

New Mexico Bureau of Mines and Mineral Resources  
Open File Report No. OF-275

ORGANIC GEOCHEMICAL ANALYSES,  
SUNRAY MID-CONTINENT OIL COMPANY NO. 1 BRISCOE WELL,  
QUAY COUNTY, NEW MEXICO

By GeoChem Laboratories, Inc.  
and Core Laboratories, Inc.

1987



Sunray Briscoe #1  
31-10N-30E  
Quay Co., NM

RESULTS OF TOTAL ORGANIC CARBON

GEOCHEM SAMPLE NUMBER	CLIENT IDENTIFICATION NUMBER	TOTAL ORGANIC CARBON (% of Rock)
D1134-001	Depth 8550'-8595'	2.09

Sunray Briscoe #1  
31-10N-30E  
Quay Co., NM

T.O.C. = Total organic carbon, wt. %  
S1 = Free hydrocarbons, mg HC/g of rock  
S2 = Residual hydrocarbon potential (mg HC/g of rock)  
S3 = CO2 produced from kerogen pyrolysis (mg CO2/g of rock)  
Hydrogen Index = mg HC/g organic carbon  
Oxygen Index = mg CO2/g organic carbon  
PI = S1/S1 + S2  
Tmax = Temperature Index, degrees C.

RESULTS OF ROCK-EVAL PYROLYSIS

GeoChem Sample No.	Client Identification Number	Tmax (C)	S1 (mg/g)	S2 (mg/g)	S3 (mg/g)	PI	S2/S3	T.O.C., (wt. %)	Hydrogen Index	Oxygen Index
D1134-001	Depth 8550'-8595'	449	0.25	1.56	0.31	0.14	4.96	2.09	74.4	15.0

4.

