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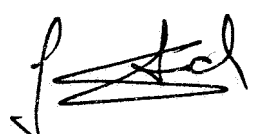
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FRIGG FIELD
WELL 25/1-7
(APPRAISAL WELL)

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RESERVOIR EVALUATION REPORT
(PRELIMINARY)


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C O N T E N T

I - MAIN RESULTS	Page	1
II - WELL DATA	"	4
III - RESERVOIR CHARACTERISTICS	"	8
IV - FUTURE MONITORING	"	15

ENCLOSURES

- P1. 1 - Position map
- P1. 2a and b - Well data
- P1. 3 - Completion status
- P1. 4a and b - Mud logs
- P1. 5a and b - Geological section
- P1. 6 - Composite log. Frigg sand
- P1. 7a and b - Composite log. Lower Tertiary
- P1. 8 - Estimation of net pay from dipmeter
- P1. 9a to d - Lithology indentification plots
- P1. 10 - Neutron-density crossplot (Frigg sand)
- P1. 11 - GLOBAL interpretation
- P1. 12a and b - Neutron-density crossplots
- P1. 13a and b - Clay-corrected neutron/density crossplots
- P1. 14a, b and c - Histogram of clay content
- P1. 15a, b and c - Histogram of calculated porosities
- P1. 16 - RFT measurements

TABLES

- Table 1 - Deviation data
- Table 2a and b - Lumping of GLOBAL results
- Table 3a and b - RFT pressure recordings

Listing of GLOBAL results enclosed.

CHAPTER I - MAIN RESULTS

I.1 - WELL OBJECTIVES

The main objectives of the well was to localize and prove the distribution of the remaining produceable gas accumulation (May 1985), and to determine the Frigg formation heterogeneity north of the producing platforms.

In addition, the well provides information on the integrity and nature of the barrier between the Frigg sands and the Cod aquifer, including shaly layers in the Frigg formation acting as barriers for vertical flow. The well is also an opportunity to check the results of the numerical simulations and the structural maps. In particular it can be a control of the DHI - mapping method, and provides a VSP and interval velocity measurements for matching of the seismic. The extensive coring could make the well a key well in geological studies.

The well also determined the position of the fluid contacts and, by keeping the well (temporary abandonment only), it will be used for monitoring of fluid contacts evolution in this part of the field. Pl. 1 shows the position of the well.

I.2 - MAIN RESULTS

Formation depths (preliminary)

FORMATION	DEPTH (m RKB)	DEPTH (m MSL)
Frigg formation:	1913	-1887.2
- Top of gas pay:	1919	-1893.2
- Top massive sand	1976.5	-1950.7
- Base massive sand	2043.5	-2017.7
Top of tuffitic zone:	2220	-2194
Top of Cod aquifer (Sele):	2236	-2210
Top of Lista formation:	2422	-2395.9
Maestrichtian chalk:	2710	-2683.5

Fluid contacts

The exact position of the fluid contacts are masked by shale layers, however, the following observations can be made:

- Bottom of deepest gas layer : -1938.7 m MSL (1964.5 m RKB)
- Top of highest oilbearing layer : -1940.0 m MSL (1965.8 m RKB)
- Bottom of deepest oil layer : -1948.7 m MSL (1974.5 m RKB)
- Top of highest waterbearing layer: -1950.7 m MSL (1976.5 m RKB)

The depths of the initial fluid-contacts are also difficult to determine (some depth discrepancies have been encountered in the different Frigg wells), however, looking at the resistivity responses, the following assumptions can be made:

- The layer between 1965.8 and 1968.6 m RKB [(-1940.0) - (1942.8) m MSL] has probably originally contained gas which now has been swept by oil.
- The sand layers down to 1976.5 m RKB (-1950.8 m MSL) contain oil and formation water at initial saturations.
- The initial GOC has probably been situated somewhere between 1968 and 1971 m RKB [(-1942.2) - (-1945.2) m MSL], thus yielding a displacement of 2.2 to 6.5 meters in the gas-oil interface.
- The initial WOC can be estimated to somewhere between 1982.5 m RKB (-1956.8 m MSL) and 1986 m RKB (-1960.2 m MSL), thus a rise of 6 to 11.5 m from initial can be calculated.
- Residual oil is seen down to 1999.5 m RKB (-1973.7 m MSL).

Pressure gradients

Several pressure shifts can be observed across shale layers both in the Frigg, the Balder, and in the Sele formations. Due to these shifts the fluid contacts can not be defined from pressure gradients.

- A 8.6 bar pressure shifts is seen from the gas sands to the Frigg aquifer (upper member), with the main barriers close to the fluid contacts.
- A 2.2 shift is seen across the shales below the massive sand ("Upper Paleocene Shales").
- A 4 bar pressure shift is observed within the upper part of the Cod aquifer/Sele formation (sand/shale intercalations).

The pressure shifts and fluid contacts measured show that fluid movements in this area are lateral towards the producing platforms rather than vertical into the gas sands. The pressure recordings in the gas show that the gas in this area is depleted by the producing platforms.

CHAPTER II - WELL DATA

II.1 - COORDINATES

Wellhead:

UTM : 448 624.2 E
 6 642 897.9 N

GEO : 02°04'52.29" E
 59°55'08.27" N

Elevation (RKB-mean sea level): 25 m.

Top of Frigg formation (-1987.2 m MSL):

UTM : 448 614 E
 6 642 928 N

Top of Cod aquifer (-2210 m MSL):

UTM : 448 610 E
 6 642 931 N

Top of Maestrichtian (-2683.5 m MSL):

UTM : 448 588 E
 6 642 941 N

The coordinates of the formation intercepts are calculated from the relative coordinates given in Table 1.

The data are aberrant in the 26" drilling phase, and a gyrosurvey will be run at first re-entry of the well in order to improve the data quality.

II.2 - DEVIATION

The deviation through the Frigg sand is 2°. Through the deeper formations it becomes 2.5°, heading 52 - 71° North West. The deviation data are enclosed in Table 1.

II.3 - WELL HISTORY

- The well was spudded 09.03.1985 and the 30" conductor pipe set at 188 m.
- The 20" casing was set with the shoe at 846 m RKB (847 m RKB logger).
- The 13 3/8" casing was set at 1856 m RKB (driller/logger) the 01.04.1985.
- From the 05.04.1985 to 18.04.1985, the interval 1876 to 2064 m RKB was continuously cored (core # 1 - 15) (12 1/4" bit, 5.5" fiberglass core barrel).
- The 19-20.04.1985, the intermediate logs were run:

DATE	LOG	INTERVAL
19.04.1985	DISFL-LSS-GR	2063 - 1845 m RKB
19.04.1985	LDT-CNL-NGT	2063 - 1850 m RKB
19.04.1985	DLL-MSFL-GR	2060 - 1845 m RKB
20.04.1985	RFT-HP-GR	2050 - 1920 m RKB *

* 26 pressure recordings.

- From the 21.04.1985 to 04.05.1985, the interval 2064 to 2271 m RKB was continuously** cored (core # 16 - 29) (12 1/4" bit, 5.5" fiberglass core barrel).

** The interval 2147.5 - 2150 m RKB was drilled due to junk in the hole.

- Drilled 12 1/4" hole from 2271 to 2412 m RKB.
- Cut core # 30 from 2412 to 2419 m RKB.
- Drilled 12 1/4" hole from 2419 to 2530 m RKB.
- Cut core # 31 from 2530 to 2530.5 m RKB.
- Drilled 12 1/4" hole from 2530.5 to 2609 m RKB.
- Cut core #32 from 2609 to 2616 m RKB.
- Drilled 12 1/4" hole from 2616 to 2710 m RKB.
- Cut core #33 from 2710 to 2719 m RKB.
- Run final logs (13.05.85 to 18.05.85):

DATE	LOG	INTERVAL
13.05.85	ISF-LSS-GR	2714 - 1856 m RKB
13.05.85	LDT-CNL-NGT	2714 - 1856 m RKB
14.05.85	SHDT	2719 - 1856 m RKB
15.05.85	HDT	2715 - 1856 m RKB
15-17.05.85	Walk away seismic	-
17-18.05.85	RFT-HP-GR*	2685.5 - 1919.9 m RKB
18.05.85	CST (Recovered 48 samples)	2701 - 2287 m RKB
18.05.85	CBL-VDL (13 3/8 csg.)	1856 - 435 m RKB

* 40 pressure recordings.

- The well was cemented back up to 2202 m RKB and a 9 5/8" casing set with the shoe 2187 m RKB. After cementing, the following cased hole logs were run in the 9 5/8" casing:

DATE	LOG	INTERVAL
22.05.85	TDT-m	2127.5 - 1900 m RKB
22.05.85	CBL-VDL (run # 1)	2125 - 1335 m RKB
22.05.85	CET (run # 1)	2127 - 1750 m RKB
23.05.85	CBL-VDL (run # 2)	2127 - 1350 m RKB
23.05.85	HRT (run # 1)	2115 - 1350 m RKB
23.05.85	Flopetrol noise log	2040 - 700 m RKB
24.05.85	HRT (run # 2)	2120 - 1340 m RKB
24.05.85	CBL/VDL (run # 3)	2127 - 1330 m RKB
24.05.85	CET (run # 2)	2127 - 1330 m RKB

- A bridge plug was set and tested at 380 m RKB, the wellhead protected and the well temporary abandoned 26.05.85.

P1. 2a and b summarize the main well data, and P1. 3 shows the present well completion status.

CHAPTER III - RESERVOIR CHARACTERISTICS

The well is located close the crossing of the seismic lines 73/0205 Sp 660 and 73/F11 Sp 57.5. Interval velocity measurement and walkaway seismic has been performed to calibrate existing and future seismic. Most of lower Tertiary has been cored (1878 - 2271 m RKB) and the core analysis will provide useful information for ongoing studies (geology, sedimentology, log studies).

III.1 - LITHOLOGY

The lithology description is preliminary and based on the description of the core endpoints (cut in 1 m lengths), cuttings and log responses.

1870 - 1913 m RKB: Shale with thin stringers of silt, calcareous sandstone, and limestone.

1913 - 1976.5 m RKB: Sand and shale intercalations. The sand is fine to medium, glauconitic, with some pyrite and muscovite, occasionally calcereous cemented with layers of silt, claystone, and shale. The shale also occurs as pebbles in the sand.

1976.5 - 2043.5 m RKB: Mainly fine to very fine sand occasionally micaceous and glauconitic; slightly shaly.

2043.5 - 2048.5 m RKB: Shale and silt with a 0.5 m thick lignite layer.

2048.5 - 2220 m RKB: Sand and sandstone (calcerous) occasionally micaceous and with shale inclusions. Shale and silt layers.

2220 - 2236 m RKB: Micaceous, hard shale with presence of tuff. Some calcereous cemented, micaceous sandstones.

2236 - 2422 m RKB: Sand and sandstone occasionally micaceous, glauconitic, shaly. Shale and silty layers.

The mud logs are enclosed in Pl. 4a and b. The geological section is shown in Pl. 5a and b.

III.2 - FORMATION DEPTHS

- The log evaluation gives the first sand stringer of the Frigg formation at 1913 m RKB (-1887.2 m MSL), and the first sand layer of any thickness at 1919 m RKB (-1893.2 m MSL).
- The "massive" sand is found between 1976.5 and 2043.5 m RKB (-1950.7 and -2017.7 m MSL).
- Between 2043.5 and 2179 m RKB (-2153.2 m MSL), the "lower member" of the Frigg sand (of Paleocene age) is found.
- The top of the Balder formation is assumed at 2179 m RKB (-2153.2 m MSL) with the top of the tuffitic zone at 2220 m RKB (-2197.4 m MSL).
- The top of the Cod aquifer (Sele formation) is put at 2236 m RKB (-2210 m MSL), followed by the Lista formation (shaly equivalent of the Heimdal formation) from 2422 m RKB (-2395.9 m MSL).
- The top of the Maestrichtian chalk is found at 2710 m RKB (-2683.5 m MSL).
- The formation depths will be better defined when the correlations and the palynological works on the cores are completed.

III.3 - PETROPHYSICAL EVALUATION

The values given in this paragraph are preliminary and a new log interpretation, calibrated with core data, could be performed when the core material has been analysed. Pl. 6 is a composite log of the Frigg sand, Pl. 7a and b shows the total of the lower Tertiary.

- FRIGG SANDS (down to 2043.5 m RKB):
 - The "degraded" sand (1913 - 1976.5 m RKB) consists of thin sand layers with laminated and "structural" shale, (pebbles), where the log readings

are strongly influenced by the adjacent beds. According to the wellsite description, the sand contains various amounts of silt, mica (muscovite), and glauconite. In places the sand is calcereous cemented. All these variables give uncertainties to the log evaluation (which probably can be improved when the mineral analysis of the cores becomes available).

In the hydrocarbon zone, the net pay is estimated from the resistivity curves of the dipmeter (see Pl. 8), having a better resolution than the other logs.

- Pl. 9a to d are crossplots made from NGT and LDT in order to define lithology. Pl. 9a indicates that glauconite and/or feldspar is present in addition to mica. This agrees with the wellsite core description. Pl. 9b indicate that the main clay minerals could be smectite (which also agrees with the relative low clay density) and illite, however, as no information on volumetric clay content is available, the crossplot is not conclusive. Pl. 9d shows the presence of calcitic cement in the sand.

The logs are interpreted with the GLOBAL program. It has been distinguished between clay, quartz, calcite, mica, and glauconite. The clay content is estimated from the best fit of tool responses. The clay parameters are in agreement with the parameters used in previous studies (see Pl. 10); $\rho_{sh} = 2.32 \text{ g/cm}^3$; $\phi_{Nsh} = .48$. A shale resistivity of $1 \Omega\text{m}$ is used.

- The formation water resistivity used is $0.076 \Omega\text{m}$ at 60°C .
- Other parameters:

$$a = 0.8 \qquad m = 1.9 \qquad n = 2$$

- Results (see Pl. 11, Table 2a and b, and the enclosed listing).

Remarks:

- As seen from the results, the two sandbodies around 1950 m RKB, turned out clean with traces of calcereous cement. The glauconite described on the core endpoints is not seen by the logs.

