

Reservoir Sampling Report — Surface Sample

COMPANY NORSK HYDRO LEASE 30/7
 LOCATION OFFSHORE NORWAY FORMATION
 WELL No. 30/7-2A INTERVAL SAMPLED 1765-5-1776 metres
 TYPE SAMPLE OIL JOB No.
 DATE 2/11/75

MEASUREMENT AND SAMPLING CONDITIONS

Production Test Operators OTIS

Flowing Well

Choke for hours

BH Pressure at Ft.

BH Temperature at Ft.

Well Head Pressure

Well Head Temperature

BSW%

Separator

Pressure Temperature

Gas SCF/Day

Oil BOPD

GOR SCF/BBL
(Separator conditions)

GOR SCF/BBL
(Stock Tank conditions)

Sample Details :

Sample No. 1 Date .. 2/11/75 Time .. 10.35 - 10.55

Method .. Displacement Duration of Sampling 20 .. minutes

Bottle Pressure .. 50 psig Temperature .. 50°F Volume .. 500. c.c. Serial No. REDWOOD 5010
(Nominal)

REMARKS :— Sample taken from separator at static pressure of 50 psig after flow shut off. No G.O.R. obtained thus sample is only of value for a compositional analysis of the oil contained in the bottle and not for recombination for P.V.T. testing.

Sampled by *L. K. Sebborn*

Reservoir Sampling Report — Surface Sample

COMPANY NORSK HYDRO LEASE ..30/7.....
 LOCATION OFFSHORE NORWAY FORMATION
 WELL No. 30/7-2A INTERVAL SAMPLED ..1765.5-1776 metres.....
 TYPE SAMPLE GAS JOB No.
 DATE 2/11/75

MEASUREMENT AND SAMPLING CONDITIONS

Production Test Operators OTIS

Flowing Well

Choke for hours

BH Pressure at Ft.

BH Temperature at Ft.

Well Head Pressure

Well Head Temperature

BSW%

Separator

Pressure Temperature

Gas SCF/Day

Oil BOPD

GOR SCF/BBL
(Separator conditions)

GOR SCF/BBL
(Stock Tank conditions)

Sample Details :

Sample No. 1 Date 2/11/75 Time 10.45 - 11.00

Method Filling evacuated Duration of Sampling 15 minutes
bottle

Bottle Pressure 50 psig Temperature 50°F Volume 20 Litres Serial No. A1309

REMARKS :— As per oil sample 1 (Bottle Redwood 5010).
ONLY FOR COMPOSITIONAL ANALYSIS.

Sampled by *L. V. Sebborn*

Reservoir Sampling Report—Subsurface Sample

COMPANY <u>NORSK HYDRO</u>	LEASE <u>30 - 7</u>
LOCATION <u>OFFSHORE NORWAY</u>	FORMATION
WELL No. <u>30/7-2A</u>	INTERVAL SAMPLED <u>2010 metres</u>
TYPE SAMPLE <u>F.I.T.</u>	SAMPLE No. <u>2</u>
DATE <u>19.10.75</u>	Sampling TIME <u>0743.- 0753</u>

SAMPLING AND TRANSFER CONDITIONS

* Bottom Hole Pressure p.s.i.g.	Bottle No. <u>Redwood 014</u>
* Bottom Hole Temperature °F.	Volume of Bottle <u>650</u> c.c.
Surface Pressure of Sample <u>50</u> ... p.s.i.g.	Volume of Hg. at end of transfer <u>600</u> c.c.
Surface Temperature of Sample <u>50</u> ... °F.	Volume of Hg. remaining in bottle <u>50</u> c.c.
Transfer Pressure <u>100</u> p.s.i.g.	Volume of Hg. withdrawn c.c.
Transfer Temperature <u>50</u> °F.	Field Bubble Point p.s.i.g.
Transfer Method <u>Pressure</u>	Bubble Point Temperature °F

* of sample

REMARKS :—

Sample basically appeared to be water/drilling mud and explosion gases from firing of valves. No value as a P.V.T. sample as no work can be done on it except probably gas analysis to check on gas for possible hydrocarbon content.

No flow recorded on Amerada.

Sampled by R. K. Sebborn.....

Reported by R. K. Sebborn.....

Reservoir Sampling Report—Subsurface Sample

COMPANY NORSK HYDRO LEASE 30/7
 LOCATION OFFSHORE NORWAY FORMATION _____
 WELL No. 30/7-2A INTERVAL SAMPLED 1978 metres
 TYPE SAMPLE F.I.T. SAMPLE No. 3
 DATE 19.10.75 Sampling TIME 1438.- 1503

SAMPLING AND TRANSFER CONDITIONS

* Bottom Hole Pressure	open at 1585 close at 2858 p.s.i.g.	Bottle No.	Redwood 015
* Bottom Hole Temperature °F.	Volume of Bottle	658 c.c.
Surface Pressure of Sample	200 p.s.i.g.	Volume of Hg. at end of transfer	508 c.c.
Surface Temperature of Sample	50 °F.	Volume of Hg. remaining in bottle	150 c.c.
Transfer Pressure	2000 p.s.i.g.	Volume of Hg. withdrawn	Nil c.c.
Transfer Temperature	50 °F.	Field Bubble Point p.s.i.g.
Transfer Method	Pressure	Bubble Point Temperature °F

* of sample

REMARKS:—

Sample pressure in chamber 200 psig - pressured cell up to 2000 psig for sample transfer. Remains of sample flushed to atmosphere - mainly water and mud with slight trace of hydrocarbons present as a film on surface of water. Sample in bomb probably only water - not suitable for P.V.T. analysis although possible to do water compressibility study on this sample.