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GEOCOM ROCK EVAL II

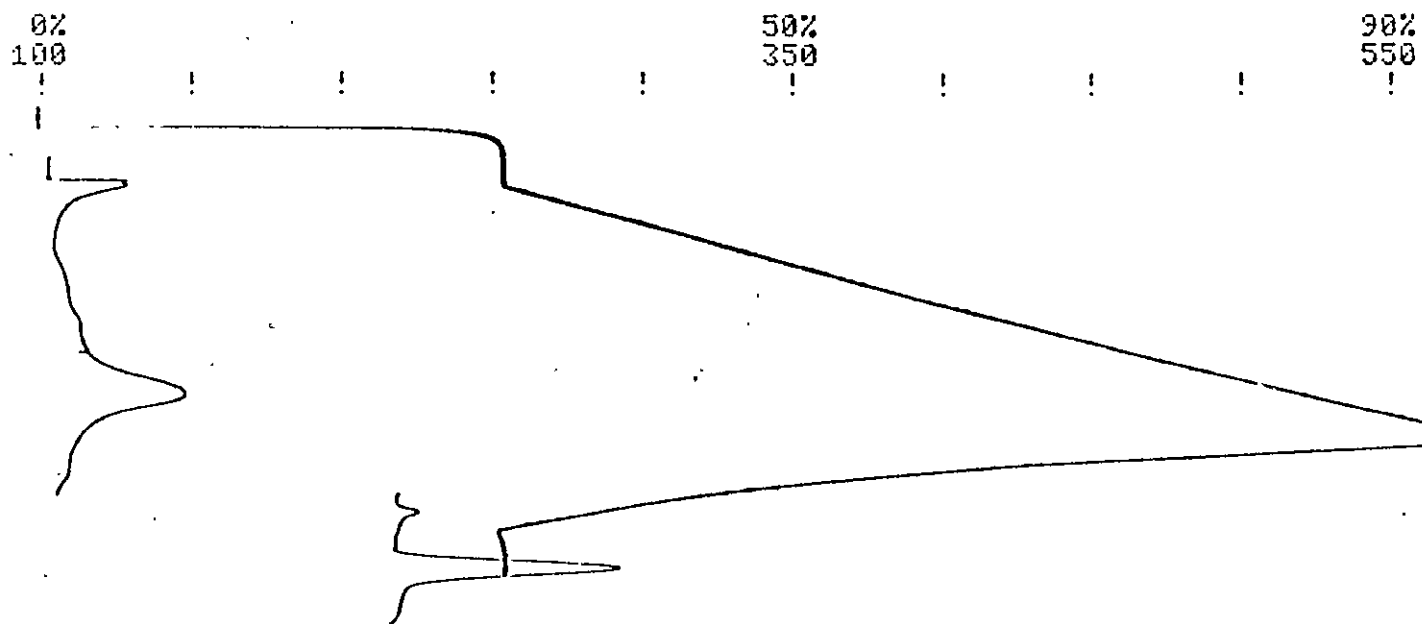
FEB 8, 1984

TIME= 1054

ID= 34001

FID ATTENUATION= 16

TCD ATTENUATION= 32



TOC = 2.09

WT = 98.1

TMAX = 449 DEGREES C

S1= +2.456E-01 SUM= +1.143E+03

S2= +1.555E+00 SUM= +7.236E+03

S3= +3.136E-01 SUM= +5.231E+03

UNKNOWN

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*J. Jones*

CORE LABORATORIES, INC.



January 25, 1984

*Biostudy 1309*Geochemical  
Services

Dr. S. R. Jacobson  
Chevron USA, Central Region  
700 S. Colorado Blvd.  
Denver, CO 80201

Subject: Total Organic Carbon and  
Rock-Eval Pyrolysis

Well: Sunray Briscoe #1 *31-10N-30E*  
Quay County, N.M.  
CM 518 769  
P4417

Service Order No.: C-1-138652-ELD  
Our Job No.: 84005

Dear Dr. Jacobson:

The following report contains the analytical results of the 13 samples submitted for TOC and Rock-Eval pyrolysis. All 13 samples qualified for pyrolysis based on the 0.5 weight percent organic carbon cutoff.

The original pyrograms have been returned with this report.

Thank you for the opportunity to be of service to Chevron USA, Central Region. If you have any questions, or if we may be of further service, please do not hesitate to call.

Sincerely,

CORE LABORATORIES, INC.

Robert Blake  
Supervisor

Paul J. Swetland  
Manager

RB,PJS:kn

*6*

FILE NO. 84005

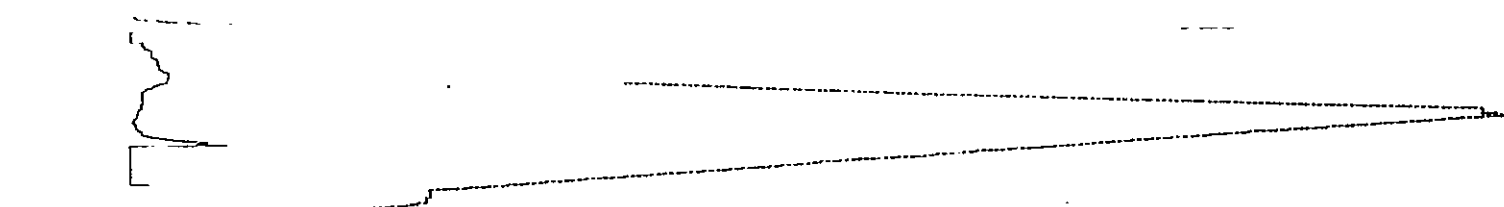
Sunray Briscoe #1

Quay Co., N.M.