- A muscovite content of about 3 - 4 % is seen in all the sands
- Glauconite is seen in the sand below 1975 m RKB (above only minor amount), and appear mainly associated to the shales.
- The "massive sand" turns out slightly more shaly than above. This could be due to variations in shale minerals. Some calcite cement can also be seen in the massive sands.
- Some glauconite and calcite is calculated just below the coal layer. This could in reality be other minerals (like siderite), however, this must be confirmed by the core analysis.
- The quality control indicates that a good match of variables has been found. In the first passes, a dual-water GLOBAL model was tried, giving somewhat lower watersaturations in the most shaly intervals (like the upper part of the gas sands), however, also giving some unrealistic peaks of glauconite in places. This was abandoned and the conventional GLOBAL used.

ZONE	DEGRADED SAND		MASSIVE SAND	
	INTERVAL (m RKB)	1913-1965	1965-1976.5	1976.5-1999.5
FLUID	GAS	OIL	RESIDUAL OIL	WATER
Gross pay (m)	52	11.5	23.0	44.0
Net pay (m)	33.5*	5.7*	23.0**	43.7**
α	0.64	0.50	1.0	0.99
$\bar{\phi}$ ($V_{sh} < 10\%$)	30.1 %	28.4 %	29.8 %	30.1 %
\bar{V}_{sh} ($V_{sh} < 10\%$)	2.5 %	3.8 %	3.6 %	3.1 %
\bar{S}_w ($V_{sh} < 10\%$)	7 %	36 %	87 %	100 %

* From dipmeter

** Log evaluation, $V_{sh} < 33 \%$

AQUIFERS:

- A quick-look interpretation of porosities applying a neutron/density crossplot was carried out on the lower Frigg sand member, the tuffitic zone, and the Cod aquifer.
- The shale content in the Frigg sand and the tuffitic zone was calculated with the corrected GR (uranium subtracted) as clay indicator, while CGR, the Thorium-curve and neutron/density crossplot were used in the Cod aquifer. Pl. 12a and b show the neutron/density crossplot and the chosen clay points, while Pl. 13a and b show the clay-corrected crossplots.
- Pl. 14a, b, c are histograms of clay content in the net pay.
- Pl. 15a, b, c are histograms of porosity in the net pay.

The results are:

ZONE	FRIGG (1.m.)	Tuffitic zone	Cod aquifer
INTERVAL (m RKB)	2044.5-2220	2220-2236	2236-2422
H	175.5 m	16.0 m	186.0 m
h	103 m	5.8 m	157 m
$\frac{V_{sh}}{\phi}$	0.59	0.36	0.84
	12 %	17 %*	13 %
	28 %	25 %*	22 %

The average values are in the net pay; $V_{sh} < 33 \%$; $\phi \geq 13 \%$

* Gross pay values: $\overline{V_{sh}} = 40 \%$; $\overline{\phi} = 16 \%$

III.4 - FLUID CONTACTS

- The LDT/CNL combination shows gas separation down to 1964.5 m RKB (-1938.7 m MSL).
- The sand layer between 1965.8 m RKB (-1940 m MSL) and 1968.6 m RKB (1942.8 m MSL) contains hydrocarbons without any particular gas separation on the LDT/CNL and with somewhat higher resistivity than below. Taking the expected depths of the initial contacts into account, the sand layer probably contains gas swept by oil (initial water saturation).
- The sand layers further down to 1976.5 m RKB (-1950.7 m MSL) contain oil with the water saturation probably at initial values ($S_w > S_{wirr}$).
- The highest waterbearing sand is found at 1976.5 m RKB (-1950.7 m MSL).
- The initial GOC has probably been situated between 1968 and 1971 m RKB ((-1942.2) - (-1945.2) m MSL), thus a gross height of between 2.2 and 6.5 m gas has been swept by oil (net pay of 2.2 - 2.9 m).
- The initial WOC can be estimated to have been somewhere between 1982.5 m RKB (-1956.8 m MSL) and 1986 m RKB (-1960.2 m MSL), thus a gross height of 6 to 11.5 m of oil has been swept by water.
- Residual oil is seen down to 1999.5 m RKB (-1973.7 m MSL).
- Some hydrocarbons are indicated below the lignite and shale layers at about 2048 m RKB.
- It will be made an attempt to extract and analyse organic matter from the cores. This could possibly enable a better definition of the fluid contacts.

I.5 - PRESSURE MEASUREMENTS

- RFT pressures (with a Hewlett Packard quartz gauge) were recorded along the Frigg, Balder and Sele formations (see Pl. 16 and Table 3a and b).

- A total of 8.6 bars pressure shifts occur from the gasbearing sand down to the bottom of the massive Frigg sands with the main barriers close to the fluid contacts. In addition, a 2.2 bar shift is observed just below the bottom of the massive sand (upper Paleocene shales).
- No pressure shifts is seen across the tuffitic zone.
- A 4 bar shift is seen within the Cod aquifer, giving a total shift of 14.9 bars from the gasbearing Frigg sands to the bottom of the Cod aquifer. These shifts suggest that the direction of fluid movements are lateral towards the platforms rather than vertical from the water to the hydrocarbon zone.

Small pressure shifts (in the range 1 - 2 psia, close to tool resolution) can be seen within the gas zone. All the tested gas layers are being depleted from the producing wells and it is not possible to draw any conclusions as regards pressure barriers.

- A gradient of 0.1 bar/10 m ($\rho_f = 0.1 \text{ g/cm}^3$) is seen in the gas sand. ✓
This is in agreement with the expected gas density.
- A gradient of 0.94 bar/10 m ($\rho_f = 0.96 \text{ g/cm}^3$) is seen in the oil zone (NB. Only two data points). ✓
- In the Frigg water zone, a gradient of 1.01 bar/10 m ($\rho_f = 1.03 \text{ g/cm}^3$) is observed. This is in agreement with the expected densities
- In the Cod aquifer a gradient of 1.09 bar/10 m is seen. This is somewhat higher than what is expected and can be due to small pressure barriers (or to pressure drawdown in the upper part of the aquifer due to the flow into Frigg).

FORMATION PRESSURES (17.05.85)

FRIGG GAS SANDS: 151.55 bar abs at -1900 m MSL
COD AQUIFER : 204.0 bar abs at -2300 m MSL
(192.7 bar abs at -2191 m MSL)

The gas sand pressure is on line with what is measured below the platforms, proving that this gas is depleted by the producing platforms. The cumulative gas production from Frigg the 17.05.85 was $115.3 \times 10^9 \text{ Sm}^3$.

IV - FUTURE MONITORING

A future development of this part of the Frigg field is under consideration and with possible installation of production facilities in this area, a check of the water level is required before any final decision can be made. Well 25/1-7 is therefore only temporarily abandoned and will be re-entered once or twice in the future in order to check to position of the fluid levels.

The well was plugged back with cement to 2202 m RKB, and a 9 5/8" casing set with the shoe at 2187 m RKB. Precautions were taken to ensure proper cementation of the casing and several logs were run checking for channels or leaks behind the casing.

- 4 runs with CBL/VDL showed a strong improvement with time. The logs indicated a cement bond opposite the shale barriers, less good in the gas sands. This could be due to gas in the cement, effecting the amplitude.
- 2 runs with CET and 2 runs with HRT.
- 1 run with a Flopetrol noise log without detection of any leaks behind the casing. The noise log had a hissing sound at top of 1920 - 1935 m RKB, however, this is not opposite any barrier (gas sand).

No losses occurred during cementation and the material balance gives the top of cement at the detected depth.

A TDT-log was run as reference log for future monitoring.

Table 1

F36' WELL BORE COURSE CALCULATION WELL : 25/1-7												
MEASUREMENTS				RESULTS								
				METHOD : AVERAGE ANGLE			AZIMUTH CORRECTION(DEC.HUND.): 355.00					
TYPE	MEASURED DEPTH (M)	INCLINATION (DEG.HUND.)	AZIMUTH UTM	DEPTHS (M)	RELATIVE COORDINATES			UTM COORDINATES		DOG-LEG SEVER. (D/10M)		
					X (M)	Y (M)	DEPARTURE (M)	X (M)	Y (M)			
ISIN.SHOT	188.00	2.00	N55.00E	187.97	E	2.69	N	1.88	3.28	448627.69	6642901.88	
ISIN.SHOT	267.00	1.50	N40.00W	266.93	E	3.00	N	4.27	5.22	448628.00	6642904.27	.33
ISIN.SHOT	372.00	.25	N11.00E	371.92	E	2.60	N	5.83	6.38	448627.60	6642905.83	.13
ISIN.SHOT	467.00	.38	S85.00E	466.92	E	3.01	N	6.14	6.84	448628.01	6642906.14	.05
ISIN.SHOT	572.00	.25	N85.00E	571.92	E	3.59	N	6.14	7.11	448628.59	6642906.14	.01
ISIN.SHOT	858.00	1.00	N85.00E	857.90	E	6.70	N	6.41	9.27	448631.70	6642906.41	.03
ISIN.SHOT	865.00	3.75	N17.00E	864.90	E	6.92	N	6.59	9.56	448631.92	6642906.59	5.00
ISIN.SHOT	918.00	3.50	S38.00E	917.79	E	10.22	N	7.20	12.50	448635.22	6642907.20	1.21
ISIN.SHOT	935.00	3.75	N13.00E	934.76	E	11.27	N	7.44	13.50	448636.27	6642907.44	3.85
ISIN.SHOT	1039.00	3.50	S63.00W	1038.55	E	6.08	N	11.48	13.00	448631.08	6642911.48	.63
ISIN.SHOT	1146.00	1.25	N 5.00E	1145.46	E	2.41	N	13.96	14.17	448627.41	6642913.96	.40
ISIN.SHOT	1254.00	1.00	N15.00W	1253.44	E	2.22	N	16.08	16.23	448627.22	6642916.08	.04
ISIN.SHOT	1354.00	.75	N25.00W	1353.43	E	1.70	N	17.51	17.59	448626.70	6642917.51	.63
ISIN.SHOT	1457.00	1.00	N19.00W	1456.42	E	1.11	N	18.97	19.00	448626.11	6642918.97	.03
ISIN.SHOT	1553.00	1.25	N43.00W	1552.40	E	.14	N	20.59	20.59	448625.14	6642920.59	.05
ISIN.SHOT	1649.00	1.50	N34.00W	1648.37	W	1.29	N	22.39	22.43	448623.71	6642922.39	.03
ISIN.SHOT	1744.00	1.75	N45.00W	1743.33	W	3.01	N	24.47	24.65	448621.99	6642924.47	.04
ISIN.SHOT	1933.00	2.00	N57.00W	1932.23	W	7.81	N	28.36	29.41	448617.19	6642928.36	.02
ISIN.SHOT	2042.00	1.75	N59.00W	2041.17	W	10.84	N	30.25	32.13	448614.16	6642930.25	.02
ISIN.SHOT	2142.00	2.00	N68.00W	2141.12	W	13.77	N	31.71	34.57	448611.23	6642931.71	.04
ISIN.SHOT	2246.00	2.50	N71.00W	2245.04	W	17.59	N	33.14	37.52	448607.41	6642933.14	.05
ISIN.SHOT	2350.00	2.75	N60.00W	2348.93	W	21.92	N	35.11	41.40	448603.08	6642935.11	.05
ISIN.SHOT	2406.00	2.50	N65.00W	2404.87	W	24.20	N	36.30	43.62	448600.80	6642936.30	.06
ISIN.SHOT	2524.00	3.00	N67.00W	2522.73	W	29.37	N	38.60	48.50	448595.63	6642938.60	.04
ISIN.SHOT	2603.00	2.50	N60.00W	2601.64	W	32.76	N	40.29	51.93	448592.24	6642940.29	.06
ISIN.SHOT	2680.00	2.50	N53.00W	2678.57	W	35.56	N	42.15	55.15	448589.44	6642942.15	.04
ISIN.SHOT	2713.00	2.50	N52.00W	2711.54	W	36.71	N	43.02	56.55	448588.29	6642943.02	.01

Data doubtful above 1040 m RKB.

