made dive and set snap ring for 7" casing hanger into 13 5/8" well head housing (Vetco)
	3½hrs	Ran x-over Vetco to National spool and made dive No two to change hoses from H-4 connector to Auto lock
	3 hrs	Move BOPS over cellar deck, test BOPS to 5000 psi, made repair on fail safe valve on choke line, outside valve
	3½hrs	Preparing to run BOP stack, ran stinger through stack and stabbed into well head landed running auto lock and latched to stack and closed 5" rams on stinger
	1½ hrs	Ran BOPS choke & kill lines landed on National x Vetco x-over spool closed auto lock and test to 2000 psi
	1 hr.	Pull running string
	1 hr	Running 16" riser
	0630	Running 16" riser
	Mw: 14 4, Vis: 50 Pv: 31, Yp: 15	

2950-1-67. Cardum

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 15

DATE	TOTAL DEPTH		NATURE OF WORK PERFORMED
Dec. 7		4½ hrs	Ran 16" mud riser and nipples up cellar deck
P T D 9551' PBD		½ hr	Test BOPS to 4300 psi with blind gate closed
		6 hrs	Ran and pull wear wear bushing snap ring down below groove built up pins on wear bushing running tool RIH with wear bushing running tool and engaged snap ring pulled up to groove snapped into place, COOH with wear bushing running tool, RIH and set wear bushing test with 1000 psi and 50000 lbs pull test, COOH with running string
		5 hrs	Pick up BHA. RIH 2053' noticed leak in snap lock, connector
		1 hr.	COOH with bit
		5½ hrs	Pull 16" mud riser
		1½ hrs	Repairing snap lock
		0630	Working on snap lock
		Mw: 14 3,	
Dec. 8		7 hrs	Repair snap lock and Dive No 1 to check hub on BOPS
P.T.D. 9551'		17 hrs	WOW, while WOW tested snap lock on test stump will not engage segments properly changing out for Auto Lock
		0630	WOW
Dec. 9		8 hrs	WOW
P.T.D. 9722' top of liner, 9555' top of cement		2½hrs	Ran 16" mud riser with Auto-lock connect. in place of snap lock
		2 hrs	Rig up cellar deck
		1 hr.	Ran in hole to 2053'
		8½hrs	Finish GIH picking up drill pipe to top of cement at 9555'
		1½hrs	Drilling cement at 9555' to 9722' top of liner tie back sleeve, cement soft
		½ hr.	Circulating bottoms up
		0630	Circulating
		Mw: 14.4, Vis: 57, Pv: 30, Yp: 16	

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 16

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Dec. 10	2½ hrs	CIrculate and condition mud
	3½ hrs	COOH
P.T.D. 9772'	2 hrs	Made up 7" hanger and running assembly and stood back in derrick
	1½ hrs	Lay down 6½' drill collars
	½ hr.	Cut and slip drilling line
	6 hrs	Wait on Tropic Shore to arrive, Tropic Shore passed through storm in route to rig, at times less than 1 knot speed, while waiting repaired cameron type "F" valves choke and kill line valves in cellar deck
	4½ hrs	Pick up BHA and RIH 9722'
	1 hr.	Drilled cement from top of liner down to 9772' 50' cmt drilled soft
	2 hrs	Circulate and condition mud
	½ hr.	COOH with bit No 3=6"
	0630	COOH
	Mw: 14.4, Vis: 50, Pv: 35, Yp: 18	
Dec. 11	2½ hrs	Finish COOH with bith No 3
P.T.D. 9772'	3½hrs	RIH with BOT 7 3/8" mill and dress off top of tie back sleeve
	2 hrs	Circulate and condition mud
	7 hrs	COOH laying down 5" drill pipe and pull Vetco wear bushing
	9 hrs	Running 7" OD, 29 lb N-80 lt & c casing and tie-back sleeve, first three connections Baker locked, testings connections with 5000 psi (Gator-Hawk) 3800 lbs, torque using Baker seal thread lubricant
	0630	Running 7" casing 115 jts in hole
Dec. 12	9½ hrs	Running 7" tie back string
P.T.D. 9772	½ hr	Ran 9 jts of 7" space out string. Ran to top of liner at 9722'
	1 hr.	RD 7" space out string
	1 hr.	RU 7" casing hanger sub & pick up casing hanger, unable to make up hanger sub into casing hanger.
	9 hrs	Waiting on x-over sub to be made at NORSCO
	2 hrs	Ran 9 jts of 7" casing, made up x-over sub into hanger, a total of 240 jts of 7" casing below hanger
	0600	Running landing string, picking up last joint of string
Dec. 13	½ hr.	Finish running 7" landing string
P.T.D. 9699' to float collar	2½ hrs	Rig up BJ and pump 10 bbl fresh water ahead and 1400 sc class "E" cement 16.6 slurry weight mixed with fresh water, displaced with 14.4 ppg mud 359 bbls, plug bumped with 2500 psi, job completed 0900 hrs Dec. 12, 71

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 17

DATE	TOTAL DEPTH		NATURE OF WORK PERFORMED
Dec. 13, continued			washed out through choke and kill lines and returned through mud riser, recovered 20 bbl cement
		1½ hrs	Land casing hanger in Vetco well head, pull test lock rings with 50000 lbs
		1 hr.	Rig down BJ
		1½ hrs	Released landing string and tightened packing nut, pick up and wash out through landing string around top of well head casing hanger packing COOH lay down landing string
		4 hrs	Closed blind rams and test packing nut with 5000 psi, ran in hole with secondary packing, set and test to 5000 psi COOH with running string
		4½ hrs	Pull choke and kill lines and 16" riser
		5 hrs	Pull BOPS
		2½ hrs	Pull Vetco H-4 connector x-over to national 13 3/8", made dive no 1 to change hydraulic hose from H-4 connector to national retrieving auto lock, retrieved cellar deck
		1 hr.	Rig up and preparing to run Vetco tubing spool
		0630	Same
Dec. 14 P.T.D. 9699		2½ hrs	RU & ran set Vetco Tubing Hanger Housing pulled running tool
		2 hrs	Dive No 1 , locking stud Vetco tubing hanger connection, made first lock in. dropped impact wrench.
		7½ hrs	Pulled 5" rams & install 3½" rams, blanked off kill line on BOP
		3 hrs	Pulled DP to cellar deck & changed out sub on top of stack
		5 hrs	RU & test BOP, choke & kill line, 3½" rams & 4½" rams to 5000, OK. Tested Hydril to 2500 psi
		2 hrs	Made dive 2 & tighten down valves on Vetco tubing connection (16 studs to lock ;down)
		2 hrs	Rig up to run BOP
		Mw:14.4, Vis: 49, Pv: 32, Yp: 16	

