c. Casing:

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| 1. | | 30 | inch | at | 531 | feet. | | | | |
|----|---|----|------|----|--------|-------|-----|----|--------|-------|
| 2. | | 20 | inch | at | -2,400 | feet. | | | | |
| 3. | | | | | 8,855 | | | | | |
| 4. | , | 9 | 5/8" | at | 12,399 | feet. | | | | |
| 5 | · | 7 | inch | at | 14,759 | fect, | top | at | 12,087 | feet. |
| | | | | | | | | | | |

d. Mud Program:

Initial drilling from the sea floor to 2,450 feet was with sea water and gel. Below 2,450 feet a fresh water spersene XP 20 mud system was used.

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|---|---|-----|----|---|-----|---|--|
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1. Production Test Results:

No production test was made.

2. Formation Interval Test Results:

No formation interval test was made.

3. Drill Stem Test:

> One drill stem test was made. The 9 5/8 inch casing was perforated from 11,935 feet to 11,955 feet. With the packer set at 11,926 feet the tool was open for 3 minutes, then closed for 30 minutes for initial build up, then open For 3 hours. During the 3 hours the well flowed 3 1/4 barrels. Upon completion of flowing the well was shut in for 6 hours and 10 minutes for final pressure build up.

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Object:

To transfer, under pressure, reservoir fluid caught in Johnston MFE chambers during a Drill Stem Test on well 30/10-5.

Description:

The Drill Stem Test was carried out in the perforated interval 3638 - 3644 metres, Dowell Schlumberger running the testing tools.

Three MFE chambers were run and fluid under pressure was caught in two of them.

Of these two, one was checked at the well site, the contents recombined and one 600 cc sample transferred to a shipping bottle. The remainder of the sample was then depressurised and caught in a Jerrycan. The sample proved to be mud and water with some gas.

The second chamber, was shipped to the Elf Base at Dusevik where the above recombination was carried out. This sample was found to be mud and gas. 🔲 9 1 – Surface sample

🔀 9 2 – Bottom hole sample

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N.B. Only the subjects marked with a cross appear in this chapter.

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| FLOPETROL Base North Sea | Field · | - | 0/10-5 BOTTOM HOLE | | | | |
|---|--|---|---|--|--|--|--|
| Date of Sampling 18.4.7 | 5 Perforations 3638 - | <u>3644 metre</u> | | | | | |
| Nature of Fluid Sampled W | ater, mud and gas | Sampling Depth | | | | | |
| s * i • <u>• 5,6 }</u> | Reservoir and W | ell Charisteristics | | | | | |
| Producing Zone | | Interval Sampled | As Perforations | | | | |
| Depth ÓriginRKB | Tubing - Diameter | Casing - Diameter | | | | | |
| Σ | Shoe | | Shoe | | | | |
| Last Pressure Me | | * at depth | date | | | | |
| Carlos Last Pressure Me | 38SUrement | at depth date | | | | | |
| O ⁺ L temperature | | at depth | date | | | | |
| 55 DH | Sampling and Tr | ansfer Conditions | | | | | |
| | WELL MFE | | Capacity 2.5 Litre | | | | |
| Time at which Sample was te | iken | Timing . { Descent Started Out of Well | | | | | |
| Weil¹ closed slince Well flowing on Choke | | Time since closif Duration of flowin | g on this Choke | | | | |
| 5 5 8 8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 | Pressure Head | Pressure | Separator | | | | |
| | | (ieing | (Temp | | | | |
| Bottom Bottom (m ft) (m ft) Flow Rates | st cu ft/day m³/day BOPD Produc | | | | | | |
| Opening Pressure of 1st Valve | m³/day WL+ BOPD Produc | 4 | - % Gravity { Gas (air=1) | | | | |
| <u></u> | m ³ /day BOPD Produce Produce Produce Produce Produce | 4 | | | | | |
| Opening Pressure of 1st Valve | m ³ /day BOPD Produce Produce Produce Produce Produce | a | | | | | |
| Opening Pressure of 1st Valve Bubble Point Pressure measure Temp | m ³ /day BOPD Produce Produce Produce Prossure Pressure Gravity I By Pump | Estimated Bubble F | - % Gravity { Gas (air=1) Oil | | | | |
| Opening Pressure of 1st Valve Bubble Point Pressure measure Temp Transfer | m ³ /day BOPD Product Product Product Product Sured in Sample Pressure Uravity <u>R</u> By Pump 16femp <u>40°</u> F | Estimated Bubble F Temp Volume Hg { Co Re Volume Hg withdra | Gravity { Gas (air=1) Oil Point at Bottom Pressure Officient of Transfer59000 | | | | |
| Opening Pressure of 1st Valve Bubble Point Pressure measure Temp Transfer 	By Pressure 5000 pg Final Conditions in Bottle after | m ³ /day BOPD Product Product Product Product Sured in Sample Pressure Uravity <u>R</u> By Pump 16femp <u>40°</u> F | Estimated Bubble F Temp Volume Hg { Co Re Volume Hg withdra | % Gravity Gas (air=1) Oil Point at Bottom Pressure pilected at End of Transfer pilected at End of Transfer 35 cc wn for Decompression of shipping Bottle | | | | |
| Opening Pressure of 1st Valve Bubble Point Pressure mean Temp Transfer 	By Pressure 5000 ps Final Conditions in Bottle afte Pressure 1000 ps | m ³ /day BOPD Product Product Product Product Sured in Sample Pressure Gravity (C) By Pump (Gemp 40°F) Product | Estimated Bubble F Temp Volume Hg { Co Re Volume Hg withdra | % Gravity Gas (air=1) Oil | | | | |
| Opening Pressure of 1st Valve Bubble Point Pressure mean Temp Transfer 	By Pressure 5000 ps Final Conditions in Bottle afte Pressure 1000 ps Bottle No 2757.2 s | m ³ /day BOPD Product Product Product Pressure Gravity X By Pump (1gremp 40°F er Decompression (1gremp 40°F Indentification | Estimated Bubble F Temp Volume Hg { Co Re Volume Hg withdra | % Gravity Gas (air=1) Oil | | | | |
| Opening Pressure of 1st Valve Bubble Point Pressure mean Temp Transfer I By Pressure 5000 ps Final Conditions in Bottle afte Pressure 1000 ps Bottle No _2757.2 s Destination _ELF | m ³ /day BOPD Product | Estimated Bubble F Temp Volume Hg { Co Re Volume Hg withdra | % Gravity Gas (air=1) Oil | | | | |
| Opening Pressure of 1st Valve Bubble Point Pressure mean Temp Transfer I By Pressure 5000 ps Final Conditions in Bottle afte Pressure 1000 ps Bottle No 2757.2 s Destination ELF Coupled with | m ³ /day BOPD Product Product Product Pressure Gravity X By Pump (1gremp 40°F er Decompression (1gremp 40°F Indentification | Estimated Bubble F Temp Volume Hg { Co Re Volume Hg withdra | % Gravity Gas (air=1) Oil | | | | |
| Opening Pressure of 1st Valve Bubble Point Pressure mean Temp Transfer I By Pressure 5000 ps Final Conditions in Bottle afte Pressure 1000 ps Bottle No 2757.2 s Destination ELF Coupled with Bottom Hole Sample No | m ³ /day BOPD Product | Estimated Bubble F Temp Volume Hg { Co Re Volume Hg withdra | % Gravity Gas (air=1) Oil Point at Bottom Pressure pilected at End of Transfer _590 ormaining in Bottle 35 wn for Decompression of shipping Bottle 5 Order No | | | | |

