PRELIMINARY

PETROPHYSICAL EVALUATION OF WELL 2/5-7 MAASTRICHTIAN FORMATION

MOVEMBER 1983

KLAUS MOTLAND

PETROPHYSICAL EVALUATION OF WELL 2/5-7

INTRODUCTION

The objective of this evaluation is to investigate the possibility of having hydrocarbons in the Maastrichtian formation.

Oil shows were seen in the drill cuttings and on cores in the interval 3298 - 3335.5 m. A fibreglass core sleeve was used. During partitioning the cores in pieces of 1 meter, oil was seen bleeding from fractures and stylolites at some butt-ends. Bleeding was observed at 3306, 3307, 3329.5, 3330.5, 3333.5, 3334.5 and 3335.5 m.

AVAILABLE DATA

A full logging suit was run over the zone of interest.

	Run.	Interval
ISF/Sonic/GR	No. 3	2237 - 3535
LDT/CNL/GR/Cal	No. 3	2235 - 3535
LDT/CNL/GR/Cal	No. 4	3148 - 4003
DLL/MSFL/GR	No. 1	3148 - 3675

Five cores were taken in the interval 3303 - 3348 m. When taking core no. 4 no progress was made in coring, only a fragment was recovered, most likely coming from the bottom part of core no. 3. To-date only preliminary porosity and permeability data have been received on 45 plugs from core 1 and 2 (see table 1).

DATA QUALITY

The LDT/CNL/GR/Cal run no. 3 was thought to be unreliable (crossplot of LDT/CNL, see Fig. 1, suggested the rock to be dolomitic limestone, which was in contradiction with core observations). Therefore LDT/CNL/GR run no. 4 was made over the interval 3148 - 3535 m with a different tool. The crossplot from LDT/CNL run no. 4 (fig. 2) shows results more in line with observations on the cores.

BASIC PARAMETERS

$$m = 2$$
 $gma = 2.71 g/cc$ $gma = 0.18$ $gma = 2.00 F$ $gfk = 1.05 m$ $gma = 0.145$ $gma = 1.67 g/cc$ $gma = 1.67 g/cc$ $gma = 1$ $gma = 1.67 g/cc$ $gma = 1$

BOREHOLE CORRECTIONS

All logs, except the LDT, have been borehole corrected. There is for the moment no way of correcting the LDT for borehole effects.

TRUE RESISTIVITY (Rt)

True resistivity has been calculated from the LLd, LLs and MSFL.

POROSITY DETERMINATION (Ø)

Porosity is calculated from the LDT/CNL crossplot (see fig. 2). Porosities range from 0% to 25% (see histogram fig. 3). Porosities above 20% are found in some intervals (see depthplot Appendix 1).

Rw - DETERMINATION (Rw)

Rw has been determined from a true resistivity v.s. porosity crossplot (see fig. 4). Formation water resistivity is determined to be Rw = 0.027 ohm.m. This value is close to the established Rw = 0.025 ohm.m used in Maastrichtian formation at the Albuskjell field. A resistivity of Rw = 0.027 ohm.m at 220° F corresponds to a formation water salinity of 100,000 ppm NaCl eq.

Watersaturation (Sw)

The watersaturation is determined using a simple Archie equation.

RESULTS

Average results over the interval with shows and the cored interval are listed below:

Zone	Interval	Ø	Sw
Interval with show	s 3298-3335.5 m	17.2	89.2
Same as above with	cut off Ø<10%	18.6	86.4
Cored interval	3303-3348	15.7	92.3
Same as above with	cut off Ø<10%	17.7	88.2

See also depth plot 1:200 over cored interval in appendix 1 and detailed log evaluation results on a layer by layer basis in table 2.

RFT

RFT pressures show a hydrocarbon gradient of some 0.33 psi/ft (s.g. = 0.76) in the interval 3300 - 3350 m. The measurements were confirmed by a rerun 18 days later. Fig. 5 shows the results of both runs. The repeatability is good between the two runs. An HP-gauge was used in the second run. Table 3 and 4 list the results. Below 3365 m a different pressure regime exists, that has a water gradient, suggesting a pressure barrier between 3350 and 3365 m. This pressure barrier may be caused by a tight zone at depth of 3357 - 3359 m (see Appendix 1 and Fig. 6).

CORE ANALYSIS

Conventional core analysis will be done in 1 feet intervals on all the cores. Preliminary results have only been received on core 1 and 2. Porosities are fairly good ranging from 8% to 25% with an average of 17% porosity. Permeabilities are rather low ranging from 0.02 mD to .69 mD with an average value of 0.1 mD. Fig. 7 shows a relationship between porosity and permeability for core no. 1 and 2.

The slabbed core shows appreciable amounts of fractures to be present both open and closed. The core was reviewed by an experienced geologist, who indicated that production may be possible from such a fracture system after stimulation. Appendix 2 contains a detailed core description. Oil staining was observed in most fractures, but no oil was seen in the matrix.

CONCLUSION

Log evaluation does not show any significant hydrocarbons present in the matrix.

Hydrocarbons may be present in the fracture system between 3300 and 3350 m_{\bullet}

From core observations, enough fractures may be present to sustain fluid production for at least a short period.

FIGURES

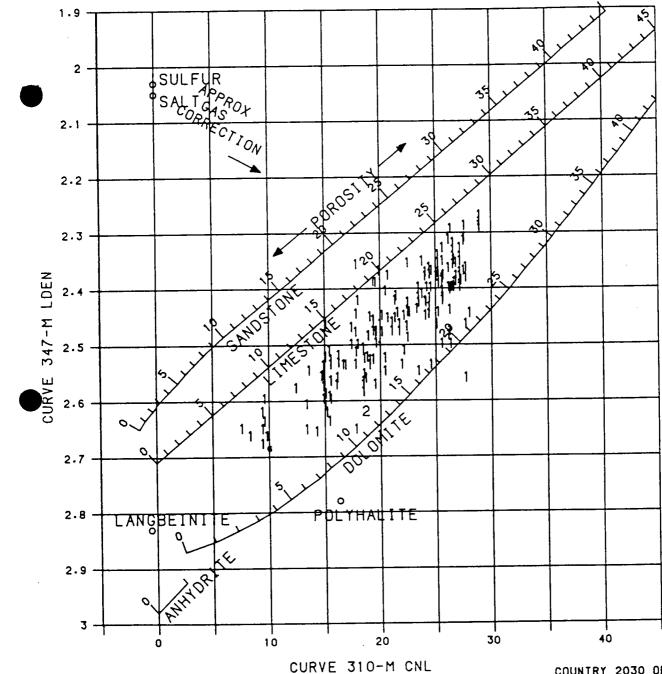
- Fig. 1 Crossplot LDT/CNL No. 3
- Fi.g 2 Crossplot LDT/CNL No. 4
- Fig. 3 Porosity histogram
- Fig. 4 True resistivity v.s. porosity
- Fig. 5 RFT pressure plot Run no 1 and no 2
- Fig. 6 RFT pressure plot
- Fig. 7 Core permeability vs core porosity

TABLES

- Table 1 List of core data
- Table 2 List of log evaluation results
- Table 3 RFT results
- Table 4 RFT results

APPENDICES

- Appendix 1 Depthplot over cored interval
- Appendix 2 Detailed core description

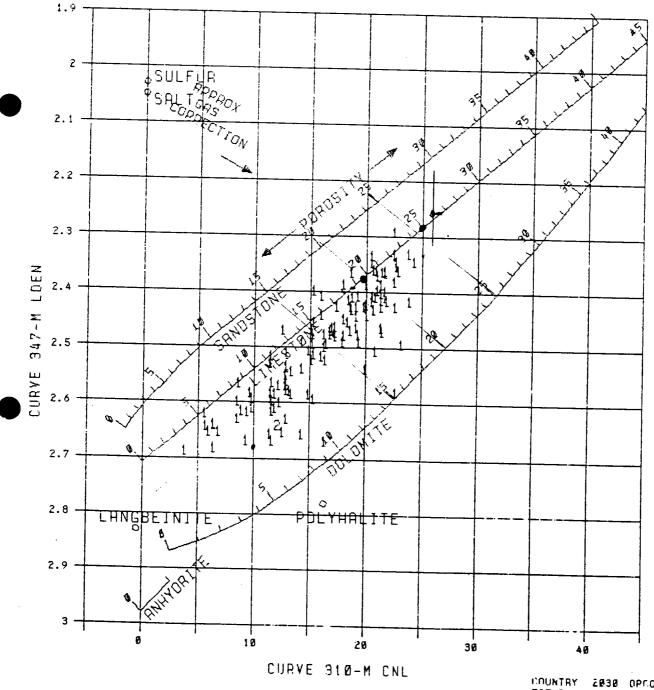


Z-AXIS CURVE 330-M GR RANGE : 0.0 - 100.0

2/5-7 3290.0-3400.0 M
POR FROM LDT/CNL CROSSPLOT.BHC LOGS
SW FROM ARCHIE USING ILD & RW=.030.M=1.93.N=1.82

COUNTRY 2030 OPCO 177 FIELD 9495 WELL 7 HOLE 1

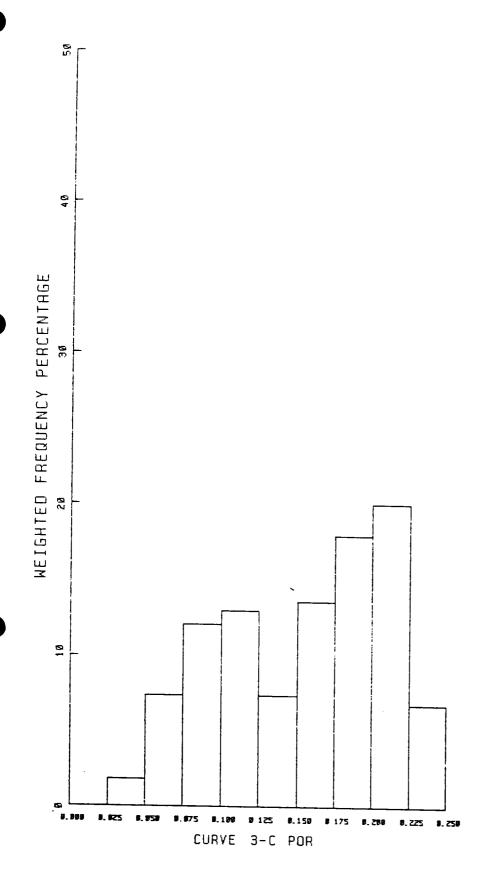
1 1000 0 000 000	
PARASOL - CR	OSSPLOT
K.MOTLAND	EPPP4
3290-3400	
14/10/83	



Z-AXIS CURVE 330-M GR RANGE: 0.0 - 100.0

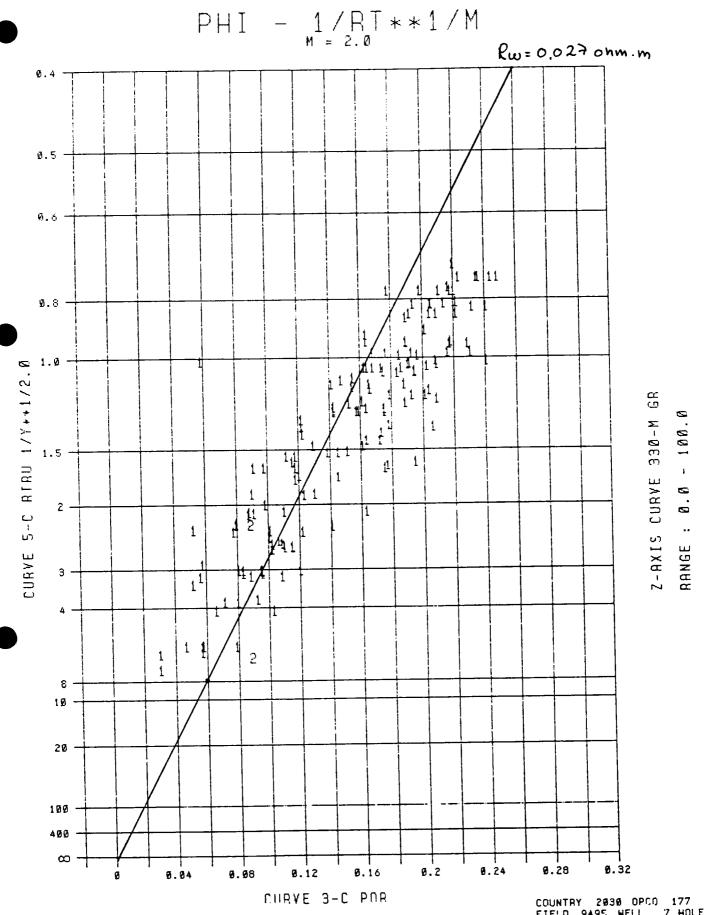
2/5-7 32PB #-337#.6 M PUR FROM LOT/CNL CRUSSPLOT.BHCDRR. LOGS SH FROM ARCHIE USING ILO 1 RH=.827.M=2.68.N=2.68