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 18

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Dec. 15	2 hrs	Running BOP stack & choke & kill line
P.T.D. 9699	1 hr.	Latched BOP, pull tested to 100,000 & pulled running string
	5 hrs	Rigged up & ran 16" mud riser. Did not latch riser (max heave 10 ft)
	16 hrs	WOW
	2250 hrs	Pulled & layed down mud riser. Pulled & layed down choke & kill line. Picking Picking up 3½" tubing & stand back in derrick while WOW
	MW: 14.4, Vis: 50, Pv: 32, Yp: 16	
Dec. 16	8½ hrs	WOW, picked up total 303 jts 3½" EUE tubing
P.T.D. 9699'	4½ hrs	Ran 16" mud riser
	3½ hrs	WOW to stab riser
	2 hrs	Pull riser and C & K line to cellar deck
	5½ hrs	WOW test all WKM valves on Vetco tree 7000 psi worked valves and retest to 7000 psi
Dec. 17	7 hrs	WOW
P.T.D. 9699	6½ hrs	Ran 16" mud riser and choke and kill lines, nipple up cellar deck
	1 hr.	Test choke and kill lines to 5000 psi
	3 hrs	Made dive and connected annulus 2" line to Vetco spool, test 2" annulus line to 5000 psi, closed master gate (BOPS) test to 650 psi, ring gasket on H-4 Vetco connector leaking, made dive retighten all studs manual lock down on H-4 connector, test to 5000 psi, bled off 60 psi in seven minutes
	1½ hrs	Spotted dye water, no leaks at wellhead 150 psi bled off in 10 min.
	5 hrs	Trying to isolate leak, changed out chicksans in cellar deck and now going through all BJ pumps checking and changing out valve seats and suction and discharge valves, when pumps were isolated found 200 psi drop in 10 minutes at pumps, picking up BHA while checking pumps, will find leak get positive test and GIH and drill out cement.

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 19

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Dec. 18	1 hr	Repaired BJ pump
P.T.D. 9699	1½ hrs	Press. tested W.H. equipment w/5000 psi, bled off 350 psi in 20 mins. Noticed leak - dye water - at H-4 connector ring gasket
	3 hrs	WOW to make dive 16' seas
	2 hrs	Made dive connected control hose to H-4 connector on closing side. Pressured connector to 2500 psi &pressured wellhead to 5000 psi lost 250 psi in 7 mins. Leak located around 13 5/8" Vetco BX ring gasket.
	5 hrs	Rigged down cellar deck & pulled 16" mud riser.
	4 hrs	Ran BOP retrieving string. Made dive, connected hose to H-4 connector & disconnected 2" annulus line
	2½ hrs	Released H-4 connector & picked up BOP stack 15'. Dived installed new 13 5/8 BX ring gasket on top of tubing spool. Set down & latched H-4 connector & connected 2" annulus line.
	1 hr.	Rigged up & tested W.H. equip. w/3000 psi thru landing string
	1 hr.	Pulled landing string
	3 hrs	Ran 16" mud riser & latched same
	0630	Nippling up cellar deck
Dec. 19	1½ hrs	Fin. nippling up cellar deck
P.T.D. 9699	1 hrs	Press. tested wellhead w/5000 psi, held ok for 2 mins bled off 200 psi in 6 mins. Leaking at kill line outlet on BOPS stack
	2½ hrs	Made dive & tightened bolts, but unable to eliminiate leak.
	5 hrs	Rigged down cellard deck. Pulled 16" mud riser, choke & kill lines
	4½ hrs	Pulled BOP stack to cellar deck
	6 hrs	Repaired BOPs changed out BX 154 ring gasket on kill side flange & re-dressed 4" chiksan conn. in cellar deck
	1½ hrs	Press. tested BOPs w/5500 psi held ok. Choke valve on outside leaked at 5500 psi.
	2 hrs	Repairing outside choke valve
	0630	Repairing outside choke valve
Dec. 20	3½ hrs	Repair outside choke valve, install new gate
P.T.D. 9699'	20½ hrs	WOW to run BOPs
		Mw: 14.4, Vis: 60, Pv: 32, Yp: 14

DAILY REPORT DETAILED

LEASE 2/4 . WELL NO. 4AX SHEET NO. 20

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Dec. 21 P.T.D. 9699'		24 hrs WOW to run BOPs
Dec. 22 P.T.D. 9699'		24 hrs WOW to run BOP stack
Dec. 23 P.T.D. 9699'		24 hrs WOW 0630 Running stack Heave 3' occ 12' will time swell and may get stack landed
Dec. 24 P.T.D.9699'		4½ hrs Ran BOP stack and choke and kill lines COOH with landing string 2½ hrs Run 16" mud riser to just below cellar deck 17 hrs WOW wind at this time 50/55kn. heave 10'
Dec. 25 P.T.D. 9699		15 hrs WOW 1½ hrs Finish running & latched 16" riser 1 hr. Rigged up cellar deck 2 hrs Tested BOPS & H-4 connector w/5000 psi held OK 4½ hrs GIH w/3½" tubing drill out string 0630 Circ. & cond. mud at 9450 Mw: 14.4, Vis: 52, Pv: 32, Yp: 16
Dec. 26 P.T.D. 9890		3 hrs Circulate and condition mud 1 hr. WIH to top of cement at 9554' 7½ hrs Drilled cement, float collar at 9699 cement to 9747' 1½ hrs Circulate and condition mud 2½ hrs Pulled 5 stands of 3½" tubing. Ran 5" drill pipe and test plug 1½ hrs Tested 7" tie back string with 5000 psi ok. Pulled test plug and WIH with 3½" tub. 3 hrs Drilled cement to 9904' (top of fish 9908) 2½ hrs Circulate and condition mud 1½ hrs POOS Mw: 14.4, Vis: 52, Pv: 32, Yp: 16
Dec. 27 P.T.D. 9908'		1 hr. Pick up over shot and dress with 4½" spira grapnel without packing in mill control guide 4 hrs GIH with overshot to 9412' 8½ hrs Circulate and wait on heave to decrease from 8' to 2' to 4' ½ hr. Ran in hole went over fish at 9908', pulled

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 21

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Dec. 27 continued		
		up 30000 lbs over string weight fish eased out of packer
		9 hrs COOH slowly with fish
		½ hr. Lay down 21.50' of fish (4½" tubing cut joint)
		½ hr. Pick up bit and 7" casing scraper and GIH Recovered fish and all of tail pipe below packer
		0630 GIH
		Mw: 14.4, Vis: 52, Pv: 33, Yp: 17
Dec. 28 P.T.D. 10720'		3½ hrs RIH with bit and casing scraper, tag top of packer at 9939'
		4 hrs Circulate & condition mud at 9924'
		5½ hrs COOH-SLM no correction
		1 hr. Lay down BHA
		5 hrs Pick up 23 jts 2 3/8" tubing (tail 714' pipe) and run in hole with 3½" tubing to 4212'
		½ hr. Hung off due to weather, heave at this time 7'
		1 hr. Rig down cellar deck
		3½ hrs WOW, but did not pull riser
		0630 WOW
		Mw: 14.4, Vis: 50, Pv: 32 Yp: 18
Dec. 29 P.T.D. 10720'		Low pressure guage 35 psi
		8 hrs WOW
		½ hr. Rig up cellar deck
		1½hrs Retrieve hanger and tubing
		5½hrs Finished trip in hole & washed down from small bridge at 10370' to 10572' from 10370' to 10510' had intermittent bridges which took small amount of weight on weight indicator but washed out easy, had no form-cuttings over shale shaker-returns scale from tubing, thread dope and lumps of galle up mud, small bridges were in No 3 perforating zone
		2½ hrs Reverse out from 10572' start out with 15 pump strokes and 950 psi lowered to 9 pump strokes and 650 psi on bottoms up vis 150 gas cut to low of 12.6 for 10 minutes then up to 14.3 ppg, lost 70 bbl mud while reverse circulating

