

statoil

RFT - RAPPORT
6407/1-2

Den norske stats oljeselskap a.s



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oljeselskap a.s

Gradering

Laget av

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Undertittel

Tittel

RFT - RAPPORT
6407/1-2

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27/7/83

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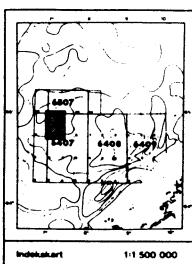
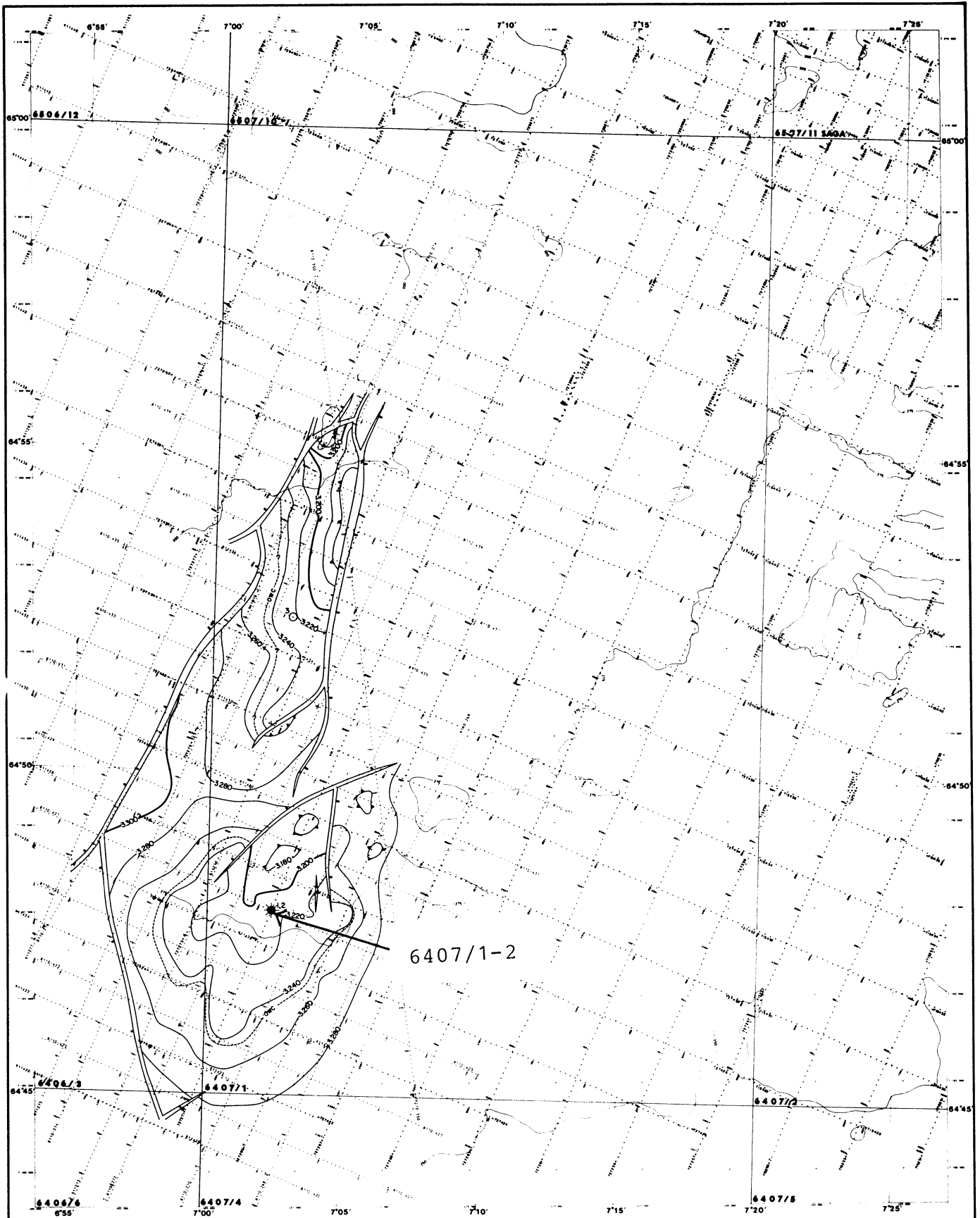
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GENERAL WELL DATA