COUNTRY 2030 OPCO 177 FIELD 9495 NELL 7 HOLE 1
PARASOL - UROSSPLOT
K. MOTLAND EPPP4
3290-3370
00/44/03



2/5-7 3298.8-3378.8 M
POR FROM LOT/CNL CROSSPLOT. BHCDRR. LUGS
SM FROM ARCHIE USING ILD 2 RM=.827.M=2.88.N=2.88

COUNTRY 2030 OPCO 177 FIELD 9495 WELL 7 HOLE 1
PARASOL HISTOGRAM K.MOTLAND EPPP4
3298-3350
09/11/83

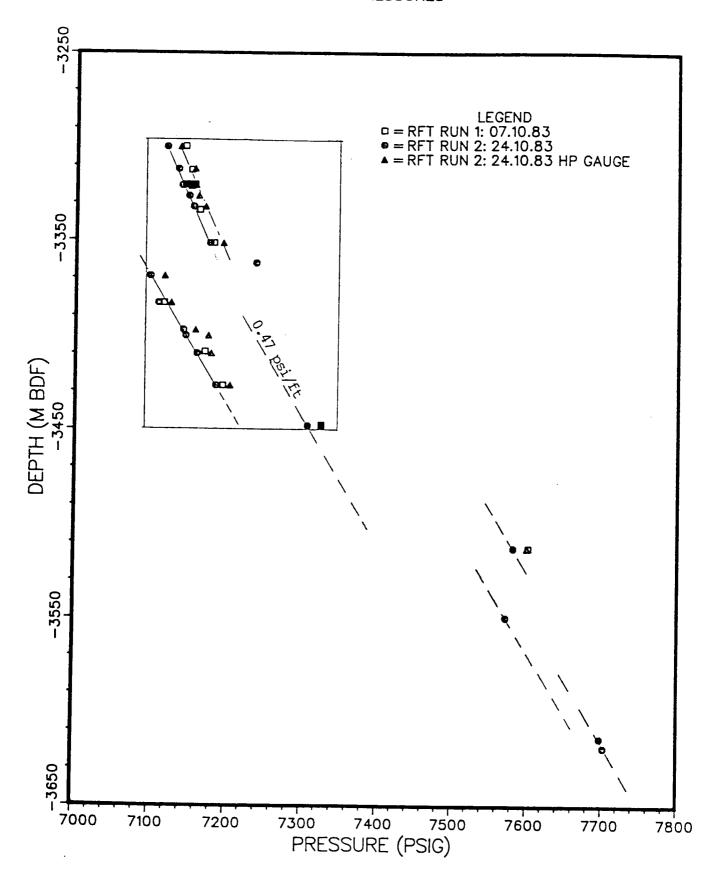


2/5-7 3298.8-3378.8 M
POR FROM LOT/CNL CROSSPLOT.8HCORR. LOGS
SN FROM ARCHIE USING ILO 1 RM=.827.M=2.88.N=2.88

COUNTRY 2030 OPCO FIELD 9495 WELL	
PARASOL - CR	05SPLOT
K.MOTLAND	EPPP4
3290-3370	
09/11/83	

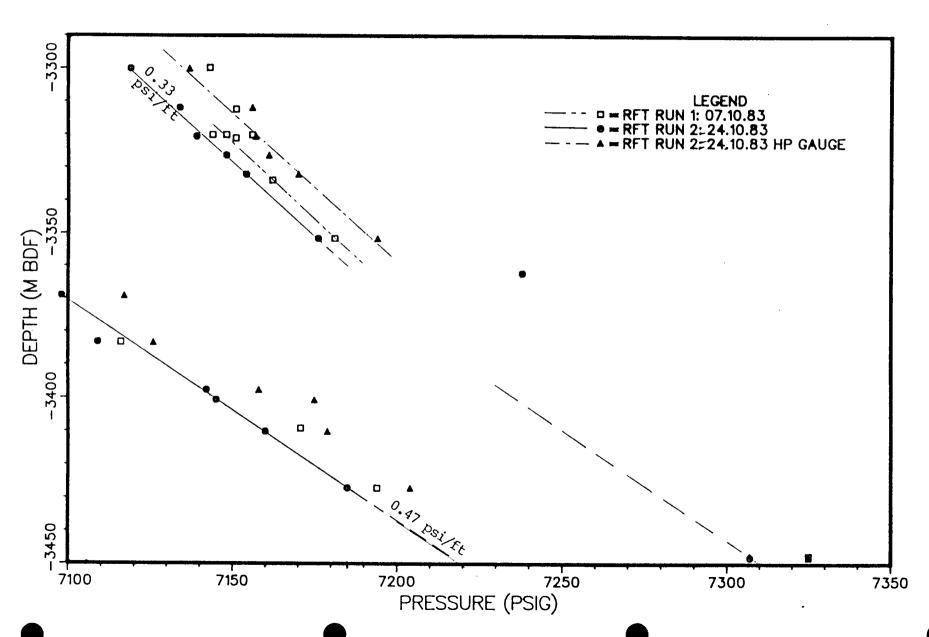
WELL 2/5-7

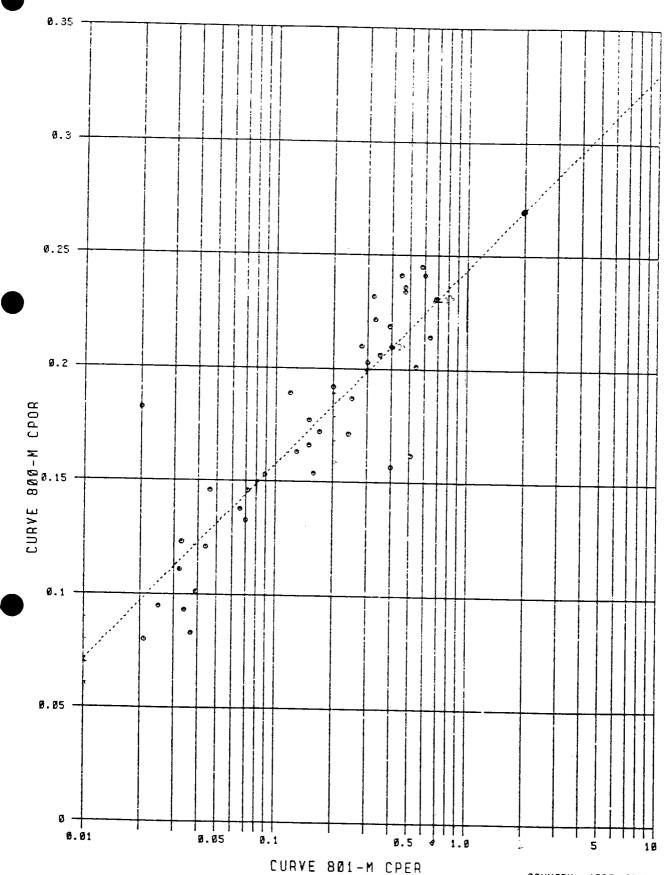
RFT PRESSURES



WELL 2/5-7







2/5-7 32P6.8-3378.8 M

POR FROM LOT/CHL CHOSSPLUI.8HCORR. LDGS

SH FROM ARCHIE USING ILO 1 RH=.827.M=2.88.N=2.88

FORMULA REGRESSION LINE : Y = 8.89 *X + 8.24

CORRELATION COEFFICIENT : 8.86

COUNTRY 2030 OPCO 177 FIELD 9495 WELL 7 HOLE

	- 11000
PHRASOL - 1	CRUSSPLOT
K MOTLAND	EPPP4
3303-3322	
09/11/83	

3325 gecol n

a/s norske/shell attn.: p. immerz

date: 08.11.83.

our ref.: kr/sn/1593/f37-lab.

nere are the porosity/permeability GBCa GPBY TOIL 2/5-7:

core no. 2: 30 por./gr.dens, all 28 hor. perm. , all

EPX FILE NO: Well till ACTION BY: WORK COPY TO:

plug no.	depth (meter)	-	permea horizo ka	bility ntal kl	(md),	poros he	grain dens. g/cc
9012545678901234567890125445673	3312.10 3312.40 3312.70 3313.00 3313.60 3313.60 3313.60 3313.90 3314.50 3314.90 3315.80 3316.70 3317.00 3317.00 3317.00 3317.30 3317.90 3317.90 3319.40		0.025 0.29 0.034 0.044 0.021 0.58 nmp 0.32 nmp 0.13 0.072 0.15 0.037 0.037 0.037 0.046 0.032 0.046 0.032 0.032 0.032 0.032 0.032 0.032 0.032 0.032	0.018 0.22 0.025 0.032 0.015 0.45 0.24 0.054 0.10 0.41 0.028 0.027 0.052 0.11 0.066 0.034 0.024 0.023 0.015 0.025		910101010101010101010101010101010101010	2.72 2.73 2.72 2.72 2.72 2.72 2.72 2.72

regards geco petr.lab. keith roebuck

35046a shetp n 00001 n EPX

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33046B SHELP N

33325 GECOL N

A/S NORSKÉ SHELL ATTN.: P. IMMERZ

DATE: 04.11.83.

OUR REF.: MS/SN/1580/F37-LAB.

3 4 MAY (CD)

EPX FILE NO:

ACTION BY:

EP

WORK COMY TO

CIRC. COPY TO:

HERE ARE THE POROSITY/PERMEABILITY DATA FROM WELL 2/5-7:

CORE NO. 1: 15 POR./GR.DENS, ALL 12 HOR. PERM. , ALL

PLUG	DEPTH	PERME	BILITY	(MD),	POROS	GRAIN
NO.	(METER)	HORIZO	NTAL		HE	DENS.
		КА	KL			G/CC
1	3303.15	0.33	0.25		22.2	2.73
2	3303.45	0.30	0.23		20.3	2.72
3	3303.75	0.35	0.27		20.6	2.71
4	3304.05	0.39	0.30		21.9	2.71
5	3304.35	0.47	0.36		23.6	2.72
6	3304.65	0.47	0.36			2.72
7	3304.95	0.45	0.35		25.4	2.72
8	3305.25	0.64	0.49		21.4	2.75
9	3305.55	0.60	0.46		24.1	2.73
10	3305.85	NPP				
11	3306.15	NPP				
12	3306.45	NMP			20.8	2.72
13	3306.75	NMP			15.4	2.71
14	3307.05	0.69	0.53		23.1	2.70
15	3307.35	NMP			20.8	2.71
16	3307.65	NPP				
17	3307.95	0.24	0.18		17.1	2.71
18	3308.25	0.51	0.40		16.2	2.71

REGARDS ... GECO PETR.LAB. M. SKJÆVELAND

330468 SHELP N 33325 GECOL N

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DATE: 09/11/83 TIME: 14:47:51 PAGE: 18

TABULATION OF PROCESSED CURVES

COUNTRY: 2030 2/5-7 3290.0-3370.0 M

OPCO : 177 POR FROM LDT/CNL CROSSPLOT/BHCORR. LOGS

FIELD : 9495 SW FROM ARCHIE USING ILD 8 RW=.027,M=2.00,N=2.00 WELL : 7 2/5-7

TOP OF INTERVAL: 3290.01 M BOTTOM OF INTERVAL: 3370.00 M

HOLE

LAYER Number	TOP	THICKNESS	1-M Lith	140-4 LL90	141-M LL95	153-4 MSFL	310-M CNL	330-M GR	345-M PE	347-M LDEN	350-M	800-M CPOR	801-M CPER	802-M CGDE	
	(M)	(M)		0.484	оним		PERC BV	API		G/CM3	INCH	FRCT	MD	G/CM3	
1	3290.01	0.30	50.47	1.72	1.78	2.67	8.3	13.9	26.72	2.564	13.4				
2	3290.31	0.46	31.23	1.72	1.75	2.03	13.1	13.9	26.72	2.508	13.4				
3	3290.77		33.11	2.32	2.23	4.03	13.1	13.9	12.98	2.560	13.4				
4	3291.07		33.11	2.32	2.28	3.30		18.3	12.98	2.560	13.4				
5	3291.53		33.11	2.32	2.52	2.19		18.3	12.98	2.560	14.1				
6	3291.84		33.75	2.32	2.52	2.19	13.1	18.3	33.35	2.577	14.1				
7	3292.14		32.03	1.73	1.90	2.19		14.0	33.35	2.531	13.3				
8	3292.90		10.5ذ	2.74	3.03	2.19		14.0	12.18	2.629	13.3				
9	3293.36		32.77	3.43	3.03	5.15	8.7	14.0	12.18	2.629	13.7				
10	3293.07	0.40	31.01	3.43	3.50	5.15	8.7	14.G	9.96	2.598	13.7				
11	3294.12	J.76	32.58	3.43	3.50	15.51	7.0	14.0	33.16	2.652	13.7				
12	3294.88		32.95	J. 98	0.97	1.14	20.1	14.0	27.33	2.422	13.2				
13	3295.49		32.95	J.≯8	0.97	1.14	20.1	14.G	19.87	2.422	13.2				
14	3295.80	0.40	32.95	1.46	1.27	2.02	20.1	14.C	19.87	2.422	13.2				
15	3296.26		30.93	1.40	1.39	2.02	11.6	14.C	13.79	2.528	13.2				
16	3296.87	0.46	30.98	1.40	1.39	2.02	11.6	14.C	20.43	2.528	13.2				
17	3297.32		35.05	1.25	1.10	1.47	19.5	14.C	20.43	2.489	13.2				
18	3298.08		33.96	1.25	1.10	1.47	18.1	14.G	20.43	2.489	13.2				
19	3298.54		33.96	9.32	0.71	0.99	18.1	14.C	15.47	2.489	13.2				
20	3299.00	0.30	31.30	0.32	0.71	0.99	21.1	14.C	15.47	2.362	13.2				
21	3299.30		31.29	0.32	0.71	0.85		14.G	15.47	2.362	12.7				
22	3299.61		32.32	0.32	0.71	0.85		14.0	12.87	2.362	12.7				
23	3300.22		32.40	ე. 94	0.71	1.12	19.3	14.6	32.81	2.426	12.7				
24	3300.52		35.17	0.94	0.71	0.99	22.8	14.C	32.81	2.426	12.7				
2 5	3300.98		35.17	0.94	0.71	0.99		14.0	18.05	2.426	12.7				
26	3301.29		٠1.3ذ	0.94	0.82	1.20		14.0	18.05	2.443	12.7				
27	3301.74		53.88	1.06	0.82	1.20		14.C	16.61	2.463	12.7				
28	3302.05		32.34	1.00	G.82	1.51		14.C	23.68	2.463	12.7				
29	3302.35		35.57	J.85	0.67	0.97		14.G	23.68	2.463	12.7				
30	3302.81	0.34	33.17	0.35	0.67	0.97		14.C	16.14	2.401	12.5				
31	3303.15		53.17	0.85	0.67	0.97		14.0	16.14	2.401	12.5	0.222	0.33	2.730	
32	3303.27		33.17	0.35	0.67	0.97		14.0	20.23	2.401	12.5				
33	3303.45		33.17	9.85	0.67	0.97		14.G	20.23	2.401	12.5	0.203	0.30	2.720	
34	3303.55		33.17	J.35	G.67	0.97		14.0	20.23	2.401	12.5				
35	3303.72		34.15	0.85	0.80	1.07		14.C	20.23	2.426	12.5	C.206	0.35	2.710	
30	3303.85		34.15	0.85	0.80	1.07		14.0	20.23	2.426	12.5				
37	3304.03	0.12	34.15	0.97	0.80	1.07	21.5	14.0	20.23	2.426	12.5	0.219	0.39	2.710	