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 22

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Dec 29 continued		1 hr. COOH to 9915' 5 hrs circulating and condition packer muc 2000 psi and 24 strokes 0630 COOH laying down tubing 3½" workover string Mw: 14.3, Vis: 52, Pv: 35, Yp: 19
Dec. 30 P.T.D. 10720'		10 hrs COOH laying down 3½" workover string found mud leak with UTV appeared to be around H-4 connector. Made dive No 1 divers connected hydraulic hose to H-4 connector closing side and pressured up on same with 2300 psi. Divers reported mud leaking around cameron clamp on upper body of H-4 connector (COOH with 24 stds of 3½" tubing) while divers inspecting H-4 conn. and cameron clamp 2 hrs Pull Vetco wear bushing 2 hrs Dive No 2 divers tightened bolts on top of clamp. cameron 2 hrs Dive No 3 divers tightened bolts on bottom of cameron clamp ½ hr. Ran national test plug and test to 5000 psi on clamp and H-4 connector 1 hr. Pull national test plug and ran Vetco wear bushing 2 hrs Lay down 5 stds 5" drill pipe from derrick break down sliding sleeve and "R" nipple 4½hrs RIH 24 stds 3½" tubing and COOH laying down tubing Mw: 14.3, Vis: 54, Pv: 38, Yp: 19
Dec. 31 P.T.D. 10720' PBD		½ hr. Finish laying down 3½" tubing 9 hrs Schlumberger ran junk basket with 5 7/8 guage ring to top of packer, wire line measurement found packer to be 9932' Ran GRN and checked 7" casing 9550' to 9915' ½ hr. Slipped drilling line 1½hrs Pull Vetco bore protector 6½ hrs Running 4½" production string in same sequence as first completion of 2/4-4AX testing all connections with Gator/Hawk to 5900 psi, drifting and steam cleanin all connections and making up to proper torque 1 hr Repairing G/Hawk tester 5 hrs Running 4½" production string 0630 Have tail pipe and 74 jts in hole Tested payne hose bundle from G/Tide to C/V repaired leak in P "2" at junction box. Made dive and layed service line riser over. Have 8 hrs test now under way on Payne Hose bundle

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 1X SHEET NO. 23

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Dec. 31 continued		No pressure loss at end of first 2 hrs. Installed new UTV cable UTV in good working order .
Jan. 1 P.T.D. 10,720		6½hrs Cont. running 4½" tubing prod. string 3 hrs Taking slack out of drilling line 6 hrs Cont. running 4½" tubing prod. string. Set 5000 lbs. on locator sub & press. to 2500 psi, held ok. 1 hr. Pulled btm. of tailpipe to around 9912 2½ hrs Circ. & cond. mud 5 hrs Spaced out & sub up tested 1/4" S.S. line & safety valve to 10,000 psi, ok 0700 Picking up tubing hanger
Jan. 2 P.T.D. 10720		1 hr. Running 4½ production string 2 hrs Make up tubing hanger and test 1/4" SS line to 10000 psi 1½hrs Pick up & run landing string 5" riser and test to 6000 psi with Gator Hawk landed 4½" tubing hanger in well head (Vetco) landed seal nipple in production packer with 5000 lbs ½ hr. Test tubing hanger 2500 psi, seal nipple and packer with 2500 psi 5 hrs Rig up Baker lubricator and test tree and test to 6000 psi, pull dummy mandrel from Otis safety valve nipple at 536' ran and set RB-1 plug in "R" nipple at 9961' attempted to test 4½" production string had communication through annulus 2 hrs Pull RB-1 from 9961' from "R" nipple, ran Otis dummy mandrel in Otis safety valve nipple at 536' and test tubing to 2500 ps 8½ hrs Pull tubing string up to Otis safety valv nipple and found 1/4" SS tube pulled out of Otis (safety valve) Ported nipple and fouled around Baker flow coupling above Otis ported nipple, layed down 5½" Baker flow coupling and respace out tubing, installed new 1/4" SS safety valve line RIH and test hanger and 1/4" SS line to 10000 psi, landed hanger with 10000 lbs on seal nipple at packer ½ hr. Test tubing hanger with 2500 psi and annulus with 2500 psi (tubing hanger seal and packer seals, sliding sleeve, seals) 1½ hrs Rig up Baker lubricator and test tree and test to 6000 psi, RIH retrieve dummy mandrel at 537' from Otis safety valve nipple, ran

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 24

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Jan 2 continued		1 hr. Set RB-1 plug in "R" nipple at 9962' ½ hr. Test 4½" production string to 6000 psi 0630 COOH with RB-1 plug (note new space out changed figure 536' to 537' and 9961' to 9962') Made dive No 1 to retrieve Payne Hose bundle of O/V and loosen service line clamp,Gulf Tide reports leak in hose bundle at junction box on O/V end of hose in accumulator 3/4" hose when junction box is reconnected to tree hose bundle new "O" rings should repair this leak Mw: 14.4, Vis: 54, Pv: 35, Yp: 17
Jan 3 P.T.D. 10720'		1 hr. COOH with Baker "RB-1" plug 4½ hrs RIH with shifting tool and opened sliding sleeve at 9874' circulated thru sleeve to check for being open 1 hr. Ran and set Otis dummy mandrel in Otis safety valve nipple at 533' to 537' 1½ hrs Ran and set "FWG" plug in "F" nipple at 323' and tested with 1200 psi 1 hr. Release and pull 5" riser 3 hrs Made dive No 1 and ran in lock down stud on tubing hanger, closed manual annulus valve, disconnect 2" annulus line, put cover on junction box on hose bundle coming from Gulf Tide 4½ hrs Pull choke & kill lines 16" mud riser and blue pod 1½ hrs Pick up and run BOP retrieving string 3½ hrs Pull BOPS and set back on cellar deck 1½ hrs Ran retrieving string and latched onto National X Vetco X-over 1 hr. Preparing to make dive No 2 to install hose on opening connection for H-4 connector 0630 Divers on bottom
Jan4 P.T.D. 10720'		3½ hrs Divers install ring gasket in production line spool, connect control hose to H-4 connector and pick up 20', connect Otis hose to down hole safety valve test port in tubing hange and test to 7800 psi, divers tied air hoist to service line spool (dive No 1) COOH with Nationa & Vetco X-over and H-4 connector, retrieved service line spool 12½hrs Move x-tree to skid beams on cellar deck install service and production line down comers on x-tree (spools) install 2" annulus valve, install blind flange to productio down comer, test x-tree with 7000 psi swab valve