License:	PL 073
Well:	6407/1-2
Location:	64° 47' 50 6" N 07° 02' 23.8" E
Classification:	Exploration Well
Drilling rig:	Dyvi Delta
Spudded:	04.11.82
Rig released:	16.05.83
RKB elevation:	29.0 m
Water depth:	3020 m
Total depth:	driller 4560 m RKB logger 4558 m RKB
Electric logging:	Schlumberger



DATASAMLING:

Profil	Kontour	Profil beskrivelse
81	SEC	Ang
17 840	SEC	Ang

DATA INFORMASJON:

POSISJONS PLATTEID CP
 GEOMETRISE DATA ES 840
 DATA PROJEKSJON UTM
 ELEVATIONSENHED M
 GODKJENT FOR TOLKNING

Ang	Ang

UNDERSØKELSE INFORMASJON



stobol
 Data mappene stals
 oppsett og utgitt

Block 6407/1 "Tyrihans"
 MIDDLE JURASSIC UNC.
 Structural time map

Scale: 1:500 000
 C1 0 000 000



GENERAL

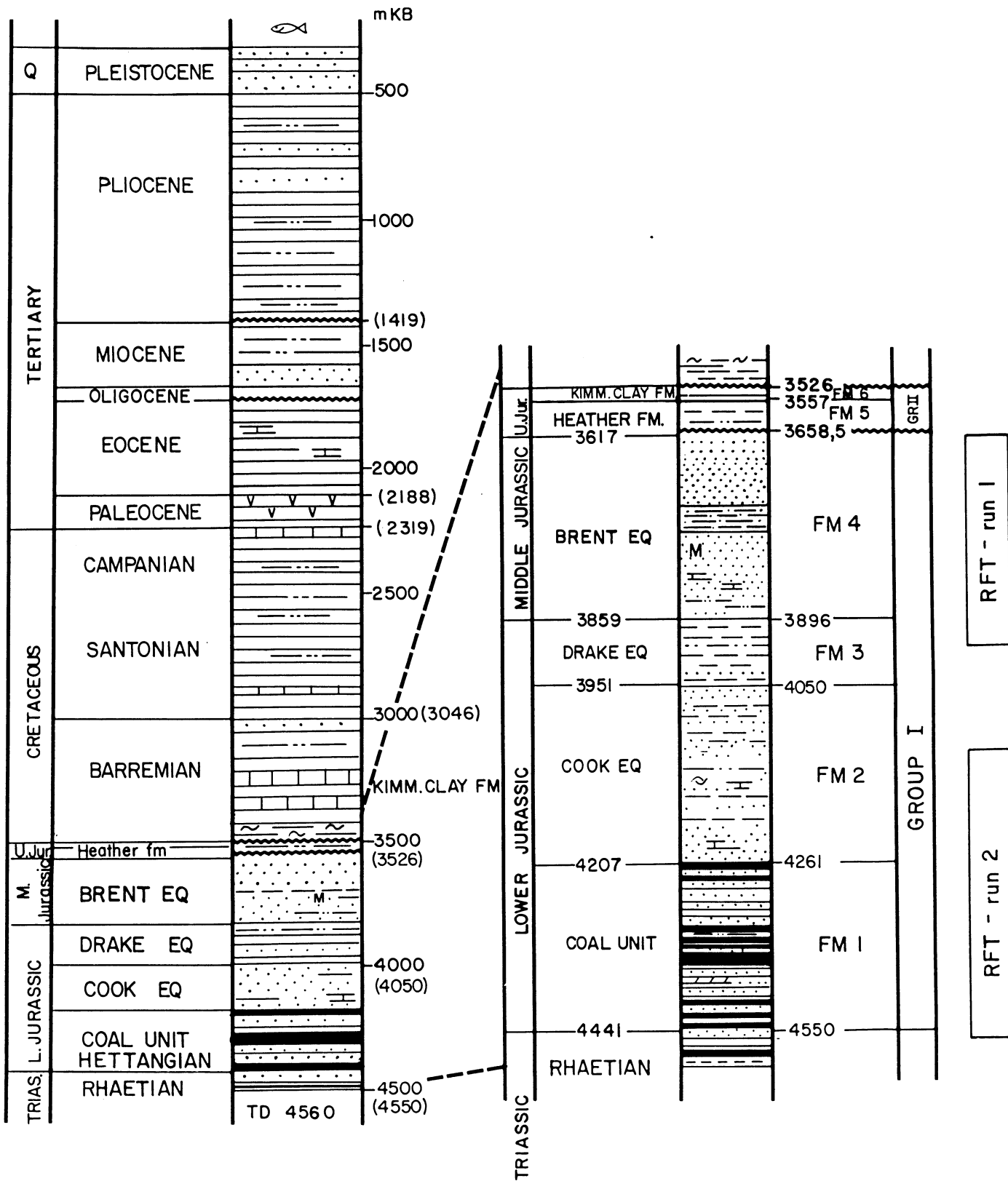
The well 6407/1-2 was drilled on the B-structure of block 6407/1. The well was drilled to TD 4560 m RKB in rocks of Triassic age. Hydrocarbons were encountered in middle Jurassic sands.