TABULATION OF PROCESSED CURVES

87 : 2630 : 177 : 9495 : 7 2/>-7

2/5-7 3290.0-3370.0 M
POR FROM LDT/CNL CROSSPLOT/EHCORR. LOGS
SW FRCM ARCHIE USING ILD 8 RW=.027/M=2.00/N=2.00

OF INTERVAL: 3290.01 M OF INTERVAL: 3370.00 M

TOP	THICKNESS	1 - M L I T H	14J-M 6L9D	141-M	153-M	31C-M	33Ù-M	345-m	347-M	350-M	800-M	801- m	802-M
(M)	(M)	LIII	0444	LL9S JHMM	MSFL Ohmm	CNL	G R	PE	LDEN	CAL	CPOR	CPER	CGDE
	••••		0.1/11	On in	Onna	PERC BV	API		G/CM3	INCH	FRCT	MD	G/CM3
33ú4.15	J.18	34.15	J.97	0.85	1.07	21.5	14.0	20.23	2.426	12.5			
3304.33	0.12	31.20	0.97	0.80	1.07		14.0	12.79	2.426	12.5	0 274	0 (7	2 770
3304.45	0.20	31.20	0.97	0.80	1.07	17.5	14.0	12.79	2.426		0.236	0.47	2.720
3304.05	0.10	20 ـ 1 د	J.97	0.80	1.07	17.5	14.0	12.79	2.426	12.5	0 37/	0 4 7	2 7 7 2
3304.75	0.20	31.20	0.97	0.83	1.07	17.5	14.C	12.79	2.426	12.5	0.234	0.47	2.720
3304.95	0.10	31.20	0.97	υ.εյ	1.07	17.5	14.0	12.79	2.426	12.5	0.3/4	0 (5	2 220
3305.05	0.20	31.20	0.97	0.83	1.07	17.5	14.C	12.79	2.426	12.5 12.5	C.241	0.45	2.720
3305.25	J.10	32.99	0.97	0.80	1.07	20.0	14.0	22.14	2.426		0 347	0 (4	2 250
3305.35	0.20	32.99).47	0.80	1.07	20.0	14.C	22.14	2.426	12.5 12.5	G.214	0.64	2.750
33ú5 . 55	0.10	32.07	0.97	1.69	1.32	18.7	14.0	22.14	2.426	12.5	0.241	0 40	
3305.65	Ű.3o	32.07	J.97	1.09	1.32	18.7	14.0	22.14	2.426	12.5	0.241	0.60	2.730
3306.01	9.40	33.66	0.97	1.09	1.32	18.7	14.0	15.10	2.468				
3306.47	Ů.J8	33.66	1.28	1.09	1.97	13.7	14.0	15.10	2.468	12.5	0 300		
3306.55	J.20	33.65	1.28	1.09	1.97	18.7	14.0	15.10	2.468	12.5	0.208		2.720
3306.75	J.10	33.66	1.20	1.09	1.97	18.7	14.C	15.10	2.468	12.5	0 451		
3300.85	J. J7	33.65	1.28	1.09	1.97	18.7	14.0	15.10	2.468	12.5 12.5	0.154		2.710
3306.92	0.13	28.90	30.5	1.09	1.97	12.8	14.C	18.73	2.468	12.5			
3307.05	J.10	28.90	2.08	1.09	1.97	12.8	14.0	18.73	2.468	12.5	0 274	0 . 0	2 300
3307.15	ű. Je	28.90	2.08	1.09	1.97	12.8	14.0	18.73	2.468	12.5	0.231	0.69	2.700
3307.23	3.12	30.24	2.38	2.12	3.97	12.8	14.0	18.73	2.652	12.5			
3307.35	J.10	30.24	2.08	2.12	3.97	12.8	14.0	18.73	2.652	12.5	0 300		2 740
3307.45	8 ل. ث	30.24	2.08	2.12	3.97	12.8	14.0	18.73	2.652	12.5	0.208		2.710
3307.53	0.12	30.24	2.08	2.12	3.97	12.8	14.0	18.73	2.652				
3307.65	J.10	36.24	2.08	2.12	3.97	12.8	14.0	18.73	2.652	12.9			
3307.75	0.u9	36.24	2.08	2.12	3.97	12.3	14.0	18.73	2.652	12.9 12.9			
3307.84	0.11	32.02	3.21	3.03	13.05	6.2	14.0	12.98	2.652	12.9			
3307.95	0.10	32.02	3.21	3.03	13.05	6.2	14.0	12.98	2.652	12.9	0 474		
3308.05	J. 25	32.02	3.21	3.03	13.05	6.2	14.G	12.98		12.9	0.171	0.24	2.710
3308.30	J. J5	32.02	3.21	3.03	13.05	6.2	14.0	21.27	2.652	12.9	0.443		
3308.35	J.40	32.02	3.21	3.0%	13.05	6.2	14.0	21.27	2.652	12.9	0.162	0.51	2.710
3308.75	0.30	32.67	1.42	1.40	1.54	13.0	14.C	21.27	2.652 2.549	12.9			
33û9.Co	Ĵ.46	33.37	1.42	1.46	2.37	13.0	14.0	13.14	2.568	, 12.9			
3309.51	0.40	32.81	7.90	0.97	0.81	20.7	14.0	13.14		12.9			
3309.97	0.40	31.44	2.21	2.10	7.80	5.8	14.0	13.14	2.407 2.643	12.9			
3310.43	0.51	31.44	2.21	2.10	7.30	5.8	14.0	27.00	2.643	12.9 12.9			
3311.04	0.76	33.72	Ú.77	0.72	0.93	21.5	14.0	17.58	2.414				
3311.80	0.30	32.61	J.77	0.72	0.75	21.5	14.0	14.45		12.9			
							14.0	14.47	2.386	12.9			

****** ***** PARASOL (VERSION C-00)

DATE: 09/11/83 TIME: 14:47:51 PAGE: 20

TABULATION OF PROCESSED CURVES ------

2/5-7 3290.0-3370.0 M COUNTRY : 2030

177 POR FROM LDT/CNL CROSSPLOT/BHCORR. LOGS OPCO

9495 SW FROM ARCHIE USING ILD 8 RW=.027,M=2.00,N=2.00 FIELD : 2/5-7 : 7

TOP OF INTERVAL : 3290.01 M 337J.30 M BOTTOM OF INTERVAL :

1

WELL

HOLE

:

LAYER NUMBER	TOP	THICKNESS	1-M LITH	140-M LL90	141-M LL98	153-M MSFL	310-M CNL	330-M GR	345-M PE	347-M LDEN	350-M CAL	800-M CPOR	801-M CPER	802-M CGDE
	(M)	(M)		онми	MMHG	ОНММ	PERC BV	API		G/CM3	INCH	FRCT	MD	G/CM3
75	3312.11	9د.ن	30.07	U.77	0.72	0.75	18.1	14.C	14.45	2.386	13.3	0.095	0.02	2.720
76	3312.20	J.21	30.07	J.77	0.72	0.75	18.1	14.0	14.45	2.386	13.3			
77	3512.41	0.30	30.07	0.77	0.72	0.75	18.1	14.0	29.27	2.386	13.3			
78	3312.72	0.08	31.57	Ů.77	0.72	0.75	20.2	14.0	29.27	2.386	13.3	C.093	0.03	2.720
79	3312.80	0.22	31.57	0.77	0.72	0.75	20.2	14.0	29.27	2.386	13.3			
80	3313.02	0.ú8	37.25	1.35	1.25	2.44	20.2	14.0	29.27	2.537	13.3	0.121	0.04	2.720
81	3313.10	0.22	37.25	1.35	1.20	2.44	20.2	14.0	29.27	2.537	13.3			
82	3313.32	ე. ∪გ	33.24	1.35	1.26	2.44	14.5	14.0	20.55	2.537	13.3	0.080	0.02	2.720
83	3313.40	0.20	33.24	1.35	1.25	2.44	14.5	14.0	20.55	2.537	13.3			
84	3313.60	J.10	33.24	1.35	1.25	2.44	14.5	14.C	20.55	2.537	13.3	0.245	0.58	2.720
35	3313.70	O. Jd	33.24	1.35	1.26	2.44	14.5	14.0	20.55	2.537	13.3			
86	3313.78	0.12	31.56	1.15	1.14	1.57	14.5	14.0	20.55	2.491	13.7			
87	3313.90	J.10	31.55	1.15	1.14	1.57	14.5	14.C	20.55	2.491	13.7	0.229		2.730
មន	3314.00	0.09	31.50	1.15	1.14	1.57	14.5	14.0	20.55	2.491	13.7			
89	3314.09	U.11	31.50	1.15	1.14	1.57	14.5	14.0	26.47	2.491	13.1			
90	3314.20	0.10	31.50	1.15	1.14	1.57	14.5	14.0	26.47	2.491	13.1	0.232	0.32	2.720
91	3314.30	0.24	31.5 ა	1.15	1.14	1.57	14.5	14.0	26.47	2.491	13.1			
92	3314.54	U. J6	37.51	2.75	2.57	1.57	14.5	14.C	15.46	2.656	13.1	0.215		2.720
93	3314.60	0.25	37.51	2.75	2.57	1.57	14.5	14.0	15.46	2.656	13.1			
94	3314.85	J. U5	37.52	2.75	2.57	6.49	14.5	14.0	15.46	2.656	13.9			
95	3314.90	0.10	37.52	2.75	2.57	6.49	14.5	14.0	15.46	2.656	13.9	C.146	0.07	2.720
96	3315.GU	0.15	37.52	2.75	2.57	6.49	14.5	14.0	15.46	2.656	13.9			
97	3315.15	0.1 5	35.69	2.75	2.57	6.49	11.6	14.0	42.34	2.656	13.9	0.163	0.13	2.720
9 ช	3315.30	0.20	35.69	2.75	2.57	6.49	11.6	14.0	42.34	2.656	13.9			
99	3315.50	J.11	٧٥. 5ڏ	2.75	2.57	6.49	11.6	14.C	42.34	2.656	13.9	0.201	0.54	2.720
100	3315.61	û.19	33.05	1.50	1.47	1.75	16.2	14.C	21.03	2.516	13.9			
101	3315.80	0.10	53.05	1.56	1.47	1.75	16.2	14.C	21.03	2.516	13.9	0.210	0.28	2.720
102	3315.90	U.20	53.65	1.50	1.47	1.75		14.0	21.03	2.516	13.9			
103	3316.10	0.10	33.05	1.50	1.47	1.75	16.2	14.0	21.03	2.516	13.9	0.138	0.07	2.720
104	3316.20	0.17	33.05	1.56	1.47	1.75		14.G	21.03	2.516	13.9			
105	3316.37	0.13	34.12	2.20	2.07	2.93	12.5	14.0	74.85	2.599	13.9	0.172	0.17	2.720
106	3316.50	0.20	34.12	2.20	2.07	2.93	12.5	14.G	74.85	2.599	13.9			
107	3316.70	0.10	34.12	5.20	2.07	2.93		14.G	74.88	2.599	13.9	0.166	0.15	2.720
108	3316.80	0.20	34.12	2.20	2.07	2.93		14.0	74.88	2.599	13.9			
109	3317.00	0.13	34.12	2.20	2.07	2.93		14.C	74.88	2.599	13.9	0.101	0.04	2.720
110	3317.13	0.17	34.12	2.20	2.07	2.93		14.C	24.90		13.5			
111	3317.30	0.10	34.12	2.20	2.07	2.93	12.5	14.0	24.90	2.599	13.5	0.083	0.04	2.720
110	3317.13	0.17	34.12	2.20	2.07	2.93	12.5	14.C	24.90	2.599	13.5		0.04	2.720

TABULATION OF PROCESSED CURVES

COUNTRY: 2030 2/5-7 3290.0-3370.0 M
OPCO: 177 POR FROM LDT/CNL CROSSPLOT/BHCORR. LOGS
FIELD: 9495 SW FROM ARCHIE USING ILD & RW=.027,M=2.00

