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13 August 1999

NT Dept of Mines & Energy
GPO Box 2901
DARWIN NT 0801

Attention Jamie Burgess

REPORT LQ8082

CLIENT REFERENCE: -

WELL NAME/RE: Wallara-1

MATERIAL: Rock Samples

WORK REQUIRED: TOC & Rockeval

Please direct technical enquiries regarding this work to the signatory below under whose supervision the work was carried out. This report relates specifically to the sample or samples submitted for testing.

Brian L. Watson
Manager
Petroleum Services

1. INTRODUCTION

Forty six (46) samples were received for TOC analysis and Rock-Eval pyrolysis. This report is a formal presentation of results forwarded by facsimile on 4th August 1999.

2. ANALYTICAL PROCEDURES

2.1 Total Organic Carbon (TOC)

Total organic carbon was determined by digestion of a known weight (approximately 0.2g) of powdered rock in HCl to remove carbonates, followed by combustion in oxygen in the induction furnace of a Leco WR-12 Carbon Determinator and measurement of the resultant CO_2 by infra-red detection.

2.2 Rock-Eval Pyrolysis

A 100mg portion of powdered rock was analysed by the Rock-Eval pyrolysis technique (Girdel IFP-Fina Mark 2 instrument: operating mode, cycle 1).

3. RESULTS

TOC and Rock-Eval data are listed in Table 1. Rock-Eval pyrograms are given in Appendix 1.

INTERPRETATION

Maturity

Due to the small S2 values Tmax values could not be reliably determined and therefore it is not possible to comment on the maturity. However, the position of the S2 peaks on the pyrograms suggests that these samples are overmature for the generation of hydrocarbon (Tmax >450°C.)

Low production indicies (≤0.2) for samples 1282.0m, 1445.5m, 1456.5m suggest migrated hydrocarbons are not present in significant quantities. All other samples have higher production indicies suggesting the presence of migrated hydrocarbons.

Source Richness

Organic richness ranges from poor to fair in the samples studied (TOC = 0.06-1.01%; Table 1).

Source richness for the generation of hydrocarbons is poor in the samples studied (S1+S2= <2kg of hydrocarbons/tonne; Table 1)

Kerogen Type

The hydrogen index values (Table 1) indicate that the sediments examined contain organic matter which have a bulk composition of Type III to Type III - IV kerogen

PETROLEUM SERVICES

Rock-Eval Pyrolysis

Job No: LQ8082

Date: 13/08/99

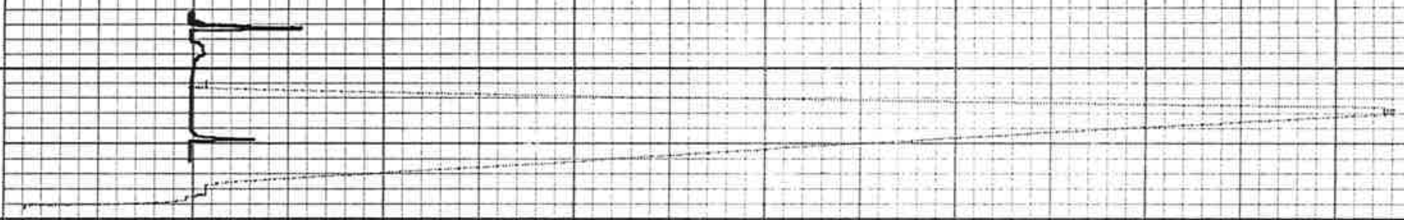
Client: NT Department of Mines and Energy