Hydrostatic pressure 3817 psig.

Sampled by R.K. Sebborn

Reported by R.K. Sebborn

Reservoir Sampling Report—Subsurface Sample

COMPANY Norsk Hydro LEASE 30/7
 LOCATION Offshore Norway FORMATION _____
 WELL No. 30/7-2 INTERVAL SAMPLED 1808-5 metres
 TYPE SAMPLE F.I.T. SAMPLE No. 4
 DATE 23.10.75 TIME 1202-1228

SAMPLING AND TRANSFER CONDITIONS

*Bottom Hole Pressure <u>2620</u> p.s.i.g.	Bottle No. <u>Redwood 003 (1)</u>
*Bottom Hole Temperature _____ °F.	Volume of Bottle <u>709</u> c.c.
Surface Pressure of Sample <u>200</u> p.s.i.g.	Volume of Hg. at end of transfer <u>.550</u> c.c.
Surface Temperature of Sample <u>48</u> °F.	Volume of Hg. remaining in bottle <u>159</u> c.c.
Transfer Pressure <u>2600</u> p.s.i.g.	Volume of Hg. withdrawn <u>100</u> c.c.
Transfer Temperature <u>48</u> °F.	Field Bubble Point <u>2050</u> p.s.i.g.
Transfer Method <u>By pressure</u>	Bubble Point Temperature <u>52</u> °F
* of sample	Final pressure in Bottle <u>1650</u> psig

REMARKS :-

Sample pressure shut in on tool at 12.28 hrs was in fact 2620 psig however on opening sample chamber on tool at surface a pressure of only 200 psig was recorded - (possible leak from tool). Sample therefore pressured up to 2600 psig and transferred over. Some of sample flashed to atmosphere - black oil with some sand towards the bottom of the sample chamber, causing blockage of the valve. (One Amerda was also choked with sand on removal from the tool.) Remainder of sample in tool pushed out to atmosphere - mainly sand with a small amount of oil.

- (1) This sample later transferred to Bottle Redwood 009 at Otis Warehouse, Stavanger because of possible valve failure in laboratory on Bottle Redwood 003.

Sampled by R.K. Sebborn

Reported by R.K. Sebborn

Reservoir Sampling Report—Subsurface Sample

COMPANY NORSK HYDRO LEASE 30/7
 LOCATION OFFSHORE NORWAY FORMATION
 WELL No. 30/7-2A INTERVAL SAMPLED 1753 Metres
 TYPE SAMPLE F.I.T. SAMPLE No. ... 5
 DATE 2/11/75 TIME

SAMPLING AND TRANSFER CONDITIONS

Bottom Hole Pressure 2578 p.s.i.g.	Bottle No. ... A.1306.....
Bottom Hole Temperature - °F.	Volume of Bottle 20,000 c.c.
Surface Pressure of Sample 2200. p.s.i.g.	Volume of Hg. at end of transfer - c.c.
Surface Temperature of Sample 44 °F.	Volume of Hg. remaining in bottle - c.c.
Transfer Pressure - p.s.i.g.	Volume of Hg. withdrawn - c.c.
Transfer Temperature 44 °F.	Field Bubble Point - p.s.i.g.
Transfer Method Pressure into evacuated bottle	Bubble Point Temperature - °F

REMARKS :— Sample mainly gas condensate (very lean) with some sand present.
 Transferred to 20 litre bottle. However, during transfer sand
 blew through side of valve on transfer line, causing loss of sample.
 Final pressure in bottle 1245 psig. Sand also caused some damage to
 valves on F.I.T. tool, giving slight leak at connection from F.I.T.
 to sampling line.

Sampled by *R.K. Sebborn*

Reported by *R.K. Sebborn*

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Our Ref. WBR/OEB

Lars Lydersen, Esq.,
Norsk Hydro,
Petroleum Division,
Bygdoy alle 2,
Oslo 2,
Norway.

28th November, 1975

Dear Mr. Lydersen,

Reservoir Sampling Well 30/7-24

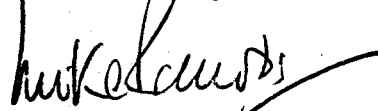
For the sake of good order, I enclose originals plus two copies of our typewritten reports giving the details of the samples we took during the recent tests on the "Polyglamar Driller".

We sincerely regret any inconvenience the transfer of sample No. 4 from our bottle REDWOOD 003 might have caused you - but we had no choice because the Pneutrol valves are not suitable for use with mercury, in spite of the manufacturer's claim that they are.

With respect to the Separator Oil sample (No. 1 Serial 5010), both our personnel and OTIS have searched the warehouse and the supply ship without success. We can only conclude that it has been either left on the drill ship, or delivered to your Bergen base with the gas bottles.

We would like to thank you for your business, and we look forward to the opportunity of working with Norsk Hydro again in the future. In the meantime, if there is anything further you require or any way we can be of service, please do not hesitate to contact me at Ellesmere Port.

Yours faithfully,



W. B. Richards
Offshore Manager

c.c. Prof. J. Van Golf-Racht.
Ottar Tuxen



AFFILIATED WITH

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