WELL: 7 2/5-7

HOLE : 1

TOP OF INTERVAL: 3290.01 M BOTTOM OF INTERVAL: 3370.00 M

-	LAYER NUMBER	TOP	THICKNESS	1-M LITH	140-M EL95	141-M LL 95	153-M MSFL	310-M CNL	330-M GR	345-M PE	347-M LDEN	350-M CAL	800-M C POR	801-M CPER MD	802-M CGDE G/CM3
		(M)	(M)		емко	энми	онмм	PERC BV	API		G/CM3	INCH	FRCT	.40	4/6/10
	112	3317.40	0.20	34.12	2.20	2.07	2.93	12.5	14.C	24.90	2.599	13.5			
-	113	3317.60		34.12	2.20	2.07	2.93		14.0	24.90	2.599	13.5	0.133	0.07	2.720
	114	3317.70		34.12	2.20	2.07	2.93		14.0	24.90	2.599	13.5		_	
	115	3317.90		32.45	1.08	0.94	1.37		14.0	24.90	2.469	13.5	0.157	0.40	2.720
•	116	3318.00		32.46	1.08	G.94	1.37	17.0	14.C	24.90	2.469	13.5			
	117	3318.20		32.40	1.00	Ŭ.94	1.37		14.0	24.90	2.469	13.5	0.154	0.16	2.720
	118	3318.30		32.40	1.05	0.94	1.37	17.0	14.0	24.90	2.469	13.5			
-	119	3318.35		32.40	0.36	0.61	1.37		14.0	24.90	2.469	13.5		_	
	120	3318.50		32.40	3.30	0.61	1.37		14.0	24.90	2.469	13.5	C.177	0.15	2.720
	121	3318.00		32.40	0.85	0.61	1.37		14.0	24.90	2.469	13.5			
-	122	3318.81		30.2	J. 57	9.61	0.72		14.0	12.74	2.346	13.5	0.153	0.09	2.720
	123	3318.90		30.2	0.07	0.61	0.72		14.0	12.74	2.346	13.5			
		3319.10		30.29	0.67	0.01	0.72		14.C	12.74	2.346	13.5	C.146	0.05	2.720
-	124 125	3319.20		30.29	U.07	0.61	3.72		14.0	12.74	2.346	13.5			
		3319.27		29.60	0.61	0.46	0.72		14.0	19.41	2.335	13.5			
	126			29.60	Ŭ.51	0.45	0.72		14.0	19.41	2.335	13.5	0.123	0.03	2.720
-	127	3319.40		29.60	J. 61	0.45	0.72		14.0	19.41	2.335	13.5			
	128	3319.50 3319.73		31.37	J.61	0.45	0.72		14.0	19.41	2.335	13.5	0.111	0.03	2.720
	129	3319.80		31.37	Ü.61	0.40	0.72		14.C	19.41	2.335	13.5			
•	130	3320.63		28.96	0.61	0.40	9.72		14.0	14.73	2.291	13.5	0.182	0.02	2.720
	131	3320.10		28.90	0.61	0.46	0.78		14.G	14.73	2.291	13.5			
	132	3320.30		23.96	J. 51	0.40	0.72		14.0	14.73	2.291	13.5	0.187	0.25	2.720
•	133	3320.40		28.96	0.01	9.40	0.72		14.0	14.73	2.291	13.5			
	134	3320.04		31.17	0.61	0.40	0.72		14.0	15.31	2.330	13.5	0.189	0.12	2.720
	135	3320.70		31.17	J. o1	0.45	0.72		14.0	15.31	2.330	13.5			
-	130	3321.00		31.17	U. 61	0.40	0.7		14.0	15.31	2.330	13.5	0.192	0.20	2.720
	137		-	31.17	J. 51	C.40	9.7		14.0	15.31	2.330	13.5			
	138	3321.10		32.23	J. 01	0.45	0.7		14.0	15.31	2.330	13.5			
-	139	3321.25		31.49	0.30	0.62	1.11		14.0	14.46	2.413	13.5			
	140	3321.86		32.25	0.50	0.62	0.77		14.0	15.70	2.353	13.5			
	141	3322.67		32.74	0.30 0.30		1.00		14.0	15.70	2.396	13.5			
-	142	3323.0		31.57	0.30	0.62	0.8		14.0	13.41	2.370	13.5			
	143	3323.38		31.24	1.06	0.87	1.70		14.0	16.44	2.457	13.8			
	144	3323.99			1.36	0.87	0.9		14.C	13.52	2.408	13.8			
-	145	3324.4		33.05	1.13	0.87	2.89		14.0	19.48	2.504	13.8			
	140	3324.7		36.66		0.87	2.8		14.G	12.90	2.504	13.4			
	147	3325.00		32.44	1.13		0.7		14.C	12.90	2.363	13.4			
-	148	3325.5	2 0.30	31.08	0.71	0.60	0.7	21.0	1746	,		. •			



09/11/83 TIME: 14:47:51 PAGE: 22

TABULATION OF PROCESSED CURVES

2/5-7 3290.0-3370.0 M

POR FROM LOT/CHL CROSSPLOT, BHCORR. LOGS

SW FROM ARCHIE USING ILD & RW=.027,M=2.00,N=2.00

TOP OF INTERVAL : 3290.01 M SOTTOM OF INTERVAL : 3370.00 M

2/5-7

2030

9495

177

7

1

COUNTRY :

OPCO

WELL

HOLE

FIELD

LAYER NUMBER	TOP (M)	THICKNESS (M)	1-M LITH	140-M Ll9d Ohmm	141-M LL98 OHMM	153-M MSFL OHMM	310-M CNL	330-M GR	345-M PE	347-M LDEN	350-M CAL	800-M CPOR	801-M CPER	802-M CGDE
	,	(11.)		ONTH	Unite	UHHM	PERC BV	API		G/CM3	INCH	FRCT	MD	G/CM3
149	3325.82	0.40	31.68	0.71	0.69	0.79	21.6	14.0	17.34	2.363	47 /			
150	3326.28	0.61	33.34	0.71	0.60	0.79	22.7	14.0	14.71	2.381	13.4			
151	3326.89	0.61	32.82	1.28	1.16	2.54	13.6	14.0	14.71	2.543	13.4			
152	3327.50	0.46	32.83	1.28	1.10	2.54	13.6	14.0	28.31	2.543	13.4			
153	3327.96	0.30	35.89	0.88	0.82	0.89	21.6	14.0	28.31	2.470	13.8			
154	3328.26	0.30	35.89	û.88	0.82	0.89	21.6	14.0	28.31	2.470	13.8			
155	3328.56	0.76	32.87	2.04	1.86	7.74	9.5	14.0	22.99	2.617	13.5			
156	3329.33	0.30	32.87	2.04	1.86	7.74	9.5	14.0	22.99	2.617	13.5			
157	3329.63	0.46	33.12	0.97	0.89	1.33	17.4	14.0	22.99	2.479	13.2			
158	3330.09	0.30	32.44	0.97	0.89	1.13	17.4	14.0	22.99	2.461	13.2			
159	3330.39	0.46	32.44	0.97	0.89	1.13	17.4	14.0	31.45	2.461	13.2			
160	3330.85	0.46	32.88	0.97	0.89	1.13	17.4	14.0	19.60	2.473	13.2			
161	3331.31	0.61	31.00	0.70	0.62	0.69	20.8	14.0	16.02	2.360	13.2			
162	3331.92	0.30	31.00	0.70	0.62	0.69	20.8	14.0	20.67	2.360	13.2 13.2			
163	3332.22	J.46	33.79	0.35	0.71	1.04	20.8	14.0	17.73	2.430	12.9			
164	3332.68	0.01	32.31	0.85	0.71	1.04	18.8	14.0	15.62	2.430	12.9			
165	3333.29	0.30	29.42	0.73	0.61	0.81	18.8	14.0	15.62	2.365	12.9			
166	3333.59	0.46	32.02	0.73	0.61	0.81	21.9	14.0	24.16	2.365	12.9			
167	3334.C5	0.46	33.75	J.73	0.61	0.81	21.9	14.0	18.62	2.408	12.9			
168	3334.51	0.30	31.50	0.73	0.61	0.81	18.9	14.0	27.50	2.408	12.9			
169	3334.81	0.40	31.50	0.89	0.76	0.81	18.9	14.0	16.43	2.408	12.9			
170	3335.27	0.30	31.63	1.06	0.93	1.11	15.4	14.0	16.43	2.476	12.9			
171	3335.58	0.46	32.68	1.06	0.93	1.33	16.9	14.0	16.43	2.476	12.9			
172	3336.03	0.40	32.21	1.20	1.07	1.33	13.0	14.0	18.10	2.536	12.9			
173	3336.49	0.46	32.22	1.20	1.07	3.12	13.0	14.0	18.10	2.536	13.5			
174	3336.95	0.30	32.22	2.12	1.93	3.12	13.0	14.0	26.50	2.536	13.5			
175	3337.25	0.01	32.50	2.12	1.93	5.48	9.1	14.0	26.50	2.615	13.5			
176	3337.80	0.01	33.08	1.01	0.90	1.16	16.6	14.0	26.50	2.492	13.5			
177	3338.47	0.30	32.24	1.01	0.90	2.07	15.4	14.0	26.50	2.492	13.5			
178	3338.78	0.40	32.49	0.91	0.90	1.18	18.2	14-0	26.50	2.447	14.0			
179	3339.23	0.46	33.60	0.91	0.90	1.47	18.2	14.C	26.50	2.477	14.0			
180	3339.69	0.61	33.60	U .91	0.90	1.16	18.2	14.0	18.86	2.477	14.0			
181	3340.30	0.61	38.21	J.91	0.90	1.16	23.4	14.0	36.41	2.493	14.0			
182	3340.91	0.30	33.59	1.82	1.76	3.27	11.8	14.0	26.44	2.596	13.5			
183	3341.21	0.46	33.59	1.82	1.75	3.27	11.8	14.0	23.27	2.596	13.5			
184	3341.67	0.30	33.24	1.39	1.41	1.72	15.3	14.0	23.27	2.521	13.7			
185	3341.98	0.46	34.06	1.39	1.41	1.72	16.5	14.0	36.87	2.521	13.7			

: 2030 : 177 : 9495 : 7 2/5-7 2/5-7 3290.0-3370.0 M
POR FROM LDT/CNL CROSSPLOT/BHCORR. LOGS
SW FROM ARCHIE USING ILD & RW=.027/M=2.00/N=2.00

JF INTERVAL: 3290.01 M JF INTERVAL: 3370.00 M

OF INTER	VAL :	337U.UU M											
TOP	THICKNESS	1-M LITH	14J-M LL9D	141-M LL95	153-M MSFL	310-M CNL	330-M GR	345-M PE	347-M LDEN G/CM3	350-M CAL Inch	800-M CPOR FRCT	801-M CPER MD	802-M CGDE G/CM3
(M)	(M)		оним	OHMM	онмм	PERC BV	API		G/CMJ	INCH	TREI	110	37 (113
3342.43	0.31	39.27	3.94	3.98	8.11	16.5	14.0	19.64	2.668	13.7			
3342.74		34.75	3.94	3.98	8.11	9.5	14.0	19.64	2.668	13.7			
3343.20		34.75	3.94	3.98	8.11	9.5	14.0	35.97	2.668	13.7			
3343.50		32.34	2.24	2.45	2.24	11.8	14.0	35.97	2.562	13.2			
3343.96		34.22	3.37	3.67	5.32	11.8	14.0	14.69	2.614	13.5			
3344.41		36.17	5.07	5.38	5.32	11.8	14.C	17.95	2.667	13.5			
3344.87		36.17	5.07	5.38	8.19	11.8	14.0	13.76	2.667	13.1			
3345.18		31.94	6.48	6.74	24.89	4.0	14.0	13.76	2.687	13.1			
3345.63		31.93	6.48	6.74	6.21	4.0	14.G	14.82	2.687	12.6			
3346.09		31.75	1.93	2.21	6.21	9.8	14.0	27.72	2.581	12.6			
3346.40		31.75	1.93	2.21	2.40		14.0	28.52	2.581	12.6			
3347.01	0.46	32.90	1.93	1.62	2.11	11.7	14.0	20.70	2.581	12.6			
3347.46		30.55	1.58	1.62	2.11	11.7	14.0	25.01	2.515	12.6			
3347.77	U.30	30.55	1.58	1.62	1.77		14.0	25.01	2.515	12.6			
3348.07	0.30	30.55	2.65	2.43	1.77		14.C	25.01	2.515	12.6			
3348.38	0.30	30.58	2.65	2.43	5.24		14.0	25.01	2.620	12.6			
3348.09	0.46	30.58	2.65	2.43	6.24		14.0	22.59	2.620	12.6			
3349.14	0.30	30.65	0.85	0.69	0.91		14.0	22.59	2.620	12.1			
3349.44	0.30	33.14	0.85	0.69	0.91		14.C	42.91	2.345	12.1			
3349.75		33.14	0.68	0.52	0.70		14.0	23.73	2.345	12.1 12.1			
3350.36		33.14	0.68	0.52	0.70		14.0	30.06	2.345	12.1			
3352.19		31.81	0.68	0.52	0.70		14.0	23.21	2.345	12.1			
3352.80		40.00	1.91	1.43	3.70		14.0	23.21	2.578	12.1			
3353.10		33.85	1.91	1.43	3.70		14.0	23.21	2.578	12.1			
3353.41		33.85	1.91	1.43	3.70		14.0	24.80	2.578 2.497	12.1			
3353.71		33.03	1.28	1.09	1.41		14.0	24.80	2.475	12.1			
3354.32		32.22	1.10	0.97	1.17		14.0	41.68	2.475	12.1			
3355.08		34.36	0.99	0.97	0.86		14.0 14.0	41.68 25.27	2.406	12.1			
3355.39		31.72	0.99	0.97	0.86		14.0	25.27	2.406	12.1			
3355.69		28.61	1.41	1.27	1.37			15.40	2.640	12.4			
3356.30		35.52	2.07	1.99	2.35		21.3 21.3	15.40	2.640	12.4			
3356.70		35.52	5.73	5.59	2.59 22.02		13.5	15.40	2.640	12.4			
3357.00		31.81	5.73	5.59 5.59	6.98		13.5	15.40	2.640	12.4			
3357.52		31.81	5.12	5.59	6.98		13.5	13.71	2.682	12.4			
3357.83		33.46	5.12	5.59	6.98		13.5	11.74	2.638	12.4			
3358.44		31.74	5.12	5.59	6.98		13.5	24.41	2.638	12.4			
3358.89	0.30	31.74	5.12	2.27	0.70	0.0	1,5.5	6444	2.000				

PARASOL (VERSION C-00)