## ROCK-EVAL PYROLYSIS

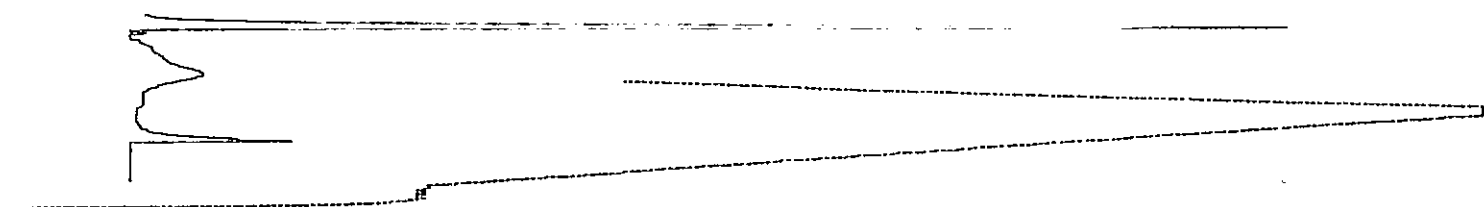
Sample Number	TOC	Mg/Gm Rock			Hydrogen Index	Oxygen Index	Oil or Gas		Trans Ratio	TMAX (Deg C)
		S1	S2	S3			Shows	Potential		
7050-7100 P4417-14	0.79	0.20	0.39	0.44	49.4	55.7	0.20	0.59	0.34	434
7150-8000 P4417-15	1.27	0.16	0.47	0.31	37.0	24.4	0.16	0.63	0.25	444
7150-8100 P4417-16	0.95	0.11	0.32	0.29	33.7	30.5	0.11	0.43	0.26	451
8130-8150 P4417-17	0.95	0.12	0.26	0.29	27.4	30.5	0.12	0.38	0.32	472
8150-8250 P4417-18	0.76	0.14	0.31	0.19	40.8	25.0	0.14	0.45	0.31	476
8250-8370 P4417-19	1.08	0.15	0.44	0.22	40.7	20.4	0.15	0.59	0.25	445
8450-8500 P4417-20	1.73	0.26	0.92	0.28	53.2	16.2	0.26	1.18	0.22	450
8550-8595 P4417-21	14.87	4.38	35.75	1.27	240.4	8.5	4.38	40.13	0.11	454 <i>re-run</i>
8655-8700 P4417-22	2.59	0.47	2.27	0.30	87.6	11.6	0.47	2.74	0.17	454
8755-8800 P4417-23	1.56	0.19	0.68	0.29	43.6	18.6	0.19	0.87	0.22	448
8850-8900 P4417-24	1.57	0.17	0.48	0.28	30.6	17.8	0.17	0.65	0.26	450
8950-8975 P4417-25	1.46	0.19	0.53	0.33	36.3	22.6	0.19	0.72	0.26	447
9000-9050 P4417-26	1.67	0.19	0.62	0.27	37.1	16.2	0.19	0.81	0.23	451

16:109.2: 451: 0.11: 0.52: 0.29: 0.26: 1.19: 0.03: 0.00: 0: 0:



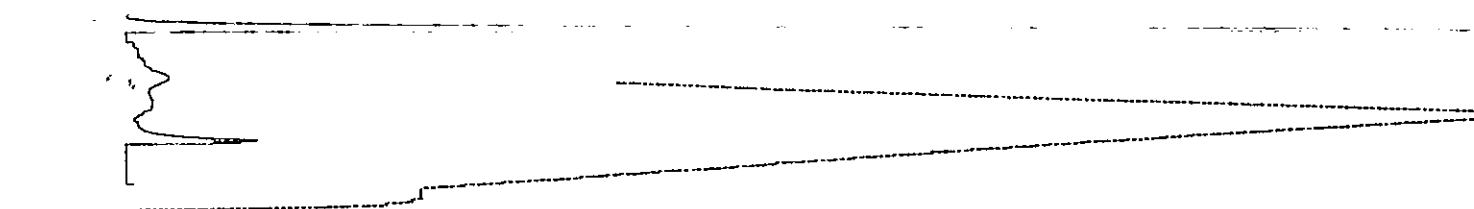
DATE: 01-21-84 ANALYSIS CYCLE : 1 SCALE = 1/16

15:109.4: 444: 0.16: 0.47: 0.31: 0.26: 1.51: 0.05: 0.00: 0: 0:



DATE: 01-21-84 ANALYSIS CYCLE : 1 SCALE = 1/16

14:105.4: 434: 0.20: 0.39: 0.44: 0.34: 0.88: 0.04: 0.00: 0: 0:





9

DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
18:113.4	476	0.14	0.31	0.19	0.32	1.63	0.03	0.00	0	0	

DATE: 01-21-84

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
17:117.6	472	0.12	0.26	0.29	0.32	0.89	0.03	0.00	0	0	