LUMPING OF GLOBAL RESULTS - CUT OFF: $\bar{V}_{sh} > 33\%$

ZONE	INTERVAL (m RKB)	GROSS PAY	NET PAY	α	$\bar{\phi}$	\bar{V}_{sh}	\bar{V}_{calc}	\bar{V}_{mica}	$\bar{V}_{glauc.}$	\bar{S}_w
GAS	1919 -1941	22 m	16.7 m	0.76	25.0 %	11.4 %	2.8 %	4.2 %	0.9 %	13.6 %
	1941 -1965	24 m	21.9 m	0.91	30.2 %	3.9 %	1.0 %	3.8 %	1.0 %	8.8 %
OIL/GAS	1965 -1976.5	11.5 m	6.2 m	0.54	23.3 %	19.0 %	3.8 %	4.2 %	1.2 %	35.1 %
WATER/OIL	1976.5-1986	9.5 m	9.5 m	1.0	28.5 %	4.3 %	1.5 %	2.8 %	2.9 %	81.3 %
	1986 -1999.5	13.5 m	13.5 m	1.0	28.0 %	7.8 %	1.2 %	3.7 %	3.4 %	89.6 %
WATER	1999.5-2043.5	44.0 m	43.7 m	0.98	29.3 %	4.4 %	2.0 %	3.5 %	2.1 %	99.3 %

LUMPING OF GLOBAL RESULTS - CUT OFF: $\bar{V}_{sh} > 10\%$

ZONE	INTERVAL (m RKB)	GROSS PAY	NET PAY	α	$\bar{\phi}$	\bar{V}_{sh}	\bar{V}_{calc}	\bar{V}_{mfca}	$\bar{V}_{glauc.}$	\bar{S}_w
GAS	1919 -1941	22 m	10.1 m	0.46	27.9 %	4.7 %	1.5 %	4.6 %	0.1 %	8.7 %
	1941 -1965	24 m	18.3 m	0.76	31.3 %	1.3 %	0.8 %	3.9 %	0.4 %	5.9 %
OIL/GAS	1965 -1976.5	11.5 m	1.4 m	0.12	28.4 %	3.8 %	1.5 %	4.6 %	0.8 %	35.5 %
WATER/OIL	1976.5-1986	9.5 m	8.7 m	0.92	30.1 %	2.2 %	1.5 %	3.2 %	2.3 %	80.5 %
	1986 -1999.5	13.5 m	9.6 m	0.71	29.6 %	4.6 %	1.3 %	3.7 %	3.1 %	90.3 %
WATER	1999.5-2043.5	44.0 m	39.3 m	0.89	30.1 %	3.1 %	1.9 %	3.5 %	2.0 %	99.6 %

TABLE 3a

PRESSURE RECORDINGS WITH RFT+HP-GAUGEINTERMEDIATE RUN (20.04.85)

TEST No.	DEPTH (m RKB)	HYDROSTATIC (psia)	FORMATION PRESSURES	
			HP-GAUGE (psia)	RFT-GAUGE (psia)
1	1920.0	3139	2206.0	2177
2	1924.5	3144	2206.2	2181
3	1926.0	3147	2206.1	2179
4	1927.4	3149	2206.5	2179
5	1931.5	3157	2206.5	2181
6	1935.5	3164	2207.5	2180
7	1938.4	3166	2206.1	2180
8	1942.5	3175	2207.2	2181
9	1948.5	3185	2208.5	2182
10	1952.0	3189	2210.0	2182
11	1956.5	3198	2210.7	2183
12	1961.5	3203	2208.5	2183
13	1964.0	3209	2210.0	2183
14	1967.3	3213	2220.0	2192
15	1971.0	3219	2240.2	2212
16	1973.6	3224	2294.3	2266
17	1977.5	3229	2343.5	2317
18	1985.5	3243	2359.2	2332
19	1980.4	3236	2349.6	2321
20	1995.5	3258	2377.0	2351
21	2001.5	3268	2386.5	2360
22	2011.0	3280	2404.3	2378
23	2020.5	3296	2418.0	2391
24	2030.5	3315	2434.1	2407
25	2040.5	3331	2447.5	2421
26	2050.0	3347	2477.3	2451

The discrepancy between HP-gauge and RFT-gauge, (12-14 psi), is within the accuracy of the RFT-gauge (rated to 11 000 psi); uncertainty > \pm 14 - 15 psi.

TABLE 3b

PRESSURE RECORDINGS WITH RFT+HP-GAUGEFINAL RUN (17.05.85)

TEST No.	DEPTH (m RKB)	HYDROSTATIC (psia)	FORMATION PRESSURES	
			HP-GAUGE (psia)	RFT-GAUGE (psia)
1	1919.9	3416	2197.4	2200
2	1935.4	3171	2199.4	2204
3	1943.0	3184	2200.2	2207
4	1956.0	3205	2201.7	2208
5	1961.0	3213	2203.3	2211
6	1965.9	3222	2211.6	2219
7	1967.8	3225	2214.2	2222
8	1971.5	3231	2234.3	2242
9	1973.8	3235	3289.0	2296
10	1977.0	3240	2337.3	2345
11	1987.0	3256	2354.4	2361
12	2001.0	3278	Seal failure	-
12b	2001.3	3280	2381.8	2389
13	2015.1	3302	2405.7	2410
14	2040.0	3341	2440.7	2445
15	2050.0	3358	2471.2	2477
16	2059.5	3373	2484.3	2490
17	2082.0	3410	2533.3	2537
18	2089.5	3422	2544.6	2250
19	2097.5	3435	2556.8	2561
20	2116.2	3465	2584.7	2589
21	2127.5	3484	2601.2	2606
22	2145.0	3511	2625.6	2630
23	2164.0	3542	2653.5	2659
24	2172.5	3556	2666.0	2672
25	2191.5	3587	2693.8	2699
26	2205.0	3609	2713.8	2719
27	2213.0	3623	TIGHT	TIGHT
27b	2213.2	3623	TIGHT	TIGHT
28	2217.5	3630	2732.3	2736
29	2229.3	3649	2749.4	2754
30	2238.5	3664	2785.1	2788
31	2251.5	3685	2815.5	2818
32	2268.0	3712	2851.0	2852
33	2278.0	3728	2873.3	2877
34	2297.0	3759	2913.9	2919
35	2315.0	3788	2942.4	2948
36	2331.2	3814	2967.2	2971
37	2355.5	3853	3004.7	3010
38	2394.9	3917	3068.9	3075
39	2404.5	3933	3083.7	3090
40	2685.4	4389	TIGHT	TIGHT

ATTEMPTED SAMPLING FORSEEN AT 2695 m RKB, HOWEVER, THIS DEPTH WAS NOT REACHED.

The discrepancy between HP-gauge and RFT-gauge, (15 - 20 psi), is slightly above the accuracy of the tool (rated to 10 000 psi; accuracy \pm 13 - 31 psi).



POSITION MAP



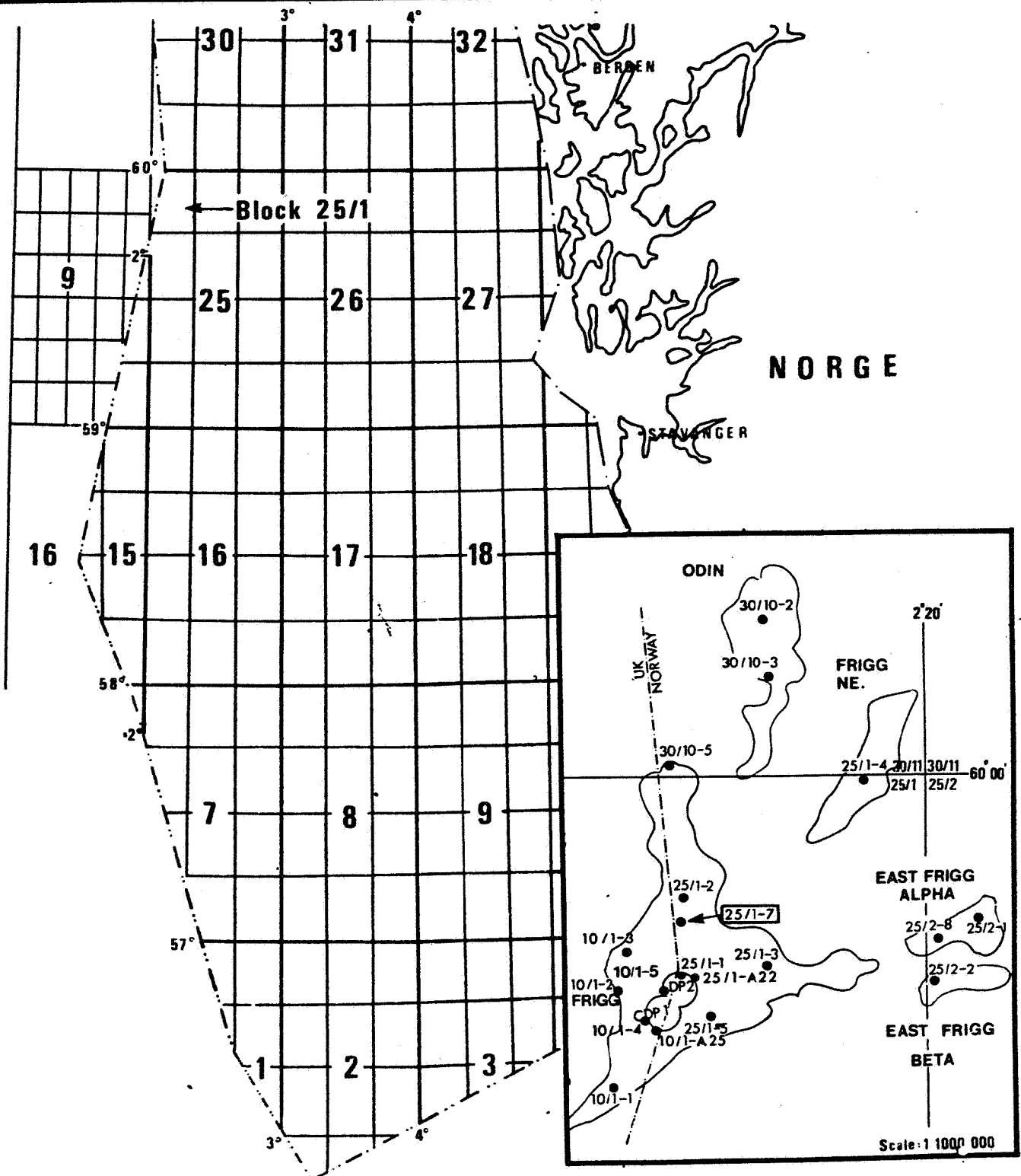
BLOCK : 25/1 (Norway)

WELL : 25/1-7

OWNER : FRIGG UNIT

Scale: 1/2500 000

Date

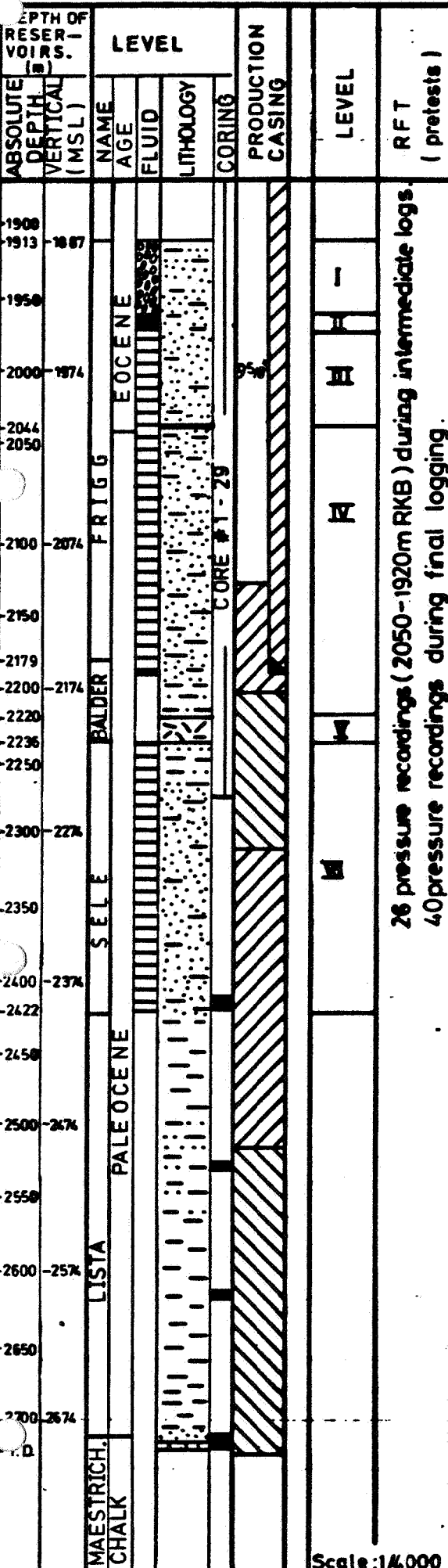


Coord X: 448.624.9E Y: 6.642.898.4N Line: Depth datum: RKB Rig: Byford Dolphin Stopped:		Z ground: 126m Z RKB: 25m SP:		Spudded: 08.03.85 Started drilling: 09.03.85 At TD: 13.05.85 Completed: 26.05.85 T D Depth: 2719m T D Logger: 2720.5m		Well 25/1-7 Country NORWAY			
OPERATOR E.A.N.				LICENCE OWNED BY FRIGG UNIT					
TARGETS - Water/hydrocarbon contact - Nature and integrity of the barrier				RESULTS Plugged and temporarily abandoned.					
CASINGS		CORES							
30" - 187m	K1	1876-1880m	97.5%						
20" - 846m	K2	1880-1882m	90%						
13 ³ / ₈ " - 1856m	K3	1882-1891m	100%						
	K4	1891-1900m	83%						
	K5	1900-1918m	99%						
	K6	1918-1936m	90%						
	K7	1936-1938m	25%						
	K8	1938-1939m	100%						
	K9	1939-1948m	100%						
	K10	1948-1949m	65%						
SHOWS	K11	1949-1978m	95.65%						
	K12	1978-2005.5m	100%						
	K13	2005.5-2033.4m	100%						
	K14	2033.4-2044.5m	98%						
	K15	2044.5-2064m	99%						
	K16	2064-2066.5m	96%						
	K17	2066.5-2084m	100%						
	K18	2084-2102.5m	100%						
	K19	2102.5-2121.5m	99%						
	K20	2121.5-2134m	92%						
	K21	2134-2147.5m	100%						
	K22	2150-2166.5m	100%						
	K23	2166.5-2179.5m	98%						
	K24	2179.5-2197.5m	96%						
	K25	2197.5-2213m	37%						
LOGS						CORES			
SF-LSS GR	863-188m	1	SF-LSS GR	2720-1850m	CBL-VDL HRT	2127-1350m 2115-1350m	K26	2213-2222m	97%
LDT-GR	864-188m	1	LDT-CNL	2720-1850m	HRT	2120-1340m	K27	2222-2241m	98%
			NGT-CAL		CBL-VDL	2127-1330m	K28	2241-2252m	65%
SF-LSS GR	1872-847m	2	LDT-CNL GR	2720-1856m	CET	2127-1330m	K29	2252-2270.5m	100%
LDL-GR CAL	1872.5-847m	2	SHDT	2720-1856m			K30	2412-2419m	100%
			HDT	2715-1856m			K31	2530-2530.5m	100%
DISFL LSS-GR	2065-1850m	3	RFT	2685.4-1919.9m			K32	2609-2616m	76%
CNL-LDL NGT	2065-1850m	1	CST	2271-2701m			K33	2710-2719m	96%
DLL-GR MSFL	2065-1850m	1	CBL-VDL CST	1856-435m 2287-2701m					
RFT	1919.5-2049.5m	1	TDT	2127.5-1900m					
	27 pretests		CBL-VDL CET	2125-1335m 2127-1750m					

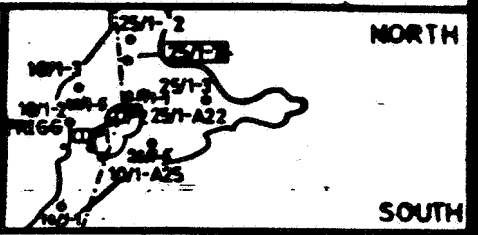
Checked M.Tisserant
Date

SPUDDED: 09.03.85
 SUSPENDED: 26.05.85
 RIG: BYFORD DOLPHIN

OPERATOR: ELF AQUITAINE NORGE A/S
WELL 25/1-7 (FRIGG FIELD)



Z_g: - 100.5 m MSL
 Z_t: + 25 m MSL
 Z_p:
 ORIGIN: : m RKB
 COORDINATES:
 X 448624.2 Y 6642897.9



26 pressure recordings (2050-1920m RKB) during intermediate logs.
 40 pressure recordings during final logging.