DATE: 09/11/83 TIME: 14:47:51 PAGE: 24

TABULATION OF PROCESSED CURVES

2030 2/5-7 3290.0-3370.0 M 177

POR FROM LDT/CNL CROSSPLOT, BHCORR. LOGS

SW FROM ARCHIE USING ILD & RW=.027,M=2.00,N=2.00

WELL : 7 2/5-7 HOLE : 1

:

9495

COUNTRY :

OPCO

FIELD

TOP 3290.01 M OF INTERVAL : BOTTOM OF INTERVAL : 3370.JO M

LAYER Number	TOP (M)	THICKNESS (M)	1-M Lith	140-M LL9D OHMM	141-M LL9S OHMM	153-M MSFL OHMM	310-M CNL PERC BV	330-M GR API	345-M PE	347-M LDEN G/CM3	350-M CAL Inch	800-M CPOR FRCT	801-M CPER MD	802-M CGDE G/CM3
223	3359.20	0.46	32.96	2.30	2.41	3.03	12.4	13.5	17.83	2.568	12.4			
224	3359.65	0.30	32.96	2.87	2.94	3.03	12.4	13.5	17.83	2.568	12.4			
225	3359.96	0.30	32.26	2.37	2.94	4.19	10.0	13.5	17.83	2.592	12.4			
556	3360.26	0.30	32.24	2.87	2.94	4.19	10.0	13.5	24.80	2.592	12.0			
227	3360.57	0.30	33.34	1.61	1.63	2.80	11.7	13.5	20.56	2.592	12.0			
228	3360.87	0.46	35.75	1.61	1.63	2.08	15.5	13.5	20.56	2.592	12.0			
229	3361.33	0.30	30.66	1.17	1.13	1.55	15.5	13.5	20.56	2.453	12.0			
230	3361.64	0.46	32.78	1.17	1.18	1.55	18.5	13.5	21.55	2.453	12.0			
231	3362.09	0.30	32.78	1.17	1.15	1.21	18.5	13.5	21.55	2.453	12.0			
232	3362.40	0.61	32.78	1.52	1.47	2.18	18.5	13.5	30.38	2.453	12.0			
233	3363.01	0.51	35.12	1.52	1.47	1.72	15.0	13.5	30.38	2.583	12.0			
234	3363.62	0.46	34.15	2.33	2.18	2.82	13.5	13.5	16.72	2.583	12.0			
235	3364.C7	0.46	33.23	2.33	2.19	3.46	12.1	13.5	26.25	2.583	12.0			
236	3364.53	0.30	33.23	2.33	2.18	2.60		13.5	26.25	2.583	12.0			
237	3364.84	0.30	34.17	2.76	2.59	4.08	12.1	13.5	26.25	2.609	12.0			
238	3365.14	0.30	32.85	2.76	2.59	4.98	10.0	13.5	26.25	2.609	12.0			
239	3365.45	0.46	32.85	2.76	2.59	2.12	10.0	13.5	22.23	2.609	12.0			
240	3365.90	0.61	30.69	1.04	0.93	2.12	16.2	13.5	18.21	2.441	12.0			
241	3366.51	J.30	33.56	1.04	0.93	1.30		13.5	18.21	2.441	12.0			
242	3366.82	0.51	32.87	1.04	1.04	1.30	15.5	13.5	23.39	2.512	12.0			
243	3367.43	0.30	26.79	0.74	0.69	0.96	15.5	13.5	23.39	2.397	12.0			
244	3367.73	0.30	33.07	0.74	0.69	0.96	21.9	13.5	23.39	2.397	12.0			
245	3368.04	0.30	31.66	0.74	0.69	0.96	21.9	13.5	22.19	2.362	12.0			
246	3368.34	0.30	31.66	0.74	0.69	0.77	21.9	13.5	22.19	2.362	12.0			
247	3368.65	0.30	35.54	0.74	0.69	0.77	24.1	13.5	21.30	2.415 .	12.0			
248	3368.95	0.30	32.87	0.74	0.69	1.12	20.7	13.5	21.30	2.415	12.0			
249	3309.20	0.46	32.87	0.74	0.69	0.99	20.7	13.5	25.17	2.415	12.0			
250	3369.71	0.30	33.90	1.21	1.12	0.99	22.0	13.5	25.17	2.415	12.0			

DATE: 09/11/83 TIME: 14:47:51 PAGE: 25

TABULATION OF PROCESSED CURVES 2224222222222222222222222

COUNTRY : 2030 OPCO 177 FIELD 9495 WELL 7

HOLE

2/5-7 3290.0-3370.0 M

POR FROM LDT/CNL CROSSPLOT/BHCORR. LOGS

SW FROM ARCHIE USING ILD & RW=.027, M=2.00, N=2.00

TOP OF INTERVAL : 3290.01 M BOTTOM OF INTERVAL : 3370.00 M

1

2/5-7

LAYER Number	TOP	THICKNES	S 2-C SH	3-c	5-c	8-c	12-c	15-c	23-0			
	(M)	(M)	FRCT PV	POR FRCT BV	RTRU Ohmm	RWA Ohmm	TRDE G/CM3	DINV INCH	RXO	43-C Trcn	61-C LLSB	62 - c LLD8
1	3290.01	0.30	-0.302				2. 2.7.5	1746	OHMM	PERC BV	OHMM	CHMM
2	3290.31	0.46		0.092	1.89		2.588	8.00		_		
3	3290.77	0.30	0.095	0.132	1.89		2.531	8.00	1.89	9.5	2.12	1.89
4	3291.07	0.46	0.124	0.117	2.57		2.583	8.00	1.41	14.2	2.12	1.89
5	3291.53	0.30	0.124	0.117	2.57		2.583		2.97	14.2	2.72	2.57
ó	3291.84		0.127	0.117	2.59		2.583	8.00	2.38	14.2	2.72	2.57
7	3292.14	0.30	0.083	0.112	2.59		2.601	8.0C	1.53	14.2	3.06	2.59
8	3292.90	0.76	0.048	0.125	1.90		2.554	8.00	1.53	14.2	3.06	2.59
ğ	3293.36	0.46	0.034	0.098	3.03		2.653	8.0C	1.53	14.2	2.26	1.90
10	3293.67	0.30	-0.144	0.074	3.82			8.00	1.53	14.2	3.59	3.03
11	3294.12	0.46	-0.027	0.082	3.82		2.653	8.00	3.89	9.4	3.62	3.82
12		0.76	-0.596	0.058	3.18		2.621	8.00	3.89	9.4	4.18	3.82
13	3294.88	0.61	0.185	0.196	1.05		2.677	11.68	13.30	7.6	4.18	3.82
14	3295.49	0.30	0.185	0.196	1.05		2.444	8.00	0.77	21.8	1.15	
15	3295.80	0.46	0.338	0.196	1.60		2.444	8.00	0.77	21.8	1.15	1.05
16	3296.26	0.61	-0.102	0.118	1.60		2.444	8.00	1.40	21.8	1.51	1.05
	3296.87	0.46	-0.102	0.118	1.60		2.551	8.00	1.40	12.6	1.65	1.60
17	3297.32	0.76	0.209	0.174	1.43		2.551	8.00	1.40	12.6	1.65	1.60
18	3298.08	0.46	0.169	0.165	1.43		2.512	21.01	1.00	21.1		1.60
19	3298.54	0.46	~0.028	0.165	0.94		2.512	21.01	1.00	19.5	1.31 1.31	1-36
20	3299.00	0.30	0.225	0.219	0.94		2.512	25.36	0.66	19.5		1.36
21	3299.30	0.30	0.228	0.219			2.384	25.36	0.66	22.8	0.83	0.88
22	-3299.61	0.61	0.266	0.230	0.94		2.384	22.69	0.56	22.8	0.83	0.88
23	3300.22	0.30	0.213	0.190	0.94		2.384	22.69	0.56	24.9	0.82	0.87
24	3300.52	0.46	0.282	0.210	1.21	0.044	2.449	71.38	0.75		0.82	0.87
25	3300.98	0.30	0.282	0.210	1.18	0.052	2.449	45.34	0.66	20.8	0.82	1.00
26	3301.29	0.46	0-140	0.185	1.18	0.052	2.449	45.34	0.66	24.6	0.82	1.00
27	3301.74	0.30	0.207		1.06	0.036	2.466	29.58	0.81	24.6	0.82	1.00
28	3302.05	0.30	0.080	0.180	1.33	0.043	2.486	49.41	0.81	20.8	0.95	1.00
29	3302.35	0.46	0.155	0.168	1.14	0.032	2.486	120.00	1.03	20.8	0.95	1.14
30	3302.81	0.34	0.229	0.192	1.02	0.038	2.486	41.41	0.65	18.5	0.95	1.14
31	3303.15	0.12	0.229	0.210	1.03	0.045	2.423	43.02	0.65	23.2	0.78	0.90
32	3303.27	0.18	0.229	0.210	1.03	0.045	2.423	43.02		23.2	0.77	0.90
33	3303.45	0.10	0.229	0.210	1.03	0.045	2.423	43.02	0.65	23.2	0.77	0.90
34	3303.55	0.17	0.229	0.210	1.03	0.045	2.423	43.02	0.65	23.2	0.77	0.90
35	3303.72	0.13	0.145	0.210	1.03	0.045	2.423	43.02	0.65	23.2	0.77	0.90
36	3303.85	0.18		0.203	0.90	0.037	2.448	8.00	0.65	23.2	0.77	0.90
37	3304.03	0.12	0.145	0.203	0.90	0.037	2.448	8.00	0.72	23.2	0.92	0.90
		0.12	0.250	0.203	1.16	0.048	2.448	33.49	0.72	23.2	0.92	0.90
								J J • 4 7	0.72	23.2	0.92	1.04

Y: 2030 : 177 : 9495 2/5-7 3290.0-3370.0 M
POR FROM LDT/CNL CROSSPLOT/BHCORR. LOGS
SW FROM ARCHIE USING ILD & RW=.027/M=2.00/N=2.00

: 7 2/5-7 : 1

OF INTERVAL : 3290.01 M OF INTERVAL : 3370.00 M

TOP	THICKNESS	5 2-C SH	3-c POR	5−C RTRU	8-C RWA	12-C TRDE	15-c	23-C	43-c	61-c	62-C
(M)	(M)	FRCT PV	FRCT BV	ОНММ	OHMM	G/CM3	D I N V I N C H	R X O OH MM	TRCN Perc bv	LLSB Ohmm	LLDB
			•		• • • • • • • • • • • • • • • • • • • •	4, 6113	111011	Onthin	PERC DV	Unan	OHMM
3312.11	0.09	J.070	0.196	0.82	0.031	2.408	8.00	0.50	19.6	0.85	0.82
3312.20	0.21	0.070	0.196	0.82	0.031	2.408	8.00	0.50	19.6	0.85	0.82
3312.41	0.30	0.070	0.196	0.82	0.031	2.408	8.00	0.50	19.6	0.85	0.82
3312.72	0.08	0.121	0.207	0.82	0.035	2.408	8.00	0.50	21.8	0.85	0.82
3312.80	0.22	0.121	0.207	0.82	0.035	2.408	8.00	0.50	21.8	0.85	0.82
3313.02	0.08	0.168	0.163	1.47	0.039	2.560	8.00	1.71	21.8	1.50	1.47
3313.10	0.22	0.163	0.163	1.47	0.039	2.560	8.00	1.71	21.8	1.50	1.47
3313.32	0.08	-0.031	0.131	1.47	0.025	2.560	8.00	1.71	15.7	1.50	1.47
3313.40	0.20	-0.031	0.131	1.47	0.025	2.560	8.00	1.71	15.7	1.50	1.47
3313.60	0.10	-0.031	0.131	1.47	0.025	2.560	8.00	1.71	15.7	1.50	1.47
3313.70	0.08	-0.031	0.131	1.47	0.025	2.560	8.00	1.71	15.7	1.50	1.47
3313.78	0.12	-0.014	0.145	1.26	0.026	2.514	8.00	1.08	15.7	1.38	1.26
3313.90	0.10	-0.014	0.145	1.26	0.026	2.514	8.00	1.08	15.7	1.38	1.26
3314.00	0.09	-0.014	0.145	1.26	0.026	2.514	8.00	1.08	15.7	1.38	1.26
3314.09	0.11	-0.017	0.145	1.25	0.026	2.514	8.0G	1.08	15.7	1.35	1.25
3314.20	0.10	-0.317	0.145	1.25	0.026	2.514	8.00	1.08	15.7	1.35	1.25
3314.30	0.24	-0.017	0.145	1.25	0.026	2.514	8.00	1.08	15.7	1.35	1.25
3314.54	0.06	0.044	0.098	3.09	0.030	2.680	8.73	1.08	15.7	3.02	3.05
3314.60	0.25	0.344	0.098	3.09	0.030	2.680	8.73	1.08	15.7	3.02	3.05
3314.85	0.35	0.032	0.098	3.02	0.029	2.680	9.02	5.05	15.7	3.11	3.07
3314.90	3.10	0.332	0.098	3.02	0.029	2.680	9.02	5.05	15.7	3.11	3.07
3315.00	0.15	0.032	0.098	3.02	0.029	2.680	9.02	5.05	15.7	3.11	3.07
3315.15	0.15	-0.145	0.033	3.02	0.021	2.680	9.02	5.05	12.6	3.11	3.07
3315.30	0.20	-0.145	0.083	3.02	0.021	2.680	9.02	5.05	12.6	3.11	3.07
3315.50	0.11	-0.145	0.083	3.02	0.021	2.680	9.02	5.05	12.6	3.11	3.07
3315.61	0.19	0.149	0.147	1.72	0.037	2.539	8.00	1.20	17.6	1.78	1.72
3315.80	0.10	0.149	0.147	1.72	0.037	2.539	8.00	1.20	17.6	1.78	1.72
3315.90	0.20	0.149	0.147	1.72	0.037	2.539	8.00	1.20	17.6	1.78	1.72
3316.10	0.10	0.149	0.147	1.72	0.037	2.539	8.00	1.20	17.6	1.78	1.72
3316.20	0.17	0.149	0.147	1.72	0.037	2.539	8.00	1.20	17.6	1.78	1.72
3316.37	0.13	-0.025	0.103	2.44	0.026	2.623	8.00	2.10	13.5	2.52	2.44
3316.50	0.20	-0.025	0.103	2.44	0.026	2.623	8.0C	2.10	13.5	2.52	2.44
3316.70	0.10	-0.025	0.103	2.44	0.026	2.623	8.0C	2.10	13.5	2.52	2.44
3316.80	0.20	-0.025	0.103	2.44	0.026	2.623	8.00	2.10	13.5	2.52	2.44
3317.00	0.13	-0.025	0.103	2.44	0.026	2.623	8.00	2.10	13.5	2.52	2.44
3317.13	0.17	-0.028	0.103	2.43	0.026	2.623	8.00	2.10	13.5	2.48	2.43
3317.30	0.10	-ú.028	0.103	2.43	0.026	2.623	8.00	2.10	13.5	2.48	2.43

