

12.11.1011
DENVER

①

5310

83245ART0077

AMOCO PRODUCTION COMPANY
RESEARCH CENTER

SOURCE ROCK EVALUATION

Pennsylvanian Core Samples from Three Kansas Wells

Geochemistry Services Group

R. J. Harwood

Technical Service 839266CS
Requested by R. M. Lorkowski
APC (USA) DENVER SOUTHERN

R. L. Ames
by BET (9-7-83)
RRH

- Distribution:
- R. C. Brooke, Denver
 - J. S. Arbogast, Denver
 - G. W. Henderson, Denver
 - C. L. Conrad, Denver
 - R. M. Lorkowski, Denver
 - R. R. Thompson/E. R. Michaelis

11:07 THURSDAY, JULY 21, 1983

T.S. R839266 ROCKEVAL PYROLYSIS DATA

SAMPLE NO.	TOP OF ANALYZED INTERVAL	FORMATION OR AGE	TOTAL ORGANIC CARBON WT% (TOC)	PPM VOLATILE HYDROCARBONS (S1 X 1000)	VOL/ TOC	PPM GENERATED HYDROCARBONS (S2 X 1000)	GEN/ TOC	TEMP OF MAX GEN	VOL/ VOL + GEN
S-777	5241	ATOKA	0.7	10	<0.01	90	0.01		0.10
S-778	4646	MORROW	1.2	320	0.03	1460	0.12		0.18
S-779	5988	MORROW	0.4	70	0.02	420	0.10		0.14
S-780	6072	MORROW	0.3	90	0.03	380	0.13		0.19
S-781	6088	MORROW	0.3	20	0.01	100	0.03		0.17

Table 2

Proprietary - To Be Maintained In Confidence
Amoco Production Company

AMOCO PRODUCTION COMPANY
RESEARCH CENTER

OFFICE DENVER
TECHNICAL SERVICE NUMBER

DISTRICT SOUTHERN
839266

SOURCE ROCK DATA
TABLE 3.
DATE 08/31/83

SAMPLE NUMBER	FIELD NO. OR DEPTH FEET		GEOL. AGE	INSOL RESID%	TOTAL ORG C WT%	BITUMEN		SAT HC		SAT HC/BITUMEN		REMARKS
	TOP	BOTTOM				BBL/AF	PPM	BBL/AF	PPM	BITUMEN	TL ORG C	
STATE KANSAS COUNTY CHEYENNE WELL LOCATION SEC5-T2S-R40W												
WELL NAME FARMER LEASE WAGONER #1												
S-777	5241	5242	PENN	93	.7							
STATE KANSAS COUNTY FINNEY WELL LOCATION SEC31-T21S-R33W												
WELL NAME SHALLOW WATER LEASE MAUNE #4												
S-778	4646	4649	PENN	92	1.2	3	184				.02	
STATE KANSAS COUNTY COMANCHE WELL LOCATION SEC27-T33S-R19W												
WELL NAME SINCLAIR LEASE EXCHANGE BANK #1												
S-779	5988	6012	PENN	67	.4							
S-780	6072	6073	PENN	67	.3							
S-781	6088	6089	PENN	58	.3							

BBL/AF = (PPM X .0180)

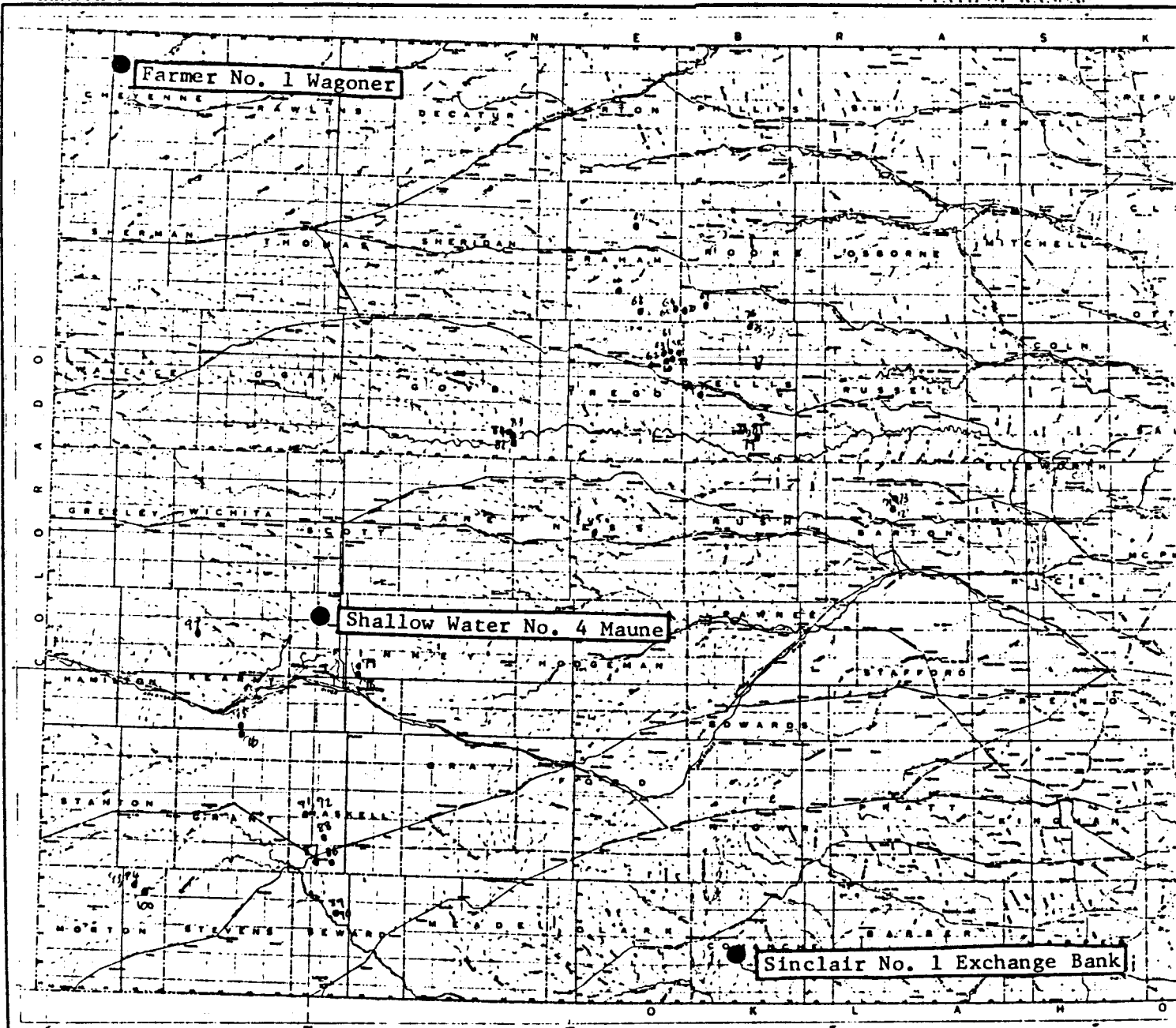
AMOCO PRODUCTION COMPANY
RESEARCH CENTER