RESERVOIR PROPERTIES

LEVEL	GROSS PAY				NET PAY					
	TOTAL	GAS	OIL	WATER	GAS			SW		
					H	W	SW	H	W	SW
I	52	52	—	—	33.5	30%	7%	—	—	—
II	11.5	—	11.5	—	—	—	—	5.7	28%	36%
III	67	—	—	67				66.5	29%	100%
IV	175.5	—	—	175.5				103	28.8	28.8
V	16.	—	—	16				5.8	1.4	1.4
VI	186.	—	—	186				157	34.5	34.5

WELL COMPLETION

TERMINAL DEPTH 2719 m RKB DRILLING DIAMETER: 12 1/4" (driller)
 WELL DEVIATION : 2.5° @ 2713 m RKB
 CORRECTION OF THE DEPTH { 0.77 m AT: 1933 m RKB
 1.13 m AT: 2406 m RKB
 1.46 m AT: 2713 m RKB

PRODUCTION CASING DIAMETER :
 CASING: 9 5/8" SHOE: 2187 m RKB

The casing was well centralized in front of shale barriers.
 Three cement plugs filled the open hole up to 2202m RKB before running 9 5/8" casing.

TYPE OF CEMENT: Class "G"
 TYPE OF MUD: Bentonitic
 WELL BOTTOM : CEMENT

OBSERVATIONS
 The well is temporary abandoned and will be used for future measurements of fluid contracts (TDT - logging)

PL. 2 b.

DRAWN BY: R. MARITVOLD / ABR
 DATE: 08.07.85
 FILING NO: FR/A 4 / 557

ELF NORGE A/S
 RESERVOIR ENGINEERING.

Scale: 1/4000

WELL COMPLETION STATUS

WELL : 25/1-7

-INTERVAL : 36°
-CRISING : 30°
-DEPTH : 189.0 M
-SHOE DEPTH : 187.0 M
-CEMENT TOP : 125.5 M

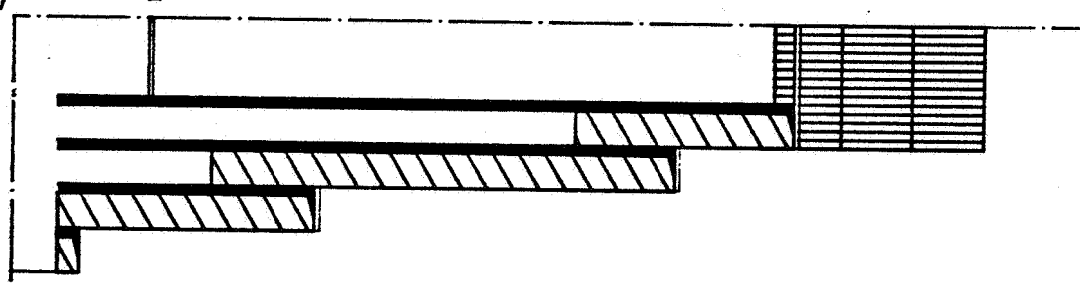
-INTERVAL : 26°
-CRISING : 20°
-DEPTH : 863.0 M
-SHOE DEPTH : 846.0 M
-CEMENT TOP : 125.5 M

-INTERVAL : 1° 1.2
-CRISING : 13° 3.8
-DEPTH : 1878.0 M
-SHOE DEPTH : 1856.0 M
-CEMENT TOP : 555.0 M

-INTERVAL : 12° 1.4
-CRISING : 8° 5.8
-DEPTH : 2719.0 M
-SHOE DEPTH : 2187.0 M
-CEMENT TOP : 1575.0 M

DEPTH BOTTOM : R.K.S.

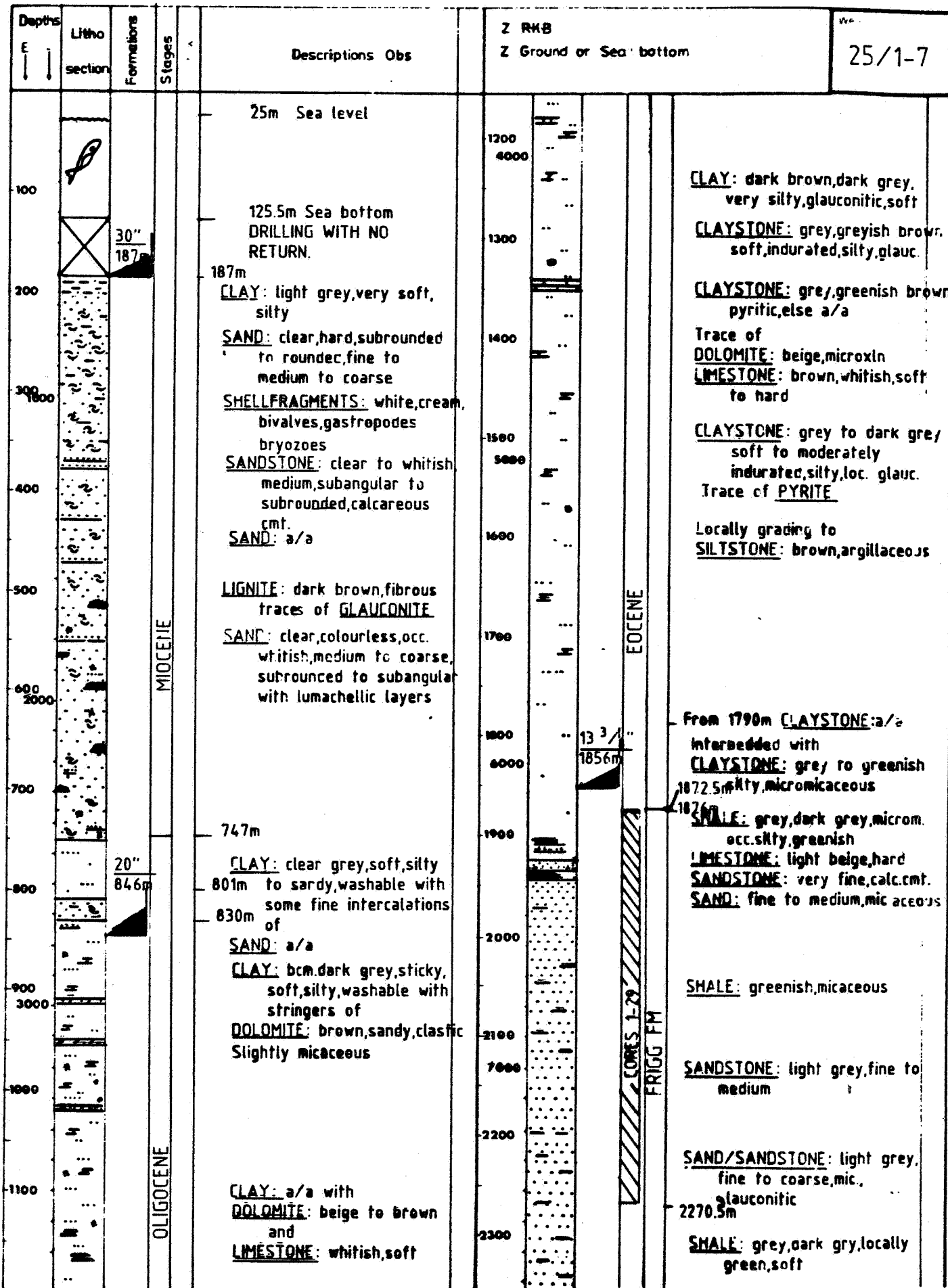
BP RT 380.0 M



CEMENT PLUG: FROM 2182.0 M TO 2187.0 M
 CEMENT PLUG: FROM 2282.0 M TO 2319.0 M
 CEMENT PLUG: FROM 2319.0 M TO 2519.0 M
 CEMENT PLUG: FROM 2519.0 M TO 2719.0 M

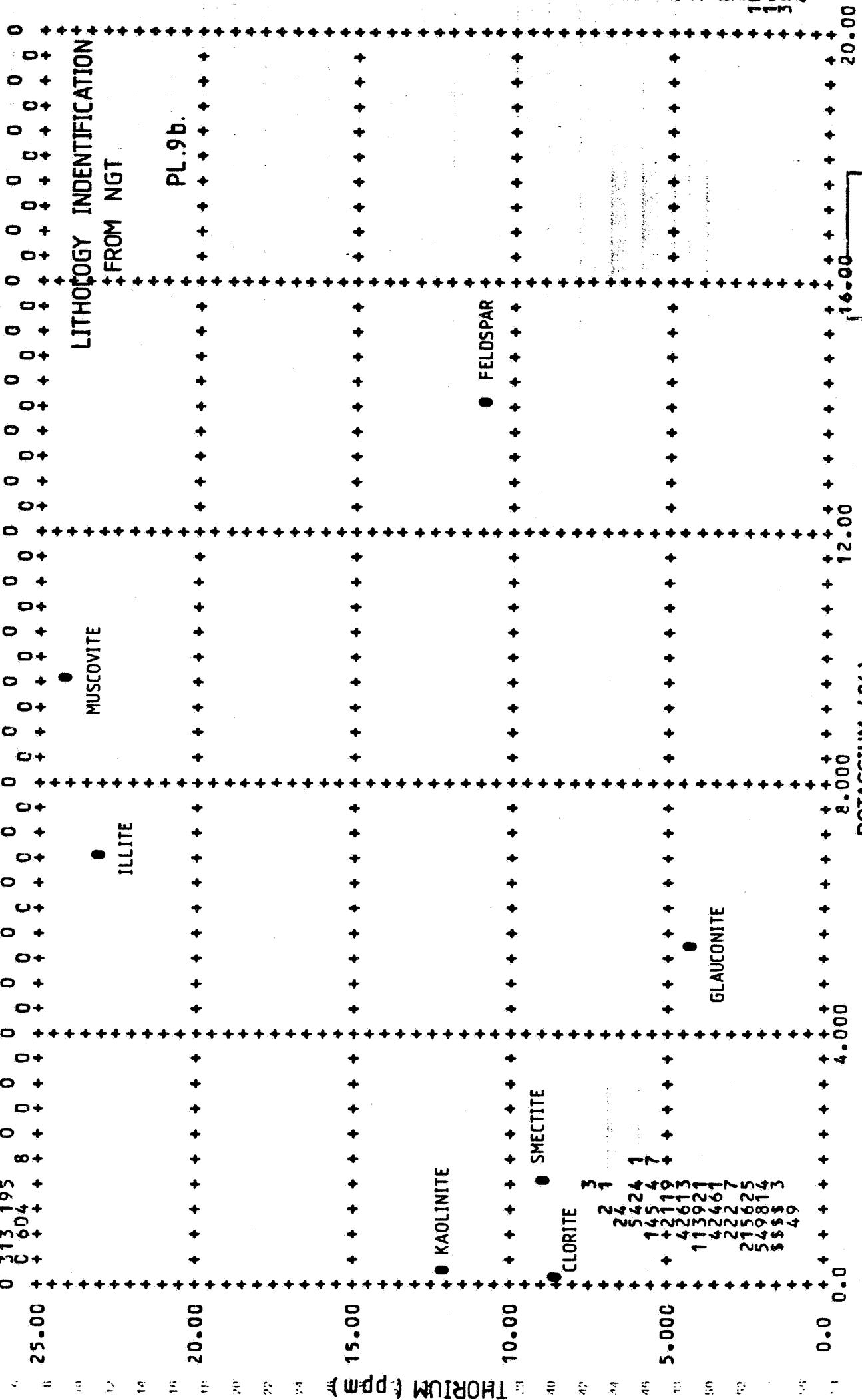
F3H

ANNOUNCED EQUIPMENT :
 SET 13 5/8 DIVERLESS CORROSION CRP W/WATER DISPLACEMENT TUBE (SPECIAL VETCO DESIGN NO 112784), MINERAL OIL "BP HPL 32" HAS BEEN PUMPED, 13 5/8 WELLHEAD WITHOUT WEAR BUSHING, SET ON PCB PROTECTION CRP W/SIMRAD TRANSDUCER 5 YEARS LIFE, RECOVERED GUIDE POSTS, DROPPED LIGHT BUOY ON LOCATION.