DATE: 09/11/83 TIME: 14:47:51 PAGE: 28

TABULATION OF PROCESSED CURVES

2/5-7 3290.0-3370.0 M

POR FROM LDT/CNL CROSSPLOT, BHCORR. LOGS

SW FROM ARCHIE USING ILD & RW=.027; M=2.00, N=2.00

TOP OF INTERVAL: 3290.01 M BOTTOM OF INTERVAL: 3370.00 M

2030

177

9495

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2/5-7

of the first of the second of

COUNTRY :

OPCO

WELL

HOLE

FIELD

LAYER	TOP	THICKNESS		3-c	5-C	8-c	12-c	15-c	23-C	43-c	61-C	62-C
NUMBER	(11)		SH	POR	RTRU	RWA	TRDE	DINV	RXO	TRCN	LLSB	LLDB
	(M)	(M)	FRCT PV	FRCT BV	ОНММ	онмм	G/CM3	INCH	OHMM	PERC BV	OHMM	CHMM
112	3317.40	0.20	-0.028	0.103	2.43	0.026	2.623	8.00	2.10	17 6	3 40	
113	3317.60	0.10	-J.028	0.103	2.43	0.026	2.623	8.00	2.10	13.5	2.48	2.43
114	3317.7Ü	0.20	-0.028	0.103	2.43	0.026	2.623	8.00	2.10	13.5	2.48	2.43
115	3317.90	0.10	0.106	0.165	1.24	0.034	2.492	25.03	0.93	13.5	2.48	2.43
116	3318.00	0.20	0.106	0.165	1.24	0.034	2.492	25.03	0.93	18.4	1.12	1.17
117	3318.20	0.10	0.106	0.165	1.24	0.034	2.492	25.03	0.93	18.4	1.12	1.17
118	3318.30	0.05	0.106	0.165	1.24	0.034	2.492	25.03		18.4	1.12	1.17
119	3318.35	0.15	-0.041	0.165	0.91	0.025	2.492	8.00	0.93	18.4	1.12	1.17
120	3318.50	0.10	-0.041	0.165	0.91	0.025	2.492	8.00	0.93	18.4	0.72	0.91
121	3318.60	0.21	-0.041	0.165	0.91	0.025	2.492	8.00	0.93	18.4	0.72	0.91
122	3318.81	0.09	0.117	0.221	0.71	0.035	2.368	8.00	0.93	18.4	0.72	0.91
123	3318.90	0.20	0.117	0.221	0.71	0.035	2.368	8.00	0.48	22.3	0.72	0.71
124	3319.10	0.10	0.117	0.221	0.71	0.035	2.368		0.48	22.3	0.72	0.71
125	3319.20	0.07	0.117	0.221	0.71	0.035	2.368	3.00	0.48	22.3	0.72	0.71
126	3319.27	0.13	0.152	0.225	0.74	0.038	2.356	8.00	0.48	22.3	0.72	'0.71
127	3319.40	0.10	0.152	0.225	0.74	0.038	2.356	52.00	0.48	22.3	0.54	0.64
128	3319.50	0.23	0.152	0.225	0.74	0.038	2.356	52.00	0.48	22.3	0.54	0.64
129	3319.73	0.07	0.192	0.236	0.74	0.041		52.00	0.48	22.3	0.54	0.64
130	3319.80	0.23	0.192	0.236	0.74	0.041	2.356	52.00	0.48	24.5	0.54	0.64
131	3320.03	0.07	0.235	0.250	0.74	0.046	2.356	52.00	0.48	24.5	0.54	0.64
132	3320.10	0.20	0.235	0.250	0.74	0.046	2.312	52.00	0.48	24.5	0.54	0.64
133	3320.30	0.10	0.235	0.250	0.74	0.046	2.312	52.00	0.48	24.5	0.54	0.64
134	3320.40	0.24	0.235	0.250	0.74	0.046	2.312 2.312	52.00	0.48	24.5	0.54	0.64
135	3320.64	0.06	0.197	0.238	0.74	0.042	2.352	52.00	0.48	24.5	0.54	0.64
136	3320.70	0.30	0.197	0.238	0.74	0.042	2.352	52.00	0.48	24.5	0.54	0.64
137	3321.00	0.10	0.197	0.238	0.74	0.042	2.352	52.00	0.48	24.5	0.54	0.64
138	3321.10	0.15	0.197	0.238	0.74	0.042		52.00	0.48	24.5	0.54	0.64
139	3321.25	0.61	0.222	0.245	0.74	0.042	2.352 2.352	52.00	0.48	24.5	0.54	0.64
140	3321.86	0.76	0.068	0.190	0.86	0.031	2.435	52.00	0.48	26.0	0.54	0.64
141	3322.62	0.46	0.285	0.232	0.98	0.053	2.374	8.00	0.75	20.1	0.74	0.86
142	3323.08	0.30	0.219	0.210	1.01	0.033	2.419	31.60	0.51	24.7	0.74	0.86
143	3323.38	0.61	0.236	0.217	0.98	0.046		96.74	0.71	22.9	0.74	0.86
144	3323.99	0.46	-0.007	0.157	1.09	0.040	2.392 2.490	33.63	0.54	22.9	0.74	0.86
145	3324.45	0.30	0.250	0.205	1.14	0.048	2.431	8.00	1.17	16.6	1.05	1.09
146	3324.75	0.30	0.165	0.177	1.23	0.039	2.527	15.35	0.65	22.7	1.05	1.09
147	3325.06	0.46	-0.027	0.144	1.23	0.026	2.527	8.00	2.06	22.7	1.05	1.23
148	3325.52	0.30	0.177	0.222	0.81	0.040	2.385	8.00	2.06	16.3	1.04	1.23
					0.0,	3.040	6.303	23.59	0.53	23.3	0.71	0.75

***** PARASOL (VERSION C-

DATE: 09/11/83 TIME: 14:47:51 PAG

TABULATION OF PROCESSED CURVES

COUNTRY : 2030 OPCO 177 FIELD : 9495 2/5-7 3290.0-3370.0 M

POR FROM LDT/CNL CROSSPLOT, BHCORR. LOGS SW FROM ARCHIE USING ILD & RW=.027, M=2.00, N=2.00

WELL 7 2/5-7 :

HOLE

OF INTERVAL : 3290.01 M BOTTOM OF INTERVAL : 3370.00 M

LAYER	TOP	THICKNESS		3-c	5-c	8-C	12-C	15-C	23-c	43-c	61-C	62-C
NUMBER		4	SH	POR	RTRU	RWA	TRDE	DINV	RXO	TRCN	LLSB	LLDB
	(M)	(M)	FRCT PV	FRCT BV	OHMM	ОНММ	G/CM3	INCH	MMHO	PERC BV	OHMM	OHMM
149	3325.82	0.46	0.177	0.222	0.81	0.040	2.385	23.59	0.53	23.3	0.71	0.75
150	3326.28	0.61	0.182	0.223	0.81	0.040	2.403	23.59	0.53	24.6	0.71	0.75
151	3326.89	0.01	-3.118	0.124	1.39	0.022	2.566	8.00	1.80	14.7	1.38	1.39
152	3327.50	0.46	-0.120	0.124	1.39	0.022	2.566	8.59	1.80	14.7	1.40	1.40
153	3327.96	0.30	0.112	0.191	0.94	0.034	2.492	8.00	0.59	23.4	0.98	0.94
154	3328.26	0.30	0.110	0.191	0.94	0.034	2.492	8.00	0.59	23.3	0.97	0.94
155	3328.56	0.76	-0.345	0.081	2.25	0.015	2.641	8.00	6.16	10.3	2.23	2.25
156	3329.33	0.30	-0.347	0.031	2.25	0.015	2.641	8.00	6.16	10.3	2.21	2.25
157	3329.63	0.46	0.019	0.164	1.04	0.028	2.502	8.0C	0.90	18.8	1.05	1.04
158	3330.09	0.30	0.050	0.170	1.04	0.030	2-484	8.00	0.76	18.8	1.05	1.04
159	3330.39	0.46	0.050	0.170	1.04	0.030	2.484	8.00	0.76	18.8	1.05	1.04
160	3330.85	0.46	0.030	0.166	1.04	0.029	2.495	8.OC	0.76	18.8	1.05	1.04
161	3331.31	0.61	0.140	0.218	0.77	0.036	2.382	13.56	0.45	22.5	0.72	0.74
162	3331.92	0.30	0.140	0.218	0.77	0.036	2.382	13.56	0.45	22.5	0.72	0.74
163	3332.22	0.46	0.165	0.198	0.99	0.039	2.453	34.22	0.70	22.5	0.83	0.91
164	3332.68	0.61	0.115	0.187	0.99	0.034	2.453	34.22	0.70	20.4	0.83	0.91
165	3333.29	0.30	0.131	0.206	0.84	0.036	2.387	28.46	0.54	20.4	0.71	0.77
166	3333.59	0.46	0.197	0.223	0.84	0.042	2.387	28.46	0.54	23.7	0.71	0.77
167	3334.C5	0.46	0.149	0.210	0.84	0.037	2.431	28.46	0.54	23.7	0.71	0.77
1 ó 8	3334.51	0.30	0.075	0.193	0.84	0.032	2.431	28.46	0.54	20.4	0.71	0.77
169	3334.81	0.46	0.160	0.193	1.02	0.038	2.431	20.35	0.54	20.4	0.88	0.94
170	3335.27	0.30	0.031	0.154	1.21	0.029	2.499	19.22	0.75	16.7	1.09	1.14
171	3335.58	0.46	0.377	0.163	1.20	0.032	2.499	24.65	0.90	18.3	1.09	1.14
172	3336.03	0.46	-0.145	0.124	1.34	0.021	2.559	16.24	0.90	14.1	1.26	1.29
173	3336.49	0.46	-0.164	0.124	1.30	0.020	2.559	8.00	2.24	14.1	1.29	1.30
174	3336.95	0.30	0.134	0.124	2.35	0.036	2.559	8.00	2.24	14.1	2.31	2.35
175	3337.25	0.61	-0.351	0.079	2.35	0.015	2.639	8.00	4.17	9.8	2.31	2.35
176	3337.86	0.61	0.010	0.156	1.13	0.028	2.515	14.46	0.78	18.0	1.07	1.09
177	3338.47	0.30	-0.051	0.150	1.09	0.024	2.515	8.00	1.44	16.7	1.07	1.09
178	3338.78	0.46	0.067	0.178	0.98	0.031	2.470	8.00	0.80	19.7	1.09	0.98
179	3339.23	0.46	0.019	0.169	0.98	0.028	2.500	8.00	1.00	19.7	1.09	0.98
180	3339.69	0.61	0.019	0.169	0.98	0.028	2.500	8.00	0.78	19.7	1.09	0.98
181	3340.30	0.61	0.146	0.194	0.98	0.037	2.516	8.00	0.78	25.4	1.09	0.98
182	3340.91	0.30	-0.160	0.100	2.01	0.020	2.619	8.00	2.36	12.8	2.11	2.01
183	3341.21	0.46	-0.160	0.100	2.01	0.020	2.619	8.00	2.36	12.8	2.11	2.01
184	3341.67	0.30	0.052	0.140	1.52	0.030	2.545	8.00	1.18	16.6	1.70	1.52
185	3341.98	0.46	0.095	0.147	1.52	0.033	2.545	8.0C	1.18	17.9	1.70	1.52

TE: 09/11/83 TIME: 14:47:51

TABULATION OF PROCESSED CURVES

2/5-7 3290.0-3370.0 M

POR FROM LDT/CNL CROSSPLOT, BHCORR. LOGS

SW FROM ARCHIE USING ILD & RW=.027,M=2.00,N=2.00

1 3290.01 M OF INTERVAL : TOP

2030

177

9495

7

COUNTRY :

OPCO

WELL

HOLE

•)