DATE: 01-21-84

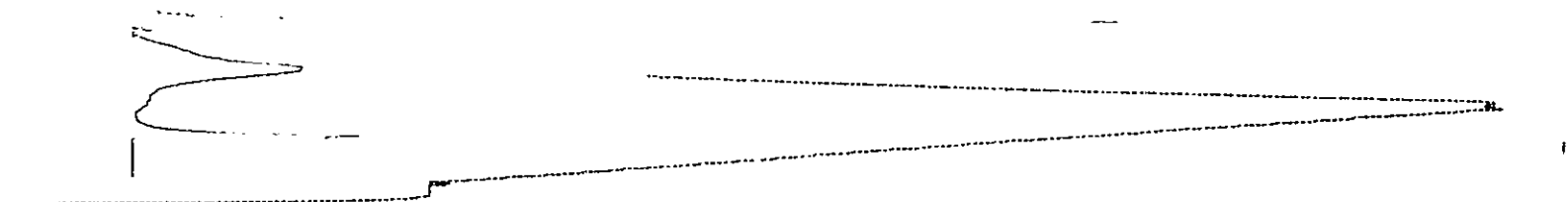
ANALYSIS

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
16:109.2	451	0.11	0.32	0.29	0.26	1.10	0.03	0.00	0	0	

DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
20:111.4	450	0.26	0.62	0.28	0.22	3.28	0.09	0.00	0	0	



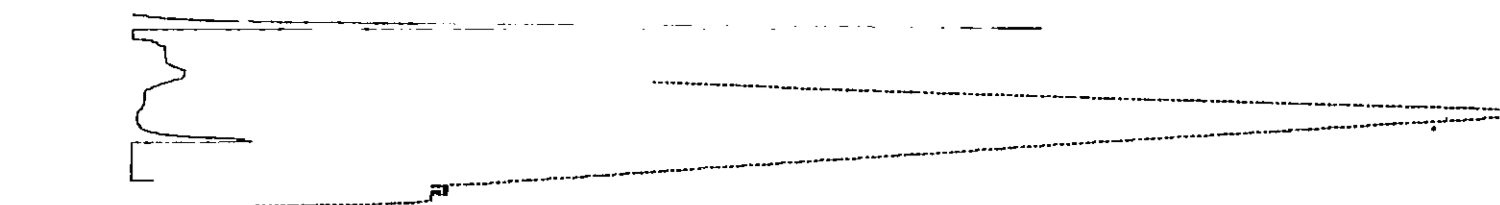
DATE: 01-21-84

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
19:107.4	445	0.15	0.44	0.22	0.26	2.00	0.04	0.00	0	0	



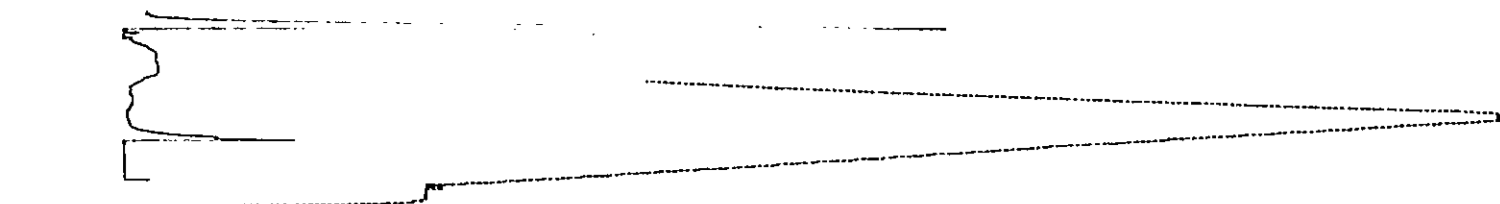
DATE: 01-21-84

ANALYSIS

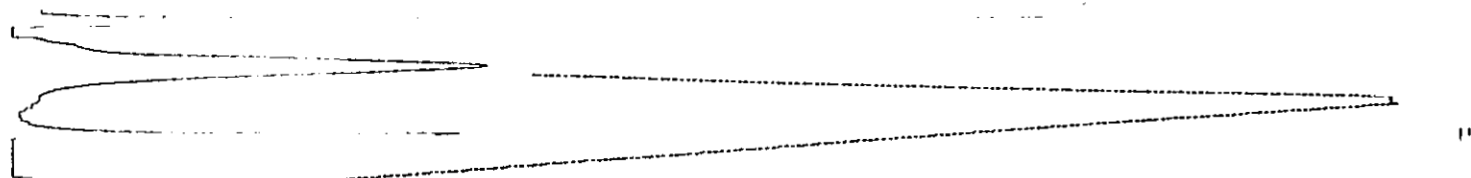
CYCLE : 1

SCALE = 1/16

DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
18:113.4	476	0.14	0.31	0.19	0.32	1.63	0.03	0.00	0	0	