Depths E ↓	Litho section	Formations	Stages	Shows	Descriptions Obs	2 RAB		Ver
						Ground or Sea Bottom		
								25/1-7
					<u>SAND</u> : translucent, coarse, subrnd subangular	3500		
2400					<u>SANDSTONE</u> : grey, fine, micaceous glauconitic, argillaceous			
8000			K30		<u>SHALE</u> : grey to dark grey, occ. greenish, silty, indurated, glauconitic	3600		
2500					and <u>CLAYSTONE</u> : grey, very soft, very silty	12000		
			K31		<u>SANDSTONE</u> : transl, fine, poorly cmt., subrnd-subang, gla., calc. cmt.	3700		
2600					<u>LIMESTONE</u> : chalky, soft to med., indurated, argillaceous	3800		
			K32		<u>LIMESTONE</u> : beige, hard			
2700					<u>MARL</u> : grey, hard, micaceous, silty			
9000	I.D. 2719m		K33			3900		
2800						13000		
						4000		
2900						4100		
3000						4200		
10000						4300		
3100						4400		
3200						4500		
3300						4600		
11000						4700		
3400						18000		
3500						4800		

WELL : 25/1-7
 X-VARIABLE : POTASSIUM
 X-FUNCTION : LINEAR
 AREA FOR SDF LISTING : NONE
 C 313195 8 + + + + +
 C 604 + + + + +
 INTERVAL IN M 2059.38 - 1889.00 1120 POINTS
 Y-VARIABLE : THOR. CRC. 004. PRE. *
 Y-FUNCTION : LINEAR



16.00

12.00

8.000

4.000

0.0 0.0

20.00

POTASSIUM (%)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

WELL : 25/1-7
 X-VARIABLE : TPRA.001.PRE.*
 X-FUNCTION : LOGARITHMIC
 AREA FOR SDF LISTING : NONE

INTERVAL IN M 2059.99 -
 Y-VARIABLE : PEF.CRC.PRE.004.*
 Y-FUNCTION : LINEAR

1889.00 1123 POINTS

DEPTH (m)	LOG	MIN	MAX	AVG	STDEV	THOR	POTASS	LITHOLOGY	INDENTIFICATION
0.0	14	0	0	0	0	0	0		
10.00	14	0	0	0	0	0	0		
2.000	7	2	2	2	2	2	2		
4.000	11	1	1	1	1	1	1		
6.000	11	1	1	1	1	1	1		
8.000	11	1	1	1	1	1	1		
10.00	11	1	1	1	1	1	1		
12.00	11	1	1	1	1	1	1		
14.00	11	1	1	1	1	1	1		
16.00	11	1	1	1	1	1	1		
18.00	11	1	1	1	1	1	1		
20.00	11	1	1	1	1	1	1		
22.00	11	1	1	1	1	1	1		
24.00	11	1	1	1	1	1	1		
26.00	11	1	1	1	1	1	1		
28.00	11	1	1	1	1	1	1		
30.00	11	1	1	1	1	1	1		
32.00	11	1	1	1	1	1	1		
34.00	11	1	1	1	1	1	1		
36.00	11	1	1	1	1	1	1		
38.00	11	1	1	1	1	1	1		
40.00	11	1	1	1	1	1	1		
42.00	11	1	1	1	1	1	1		
44.00	11	1	1	1	1	1	1		
46.00	11	1	1	1	1	1	1		
48.00	11	1	1	1	1	1	1		
50.00	11	1	1	1	1	1	1		
52.00	11	1	1	1	1	1	1		
54.00	11	1	1	1	1	1	1		
56.00	11	1	1	1	1	1	1		
58.00	11	1	1	1	1	1	1		
60.00	11	1	1	1	1	1	1		

LITHOLOGY IDENTIFICATION

FROM NGT / PEF

PL.9c.

GLAUCONITE

ILLITE

MUSCOVITE

MIXED CAYER CLAY

SAND LINE

SMECTITE

KAOLINITE

0.0

.3162

1.000

3.162

10.00

31.62

THORIUM / POTASSIUM



WELL : 25/1-7
 X-VARIABLE : UMA, PRE. 001.
 X-FUNCTION : LINEAR
 AREA FOR SDF LISTING : NONE
 INTERVAL IN M : 2059.99 - 1889.46
 Y-VARIABLE : RMGX, PRE. 001.
 Y-FUNCTION : LINEAR

Depth (m)	Interval (m)	UMA	PRE. 001.	RMGX	PRE. 001.	Other	1120	Points
2.600	2.572-2.600	2	0	5	59	72	2	237
2.700	2.640-2.700	2	1	1	1	1	1	236
2.800	2.760-2.800	2	1	1	1	1	1	235
2.900	2.840-2.900	2	1	1	1	1	1	234
3.000	2.920-3.000	2	1	1	1	1	1	233
3.100	3.000-3.100	2	1	1	1	1	1	232

LITHOLOGY IDENTIFICATION

FROM NGT / PEF

PL. 9d.

CALCITE

PYRITE

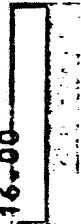
ILLITE

GLAUCONITE

KAOLINITE

MUSCOVITE

UMA



2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60

ELF 25/1-7 PLOT 81 SET 36 Label for Set number 1
 INTERVAL(S) IN M 2060.0- 1829.0
 Label for Zone number 1

5-JUL-85 PAGE 2

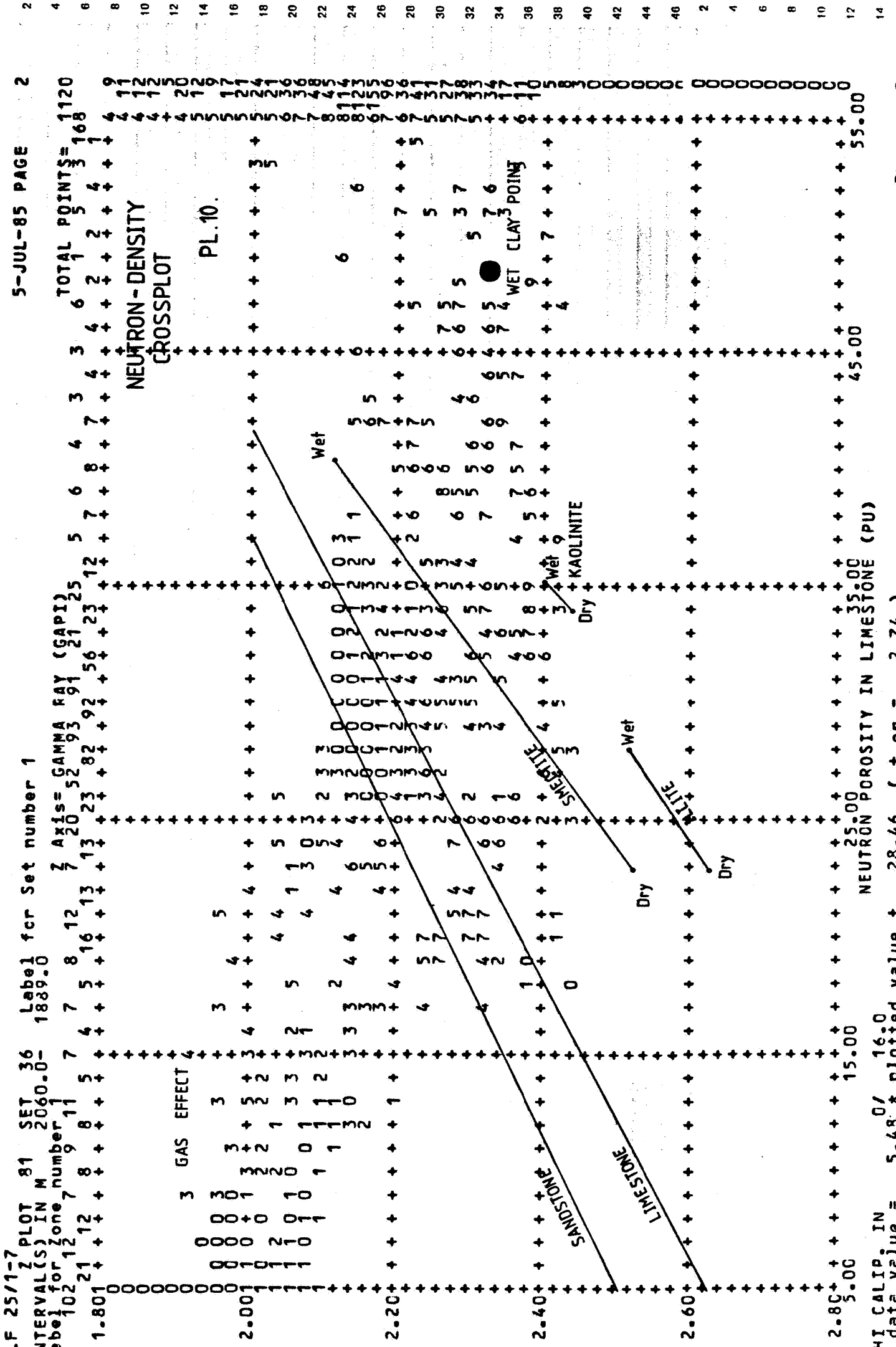
TOTAL POINTS= 1120

AXIS= GAMMA RAY (GAPI)

NEUTRON-DENSITY
 CROSSPLOT

PL.10.

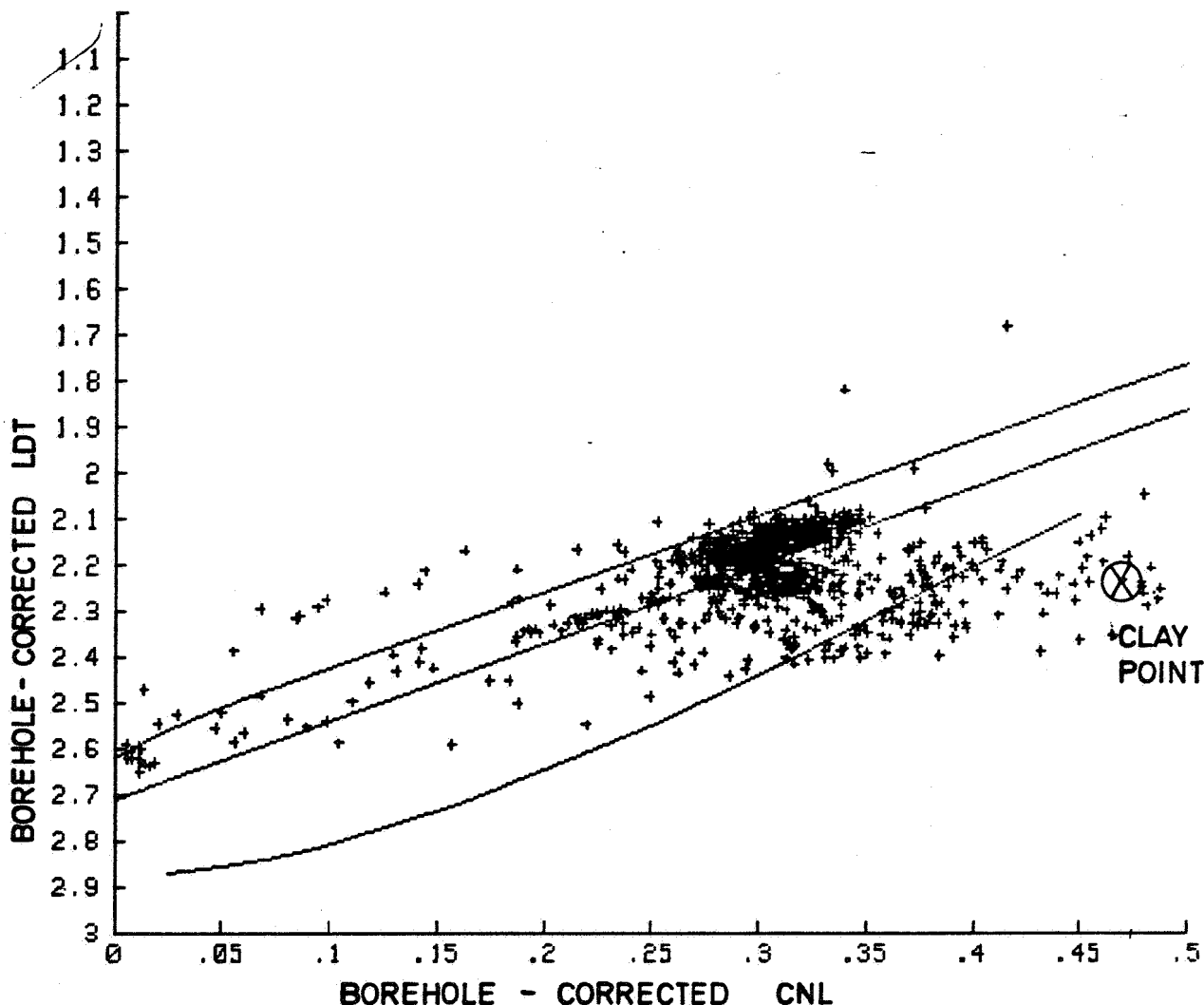
BULK DENSITY - G/CC



NEUTRON POROSITY IN LIMESTONE (PU)

PHI CALIP. IN 0/ 16.0
 Z data value = 5.48 * plotted value + 28.46 (+ or - 2.74)
 Drop = C