FIELD

3370.00 M BOTTOM OF INTERVAL :

2/5-7

90110h	OF INTER	• ~ •						*				62-C
	TOP	THICKNESS	2 - c	3-c	5 - C	8-C	12-C	15-C	23-C	43-C	61-C	LLD8
LAYER	101	INTERRESS	SH	POR	RTRU	RWA	TRDE	DINV	RXO	TRCN	LLSB	OHMM
NUMBER	(M)	(M)	FRCT PV		оним	ОНММ	G/CM3	INCH	онии	PERC BV	OHMM	UMMM
	CPI	CHI								47.0	, 7,	4.39
186	3342.43	0.31	0.228	0.105	4.09	0.045	2.692	16.93	6.49	17.9	4.74	4.39
	3342.74		-0.194	0.068	4.09	0.019	2.692	16.93	6.49	10.3	4.74	4.39
187	3343.20		-0.194	0.068	4.09	0.019	2.692	16.93	6.49	10.3	4.74	
188			0.042		2.48	0.029	2.586	8.00	1.57	12.8	2.90	2.48
189	3343.50		0.102	0.094	3.75	0.033	2.638	8.00	4.04	12.8	4.37	3.75
190	3343.96		0.138		5.62	0.036	2.692	8.00	4.04	12.8	6.35	5.62
191	3344.41	-	0.136		5.60	0.036	2.692	8.00	6.56	12.8	6.28	5.60
192	3344.87		-1.072		6.06	0.006	2.711	12.19	21.54	4.3	7.83	7.13
193	3345.18		-0.917		7.09	0.007	2.711	8.00	4.80	4.3	7.74	7.09
194	3345.63		-0.379		1.65	0.014	2.605	18.77	4.80	10.7	2.56	2.11
195	3346.09		-0.219		2.11	0.018	2.605	8.00	1.68		2.56	2.11
196	3346.40				2.34	0.025	2.605	32.38	1.47	12.7	1.88	2.11
197	3347.01		-0.041		1.71	0.026	2.538	8.00	1.47	12.7	1.88	1.71
198	3347.46		-0.026		1.71	0.026	2.538	8.00	1.22	12.7	1.88	1.71
199	3347.77	_	-0.026		3.02	0.045	2.538	11.66	1.22		2.82	2.91
200	3348.07				2.91	0.010	2.644	8.00	4.83	6.3	2.82	2.91
201	3348.38				2.91	0.010	2.644	8.00	4.83		2.82	2.91
202	3348.68				1.01	0.004	2.644	40.25	0.66		0.79	0.90
203	3349.14					0.060	2.367	40.25	0.66		0.79	0.90
204	3349.44			0.243	1.01	0.048	2.367	48.18	0.50		0.59	0.70
205	3349.75	0.61			0.82	0.048	2.367	48.18	0.50		0.59	0.70
206	3350.36	1.83			0.82	0.045	2.367	48.18	0.50		0.59	0.70
207	3352.19				0.82	0.045	2.602	8.00	2.97		1.64	2.08
208	3352.80				2.08	0.026	2.602	8.00	2.97		1.64	2.08
209	3353.10				2.08		2.602	8.00	2.97		1.64	2.08
210	3353.41	0.30			2.08	0.026 0.035	2.520	35.81	1.05		1.25	1.38
211	3353.71				1.52	0.032	2.498	24.91	0.86		1.10	1.17
212	3354.37				1.25	0.032	2.498	8.00	0.62		1.10	1.06
213	3355.08	8 0.30			1.06	0.033		8.00	0.62		1.10	1.06
214	3355.39	9 0.30			1.06		2.429	20.41	1.02		1.45	1.52
215	3355.6	9 0.61			1.62	0.052	2.664	8.00	1.65		2.30	2.26
216	3356.30	0 0.46		0.091	2.26	0.019	2.664	8.00	1.83		6.41	6.27
217	3356.7	6 0.30			6.27	0.052	2.664	9.00	19.05		6.41	6.27
218	3357.0	6 0.46			5.91	0.020	2.664	8.00	5.48		6.41	5.61
219	3357.5	2 0.30			5.61	0.019	2.707	5.00	5.48		6.41	5.61
220	3357.8				5.61	0.013	2.662	8.00	5.48		6.41	5.61
221	3358.4	4 0.46			5.61	0.020	2.662	8.00	5.48		6.41	5.61
222	3358.8	9 0.30	-0.17	3 0.059	5.61	0.020	2.002	0.00	,,,,,			

****** PARASOL (VERSION C-00) ******

DATE: 09/11/83 TIME: 14:47:51 PAGE: 31

TABULATION OF PROCESSED CURVES

COUNTRY: 2030 2/5-7 3290.0-3370.0 M

and the state of t

OPCO : 177 POR FROM LDT/CNL CROSSPLOT, BHCORR. LOGS

FIELD: 9495 SW FROM ARCHIE USING ILD & RW=.027,M=2.00,N=2.00

WELL: 7 2/5-7

HOLE : 1

TOP OF INTERVAL: 3290.01 M BOTTOM OF INTERVAL: 3370.00 M

LAYER Number	TOP	THICKNESS	2-c sh	3-C Por	5-C RTRU	8-C Rwa	12-C Trde	15-C DINV	23-c RXO	43-C Tren	61-C LLSB	62-C LLDB
	(M)	(M)	FRCT PV	FRCT BV	MMHO	OHMM	G/CM3	INCH	OHMM	PERC BV	онмм	онии
223	3359.20	0.46	0.065	0.111	2.52	0.031	2.592	8.00	2.17	13.4	2.79	2.52
224	3359.65	0.30	0.164	0.111	3.15	0.039	2.592	8.00	2.17		3.39	3.15
225	3359.96	0.30	-0.021	0.091	3.15	0.026	2.616	8.00	3.10		3.39	3.15
226	3360.26	0.30	-0.024	0.090	3.15	0.026	2.616	8.00	3.54		3.38	3.15
227	3360.57	0.30	-0.282	0.100	1.65	0.016	2.616	19.80	2.28	12.6	1.87	1.75
228	3360.87	0.46	-0.039	0.120	1.75	0.025	2.616	8.00	1.65	16.5	1.87	1.75
229	3361.33	0.30	0.084	0.160	1.25	0.032	2.475	8.00	1.21	16.5	1.35	1.25
230	3361.64	0.46	0.171	0.177	1.25	0.039	2.475	8.00	1.21	19.8	1.35	1.25
231	3362.09	0.30	0.171	0.177	1.25	0.039	2.475	8.00	0.93		1.35	1.25
232	3362.40	0.61	0.276	0.177	1.65	0.052	2.475	8.00	1.74	19.8	1.68	1.65
233	3363.01	0.61	-0.070	0.120	1.65	0.024	2.607	8.00	1.35		1.68	1.65
234	3363.62	0.46	0.079	0.112	2.54	0.032	2.607	8.00	2.30		2.50	2.54
235	3364.07	0.46	0.011	0.104	2.54	0.028	2.607	8.00	2.88	13.0	2.50	2.54
236	3364.53	0.30	0.024	0.104	2.61	0.028	2.607	17.86	2.10		2.50	2.54
237	3364.84	0.30	0.025	0.097	3.02	0.028	2.633	8.00	3.44		2.98	3.02
238	3365.14	0.30	-0.103	0.086	3.02	0.022	2.633	8.00	3.44	10.8	2.98	3.02
239	3365.45	0.46	-0.090	0.086	3.09	0.023	2.633	10.70	1.69	10.8	2.98	3.02
240	3365.90	0.61	0.070	0.167	1.11	0.031	2.464	8.00	1.69	17.3	1.06	1.11
241	3366.51	0.30	0.179	0.190	1.11	0.040	2.464	8.00	1.00		1.06	1.11
242	3366.82	0.61	-0.088	0.143	1.11	0.023	2.535	8.00	1.00	16.6	1.19	1.11
243	3367.43	0.30	-0.043	0.179	0.78	0.025	2.419	8.00	0.73		0.78	0.78
244	3367.73	0.30	0.119	0.212	0.78	0.035	2.419	8.00	0.73	23.3	0.78	0.78
245	3368.04	0.30	0.159	0.222	0.78	0.038	2.384	8.00	0.73	23.3	0.78	0.78
246	3308.34	0.30	0.159	0.222	0.78	0.038	2.384	8.00	0.58	23.3	0.78	0.78
247	3368.65	0.30	0.150	0.220	0.78	0.037	2.437	8.00	0.58	25.7	0.78	0.78
248	3368.95	0.30	0.067	0.200	0.78	0.031	2.437	8.00	0.86	22.0	0.78	0.78
249	3369.20	0.46	0.067	0.200	0.78	0.031	2.437	8.00	0.76	22.0	0.78	0.78
250	3369.71	0.30	0.317	0.208	1.34	0.058	2.437	11.93	0.76	23.5	1.28	1-30

WELL: 2/5-7

RFT data

RT = 36. m MSL, Vertical well.

Run 1 : 7-10-83 , mud wt = 1.665 kg/m^3 max temp= 219 DF at 3513 m gauge = 59764

										gauge	= 59704		
	RUN	TEST	TEST	MUD	FLO	VING	FINAL	FLOW	ING	PR	ESSURE		CORR.
			DEPTH	PRESS.	PRES	SSURE	SHUT IN	TI	ME	COR	RECTION	Remarks	FORMATION
	Nr.	Nr.	m	PM	PFI	PF2	PS	Tl	T2	MUD	SHUT IN	k= 5660 <u>q u</u> (mD)	PRESSURE
			AH BDF	psig	psig	psig	psig	sec.	sec.	DPM	DPS	P - Pf	P
								<u>.</u>		psi	psi	µ=0.5 cP	psig
•	ן	1	3216.7	7631	10	18	-	_	-	-18	-	T	-
		2	3236.5	7694	-	·	-	-	-	-18	-	SF	-
		3	3245.7	7690	-		: -			18	_	SF	
		4	3267.0	7737	-	-	; -	-	_	-18	_	L SF	_
		5	3285.4	7776		-	_			-18	-	SF	_
		6	3216.7	7600	5	25	-	_	-	-18	-	ST Repeat of nr 1	-
		7	3299.8	7804	3780	900	7160	14.4	7.2	-18	-17	kl=0.6; k2 = .6	7143
V		8	3312.3	7827	85	80	7168	14.4	14.4	-18	-17	k1=0.3; k2 =0.3	7151
		9	3320.0	7854	5500	3990	7165	14.4	7.2	-18	-17	k1=1.2; k2 = 1.2	7148
		10	3333.8	7884	4100	1550	7179	14.4	7.2	-18	-17	k1=0.6; k2 = 0.7	7162
]]	3351.5_	7924	4140	3220	7198	15.0	5.4	-18	17	k1=0.6; k2 = 1.3	7181
		12	3383.2_	7996	5260	4370	7133	16.8	6.0	-18	-17	k1=0.9; k2_= 1.7	7116
		13	3427.0	8093	500	_500	7211	14.0	15.0	18	-17	k1=0.3; $k2=0.3$	7194
		14	3447.5	8143	30	30	7342	17.0	17.0	-19	1 -17	k1=0.2; $k2 = 0.2$	7325
		15	3512.8	8277	2	140	7619	66.0	144.0	-20	-18	Building-up slowly low k	7602
		16	3409.5	8069			· –			-19	-17	SF	-
		17	3409.0	8064	3230	800	7188	14.4	7.2	-19	-17	k1=0.5; k2 = 0.6	7171
		_18	3320.0	7859	5250	3550	7173	15.0	6.0	-18	-17	k1=1.0; k2 = 1.31	7156
		i		* 	550		7163	150.0		<u>-18</u>		lgallon	
				7858	3060		7582	156.0		-18	-17	l_gallon + BU	
				. 7852	4200	2150 50	, 7155	15.0	6.0	-18	-17	-k1=0.6; k2=0.9	.7138
									228.0	-18	17	2 3/4 Gallon, No PBU	
		19	3320.0	7850	3350	700	7161	14.4	7.0	-18	_17	k1=0.5; k2=0.6	7144
						_60			465.0	-18	-17	2 3/4 gallon no PBU	
		20	3321.0	7874	5350	2500	7168	14.4	7.0	-18	-17	k1=1.1; k2=0.9	7151
		<u> </u>		1	<u> </u>	70	·		249.0	-18	-17	: 2 3/4 gallon PBU starts	
												your clauly	

very slowly Recovery: 1 Gallon
3 ltr mud
C1 = 34000 ppm
Ca = 80 ppm
ph = 9.2 3 3/4 Gallon 55 ltr filtrate 33 000 60

9.2

WELL: 2/5-7

RT = 36.0 m MSL, Vertical well

RFT data

Run 2: 24-10-183

mud wt. = 1.67

max. temp. = -

gauge = 51336; HP gauge = 1413A - 003

RUN Nr.	TEST Nr.	TEST DEPTH	MUD PRESS.	Pf	_OWING RESSURE	FINAL SHUT IN	FLOW TIM			ESSURE RECTION	Remarks	CORR:	HP
		m AH BDF	PM psig	PF1 psig	PF2 psig	PS psig	T1 sec.	T2 sec.	MUD DPM psi	SHUT IN DPS psi	k = 5 660 <u>qu</u> (mD) P-Pf Vo=0,5cP	PRESSURE P psig	u P
2	1	3 236.5	7 622	5	5								psig
	2	3 267.0	7 690	_	_	-	-	-	-12	-	T	-	-
	3	3 267.5	7 703	3	- 0	-			-12	-	S	-	-
	4	3 285.4	7 720		U	-	-	-	-12	•	Т	-	-
	5	3 300.0	7 743	2 600	1 100	7 420	-	-	-12	-	S	-	_
	6	3 311.8	7 768	2 600		7 130	6	11	-12	-11	k1 = 1.04; $k2 = 0.4$	7 119	7 137
	7	3 320.5	7 787	6 800	500	7 145	6	13	-13	-11	PL; k2 = 0.3	7 134	7 156
	8	3 326.2	7 805	6 500	5 200	7 150	6	13	-13	-11	k1 = 13.5; $k2 = 1.1$	7 139	7 157
	9	3 332.0	7 816	6 800	3 300	7 159	6	13	-13	-11	k1 = 7.2; k2 = 0.6	7 148	7 161
	10	3 351.5	7 858	6 700	2 600	7 165	6	13	-13	-11	k1 = 13; k2 = 0.5	7 154	7 170
	11	3 383.2	7 933		4 600	7 187	6	13	-13	-11	k1 = 9.7; $k2 = 0.8$	7 176	7 194
	12	3 369.0	7 898	6 600	5 300	7 120	6	13	-13	-11	k1 = 9.1; $k2 = 1.2$	7 109	7 126
	13	3 397.5	7 965	6 600	2 000	7 109	6	14	-13	-11	k1 = 9.1; $k2 = 0.4$	7 098	7 117
	14	3 400.5	7 971	6 600	2 000	7 153	6	13	-13	-11	k1 = 8.5; $k2 = 0.4$	7 142	7 158
	15	3 410.0	7 971 7 991	6 800	4 000	7 156	6	13	-13	-11	k1 = 13.2; $k2 = 0.7$	7 145	7 175
	16	3 427.0	8 033	6 700	3 000	7 171	6	13	-13	-11	k1 = 10.0; $k2 = 0.5$	7 160	7 179
	17	3 448.0		6 800	2 200	7 196	6	13	-13	-11	k1 = 11.0; $k2 = 0.4$	7 185	7 204
	18	3 512.8	8 080	7 000	50	7 318	6	15	-13	-11	PL	7 307	7 325
	19	3 549.5	8 232	6 900	0	7 594	6	33	-13	-12	PL	7 582	7 600
	20	3 614.0	8 314	7 000	50	7 585	6	13	-14	-12	PL	7 573	-
	21		8 468	7 200	600	7 710	6	13	-14	-12	k1 = 9.2; $k2 = 0.3$	7 698	_
	22	3 619.0	8 472	7 100	1 000	7 715	6	13	-14	-12	k1 = 7.7; $k2 = 0.3$	7 703	_
		3 657.0	8 563	7 100	5	-	6	80	-15	-11	T		_
	23	3 722.0	8 717	-	-	-	6	13	-15	-11	ī	_	_
	24	3 765.5	8 813	7 700	5	-	6	60	-15	-	Ţ	_	_
	25	3 362.0	7 883	6 100	5	7 248	6	45	-12	-10	k1 = 4.1; k2 = 0.1	7 238	-