Well: Wallara-1

Depth (m)	T Max	S1	S2	S3	S1+S2	PI	S2/S3	PC	TOC	HI	OI
715.2									0.06		
729.4									0.10		
748.5									0.12		
773.5									0.12		
786.32									0.10		
791.0									0.16		
795.8									0.10		
1280.9	nd	0.07	0.14	0.10	0.21	0.33	1.40	0.02	0.58	24	17
1282.0	nd	0.02	0.10	0.08	0.12	0.17	1.25	0.01	0.60	17	13
1286.0	nd	0.03	0.11	0.06	0.14	0.21	1.83	0.01	0.58	19	10
1290.0	nd	0.11	0.12	0.15	0.23	0.48	0.80	0.02	0.50	24	30
1291.6	nd	0.12	0.13	0.13	0.25	0.48	1.00	0.02	0.76	17	17
1292.7									0.36		
1294.0	nd	0.12	0.12	0.13	0.24	0.50	0.92	0.02	0.72	17	18
1295.2	nd	0.17	0.14	0.15	0.31	0.55	0.93	0.03	0.82	17	18
1297.3	nd	0.19	0.16	0.14	0.35	0.54	1.14	0.03	0.78	21	18
1298.5	nd	0.26	0.18	0.27	0.44	0.59	0.67	0.04	0.88	20	31
1298.9	nd	0.16	0.15	0.15	0.31	0.52	1.00	0.03	0.80	19	19
1301.5	nd	0.22	0.14	0.30	0.36	0.61	0.47	0.03	0.72	19	42
1304.0	nd	0.16	0.10	0.29	0.26	0.62	0.34	0.02	0.60	17	48
1441.0	nd	0.04	0.10	0.12	0.14	0.29	0.83	0.01	0.54	19	22
1443.0									0.26		
1443.5									0.24		
1444.5									0.28		
1445.0									0.28		
1445.5	nd	0.02	0.16	0.11	0.18	0.11	1.45	0.01	0.58	28	19
1456.5	nd	0.04	0.18	0.14	0.22	0.18	1.29	0.02	0.40	45	35
1461.0									0.28		
1502.0									0.08		
1504.8									0.06		
1506.5									0.06		
1507.0									0.06		
1507.8									0.08		
1542.5									0.14		
1620.0	nd	0.05	0.06	0.71	0.11	0.45	0.08	0.01	1.01	6	70
1628.0									0.12		
1636.0									0.20		
1963.1									0.08		
1986.0									0.14		
1989.0									0.18		
1465.5A									0.14		
1465.5B									0.14		
GC#1									0.06		
GC#2									0.10		
GC#3									0.08		
GC#4									0.08		

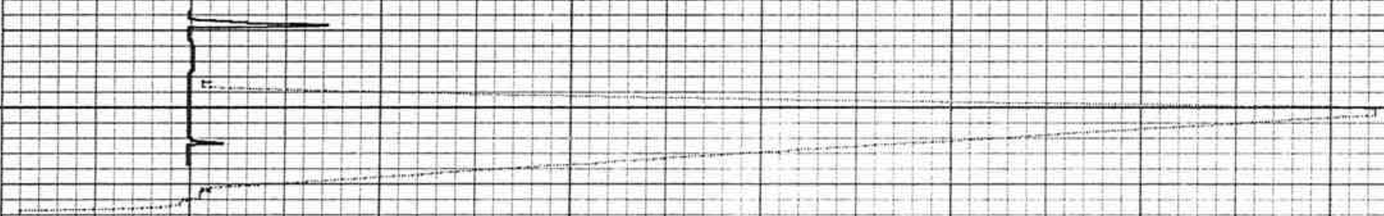
APPENDIX

DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
1280	100.3	468	0.03	0.11	0.06	0.21	1.83	0.01			



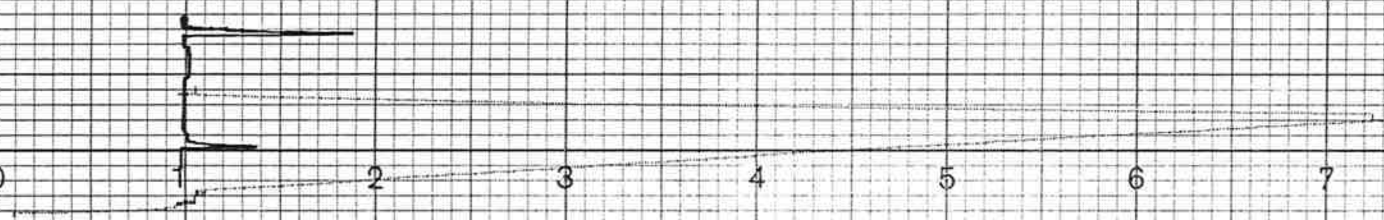
DATE: 27-07-99 ANALYSIS CYCLE : 1 SCALE = 1/16

DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
1282	100.5	327	0.02	0.10	0.08	0.17	1.25	0.01			



DATE: 27-07-99 ANALYSIS CYCLE : 1 SCALE = 1/16

DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
1290	100.4	438	0.07	0.14	0.10	0.35	1.40	0.01			



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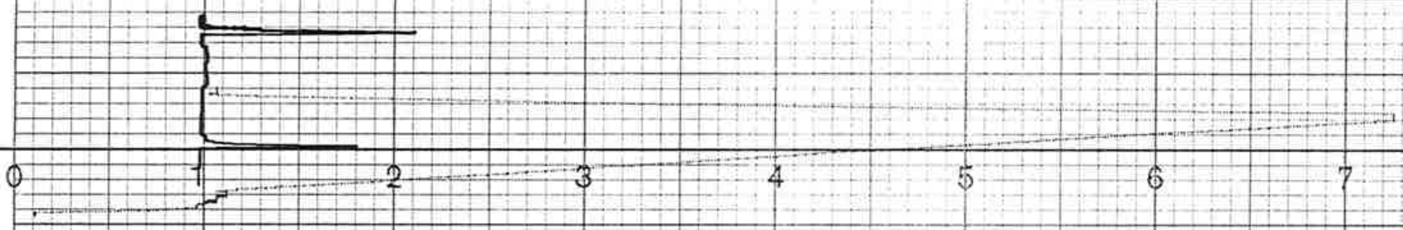
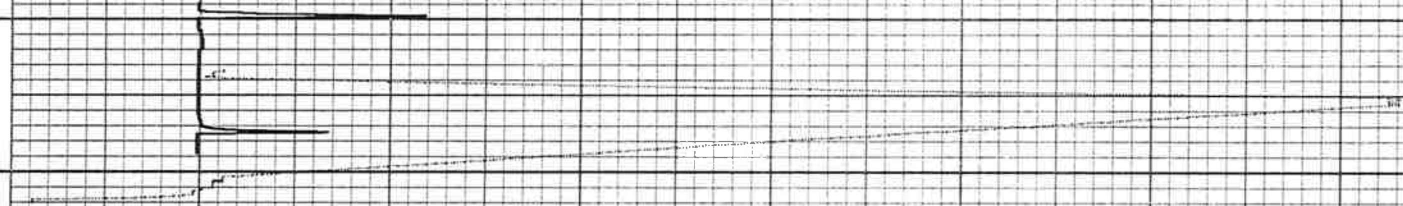
DATE: 27-07-99 ANALYSIS CYCLE : 1 SCALE = 1/16

DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
12916	00.2	313	0.12	0.13	0.13	0.50	1.00	0.02			



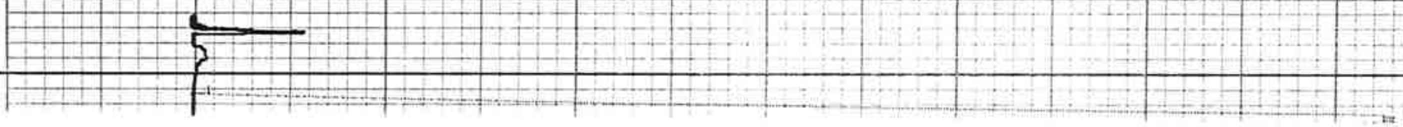
DATE: 27-07-99 ANALYSIS CYCLE : 1 SCALE = 1/16