22:105.8:	454:	0.47:	2.27:	0.38:	0.17:	7.56:	0.22:	0.00:	0:	0:
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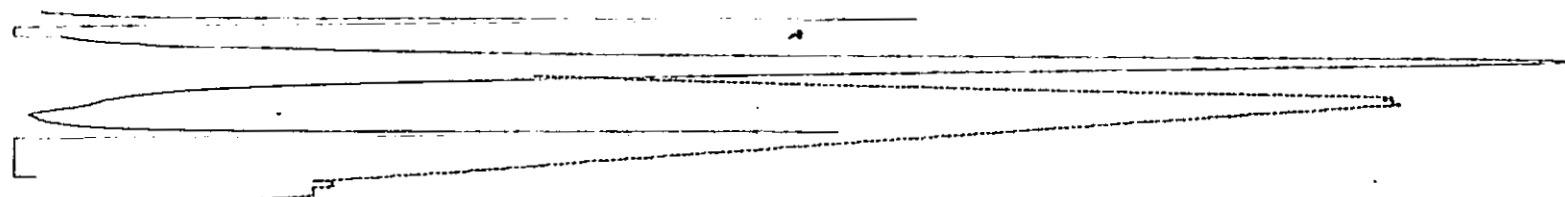
DATE: 01-21-84

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
21:	21.9:	454:	4.38:	35.75:	1.27:	0.11:	28.14:	3.34:	0.00:	0:	0:



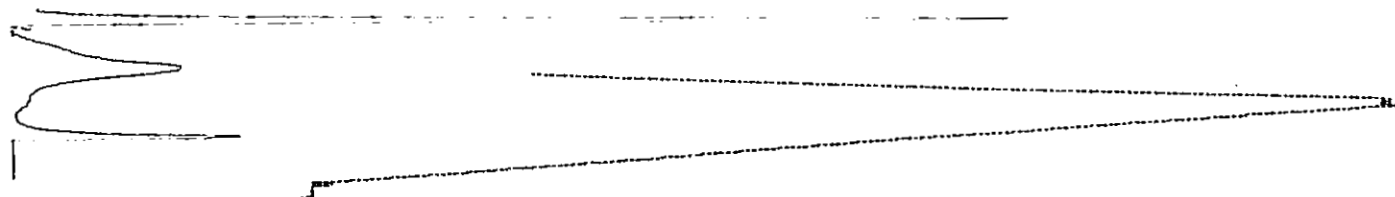
DATE: 01-21-84

ANALYSIS

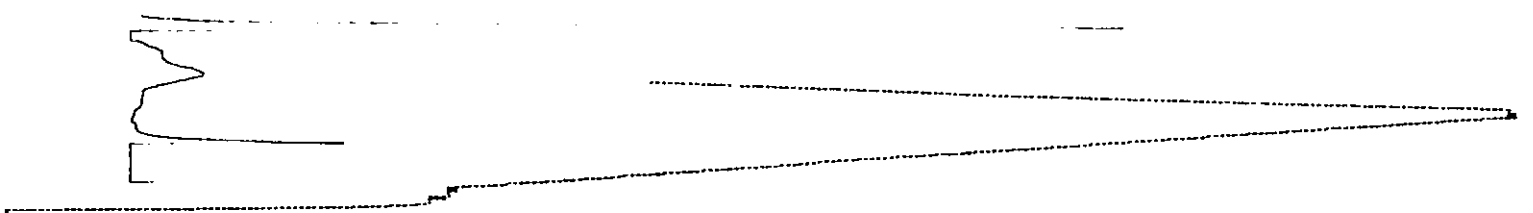
CYCLE : 1

SCALE = 1/16

DEPTH:	QTY	TMAX:	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
20:	111.4:	450:	0.26:	0.92:	0.28:	0.22:	3.28:	0.09:	0.00:	0:	0:

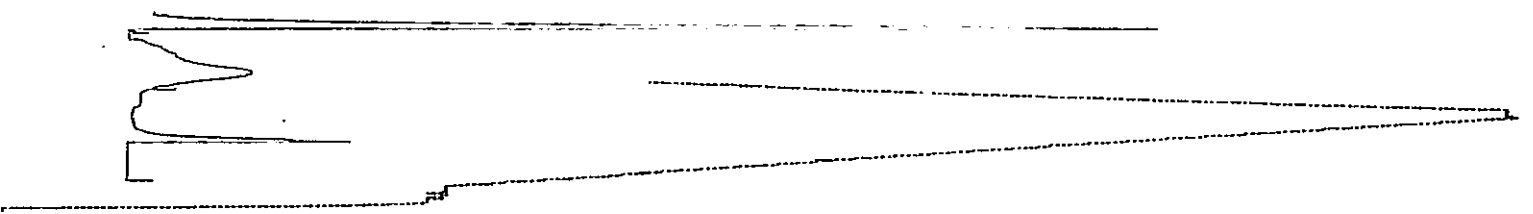


DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
24	104.1	450	0.17	0.48	0.28	0.27	1.71	0.05	0.00	0	0



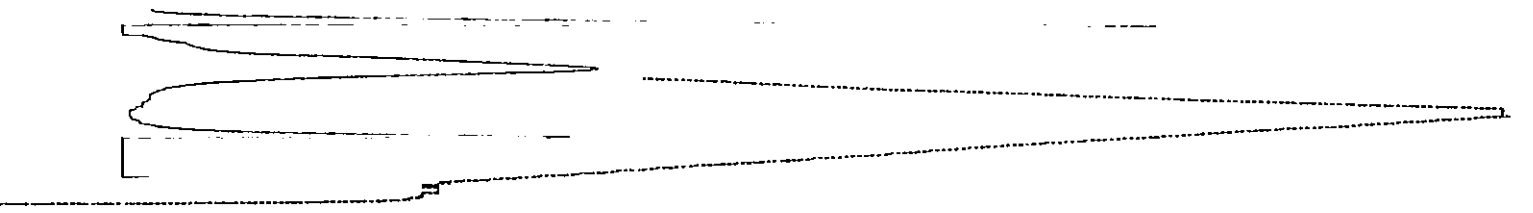
DATE: 01-21-84      ANALYSIS      CYCLE : 1      SCALE = 1/16

DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
23	111.2	448	0.19	0.68	0.29	0.22	2.34	0.07	0.00	0	0

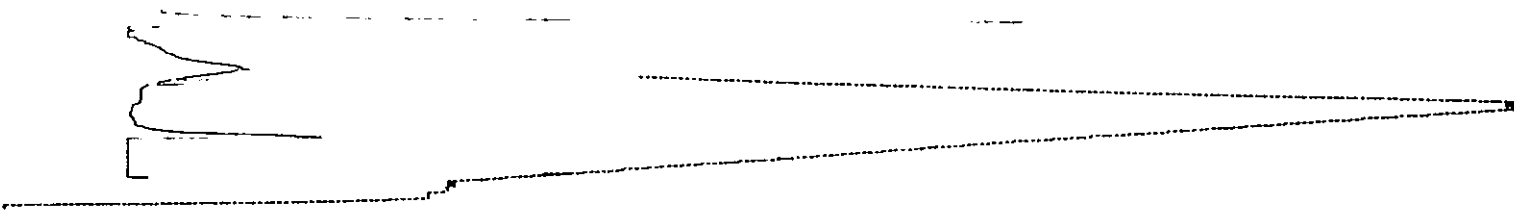


DATE: 01-21-84      ANALYSIS      CYCLE : 1      SCALE = 1/16

DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
22	105.8	454	0.47	2.27	0.30	0.17	7.56	0.22	0.00	0	0