LEGEND , REMARKS , ETC. CORES 1-5 , WELL 2/5-7

- fractures: open
- fractures: mostly opin, occ filled (w spar/cate)
- fractures: partly open, partly filled (= 50/50)
- fractures: mostly filled . occ open
- fractures: filled
- r = rubble
- t = occ thick layer of blk mat + Pr on styl.
- all cores slightly porous, almost always without visible pores
- flu: primarily on fractures, only on rare occ in mix
- (1) mostly fractured slumps
- debris flow: occ grading into lithoclastic warke stone
- ud core 2 : bottom part core 2 might be slightly more porons
- ad core 5 : hydrocurbon indications: only a few pinpoints fluerescence

A/S NORSKE SHELL Well: 2/5-7 Core No. CORE DESCRIPTION Recovered: 5.39 m 59.9 Cored from 3303 _to <u>33 12</u> Core size: Corehead: RC - 6 Formation: TOR Date: 28/9/83 Described by: POOL /Quick of __2 Sheet: ESTI- HYDROCARBON GA DEPTH GRAPHIC SEDIMENTARY STRUCTURES REMARKS COMPOSITION (OL BLEED; DIPS; PRACTURES ETC.) A SAMPLES A A C S S LITHOLOGY (& ACCESSORY MHERALS) SHIPL OUT OUT FLU OOL FLU & FEATURES 3303 S flu: yet weak P4 57 cut: slow cally LST: IIA cut fla: wh 9 mdst , blky , ofter pa mod hd.hd yelben 0 gy streaks stn on + patches fractures often interrupted ۳h by (sq-sed) 3304 irreg flu: yel mod (i) closed gy streaks cut: slow It yol ~~ fract cut flu: wh me wh. IF 97 D 3 3305 v irreg Sy streaks 9/4 100 ĬF 37 1-yel brn stn بات flaigel good to dk yel 3306. cut: stream oil blend It yel cut flu: who was 0 -yelbra Ø occ hor stn mtx fract wL_ ል 701 37 uk yet oil a/a S σ'n 330 3

A/S NORSKE SHELL	Well: 2/5 - 7 Core No. 1
CORE DESC	
Cored fromtoRecovered:	_m % Core size:
Formation:Date:Described by:_	Corehead: 2 of 2
	COMPOSITION (& ACCESSORY MERALS) (& FULL COL FLU % PRACTURES ETC.)
3300 O O CC I com tlong vag, milty filled w dal o spar irrea yel tro parters filled U soft mak (dal?) w parity cale/s par	LST: II A most blky, mod hu gy streak, a patches flu: yel week cut; stream th yel cut; stream yel cut; strea

A/S NORSKE SHELL Well: 2/5-7 Core No. 2 CORE DESCRIPTION 10 3326.5 Recovered: g, 11 m 63 % Cored from 3312 Core size:_ Formation: TOR Date: 29/9/83 Described by: POOL /QUICK Corehead: RC-6 Sheet: GRAIN SIZE DEPTH ESTI- HYDROCARBON G. MATED MOICATIONS A.S. GRAPHIC SEDIMENTARY STRUCTURES COMPOSITION a SAMPLES REMARKS WE SEE LITHOLOGY & FEATURES (ACCESSORY MHERALS) FLU COL FLU % (OL BLEED, DIPS; 3312 FRACTURES ETC.) S gy + uh f streaks + pakh It 97 homog, occ gy patches occ her fruit 1 ۱۳۲ ع۲ Ø ಹಿ 11 37 늏 3313 -1rr 37+ wh streck + patches 9 oce hor fract LST: IT A 0 modst, modeld -hd <u>It</u> 97 ॐ 3314 homeg, occ 97 - uh patches + particles < 14-(ang) - rnd 8 IF 37 cht + Pr concretions 3315 irr 37 strenks . patches O Py modules 4 fla: yel uk oce yel ben B ان ب د اد: الله stn on fract 11 97 - 1 flu : 61/wa

A/S NORSKE SHELL	Well: 2/5-7	Ico	ro No.
		Jea	re No. 2
Cored fromtoRecovered:	<u>- RIPTION</u>		
Formation: Date: Described by:_		Corehead:	
CRAIN		Sheet:	2of_3
1 " 1 	COMPOSITION MTE	HYDROCARSON MOKATIONS SMPLOUT OUT FLU COL FLU	A REMARKS
33.6	Ay strenks .	Lem Kor Lem	% PRACTURES ETC.)
Occ PY nod	Pubehas		
	homog, occ		
	Systr/pakk Particl < 0.3cm		
	1	ĺ	
	1		
1331/ - 1 - 1	str/patch		
Strong compact	1		
	homog, dk		
	+ It purt < 3 cm		
	\downarrow	ļ	
	27 strenks		
╎ <u>╶</u> ┼╌╩╌╢║║║║ ║║╽ [╏] ╴	under angle		
	2):TEA	flu: yel bon vk	
	-ha'	cat: slow It yel	
(Sy-sed) fold	·gy streaks	cut flu: bi.uk	
	+part < 1cm		
Occ hor fract	(ang)-(rnd)		
	oce particle of 10 cm	Ì	
3319	oce particle		
3319 - 257 257	øsca		
<u> </u>	1		
	str/parch		
O occ vert styll occ hor fract	+ 0(1		
<u> </u>	wh patch		
1º 57 ₩	↓		

A/S NORSKE SHELL	Well: 2/5 -7 Core No. 2			
CORE DESC				
Cored fromtoRecovered:	m % Core size:			
Formation:Date:Described by:_	Corehead: Sheet: 3 of 3			
SAMPLES LITHOLOGY WEST BOOK A FEATURES	COMPOSITION ESTI- HYDROCAMBON G REMARKS B ACCESSORY E MOCATION S (OL. BLEED; DIPS; M HERALS) M FLU COL. FLU % PRACTURES ETC.)			
3321.1 >	str patch often (y-std) french homog, 37 str/patch + occ partellen trr 37 ** str a/a -LST: II A mdst, med hell-hel			

A/S NORSKE SHELL	Well: 2/5-7 Core No. 3
CORE DES	SCRIPTION
Cored from 3326.5 to 3337.5 Recovered: 9.05	m d2.3 % Core size: 4"
Formation: TOR Date: 29/9 /83 Described by	y: <u>Pool</u> Corehead: RC - 6 Sheet: of _ 3
DEPTH GRAPHIC SIZE SEDIMENTARY STRUCTURES SAMPLES LITHOLOGY POR B. FEATURES	COMPOSITION ESTI-HYDROCARBON G. REMARKS
33265 - 0	To FUICOLIFUI % I HOLIURE ER.)
33275 > 1 - 37.	cab; slow col. less cut flu: milly wh streaks of ten interrupted by many small closed (37 - sech) fract flu: yel wh
35285 - G 21-37.	-LST: IIA mod hal-had fin: yel good
Occ hor freet	cut: bloom 14 yel cut flu: milky wh most
15295 —	flu: yel wk cut: slow col. less cut flu: milluy wh wenk flu: yel good
so.5 - Purly filled pkgy	cutile : a/a mod fract

A/S NORSKE SHELL	Well: 2/5-7 Core No. 3
CORE DE	SCRIPTION
Cored fromtoRecovered:	m % Core size:
Formation: Date: Described	by: Corehead: Sheet: 2 of 3
DEPTH GRAPHIC SIZE SEDIMENTARY STRUCTURES STANDLES LITHOLOGY WE SHOW THE STRUCTURES STANDLES LITHOLOGY WE SHOW THE SHOW	COMPOSITION (@ ACCESSORY MHERALS) Composition Compos
33325 O V Irr vert str. O V Irr vert str. Party filled w yet bra soft mat (del farg) Physology O V Irr vert str. Str.: cht. Spar. soft yet Str.: cht. Spar. soft yet O V Irr vert Str.: cht. Spar. soft yet O V Irr vert Str.: cht.	streaks/ patches often interrapted by small closed fract (syn seed) fluigel good Cut: bloom col.less Lut fluimily wh, mod LST: IT A most, modiad.hd
Strong Compact pkg	eol.less cut flu: milly wh good str/patches a/a seepage from

A/S NORSKE SHELL	W-U- 0/	
	Well: 2/	
Cored fromto	CORE DESCRIPTION	
Formation:Date:_	Described by:	Core size: Corehead:
GRAPHIC GRAIN SIZE SEDIMEN	TARY STRUCTURES & COMPOSITION	Sheet: 3 of 3
STATES LIHOLOGY WE SO THE STATE OF THE STATE	TARY STRUCTURES OF COMPOSITION (MACCESSORY MARKALS)	ESTI- HYDROCARBON GA REMARKS ### OF THE COL FLU % PRACTURES ETC.)
3354.5	occ vags co.3 11- 37 - A tre dholp	flui yel good Scenar Low
	(dollars)	col·leys
l 1-11]	by small (Synteel)	cut flu: willy
	fract	often yel str
	LST: II A	on fract
	mdst,	
		fin: yelgood
3355.55	<u>₩</u>	cut: shw col. less cub fin: mills
		cut flux milks fract
1/ ////////////////////////////////////		
1 \ /		
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1/ \		
		
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1	.	

A/S NORSKE SHELL		Walle 2 /	<u> </u>	
		Well: 2 /:		No. 5
Cored from 3330 to	CORE [ESCRIPTIO	N	
Cored from 3339 to _ Formation: TOR	Date: a / / / / B	.25 m <u>07.4</u>	_ % Core size: Corehead: RC	4"
	Udie-2/18/05 Describe	d by: POOL	Sheet:	1 of 3
GRAPHIC SIZE	SEDIMENTARY STRUCTURES B. FEATURES Styl Freet	COMPOSITION COMPOS	ESTI- HYDROCATIONS A MATEON MORCATIONS A SECURITION OF THE PROPERTY OF THE PRO	REMARKS (OL BLEED; DIPS; PRACTURES ETC.)
3342	When the space of shell frags by space PY When the space of shell frags by space PY At the space PY At the space of shell frags by space PY At the space of shell frags by space PY At the space of shell frags by space PY At the spac	homos, occ dk-11 patches ons cm irr + interrupted str/patches LST: II A, most, had 17- 17- 17- 17- 17- 17- 17- 17- 17- 17	flu: yel wk no cut flu: yel wk no cut	-only very minor traces of flu

	A/S	NORSKE	SHEL	L					Vell: 2	/5 -	7	To	ore N	No. 5	_
						CORE	DE						0.01	٠٠. ک	\dashv
į	Cored	from	t	o		Recovered	:	m		9/2	-	Core size	. :		
	Forma	tion:		Dat	e:	Desc	ribed b	y:				Corehead Sheet:	1: 1	of3	-
1	DEPTH	GRAPHIC LITHOLOGY	CKAI	מ בכטו		W CT0		COM (® A	POSITION CESSORY ERALS)	CMT	ESTI-	HYDROCARE HOKATION SMPL OUT OF FLU COL F	on G	REMARKS	뒥
	3343	L PL			1111		10	1	1		76	FLU (COL) F	<u>w %</u>	FRACTURES ETC.)	\dashv
3	345				frou !? (differential contatation!) debris flow	occ vert styl	It 97 Ph 57	parl mon	may, It h particl 3 cm ing - 3ph real < 8 cm icl < 8 cm It alk eaches Lall Lall			flu: yel wi no cu t		very minor troof flu	
34	, P	. A A A		#		thert layer	1627 -	hom.	3 %						

A/S NORSKE SHELL	Well: 2 /5 - 7	Core No	. 5
CORE DESC			
Cored fromtoRecovered:	m % C	Core size:	
Formation: Date: Described by:_	C	Corehead: Sheet:3	of_3
DEPTH GRAPHIC SIZE SEDIMENTARY STRUCTURES 5 C	OMPOSITION - ESTI-	MYDROCARBON G. A. S. MAPL OUT OUT FLU OOL FLU %	REMARKS (OL BLEED; DIFF; PRACTURES ETC.)
33-47	homog. occ dh streaks + dk/1t patches LST: II A modat, hd		very minor hr yel fla