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 25

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Jan 4 continued		worked with 2000 psi inside pressure
		3½ hrs Removed flange from production line down comer, installed guide to line up prod. line down comer with production riser on sea bed rig up to run tree
		3 hrs Ran Vetco X-tree stabbed over well head (no problems) ran 2 3/8" annulus tubing with tree connected to service line
		1½ hrs Made dive No 2 tightened hold down screws on mechanical H-4 connector on bottom of Vetco tree, released running tool from x-tree
		0630 Making up Cameron clamp on production line down comer connecting to riser from sea bed (spool)
Jan 5 P.T.D. 10720'		1 hr. Dive No 1 divers making up Cameron clamp on production line spool making up Vetco msa 2" annulus union, did not finish
		2 hrs COOH with c-tree running tool and running string
		3 hrs Ran 5" riser and x-tree connector, test each connection of riser with 6000 psi
		1 hr. Install Otis test tree and lines, displace riser with 8.5 bbl X-C Polymer and land riser connector
		3 hrs Dive No 2 tightened hold down studs on 5" riser conn. to x-tree finish makingup 2" msa Vetco union on annulus (Flange union) and Cameron clamp on production line riser (spool) Test No 1-2-ports "P" seal to 7000 psi, unable to get enough packing in No3-4 "P" seal ports, would not hold pressure, will repack and retest
		1 hr. Test 2" annulus and production line riser to Mc Evou valve on flow line to 4000 psi test 5" riser and riser x-tree connector t 6000 psi
		5 hrs Decompress divers and make dive no 3, test 2" annulus between 2" Hydraulic valve and 2" annulus master valve (manual) to 5000 psi, put additional packing in no 3-4 "P" packing ports, test through tubing head test port 5800 psi, lost pressure down to 2800 psi in 2 min Test between No 3-4 "P" seals 6000 psi lost press down to 5200 psi in 5 min. (Have not been able to get enough "P" seal packing into No 4 port on next dive will attempt to get more packing into this port by pulling check valve and retest, also will retighten tubing hanger hold down studs)
		8 hrs Decompressing divers
		0630 Decompressing divers, will make dive at 0800 hrs.

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 26

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Jan 6 P.T.D. 10720'		2 hrs Finish decompressing divers 2½hrs Pump 1½ sticks packing (additional into "P" port No 4, divers broke special wrench whil tightening hold down studs on tubing hanger, Otis hose started leaking while testing between "P" seal ports 3-4 3½ hrs Repair Otis test hose and repair wrench 2 hrs Dive No 2, connected Otis to test port between 3-4 "P" port and test with 6000 psi tightened tubing hanger lock down studs and test tubing hanger packing with 6000 psi, divers opened 2" manual annulus valve 3½ hrs Rig up B.J. surface lines and Baker wire line lubricator, test with 6000 psi 2½ hrs Pull FWG plug set in "F" nipple 323' and set FB-1 plug in "F" nipple at 323', test x-tree & down to FE-1 plug with 6000 psi, RIH and pulled FE-1 plug RIH and pulled dummy mandrel at 535' 1½ hrs Displace tubing with 20 bbl X-C polymer and 125 bbl sea water, differential pressure 3000 psi 4 hrs Closed sliding sleeve at 9872', pressured annulus to 1000 psi, while COOH and closing sliding sleeve chicksan swing and grease fitting on Otis tree started leaking (wing valve) 2½ hrs Closed swab valve on x-tree, layed down Baker wire line lubricator, layed down Otis tree, repacked Baker lubricator packing stuffing bo for wire line, replaced grease fittings on valves Otis tree and greased all valves, changed out Odeco chicksan swings for B.J. chicksan swings, rig up Otis test tree, Baker lubricator, test with 6000 ps opened swab valve on x-tree, pressured annulus to 1500 psi to re-test sliding sleeve 0650 rigging down Baker wire line lubricator Opened wall for clean up to B.J. tank 0642 hrs recovered 3 bbl load water in 2 min Opened through port burner 0650hrs - 0710 hrs ligh burner 0715 ftp 2170 psi 0720- 2205 psi 0725-2215 psi 0730-2280 psi 0745-2320psi 20% mud 1½' choke Mw: 8.8, Vis: 78 x-c polymer

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 27

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Jan 7 P.T.D. 10720'		½ hrs. Finish running Otis dummy mandrel at 533' test 1/4" SS line to safety valve with dummy mandrel in place, test to 6000 psi 1 hr. Rig down Baker lubricator and rig up dead wt. tester 14½ hrs Open well to B.J. tanks 0642 hrs Recovered 3 bbl load water in 2 minutes shut in to repair flow line 0650 hrs Open well through port burner on 1½"choke recovered large amount of mud, FTP 2498 psi at end of flow period, 1% water and TR of mud in grind out 6 hrs Flowing well through test separator and levelling out separator, test based on 4 hrs 25/64 choke FTP 4059 psi temp 92° F 3048BOPD API Gravity 36.9 60° no water Grind out TR mud 1% water, Gas 3530 GOR 1163 Shut in after flow period 4230 psi in 1/4 hr 2 hrs Rigup B.J. to acidize and mix divert 0630 Prep to acidize
Jan 8 P.T.D. 10720'		1 hr. Test B.J. acidizing head and surface lines to 6000 psi, test 1/4" SS line to dummy madrel in safety nipple to 5000 psi, finish mixing divert. and pressure annulus to 220o psi 5 hrs acidized well and spot 10 bbl methanol mix in x-tree, max- treating pressure 4100 psi min. treating pressure 2600 psi, max injection rat 16.5 BPM fluid in formation 2516.6 bbl. AVG. press increase on divert stages 800 psi instant shut in pressure 2600 psi, 5 min. shut in pressure 2450 ps finish treatment 1127 hrs Jan 7, 72. AVG casing pressure 1800 psi to 2200 psi, 145 bbl pre flush 1156.1 bbl sac 1156.1 bbl 15% acid, 179.9 bbl divert---2--- 162.2 bbl flush 10 bbl methanol & water mixture. 3 hrs Well shut in for acid contact, actuated valves on x-tree as per prosp.,rigdown B.J. acidizing head and rig up dead wt. tester 10 hrs Flowing well through burner for clean up on 1½" choke, after acidizing, gas to surface in 8 min. FTP 2737 psi, BSW .01% water and TR mud 4 hrs Flowing well through test separator 24/64" choke, test based on (3 hrs) FTP 4200 psi 91°F Rate 3072 BOPD, API 37.0 gravity at 60°F, No water BSW .01% water gas 3700 GOR 1204 (shut in psi after 3 hrs contact time 2430 psi) shut in pressure after flow period,in 1/4 hr. 4245 psi,

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 28

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Jan 8 continued	1 hr.	Rigup Baker wire line lubricator and test to 5000 psi, RIH and latched onto dummy mandrel at 533'
	0630	COOH with dummy mandrel
Jan 9 P.T.D. 10720	1 hr.	Jared loose & COOH w/Dummy mandrel set at 533'
	½ hr.	Spot 1 bbl Kontol, 2 bbl Methanol mixed w/ 12 bbls Diesel, & disp. 5" riser & tree, disp. 1/4" TBE to DHSV w/Bray Oil.
	2½ hrs	Open Baker "L" sliding sleeve at 9977' Set Otis ball valve at 533'
	½ hr.	Open & Close Otis valve at 533 2 times w/ 4200 psi on TBE & 6000 psi on Otis pump. Bleed press. off 1/4" TBE
	1 hr.	Observe well w/DHSV. Close, holding OK. Tree valves left in close position. Hydr. swab valve, hydraulic master valve. Prod. & wing valves. Release & pull 5" riser. Rig down test equip.
	3½ hrs	Made dive, retrieve TBE riser connector, closed annulus manual master valve. Released 2" TBE annulus line. Pulled & L.D. closed ½" valve & removed control hose fro swab valve. Installed corrosion cap & tighten down on tree.
	8½ hrs	Decompress divers & WOW. While WOW swells to decrease, RU to run service loop. Rig up power wrench. Chg out one air hoist lin Change top rams to 5" in BOP stack.
Jan. 10 P.T.D. 19720'	24 hrs	WOW to dive to tie in service flow line
Jan. 11 P.T.D. 10720'	24 hrs	WOW to dive and connect service flow line Serviced choke manifold complete
Jan 12 P.T.D. 10720'	24 hrs	WOW to dive and connect service flow line
Jan. 13 P.T.D. 10720'	24 hrs	WOW to dive and make service line tie in