2 runs with RFT was made in the well, run no. 1 through middle Jurassic sands (3660 m RKB - 3952 m RKB) and run no. 2 through lower Jurassic sands (4102 m - 4556 m RKB).

The objectives of the RFT runs were to define reservoir pressure, pressure gradients and obtain fluid samples. One segregated sample was taken in order to define the fluid in the HC bearing part of the Brent Eq. Depth-correlation was based on the GR from the FDC/CNL-log recorded during the same log run.

6407/1-2

GENERALIZED STRATIGRAPHY



RESULTS

The RFT-pressures from the 2 logging runs are given in table 1 and 2. The pressures have been plotted against depth to define pressure gradients and formation fluid densities (fig. 1 and 2).

An oil/water-contact is defined at 3714.5 m RKB.

The gradient from 3660 m to 3714.5 m RKB indicates a light hydrocarbon system (0.44 g/cc).

The gradient from 3714.5 m to 3770 m RKB indicates water (1.02 gr./cc).

From the upper sand to the lower sand of Formation 4, there is a shift in pressure of 3.75 bar (54 psi). Based on this, the shale in between is suggested to be sealing. The increase of temperature from 100°C to 108°C only affects the tool in the range of 0.344 bar (5 psi). Since the tool is moving downwards, no hysteresis effect influence.

A gradient joining all of the points would be about 0.78 g/cc; which is suggested to be wrong from other well data.

The gradient from 3840 m to 3900 m indicates water (1.03 g/cc).

The pressure point of 3952 m apparently belongs to a different pressure regime.

The gradient of run 2 indicates water (1.01 g/cc).



RFT - run 1

17 successful pretest, 1 tight pretest and 1 segregated sample were taken in Middle Jurassic sandstones.

Sample description:

Depth: 3665.0 m

2 3/4 gallon bottom chamber:

Filled in	12 min 24 sek
Opening pressure:	0.000 bar
Minimum sampling pressure:	170.025 bar (corr.)
Final build up:	378.039 bar (corr.)
Recovery:	10 000 cc of filtrate water. No hydrocarbons.

The chamber was drained at the drill-floor.

The analysis done by the mud-engineer gave:

Alcalinity (p.f.)	0.4
Chlorides	12 500 ppm
Total calcites	120 ppm



1 gallon bottom chamber:

Filled in:	3 mins. 24 sek.
Opening pressure:	1.241 bar (corr.)
Minimum sampling pressure:	166.301 bar (corr.)
Final build up.	377.970 bar (corr.)
Recovery:	3200 cc of filtrate water.
	Trace of gas, not measureable.

The chamber was drained at the drill-flour.

The analysis done by the mud-engineer gave:

Alcalinity (p.f.)	0.35
Chlorides	10 100 ppm
Total calcites	80 ppm

The corresponding mud-data is:

	pit	flow-line
Alcalinity (p.f.)	0.3	0.35
Chlorides	15 000 ppm	15 000 ppm
Calcium	320 ppm	300 ppm

Comments:

The GR-depth correlation is not included in the log, but a correlation was done on the rig and the log confirmed to be on depth.



RFT run 2

3 successfull pretests, 2 tight pretests, 1 supercharged test and 5 seal-failured pretests were taken. Test no. 2, 7, 8, 9, 10, 11, 12 (supercharged & seal-failures) are omitted from the log. Seal failures were probably due to tight formation. The supercharged pretest had a partly filled chamber, so no adequate pressure reduction & build up was accomplished.