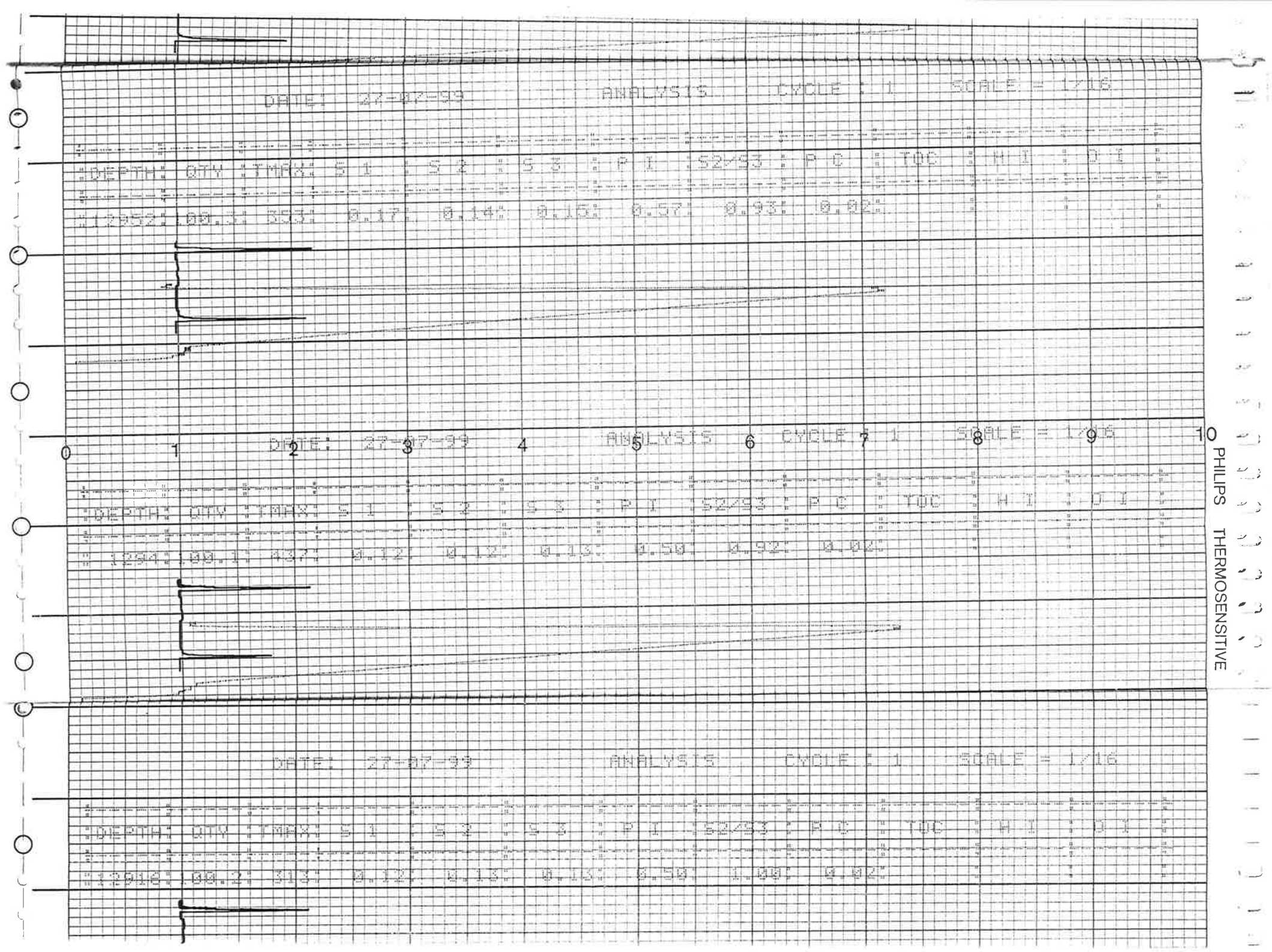
DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
1290	00.0	333	0.11	0.12	0.15	0.50	0.80	0.01			



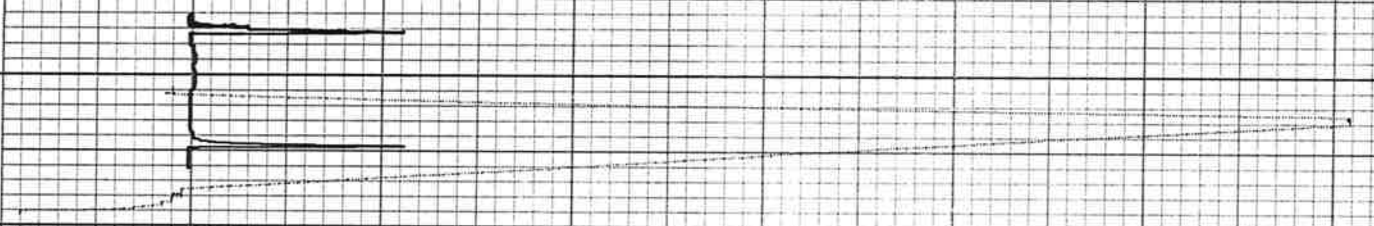
DATE: 27-07-99 ANALYSIS CYCLE : 1 SCALE = 1/16

DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
1286	00.3	408	0.03	0.11	0.06	0.21	1.83	0.01			



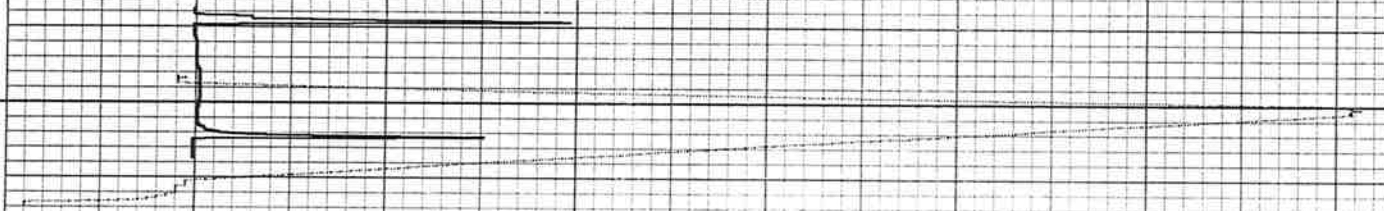

PHILIPS THERMOSENSITIVE

DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
12989	100.1	331	0.16	0.15	0.15	0.53	1.00	0.02			



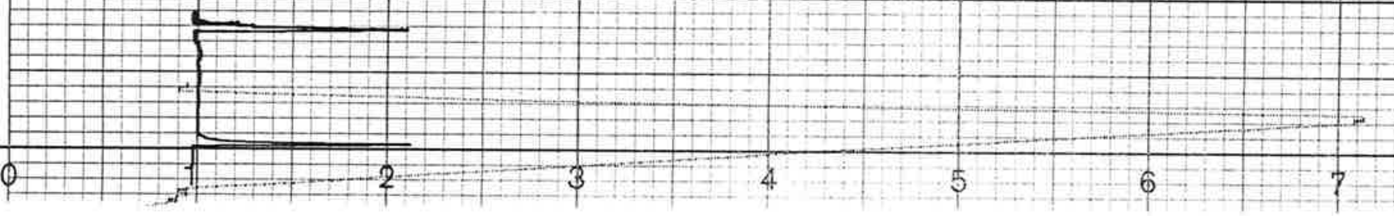
DATE: 27-07-99 ANALYSIS CYCLE : 1 SCALE = 1/16