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 29

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Jan 14 P.T.D. 10720'	24 hrs	WOW to dive and make service flow line connection
Jan 15 P.T.D. 10,720	24 hrs	WOW
Jan. 16 P.T.D. 10,720	24 hrs	WOW Note: At approx. 3:30 No 6 anchor chain broke. Retrieved 330' chain and left 220' on the aft end.
Jan. 17 P.T.D. 10,720	24 HRS	WOW No 5 anchor chain broke at 0555 hrs this AM.. Released 4 guide lines ok.
Jan. 18 P.T.D. 10,720	24 hrs	WOW Note: No 7 anchor chain broke around 0556 hrs & No 8 anchor chain broke at 1010 hrs Jan 17 1972. Tugboat Hudson is 4 miles North & tugboat Orinoco is 6 miles Northwest of the"OV" They will tie onto the "OV" after daylight Tugboats Chipptee & Beatheriot ETA around rig 1800 hrs today
Jan. 18 P.T.D. 10,720	24 hrs	WOW
Jan. 20 P.T.D. 10,720	24 hrs	WOW
Jan. 21 P.T.D. 10,720	2 hrs	Pumped barge up 10'. Removed damaged bumper plate on starboard side.
	2 hrs	Hooked up tugboat Beatheriot on port side
	6 hrs	Loaded out BJ equip. on workboats to lighter deck load
	4½ hrs	Pumped barge to towing draft
	½ hr.	Hooked up tugboat Chippytee on starboard side, replaced tugboat Hudson.
	4 hrs	Towing barge back over location, ran out of anchor chain on No 4 anchor
	4 hrs	Kent Shore pulled & bolstered No 4 anchor at 0500 hrs. Anchor chains No 3 & 4 were wrapped around each other
	1 hr.	Positioning barge over well, diver tied line onto well marker buoy

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 30

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Jan. 22 P.T.D.10,720	6 hrs	Fin. positioning barge over well. Ran TV & located tree ok. Checked for damage, tree looked ok. Guide line lying across tree. Kent Shore ran No 4 & reset No 3 anchors. Untangled Nos 1 & 2 anchor chain
	18 hrs	Changed out & repaired No 7 anchor chain, running No 8 anchor
Jan 23	2 hrs	Fin. running No 8 anchor
P.T.D. 10,720	20 hrs	Retrieved, repaired chain & ran No 5 anchor. Broke pennant line & dropped No 7 anchor. Unable to grapple for same as it is too close to the pile line
	2 hrs	Rigging & preparing to pull No 6 anchor Made 3 dives: Disconnected & cleared guide lines from around the xmas tree. Disconnected junction box & retrieved same. Inspected xmas tree- looked ok. Closed ½" valve on tree going to DHS valve. Installe 4" service line spool, do not have bolts tight.
Jan 24 P.T.D. 10,720	9 hrs	Fin. rigging & pulled No 6 anchor. Due to accident on the Kent Shore & weather cond. set No 6 anchor back on bottom. Released Kent Shore at 1510 hrs. Made 1 dive. Connected junction box from Gulftide to th xmas tree. Pressured up to 1300 psi & started leaking probably in "O" ring. Had to shut down due to communication problem in Comex equip. 4" service line spool is in place, but bolts have not been put in place due to having problem with air tugger & bell drifting out of place
	15 hrs	WOW
Jan. 25 P.T.D. 10,720	17 hrs	WOW
	2 hrs	Repositioned barge
	2 hrs	Made dive. Gulftide attempted to pressur hose bundle to 4AX tree. Diver found leak in junction box. Installed all new "O" rings. Diver reported that it appears that the production & service lines have been moved approx. 1' toward 4AX. Production line spool appears to have a 10° bend just ahead of the 30" clamp. 1/4" valve on Service line has been broken off. This will be double

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 31

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Jan. 25 continued		checked on next dive
		3 hrs Preparing to make dive
Jan. 26		1 hr. Fin. preparing bell to make dive
P.T.D. 10,720		2 hrs Made dive. Connected hose bundle from Gulftide to xmas tree. Press. tested lines from Gulftide. P-2 line had a gradual bleedoff in press.
		1½ hrs Pumped up barge & decompress divers
		11½ hrs Ran & set No 7 anchor
		4 hrs Pumped down barge. Ran UTV & reposition barge
		4 hrs W.O:W. for divers & pulling No 6 anchor
Jan. 27		24 Hrs WOW. Ansgariturm finished pulling No
P.T.D. 10,720		6 anchor
Jan. 28		24 hrs WOW
P.T.D. 10,720		
Jan. 29.		5 hrs WOW
P.T.D. 10,720		1½ hrs Reposition barge
		2½ hrs Made dive. Attempted to install service line spool.
		2 hrs Preparing divers to dive
		2 hrs Made dive. Divers installed service line spool, but could not get correct alignment on top of one of the Cameron clamps Loosened & started retighting bolts. Checked bolts on prod. line spool with impact wrench, they were tight. Checked annulus manual & master manual valves, Ok. Checked 1/4" valve on loop, ok.
		5½ hrs Pumped barge up & decompressed divers
		1 hr. Attached rope to wire line cable preparing to run No 6 anchor when weather perm
		2 hrs Pumped down barge
		1½ hrs Reposition barge
		1 hr. Made dive now attempting to install service line
Jan. 30		½ hr. Fin. making dive. Divers failed to get
P.T.D. 10,720		service line connected.Divers observed & checked for leaks while Gulftide press. P-2 line. Gulftide pumped 70 gallons diesel into P-2 line in 1 hr. Maintained 6000 to 7000 psi on line. No leaks were located

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 32

DATE	TOTAL DEPTH		NATURE OF WORK PERFORMED
Jan. 30 continued		5½ hrs	Rigged to retrieve No 6 anchor chain. Decompressed divers & pumped up barge
		1½ hrs	Waiting on Gulftide to release anchor boat Ansgariturm
		4½ hrs	Retrieved anchor chain, ran & set No 6 anchor
		4½ hrs	Pumped down & repositioned barge. Prep. divers to dive
		7½ hrs	WOW to make dive. Seas increased from 16 to 20'
Jan. 31 P.T.D. 10,720		24 hrs	WOW
Feb. 1 P.T.D. 10,720		12 hrs	Fin. WOW
		2 hrs	Made dive. Attached TV guide lines to 30 clamp. Unable to align service line spool. Disconnected &retrieved spool to cellar deck.
		4 hrs	Preparing for dive, changed rings & rigged spool to run.
		3½ hrs	Made dive. Connected spool to x-mas tree side & tightened Cameron clamp. Spool i aligned to other end, but diver could not complete due toice forming inside face mask.
		2½ hrs	Preparing to make dive
Feb. 2 P.T.D. 10,720		2 hrs	Preparing to make dive & waiting on divers from Gulftide
		2 hrs	Made dive. Lined up & fin. connecting service line loop
		7 hrs	Decompressingdivers
		2 hrs	Made dive. Retightened all bolts on Cameron clamps on prod. & service spools Connected Otis test hose to ½" valve on service line. Attempted to raise 30" clamp.
		2½ hrs	Pressured service & production loops to 6000 psi. Gulftide developed leak while holding backup pressure on their prod & service lines
		8½ hrs	Waiting on Gulftide to repair leak
Feb. 3 P.T.D. 10,720		6 hrs	Waiting on Gulftide to repair TQ valve on header
		18 hrs	WOW & W.O. Gulftide to repair TQ valve on header