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|---|--|--------------------|--------------------------------|----------------------------|---------------------|-------------------------|--------------------------|-----------------------|--|--|--|
| FLOPETROL Customer | | | | | ELF NORGE A/S | | | | | | |
| North Sea Field | | | _ | | | 30/20- | 5 | BOTTOM HOLE | | | |
| Base Date of Sa | mpling: 18.4.7 | 5 Service | Order No 36 | | No2 res | | SAMPLE | | | | |
| | | | | Sampling Depth : | | | | | | | |
| Nature of Fluid Sampled: Mud & Gas Sampling Depth: | | | | | | | | | | | |
| - | | | Reservoir | and W | eli Charisteris | tics | ···· | ; | | | |
| Producing | Zone : | | | | Interval Samp | ied:As P | erfora | ations | | | |
| Depth Ori Z : | igin : | | Tubing · Dia Sho | | | | | | | | |
| 1 | I.S.I.P. : | | Shoe : | | | | | | | | |
| ditio ditio | U I.S.I.P. : U E | | | | | at depth date | | | | | |
| S S S | Temperature | | | ·• | at depth | ı: | d | late | | | |
| Sampling and Transfer Conditions | | | | | | | | | | | |
| Sample Ty | Sample Type and No.: DOWELL MFE Capacity: 2.5 Litre | | | | | | | | | | |
| Time at w | rhich Sample was ta | | | Timing { Descent Started : | | | | | | | |
| 🗆 Welic | losed since : | | | | Time since | closing in [.] | | | | | |
| 🗋 Well fi | owing on Choke | | | | Duration of t | towing on this | 3 Choke | | | | |
| ons of ction peration of in | Bottom((m-ft) | Pressure : Temp | | Head | Pressure : Temp. | | Separate | or { | | | |
| Conditions of Production during Operation or before closing in | Flow Rates : | | .cu.ft/day m³/day D.P.D. | W L P Produc | tion G.O.R. | % | Gravity | { Gas (air=1) Oil: | | | |
| ; | ressure of 1st Valve | : 1530 | Psig | | | | | | | | |
| Bubble I | Point Pressure meas | ured in San | nple : | | Estimated But | ble Point at I | Bottom · | | | | |
| Temp | | Pressure : | | • | Temp. : | | _ Press | ure : | | | |
| | Transfer D By Gravity 10 By Pump | | | | | | | | | | |
|) | sure: <u>5500</u> ps | | · | | | Remaining | | | | | |
| Final Conditions in Bottle after DecompressionVolume Hg withdrawn for DecompressionPressure :1650 psig64°F10 cc | | | | | | | ssion of shipping Bottle | | | | |
| | | | Indent | ificatio | on of Sample | | | | | | |
| Bottle No2575_6_ sent the by Order No | | | | | | | | | | | |
| Destination | | | | | | | | | | | |
| Coupled with Bottom Hole Sample No Remainder of sample in 5 litre Plastic Bottle | | | | | | | | | | | |
| Surface Sample No | | | | | Gas | | | | | | |
| COMMENTS Chief Operator | | | | | | | | | | | |
| Sample caught during D.S.T. | | | | | | | | | | | |
| Transfer effected at Elf Base, Dusevik 24.4.75 | | | | | | | | | | | |
| | ~T • T • I > | | | | | | | JOHN SELF | | | |
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Svmbole 1109 GD 03

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