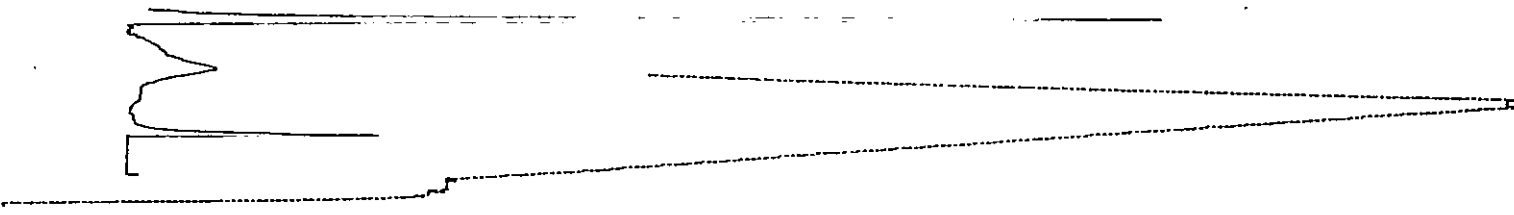


26:108.0:	451:	0.19:	0.62:	0.27:	0.24:	2.29:	0.06:	0.00:	0:	0:
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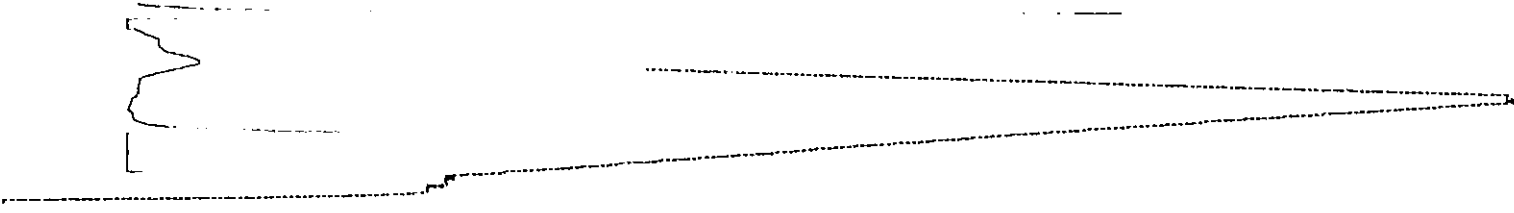
DATE: 01-21-84      ANALYSIS      CYCLE : 1      SCALE = 1/16

DEPTH:	QTY :	TMAX:	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
25:106.0:	447:	0.19:	0.53:	0.33:	0.26:	1.60:	0.06:	0.00:	0:	0:	



DATE: 01-21-84      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
24:104.1:	450:	0.17:	0.48:	0.28:	0.27:	1.71:	0.05:	0.00:	0:	0:	



DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
3	117.3	441	0.75	2.65	0.21	0.22	12.61	0.28	0.00	0	0

DATE: 01-21-84

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
26	108.8	451	0.19	0.62	0.27	0.24	2.29	0.06	0.00	0	0

DATE: 01-21-84

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
25	106.0	447	0.19	0.53	0.33	0.26	1.60	0.06	0.00	0	0

DATE: 01-21-84

ANALYSIS

84005+  
LECO STD

84005+  
LECO STD

DEPTH	QTY	TMAX	S 1	S 2	S 3	P I	S2/S3	P C	TOC	H I	O I
25	117.0	437	1.02	6.64	0.41	0.13	16.19	0.63	0.00	0	0
14	105.4	434	0.20	0.39	0.44	0.34	0.88	0.04	0.00	0	0
15	109.4	444	0.16	0.47	0.31	0.26	1.51	0.05	0.00	0	0
16	109.2	451	0.11	0.32	0.29	0.26	1.10	0.03	0.00	0	0
17	117.6	472	0.12	0.26	0.29	0.32	0.89	0.03	0.00	0	0
18	113.4	476	0.14	0.31	0.19	0.32	1.63	0.03	0.00	0	0
19	107.4	445	0.15	0.44	0.22	0.26	2.00	0.04	0.00	0	0
20	111.4	450	0.26	0.92	0.28	0.22	3.28	0.09	0.00	0	0
21	21.9	454	4.38	35.75	1.27	0.11	28.14	3.34	0.00	0	0
22	105.8	454	0.47	2.27	0.30	0.17	7.56	0.22	0.00	0	0
23	111.2	448	0.19	0.68	0.29	0.22	2.34	0.07	0.00	0	0
24	104.1	450	0.17	0.48	0.28	0.27	1.71	0.05	0.00	0	0
25	106.0	447	0.19	0.53	0.33	0.26	1.60	0.06	0.00	0	0
26	108.8	451	0.19	0.62	0.27	0.24	2.29	0.06	0.00	0	0
Sta 3	117.3	441	0.75	2.65	0.21	0.22	12.61	0.28	0.00	0	0

DATE: 01-21-84

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
3	117.3	441	0.75	2.65	0.21	0.22	12.61	0.28	0.00	0	0

DATE: 01-21-84

ANALYSIS

CYCLE : 1

SCALE = 1/16