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 33

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Feb 4	4 hrs	WOW
P T D 10 720	3 hrs	Made dive Tightened all Cameron bolts on prod & service line loop spools w/2400 ft lbs using the torque multiplier tool
	4 hrs	Prep to make dive
	2½ hrs	Attempted to press prod & service line loop with 6000 psi with 6000 psi backup press held by GT Bled to 0 press Corr cap came off
	2½ hrs	Made dive w/hand TV camera. Checked cameron clamps for leaks. Closed ½" valve on service line. Checked tree for leaks & found corr. cap lying on 30" calmp Fluid was coming out the top of tree. Shut down Otis pumps & fluid leak stopped. Retrieved corr. cap to cellar deck. Looked as if the corr. cap screws had not been tightened, they were still flush with the corr. cap. retrieved Otis test hose.
	8 hrs.	WOW
Feb 5	24 hrs	WOW
P.T.D. 10720'		
Feb 6	2½ hrs	WOW
P.T.D. 10720'	4 hrs	Dive No 1 attempt to install corrosion cap would not go down to latch up depth Connect Otis hose to ½" test valve to service line
	3 hrs	Prep to make dive and making tool to inst. corrosion cap
	13½ hrs	WOW
	1 hr.	Prep. to dive
	0700	Divers on bottom
Feb 6	3 hrs	Made dive. Retrieved corr. cap & changed out "O" rings. Installed corr. cap, would not hold. Sent weight down on air hoist line & placed on top of corr. cap & tightened hold down screws. Closed ½" valve on corr. cap. Opened ½" valve on Service line
P.T.D. 10,720	20 hrs	Pressure tested service & prod lines to 6000 psi, bled back to 5900 PSI & held ok
	1 hr.	Bled press. off & now making dive to rais 30" clamp.

DAILY REPORT DETAILED

LEASE .2/4 WELL NO. 4AX SHEET NO. 34

DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Feb 8 P.T.D. 10,720	1½ hrs	Fin. making dive. Positioned 30" clamp around csg.
	3 hrs	Prep. to make dive
	2 hrs	Made dive. Tightened bolts on 30" clamp. Secured clamps on service & prod. lines. Closed ½" valve on service line. Disconn. Otis test hose. Opened McEvoy manual valves on prod. & service lines. Opened manual annulus valve & opened manual maste valve on Xmas tree.
	3½ hrs	Preparing for dive
	1½ hrs	Made dive. Put plug in ½" valve on servic line. Opened 1/4" valve going to DHS valv Tightened "U" bolt clamp at base of servic line. Located leak at junction box-hose bundle connector. Removed & replaced, but still leaked. Diver ran out of time.
	12½ hrs	Waiting on workboat East Shore to arrive with helium. ETA 0730 hrs
Feb 9 P.T.D. 10,720	2½ hrs	Fin. waiting on helium for divers
	1½ hrs	Preparing to dive
	1½ hrs	Made dive. Replaced O-rings in junction box.
	2½ hrs	Preparing to dive
	1½ hrs	Made dive. GT pressured service line to check for leaks. No leaks on OV side. GT divers found leak in their junction box
	13½ hrs	Decompressing divers & waiting on GT to repair leaks
	1 hr.	Preparing to make dive
Feb 10, P.T.D. 10,720	1 hr.	Made dive. Opened 1/4" valve on DHS valve line.
	23 hrs	Standing by observing well during the 1st 24 hrs. flow period. At 1730 hrs made observation dive w/hand TV camera. Checke xmas tree, flow lines & junction box & found no leaks.
Feb. 11 P.T.D. 10,720	8 hrs	Fin. standing by observing well. Made observation dive at 0915. Checked ok. Released TV lines & started pumping up barge. Set spar buoy 50' NW of 4AX Xmas tree.
	6½ hrs	Fin. pumping up barge. Bolstered Nos. 8, 5 & 4 anchors. Workboat Ansgariturm is tied onto No. 1 anchor, anchor chain broke while pulling same
	1½ hrs	Pumped barge dn to 50' draft
	8 hrs	WOW

DAILY REPORT DETAILED

LEASE 2/4 WELL NO. 4AX SHEET NO. 35

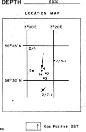
DATE	TOTAL DEPTH	NATURE OF WORK PERFORMED
Feb. 12 P.T.D. 10,720	11½ hrs 4 hrs 8½ hrs	WOW Pumped up barge. Pulled anchors Nos. 7, 6, 2, & 3. Moved off 4AX location. Retrieved No. 1 anchor & straightened No. 2 anchor pennant line.
		Postition: 56° & 42' North & 03° & 07' East. Heading 165° 3 NM. NW of 3X

PHILLIPS PETROLEUM COMPANY
COMPOSITE LOG

COMPANY: PHILLIPS PETROLEUM — WELL NUMBER: 2/4 - 4Ax — COUNTRY: NORWAY
LOCATION: LAT. 56°34' 27·245" N, LONG. 03°12' 11·818" E — LICENCE BLOCK: 2/4 — PRODUCTION LICENCE: 018
DATE SPUDDED: JUNE 21st. 1970 — DATE COMPLETED: AUGUST 27th. 1970 — STATUS: Plugged and temporarily abandoned
ELEVATION: KB 78' — DF 77' — BTM FLANGE — WATER DEPTH 222'
TOTAL DEPTH: 10,893' — PBTD
CASING RECORD: 30" at 426' : 20" at 1879' : 13⅜" at 5376' : 9⅝" at 9936' : 7" at 10,894' (Top at 9722')
TESTING AND COMPLETION SUMMARY: See bottom of log.

REMARKS: Drilled by Neptune VII
Geologist: C. Arclise, J.R. Raiga.

LOCATION MAP


Lithologic Symbols

Limestone	Gypsum	Conglomerate	Calcareous Shale		
Dolomite	Anhydrite	Sandstone	Dolomitic Shale		
Dolomitic Limestone	Salt (NaCl)	Siltstone	Coal	Limonite Nodules	Gas Positive DST
Argillaceous Limestone	Salt Mold	Granite Wash (Arkose)	Chert	Phosphate Nodules	Ashphalt
Sandy Limestone	Potassium Salt	Breccia	Pyrite	Carbonate Nodules	
Silty Limestone	Sylvite	Sandy Shale	Fossils	No Samples	
Coquina Ls (50% fossil)	Carnallite	Silty Shale	Oolites	Bentonite	
Chalk	Polyhalite	Shale - Clay - Red - Green - Gray	Glauconite	Cement	
Marl	Kainite	Shale Dark gray - Black	Siderite	Show Gas / Show Oil	

SCALE 1:500

FORMATION	LITHOLOGY AND REMARKS	GAMMA RAY (API UNITS 0–120)	LITHOLOGIC LOG	BHC SONIC (INTERVAL TRANSIT TIME, MICROSECONDS PER FOOT 140–40)



Mean sea level 78'

SEA FLOOR

QUATERNARY — RECENT PLEISTOCENE

TERTIARY — UPPER PLIOCENE

CLAY, grey-green to light grey, gummy, bentonitic, finely micaceous, slightly silty in places.