25/1-7
 NEUTRON-DENSITY CROSS-PLOT



ZONE CONSIDERED

: 2044.75 2220

PLOT CONDITIONS
 13.5

: ON CAL MINI = 12.3281249997 MAXI =

NUMBER OF POINTS PLOTTED

: 1093

TOTAL NUMBER OF POINTS

: 2462

AVERAGE OF X

: .30189

AVERAGE OF Y

: 2.2147

STANDARD DEVIATION OF X

: .063445

STANDARD DEVIATION OF Y

: .097212

CORRELATION COEFFICIENT OF XY

: -.49988

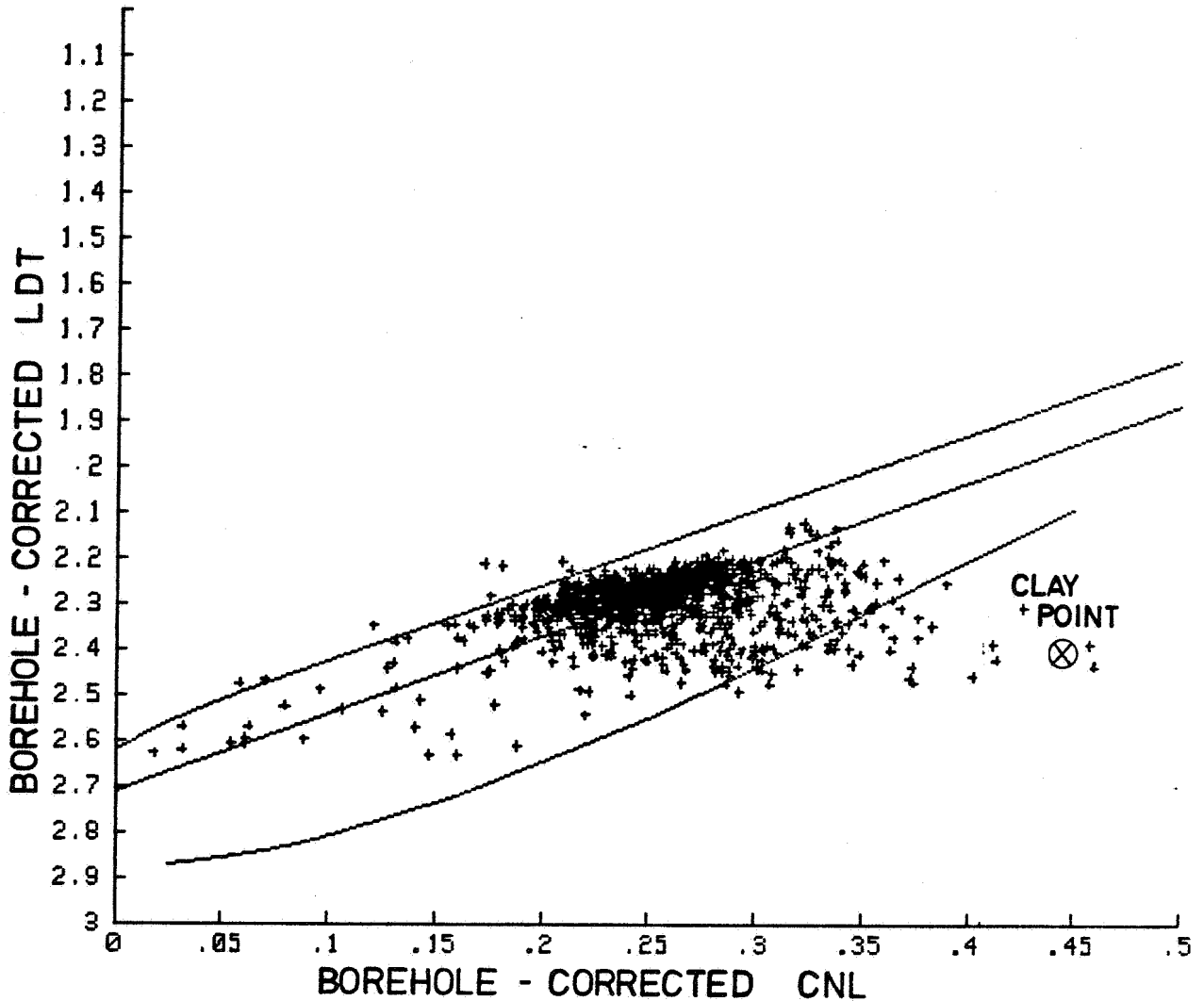
REGRESSION LINE EQUATION

: $Y = -1.5322 * X + 2.6773$

	Block / License: 024	elf aquitaine norge as RESERVOIR DEPT.
	Operator: EAN	
	Field: FRIGG	
NEUTRON - DENSITY CROSS-PLOT. FRIGG SAND (lower member)		
Attached to report no: 311E-R85/235/RM		Date: 16.7.85
Title: WELL 25/1-7 Reservoir ev.report		PL120 Author: R.M.
Author: R. Maritvold		Drawing: N.J.R.
Original filing plan: WRES 4		Filing no: FR/A4/558

Printed on 16.7.85

25/1-7
 NEUTRON-DENSITY CROSS-PLOT



ZONE CONSIDERED

: 2236 2419.96

PLOT CONDITIONS
 13.5

: ON CAL MINI = 12.3281249997 MAXI =

NUMBER OF POINTS PLOTTED : 1205
 TOTAL NUMBER OF POINTS : 2462
 AVERAGE OF X : .25492
 AVERAGE OF Y : 2.2974
 STANDARD DEVIATION OF X : .04563
 STANDARD DEVIATION OF Y : .068352
 CORRELATION COEFFICIENT OF XY : -.32593
 REGRESSION LINE EQUATION : $Y = -1.498 * X + 2.6793$

	Block / License: 024	Off aquitaine norge a/s RESERVOIR DEPT.
	Operator: EAN	
	Field: FRIGG	

NEUTRON - DENSITY CROSSPLOT
 COD AQUIFER

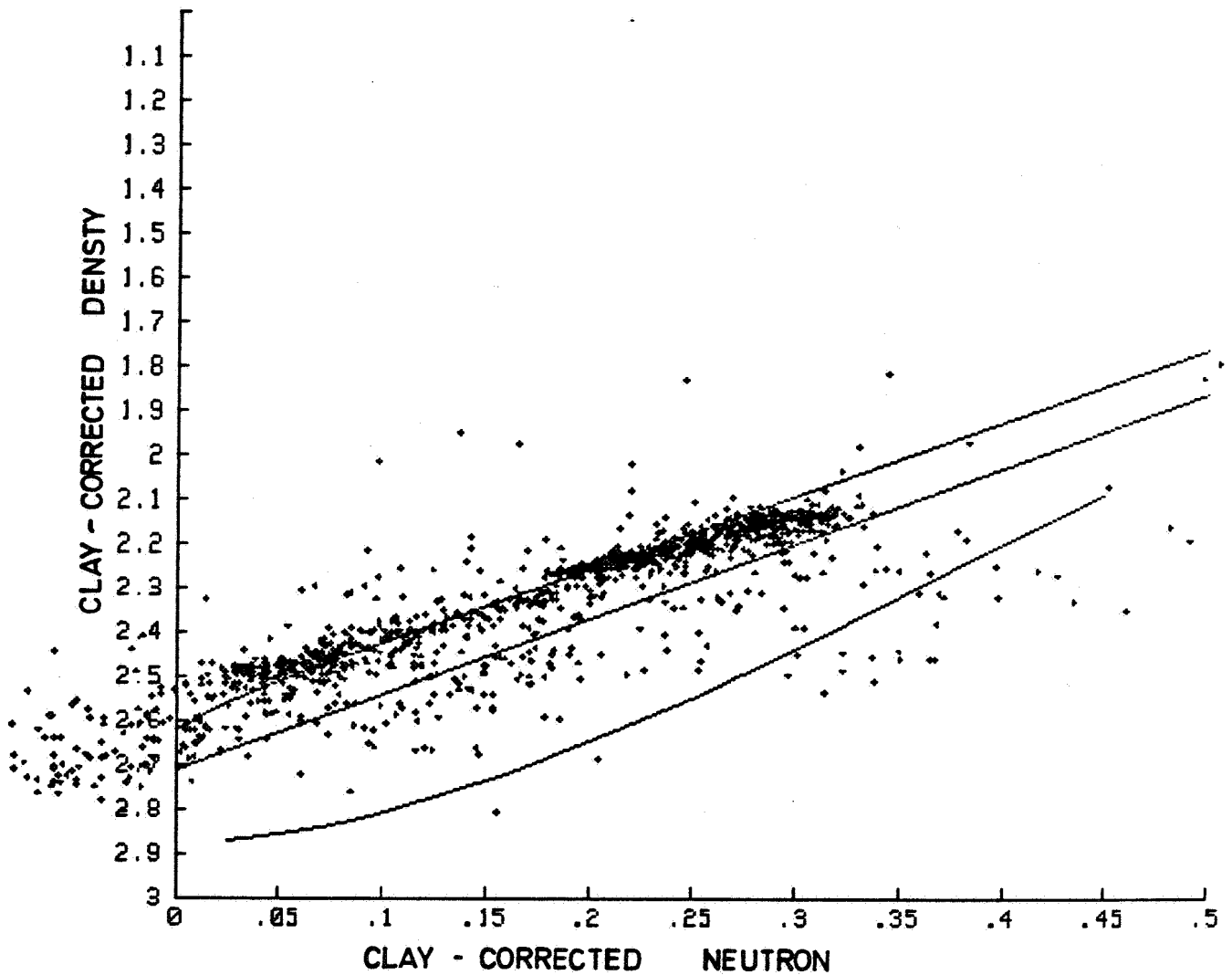
Attached to report no: 311E-R05/Z35/RM	Date: 3.07.85
Title: WELL 25/1-7, Reservoir ev report PL12b	Author: R.M
Author: R. Maritvoid	Drawing: N.J.R
Original filing plant: WRES 4	Filing no: FR/A4/559


Drawing Title 24

POROSITY COMPUTATION OF THE 25-1-7/RM/INTERPRET
 FROM THE COMBINATION COMPENSATED NEUTRON-DENSITY

:CS80,4 FILE

25-1-7
 CROSS-PLOT NEUTRON-DENSITY CLAY CORRECTED

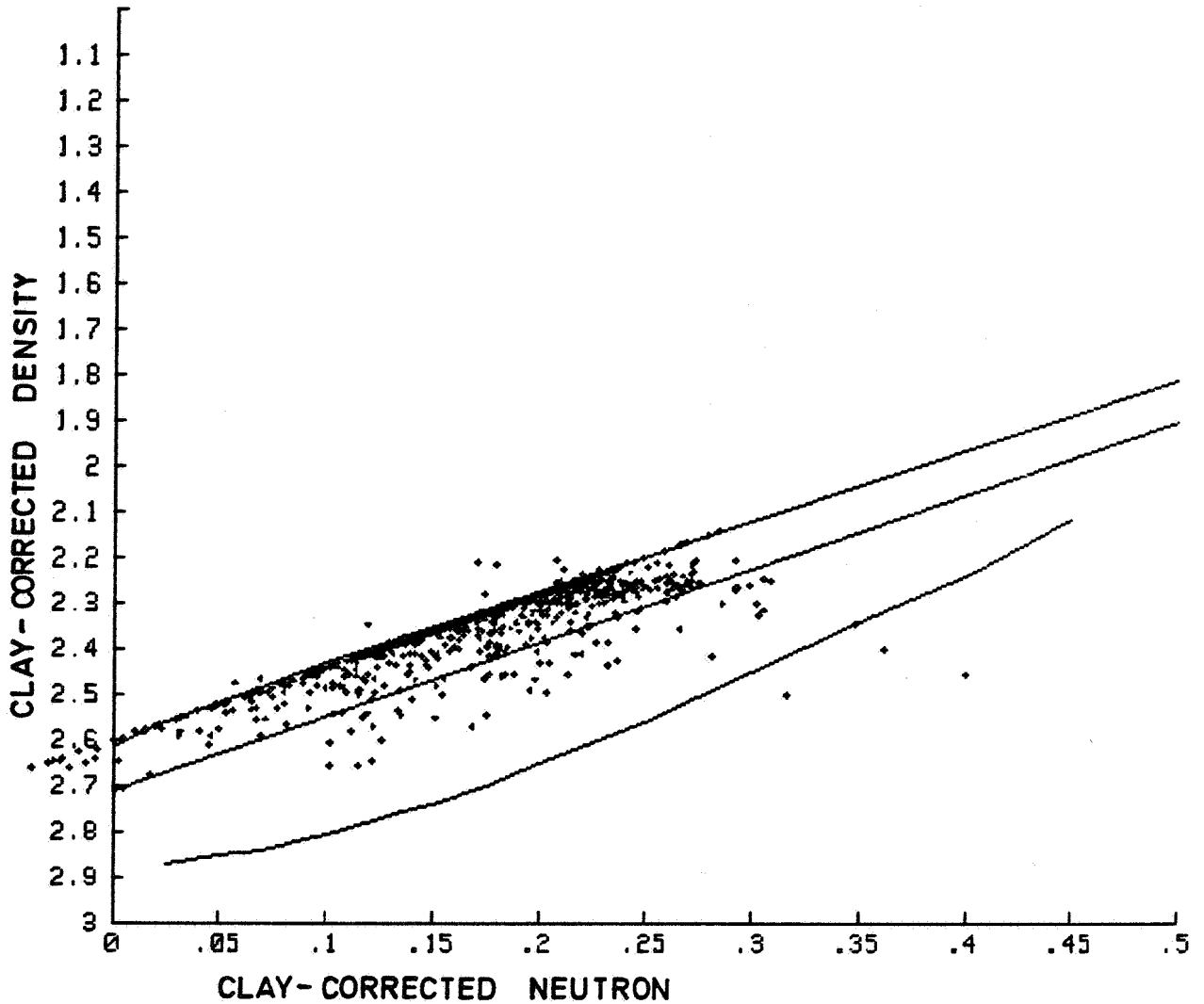


	Block / License: 024	elf aquitaine norge as RESERVOIR DEPT.
	Operator: EAN	
	Field: FRIGG	
CLAY - CORRECTED NEUTRON - DENSITY CROSSPLOT. FRIGG SAND (lower member)		
Attached to report no: 311E - R85 / 235 / RM		Date: 16. 7. 85
Title: WELL 25/1-7, Reservoir ev. report		PL 130 Author: R.M
Author: R. Maritvold		Drawing: N.J.R
Original filing plan: WRES 4		Filing no: FR /A4/560