WELL 6407/1-2

PRETEST RECORDED DATA

TAB 2

DATE 22.04.83

Max. recorded temp.: 138°C

RUN NO. 2

Test No.	Depth	Tem	Log hydr. before t.	Corr. hydr. before t.	Draw down	Build up time	Log Pretest pressure	Cor. Pretest pressure	Log hydr. after t.	Cor. hydr. after t.	Remarks
	m RKB	C	bar	bar	bar	sec	bar	bar	bar	bar	
1	4102	128	519.140	522.140	-	-	-	-	519.658	522.140	Tight
2	4102	-	-	-	-	-	458.432	-	-	-	Supercharge? $P_p = 1.11$
3	4123	127	522.140	524.622	1.1721	60	445.953	448.435	522.346	524.825	$P_p = 1.10$
4	4139	127	524.071	526.553	433.404	1.5	445.884	448.366	524.208	526.690	$P_p = 1.10$
5	4197	128	531.172	533.654	203.809	21	451.607	454.089	531.379	533.861	$P_p = 1.10$
6	4363	131	551.719	554.201	-	-	-	-	551.787	554.269	Tight
7	4451	-	-	-	-	-	-	-	-	-	Seal failure
8	4549.5	-	-	-	-	-	-	-	-	-	Seal failure
9	4555	-	-	-	-	-	-	-	-	-	Seal failure
10	4556	-	-	-	-	-	-	-	-	-	Seal failure
11	4553	-	-	-	-	-	-	-	-	-	Seal failure
12											
13											
14											
15											
16											
17											
18											
19											
20											