2280 — BASE UPPER PLIOCENE (Scaldisian) — LOWER PLIOCENE (Upper Diestian)

CLAY, green-grey, soft, gummy, bentonitic, slightly calcareous, finely micaceous, pyritic on places. Occasional QUARTZ grains, coarse subrounded.

(SILTSTONE, red-brown, pyritic, micaceous.)

2610 — UPPER MIOCENE (Lower Diestian)

LIMESTONE, beige, medium hard, crystalline, with very fine quartz particles.)

CLAY, light grey to green-grey, soft, gummy, bentonitic, slightly micaceous. Abundant shell debris.

(Shale shaker gummed up)

2970 — MIDDLE MIOCENE

CLAY, light grey, soft, plastic, bentonitic, slightly silty in parts and micaceous, pyritic on places.

CLAY, grey as above grading to green-grey, slightly calcareous.

(Shale shaker clogged with gumbo.)

CLAY, lt grey, soft, gummy, bentonitic, micaceous and pyritic on places. Rare thin streaks of limestone, beige crystalline, and siltstone grey, pyritic. Shell debris locally abundant.

(Disseminated free PYRITE nodules)

(Shale, dark grey, soft, silty.)

(SANDSTONE, brown, medium hard, very fine grained, subrounded, grading to medium to fine grained, subangular, micaceous.)

CLAY, grey, soft, gummy, bentonitic, micaceous, pyritic on places, rare thin streaks of LIMESTONE, dark grey, brown or beige, microcrystalline, dense, slightly silty in parts, and of SILTSTONE, grey brown medium hard, micaceous.

(SANDSTONE, red-brown, very fine grained, slightly dolomitic.)

(SHALE, dark grey, soft, silty.)

CLAY, grey, soft, silty micaceous, and

SHALE, grey, silty grading to SILTSTONE, very friable. Rare laminations of LIMESTONE and DOLOMITE, beige, hard, microcrystalline.

(Shakers plugged up)

(SILTSTONE, grey, pyritic)

SHALE, light grey to green-grey, bentonitic and

SHALE, grey, slightly silty; some laminations of SILTSTONE grey, friable, slightly pyritic, and DOLOMITE, tan-brown, hard-dense, microcrystalline

SHALE, grey to dark grey, medium hard, micaceous, slightly pyritic.

CLAY, grey-green, bentonitic, soft, plastic, and

SHALE, grey, slightly silty. DOLOMITE as above.

(Shakers plugged up.)

SHALE, grey, firm.

SHALE, grey-green, medium hard to firm, slightly silty, occasionally beige, dolomitic, grading to marly claystone, beige, soft, scattered streaks of LIMESTONE, tan-white, dense, tight, argillaceous or dolomitic. Disseminated PYRITE nodules and tubular fossils, apparently worm burrows inlaid with pyrite.

(SHALE, dark grey, soft to medium hard.)

5260 — BURDIGALIAN (Lower Miocene)

SHALE, grey, soft, plastic, slightly sticky. Rare disseminated quartz grains, coarse, rounded, colourless. Laminations of DOLOMITE, grey-brown, hard, lithic to microcrystalline, dense, tight, showing dull whitish fluorescence on places.

5472 — AQUITANIAN

CLAY, light grey, very soft, washing out, slightly calcareous.

SHALE, grey-dark grey, medium firm, platy, micromicaceous. Beds of sand, medium grained, angular, unconsolidated.

(LIMESTONE, grey-light brown, medium hard, friable, lithic, occasionally vugular, slightly argillaceous)

SHALE, grey, grey-green in parts, soft plastic, slightly calcareous, interbedded with SANDS, very fine to medium grained, poorly sorted, angular, unconsolidated.

(CLAY, light grey, soft, slightly calcareous)

5810 — OLIGOCENE

(LIMESTONE, grey-white, soft, friable chalky)

SHALE, dark grey-brown, or chocolate brown, soft to firm, slightly fissile, micromicaceous, with layers of CLAY, light grey, very soft, slightly calcareous or silty, and of DOLOMITE, brown, hard, crypto to microcrystalline with spotted oil staining or oil coating over micro fracture planes.

SHALE, grey, firm, silty

(Shakers plugged up by gumbo)

SHALE, dark grey-black, soft, flaky, slight fissile, micromicaceous, with scattered layers of CLAY, brown or grey, very soft, SAND, very fine to fine grained, unconsolidated, DOLOMITE, brown, hard, tight, cryptocrystalline, LIMESTONE, beige, medium hard, dense, vugular at times, occasionally microcrystalline and dolomitic, or grey-white, friable, chalky, argillaceous.

(LIGNITE, black, friable)

SHALE, grading to medium hard, splintery.

(CLAY, beige, very soft, sticky, marly)

SHALE, dark grey-black, medium hard, fissile to splintery, micaceous, with intercalations of CLAY, light brown, plastic, sticky, marly in parts, scattered stringers of DOLOMITE, light brown, hard dense, tight, or LIMESTONE grey-white, medium hard, friable, chalky, slightly argillaceous.

SHALE, grey-green, plastic, waxy, grading downward to platy, slightly fissile; scattered streaks of LIMESTONE, light brown, medium hard, friable, sucrosic, occasionally hard, dense, dolomitic. Disseminated PYRITE nodules.

7960 — UPPER-MIDDLE EOCENE

(SHALE, grey, medium hard, friable, splintery, silty.)

SHALE, light grey-greenish, occasionally beige, medium soft, grading to CLAY, plastic, micromicaceous; scattered layers of LIMESTONE light brown, medium hard, friable, lithic, locally microcrystalline and dolomitic. Disseminated PYRITE nodules.

SHALE, mainly grey-grey brown, occasionally greenish, plastic, locally interbedded with LIMESTONE, light brown, medium hard, friable, microcrystalline to sucrosic, dolomitic in parts. Scattered streaks of SAND, very fine grained, unconsolidated.

8900 — LOWER EOCENE

SHALE, dark grey-brown, medium hard splintery, friable, micaceous; intercalations of DOLOMITE tan-brown, hard, microcrystalline or friable sucrosic, locally inlaid with pyrite, and of SAND, very fine to medium grained, poorly sorted, subrounded, mostly loose, occasionally slightly consolidated and glauconitic. Abundant PYRITE nodules or aggregates.

SHALE, grey-green, plastic, slightly platy; scattered layers of DOLOMITE, light brown-buff, hard, microcrystalline, or friable sucrosic, pyritic in parts, with occasional dull whitish fluorescence and of SAND, very fine to medium grained, mostly loose.

(SHALE, chocolate-brown, plastic, slightly platy)

Abundant PYRITE, under the form of nodules or aggregates finely crystalline.

(SHALE, red-brown, platy, firm to soft, grading to CLAY, red, soft, anhydritic)

9525 — PALEOCENE

SANDSTONE, grey-dark grey, salt and pepper, very fine to medium grained, poorly sorted, angular medium hard subangular medium hard, or partly unconsolidated argillaceous, glauconitic and,

SHALE, grey-green, medium hard, platy with paper thin laminae of ANHYDRITE white, soft. PYRITE nodules locally abundant.

SHALE, variecoloured, more or less indurated with scattered streaks, of SANDSTONES, white-pinkish, hard, siliceous, fine to medium grained, subangular.

SHALE, mostly dark grey, dark brown at times, medium hard, fissile, intercalated with CLAY, red brown, very plastic.