POROSITY COMPUTATION OF THE 25-1-7/RM/TEST
FROM THE COMBINATION COMPENSATED NEUTRON-DENSITY

:CS80,4 FILE

25-1-7
CROSS-PLOT NEUTRON-DENSITY CLAY CORRECTED

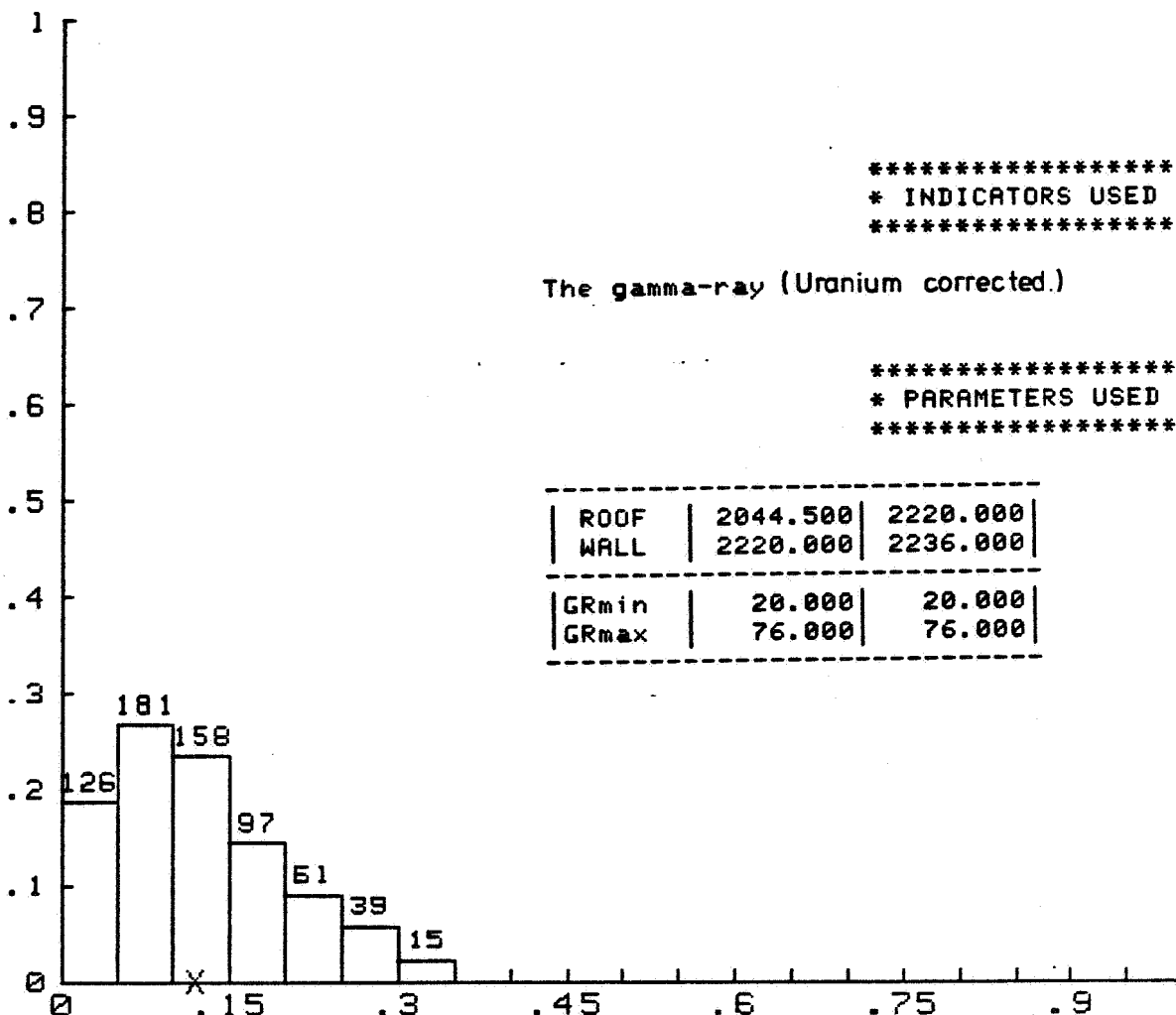


* PARAMETERS USED *

ROOF	2236.010
WALL	2421.940
Dma	2.660
Dsh	2.420
Df	1.040
Nsh	.440

	Block / License: 024	Off aquitaine norge AS RESERVOIR DEPT.
	Operator: EAN	
	Field: FRIGG	
<p>CLAY CORRECTED NEUTRON - DENSITY CROSSPLOT COD AQUIFER</p>		
Attached to report no: 311E - R85/235/RM		Date: 16.7.85
Title: WELL 25/1-7 Reservoir ev. report		PL 13
Author: R. Maritvold		Author: R.M.
Original filing plan: WRES 4		Drawing: N.J.R
		Filing no: FR/A4/561

HISTOGRAM OF VSH



* INDICATORS USED *

The gamma-ray (Uranium corrected.)

* PARAMETERS USED *

ROOF	2044.500	2220.000
WALL	2220.000	2236.000
GRmin	20.000	20.000
GRmax	76.000	76.000

CONSIDERED ZONE

: 2044.75 2220

PLOTTING CONDITIONS

: ON VSH MINI = 0 MAXI = .33
: ON PHI MINI = .13 MAXI = .4

NUMBER OF POINTS PLOTTED

: 677

TOTAL NUMBER OF POINTS

: 2462

AVERAGE OF X

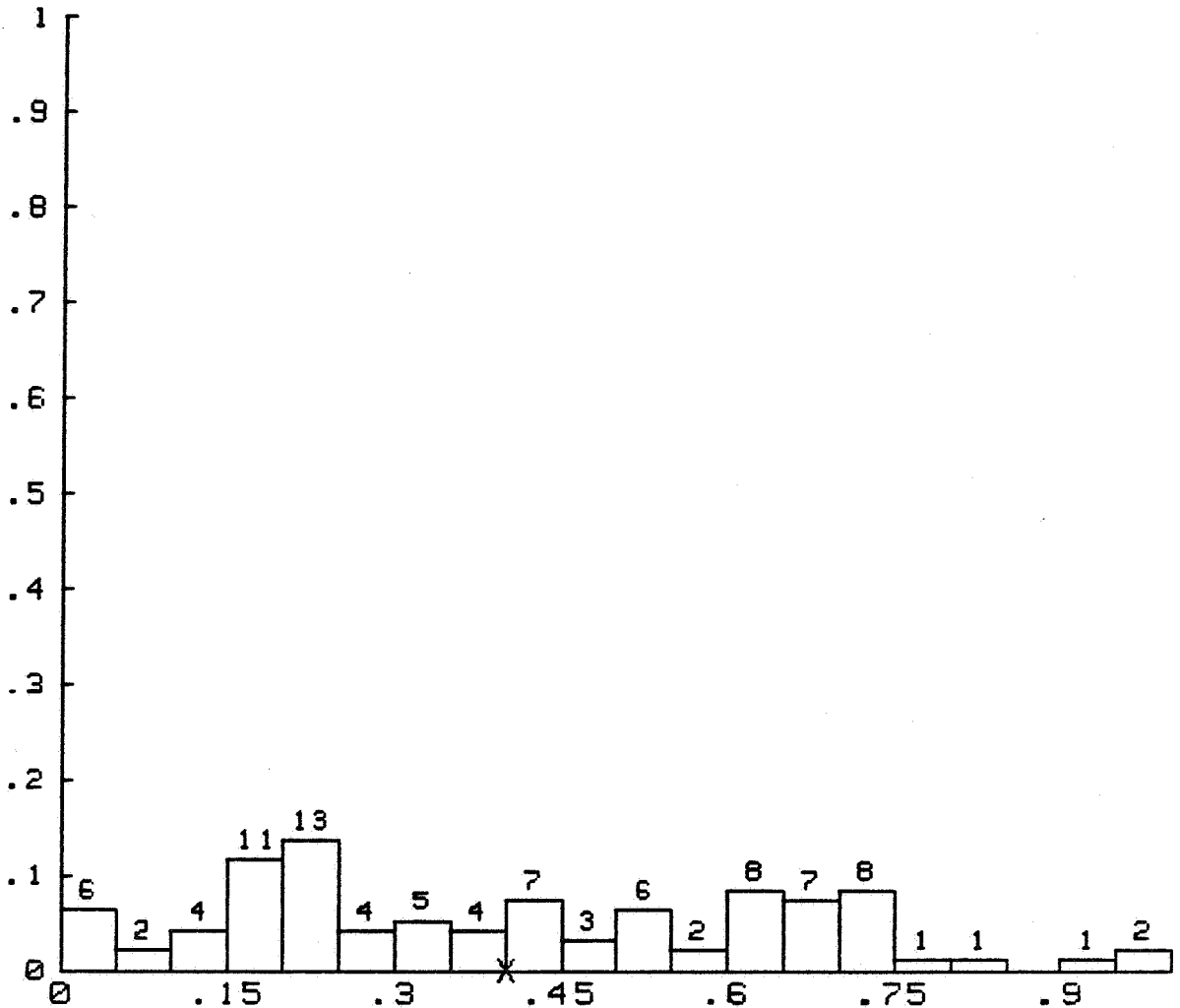
: .11931

STANDARD DEVIATION OF X

: .078407

	Block / Licence: 024	off aquitaine norge a/s RESERVOIR DEPT.
	Operator: EAN	
	Field: FRIGG	
HISTOGRAM OF CLAY CONTENT FRIGG AQUIFER (lower member)		
Attached to report no: 311E-R85/235/RM		Date: 16.7.85
Title: WELL 25/1-7. Reservoir ev. report		PL140
Author: R. Maritvold		Author: R. M.
Original filing plan: WRES 4		Drawing: N. J. R.
		Filing no: FR/A4/562

HISTOGRAM OF VSH



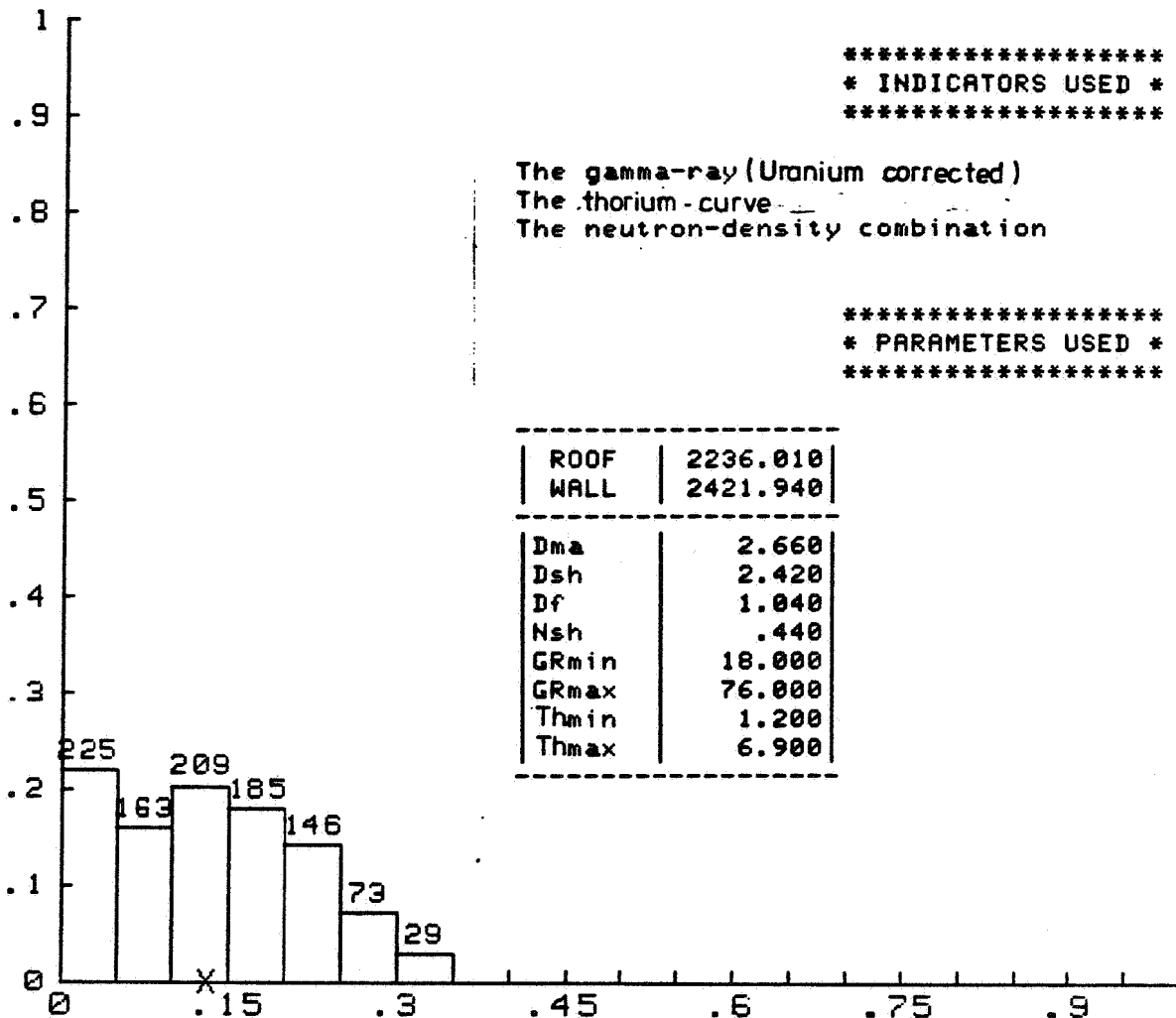
CONSIDERED ZONE : 2220 2236

PLOTTING CONDITIONS : ON VSH MINI = 0 MAXI = 1
: ON PHI MINI = 0 MAXI = 1

NUMBER OF POINTS PLOTTED : 95
TOTAL NUMBER OF POINTS : 2462
AVERAGE OF X : .40272
STANDARD DEVIATION OF X : .24078

	Block / Licence: 024	off aquitaine norge a/s RESERVOIR DEPT.
	Operator: EAN	
	Field: FRIGG	
HISTOGRAM OF SHALE CONTENT TUFFITIC ZONE		
Attached to report no: 31E-R85/235/RM		Date: 16. 7. 85
Title: WELL 25/1-7 Reservoir ev.report	PL14b	Author: R. M
Author: R. Maritvold		Drawing: N. J. R
Original filing plan: WRES 4		Filing no: FR/A4/563

HISTOGRAM OF VSH



* INDICATORS USED *

The gamma-ray (Uranium corrected)
The thorium-curve
The neutron-density combination

* PARAMETERS USED *

ROOF	2236.010
WALL	2421.940
Dma	2.660
Dsh	2.420
Df	1.040
Nsh	.440
GRmin	18.000
GRmax	76.000
Thmin	1.200
Thmax	6.900