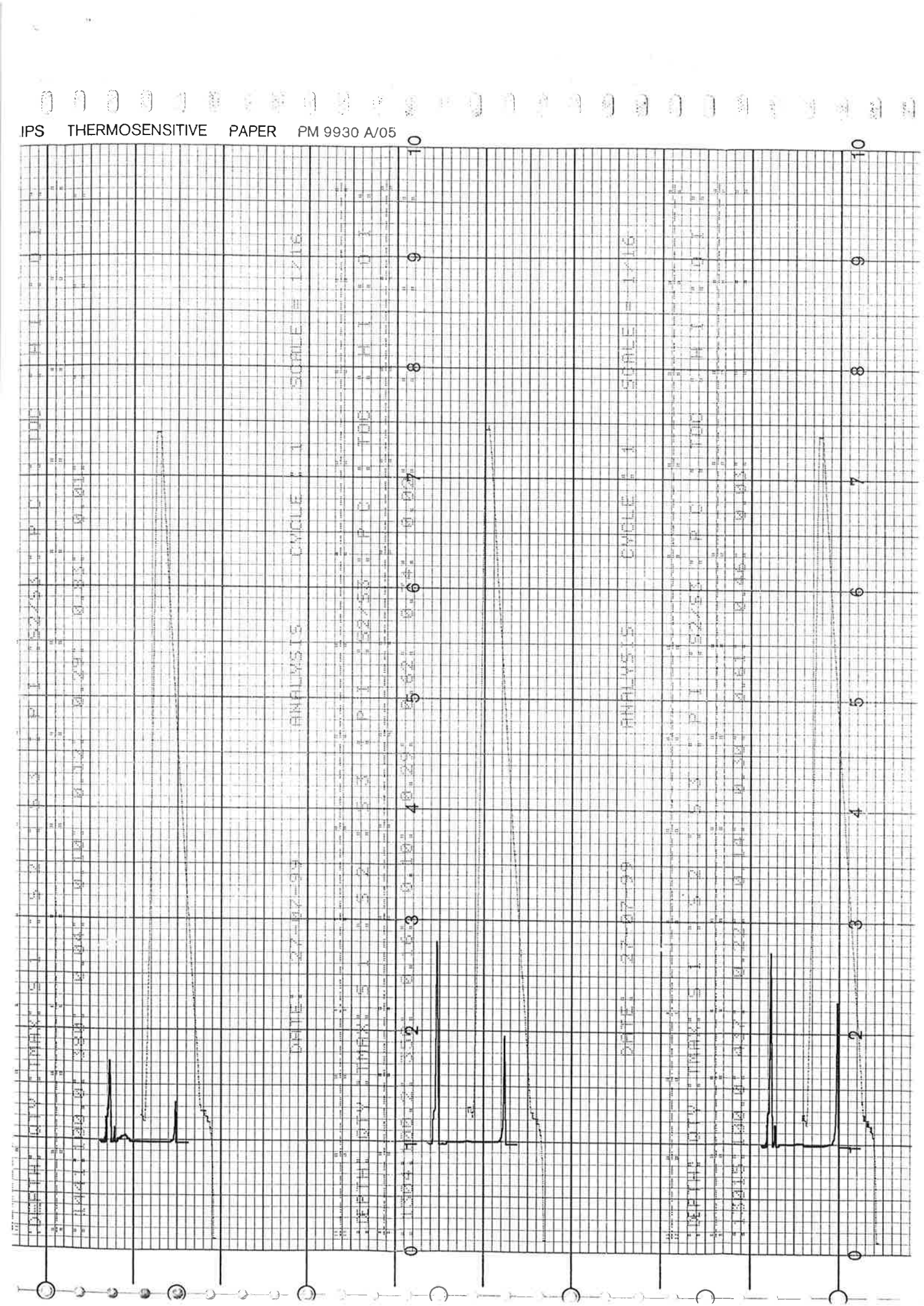
DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
12985	100.6	292	0.26	0.18	0.27	0.59	0.66	0.07			



DATE: 27-07-99 ANALYSIS CYCLE : 1 SCALE = 1/16

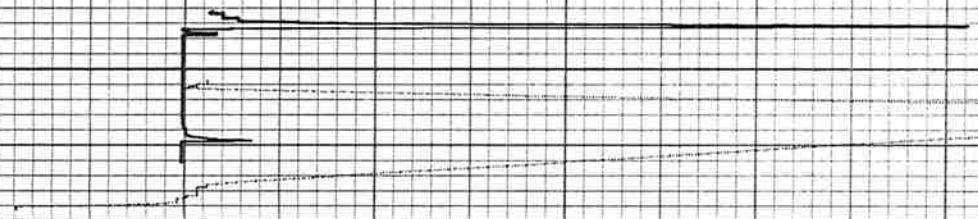
DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
12973	100.7	293	0.19	0.16	0.14	0.56	1.14	0.02			




IPS THERMOSENSITIVE PAPER PM 9930 A/05

DATE= 27-07-99 ANALYSIS CYCLE = 1 SCALE = 1/16

DEPTH	QTY	TMAX	S1	S2	S3	PI	S2/S3	PC	TOC	HI	OI
1524.00	1	437	0.05	0.06	0.71	0.50	0.08	0.00			



DATE= 27-07-99 ANALYSIS CYCLE = 1 SCALE = 1/16

DEPTH	QTY	TMAX	S1	S2	S3	PI	S2/S3	PC	TOC	HI	OI
1525.51	1	417	0.02	0.10	0.16	0.18	1.28	0.01			

0 1 2 3 4 5 6 7 8 9 10

DATE= 27-07-99 ANALYSIS CYCLE = 1 SCALE = 1/16

DEPTH	QTY	TMAX	S1	S2	S3	PI	S2/S3	PC	TOC	HI	OI
1525.28	1	369	0.02	0.15	0.11	0.11	1.45	0.01