(SAND, very fine grained, loose.)

9920 — DANIAN

MARL, light grey-white, soft, slightly indurated in parts, argillaceous.

DANIAN LIMESTONE

LIMESTONE, tan-brown, medium hard to hard, chalky in parts, crypto to microcrystalline, occasionally grey-brown, hard, crystalline snarry, dolomitic, with bright yellow fluorescence and good oil stain. Some black shale partings on places and scattered CHERTS, white-opaque or brown, very hard.

(Cores exhibit intense fissuring and fracturing.)

LIMESTONE, tan-brown, mostly medium hard, cryptocrystalline, very friable and chalky from 10250; intense fissuring and fracturing and frequent stylolithic joints. Bright yellow fluorescence and good oil stain.

Core No. 1 10150-10168' Recovered 1'
Core No. 2 10168-10198' Recovered 30'
Core No. 3 10198-10220' Recovered 22'
Core No. 4 10220-10280' Recovered 12'
Core No. 5 10280-10300' Recovered 20'

LIMESTONE, grey-white, hard, cryptocrystalline, dense, tight, slightly argillaceous, scattered black shale partings and disseminated CHERTS, grey-brown, very hard. Very poor show.

SWS 10374'
SWS 10382'
SWS 10388'

10380 — CRETACEOUS — UPPER CRETACEOUS (Maestrichtian-Campanian)

LIMESTONE, tan-brown, grey-buff, on places, mostly cryptocrystalline, microcrystalline at times, medium hard to very hard, frequently friable and even brittle. Intense fissuring and fracturing and frequent stylolithic joints. Good fluorescence and oil stain.

SWS 10424'
SWS 10430'
Core No. 6 10440-10458' Recovered 18'
Core No. 7 10458-10488' Recovered 30'
Core No. 8 10488-10518' Recovered 28'
Core No. 9 10518-10548' Recovered 30'
Core No. 10 10548-10578' Recovered 30'
Core No. 11 10578-10608' Recovered 30'
Core No. 12 10608-10638' Recovered 30'

LIMESTONE, white-grey, hard to very hard, mostly cryptocrystalline or medium hard, chalky, slightly friable from 10655 to 10730, the rock contains abundant inclusions of sand, glassy, fine to medium grained, subrounded. Poor fissuring and fracturing on scattered places. Good fluorescence and gas show at rare horizons.

SWS 10640'
SWS 10657'
SWS 10673'
SWS 10705'
SWS 10725'
SWS 10785'
SWS 10840'
SWS 10862'
SWS 10875'

7" liner set at 10894'

TD 10894

GAMMA RAY — BHC SONIC INTERVAL TRANSIT TIME MICROSECONDS PER FOOT

DST SUMMARY

Test Intervals	Operations	Time	Choke Size	BHP	WHP	WHT	BOPD	MMCFGD	GOR	Water	°API at °F
DST No. 1 Perforated 4 shots/ft. interval: 10380-10510 Recorder 2760 set at 10461' Remark Failed in further acidizing.	1HP	-	-	7948	-	-	-	-	-	-	-
	1F	10 mins	-	5594	-	-	-	-	-	-	-
	1S1	2½ hrs	0	7172	2047	n.r.	0	0	-	0	-
	FLOW No. 1	12hr 13m	10/64"	7046	4120	92	734	0.896	1219	0.1%	-
	S1 No. 1	8 hrs	0	7159	4150	n.r.	0	0	-	0	-
	FLOW No. 2	6 hrs	24/64"	6068	3195	161	4411	5.855	n.r.	Tr	37.3 at 60
	S1 No. 2	6 hrs	0	7126	4210	n.r.	0	0	-	-	-
	FHP	-	-	7790	-	-	-	-	-	-	-
DST No. 1A Perforated 4 shots/ft. interval 10423-10454' Recorder 2760 set at 10461'	1HP	-	-	7979	-	-	-	-	-	-	-
	FLOW No. 1	7½ hrs	14/64"	6401	3404	131	2728	3.354	1240	0.1%	36.6 at 60
	S1 No. 1	6 hrs	0	7130	4610	-	0	0	-	-	-
	Acidized & shut in 3 hrs										
	FLOW No. 2	10½ hrs	21/64"	7086	4137	131	2687	3.454	1285	0.1%	36.9 at 60
	Shut in N.2	6 hrs	0	7149	4210	-	0	0	-	-	-
	FHP	-	-	7820	-	-	-	-	-	-	-
DST No. 2A Perforated 4 shots/ft interval: 10190-10310' Recorder No 2760 at 10213' Remark DST No. 2 was discontinued for weather conditions	1 HP	-	-	7613	-	-	-	-	-	-	-
	1 F	10 mins	1"	4856	n.r.	-	0	0	-	-	-
	1 S1	2½ hrs	0	7041	2395	-	0	0	-	-	-
	FLOW No. 1	6 hrs	12/64"	6511	3734	80	649	0.831	1280	0.1%	36.8 at 60
	S1 No. 1	6 hrs	0	6997	4185	-	0	0	-	-	-
	FLOW No. 2	7½ hrs	50/64"	2886	922	137	3055	3.956	1295	0	37.0 at 60
	S1 No. 2	6 hrs	0	6931	4125	-	0	0	-	0	-
	Acidized and shut in 3 hrs.		-	-	2600	-	-	-	-	-	-
	FLOW No. 3	6 hrs	21/64"	6754	3857	146	3022	4.005	1325	0	37.1 at 60
	S1 No. 3	6 hrs	0	6984	4140	-	0	0	-	0	-
	FHP	-	-	7737	-	-	-	-	-	-	-
DST No. 3 Perforated 4 shots/ft interval: 10130-10150'	1 HP	-	-	7732	-	-	-	-	-	-	-
	1 F	17 mins	1"	4801	0	-	0	0	-	0	-
	1S1	1 hr	0	-*	0	-	0	0	-	0	-
	FHP	-	-	7737	-	-	-	-	-	-	-
	Remarks: * Bottom hole charts, indicates that the otis test tree was closed throughout the test except immediately prior to releasing packer. Formation had 9111 PSI BHP for 112 minutes before otis valve opened. Valve was open for 17 minutes with a bottom hole reading of 4801 psi prior to releasing packer.										
DST No. 4 Perforated 4 shots/ft interval: 9980-10090' Recorder No 2758 at 10054	1 HP	-	-	7585		-	-	-	-	-	-
	IF	10 mins	1"	4768		-	0	0	-	-	-
	ISI	2½ hrs	0	7057	2407	-	-	-	-	-	-
	Flow No. 1	6 hr 21m	24/64"	1740	575	63°F	366	0.644	1759	0.6%	37°5 at 60
	S1 No. 1	10 hrs	0	6295	3560	-	-	-	-	-	-
	Acidized and shut in 3 hrs -		-	-	-	-	-	-	-	-	-
	Flow No. 2	6hr 40m	8/64	6464	3695	67°F	330	0.532	1612	0	37.3° at 60
	S1 No. 2	6 hrs	0	6763	4024	-	-	-	-	-	-
	Flow No. 3	9 hrs	24/64	4968	2395	104°F	2586	3.253	1258	0.2%	37.3° at 60
	S1 No. 3	7 hrs	0	6218	3576	-	-	-	-	-	-
	FHP	-	-	7480	-	-	-	-	-	-	-

PHILLIPS PETROLEUM 2/4-4Ax