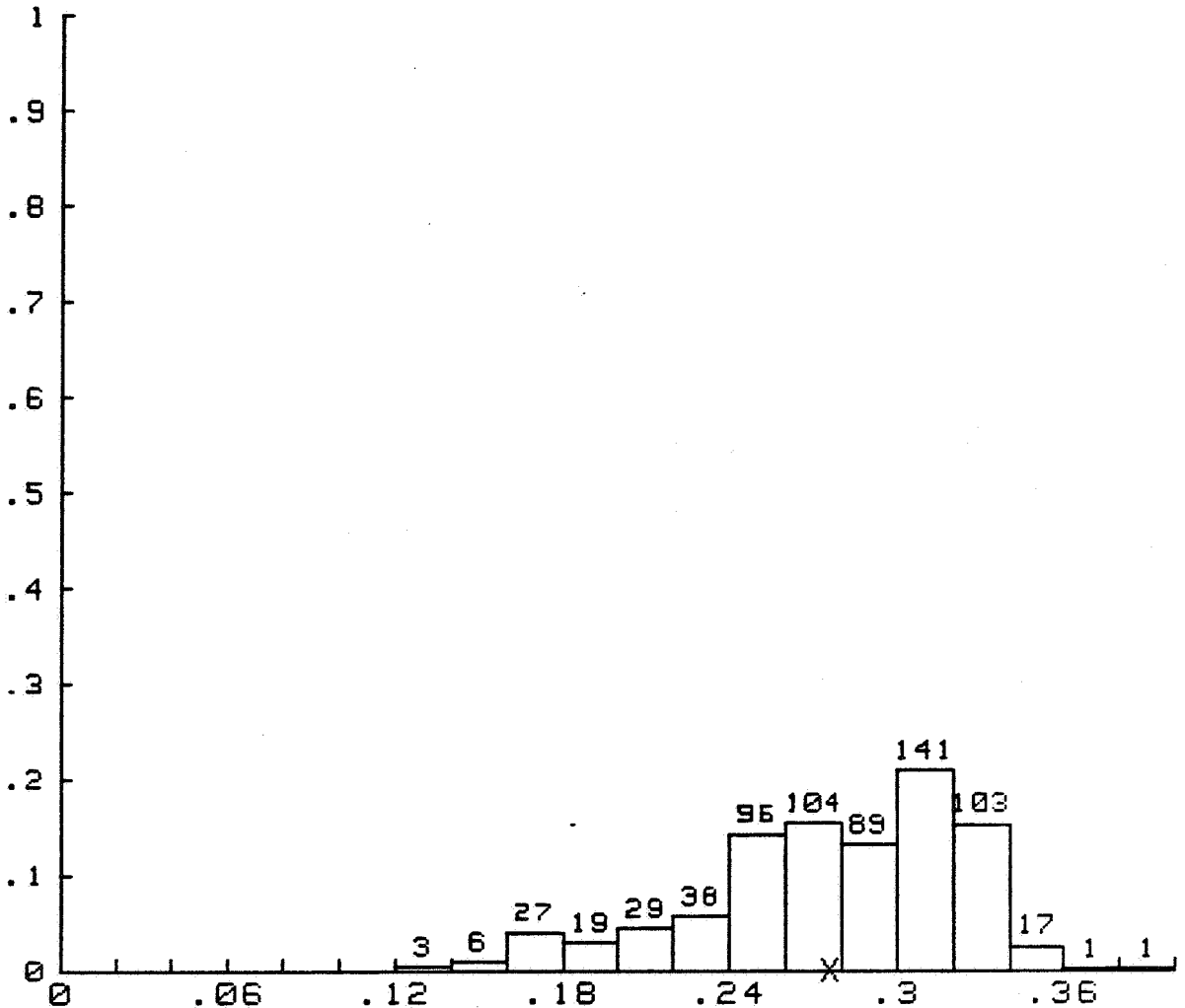
CONSIDERED ZONE : 2236.00999999 2421.93999999

PLOTTING CONDITIONS : ON PHI MINI = .13 MAXI = .4
: ON VSH MINI = 0 MAXI = .33

NUMBER OF POINTS PLOTTED : 1030
TOTAL NUMBER OF POINTS : 1221
AVERAGE OF X : .13078
STANDARD DEVIATION OF X : .08648

	Block / License: 024	elf aquitaine norge a/s RESERVOIR DEPT.
	Operator: EAN	
	Field: FRIGG	
HISTOGRAM OF CLAY CONTENT COD AQUIFER		
Attached to report no: 311E-R05/235/RM		Date: 16.7.85
Title: WELL 25/1-7 Reservoir ev. report	PL 14c	Author: R.M
Author: R. Maritvold		Drawing: N. J. R.
Original filing plan: WRES 4		Filing no: FR/A4/564

HISTOGRAM OF PHI



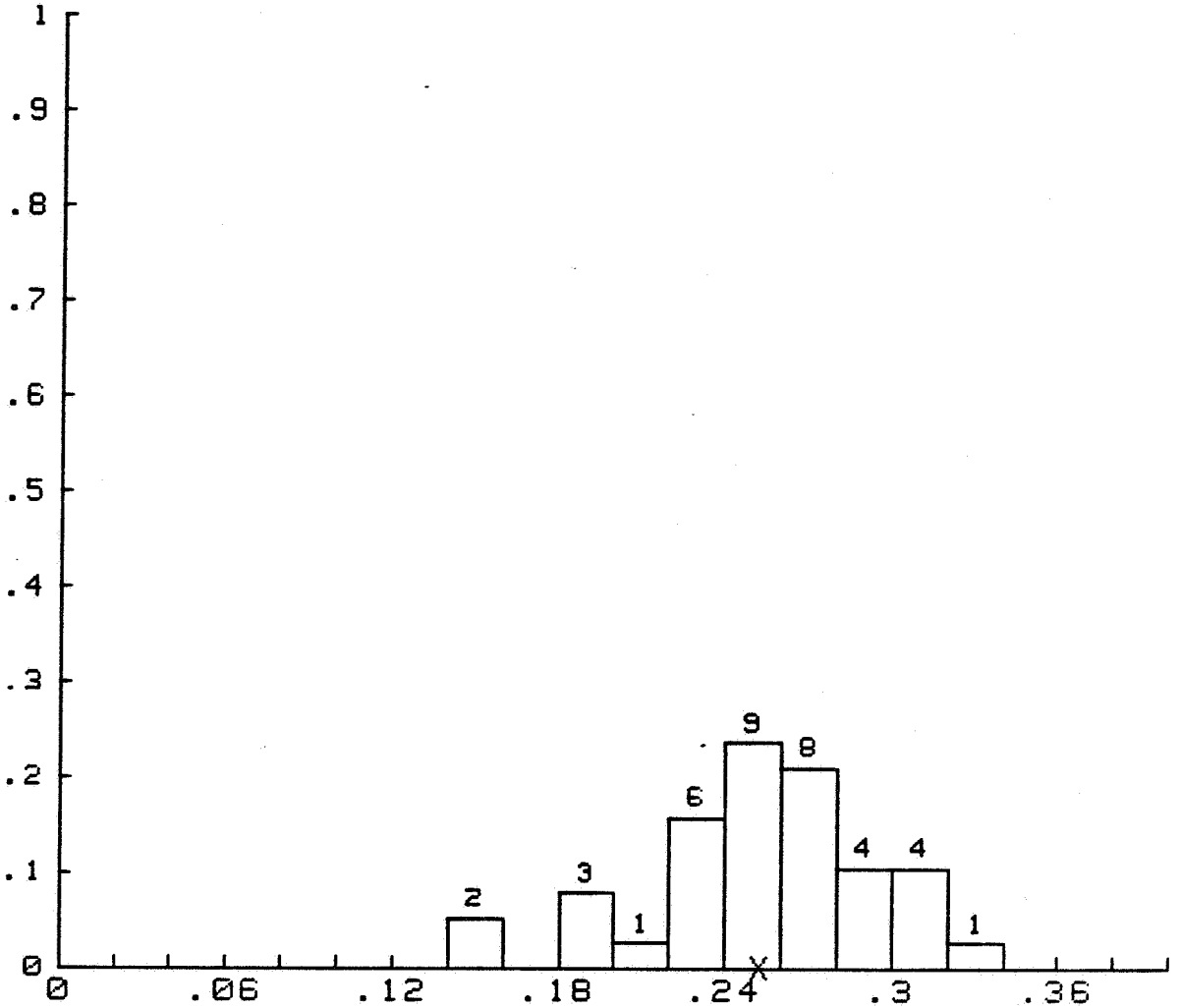
CONSIDERED ZONE : 2044.75 2220

PLOTTING CONDITIONS : ON VSH MINI = 0 MAXI = .33
: ON PHI MINI = .13 MAXI = .4

NUMBER OF POINTS PLOTTED : 674
TOTAL NUMBER OF POINTS : 2462
AVERAGE OF X : .27609
STANDARD DEVIATION OF X : .046488

	Block / License: 024	off aquitaine norge a/s RESERVOIR DEPT.
	Operator: EAN	
	Field: FRIGG	
HISTOGRAM OF POROSITY FRIGG AQUIFER (lower member)		
Attached to report no: 31E-R85/235/RM		Date: 16.7.85
Title: WELL 25/1-7. Reservoir ev. report		PL150 Author: R.M
Author: R. Maritvold		Drawing: N.J.R
Original filing plan: WRES 4		Filing no: FR/47/565

HISTOGRAM OF PHI



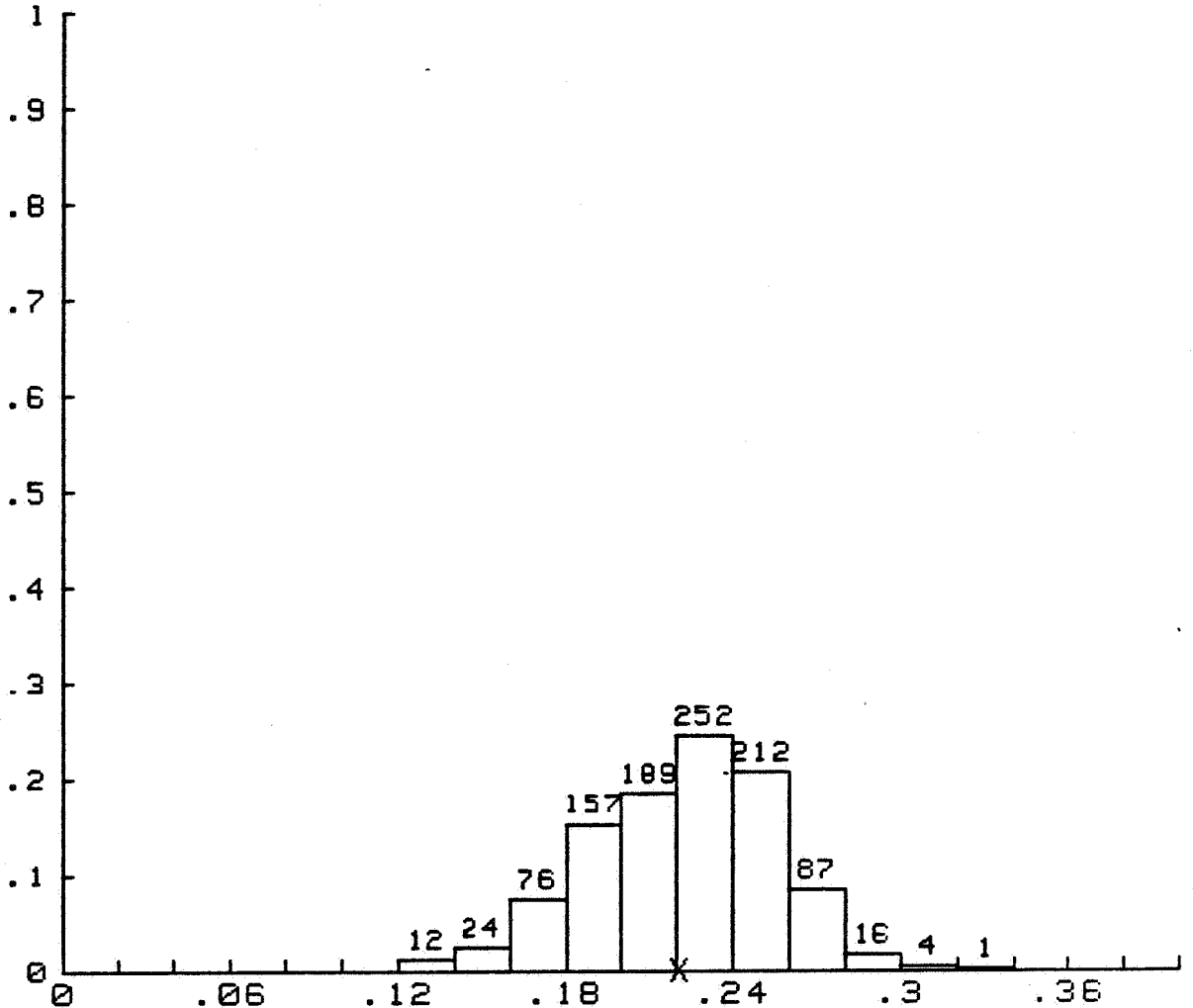
CONSIDERED ZONE : 2220 2236

PLOTTING CONDITIONS : ON VSH MINI = 0 MAXI = .33
: ON PHI MINI = .13 MAXI = .4

NUMBER OF POINTS PLOTTED : 38
TOTAL NUMBER OF POINTS : 2462
AVERAGE OF X : .2525
STANDARD DEVIATION OF X : .041729

	Block / License: 024	Statoil Equinor norge as RESERVOIR DEPT.
	Operator: EAN	
	Field: FRIGG	
HISTOGRAM OF POROSITY TUFFITIC ZONE		
Attached to report no: 311E - R05/235/RM		Date: 16.7.85
Title: WELL 25/1-7 Reservoir		PL15b Author: R.M.
Author: R. Maritvold		Drawing: N.J.R.
Original filing plan: WRES 4		Filing no: FR/A47566

HISTOGRAM OF PHI



CONSIDERED ZONE : 2236.00999999 2421.93999999

PLOTTING CONDITIONS : ON PHI MINI = .13 MAXI =
.321221010003

: ON VSH MINI = 0 MAXI = .33

NUMBER OF POINTS PLOTTED : 1030

TOTAL NUMBER OF POINTS : 1221

AVERAGE OF X : .22166

STANDARD DEVIATION OF X : .0325

	Block / License: 024	off aquifaine norge a/s RESERVOIR DEPT.
	Operator: EAN	
	Field: FRIGG	
HISTOGRAM OF POROSITY COD AQUIFER		
Attached to report no: 311E - R05 /235 / RM		Date: 16.7.85
Title: WELL 25/1-7. Reservoir ev. report		PL 15c Author: R.M.
Author: R. Maritvold		Drawing: N.J.R.
Original filing plan: WRES 4		Filing no: FR/A4/567