RFT - PLOT, 6407/1-2

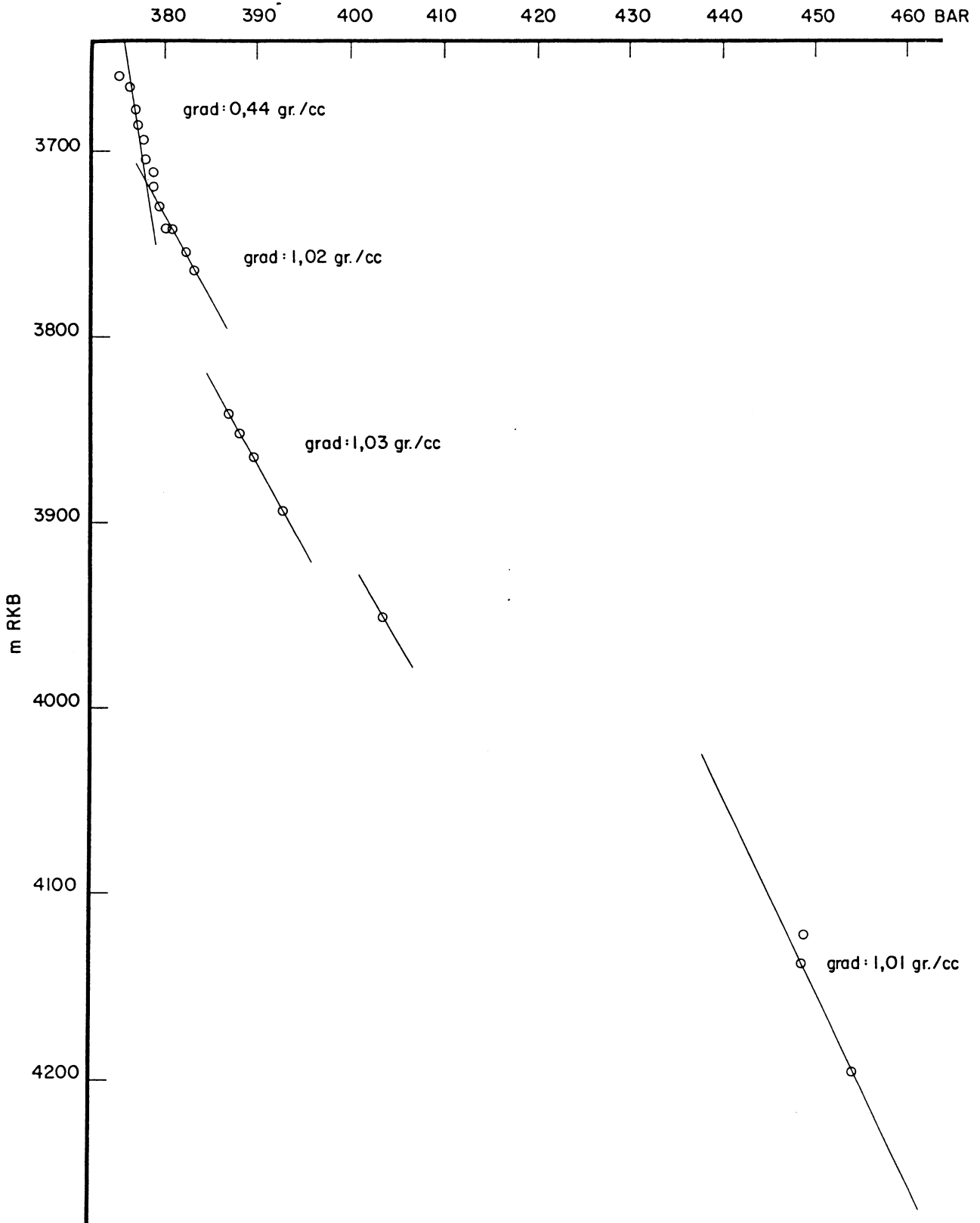


Fig. 1

RFT - PLOT, 6407/1-2

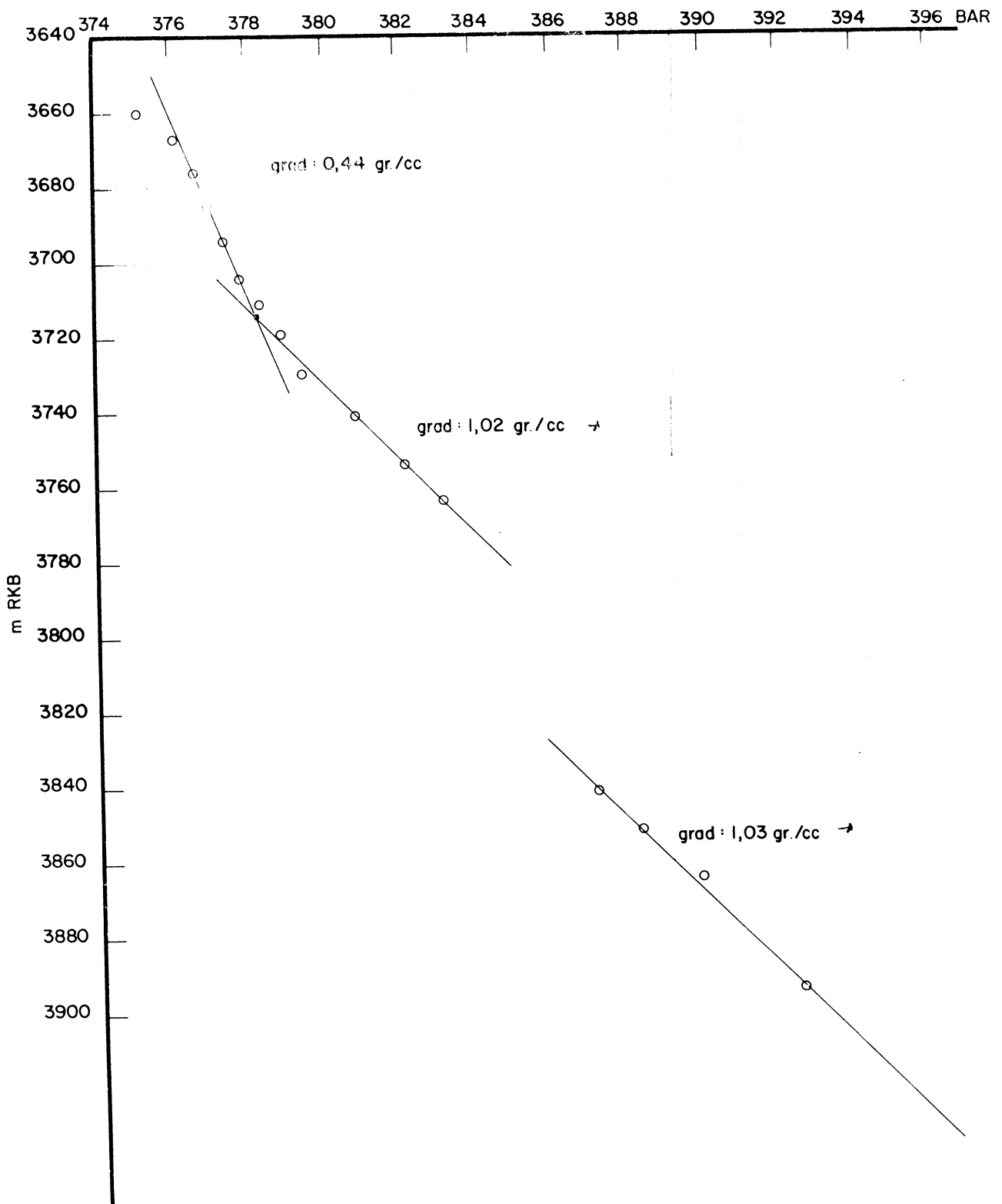


Fig. 2