OFFICE DENVER
TECHNICAL SERVICE NUMBER

DISTRICT SOUTHERN
839266

KEROGEN DATA
TABLE 4.
DATE 08/31/83

LAB SAMPLE NUMBER	FIELD NO. OR DEPTH FEET		GEOL. AGE	NORM. ELEMENTAL ANALYSIS, WT.				ATOMIC RATIO O/C	ATOMIC RATIO H/C	VISUAL KEROGEN TYPE	CARBNZ. SCALE	VIT REFLECT %RO
	TOP***	BOTTOM		CARBON	HYDROGEN	OXYGEN	NITROGEN					
STATE KANSAS COUNTY CHEYENNE				WELL LOCATION SEC5-T2S-R40W								
WELL NAME FARMER				LEASE WAGONER #1								
S-777	5241	5242	PENN	86	2.6	9	2.3	.07	.36	MIXED		.93
STATE KANSAS COUNTY FINNEY				WELL LOCATION SEC31-T21S-R33W								
WELL NAME SHALLOW WATER				LEASE MAUNE #4								
S-778	4646	4649	PENN	85	3.3	9	2.1	.08	.47	MIXED		.63
STATE KANSAS COUNTY COMANCHE				WELL LOCATION SEC27-T33S-R19W								
WELL NAME SINCLAIR				LEASE EXCHANGE BANK #1								
S-779	5988	6012	PENN									
S-780	6072	6073	PENN									
S-781	6088	6089	PENN									



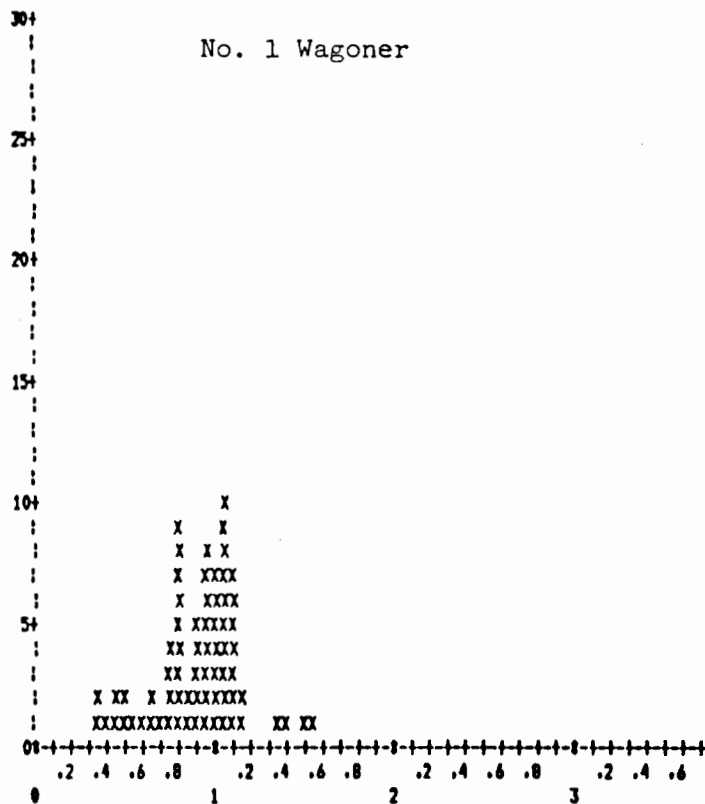
Proprietary - To Be Maintained In Confidence

American Petroleum Co.

CLIENT..... AMOCO PROD. COMPANY FILE NAME..... S-777
 DEPTH/SAMPLE NO.. 5241'-5242' TYPE OF SAMPLE..... CORE; TS-9266
 LOCATION..... UNKNOWN; PENN. SH. DATE..... 8-22-83
 ANALYST..... K. W. SCHMAB NO. OF OBSERVATIONS. 70

STANDARD IRo START: 1.02 FINISH: 1.02

REFLECTANCE DATA: MIN. 0.39 MAX. 1.59 AVG. 0.93 STD. DEV. 0.24



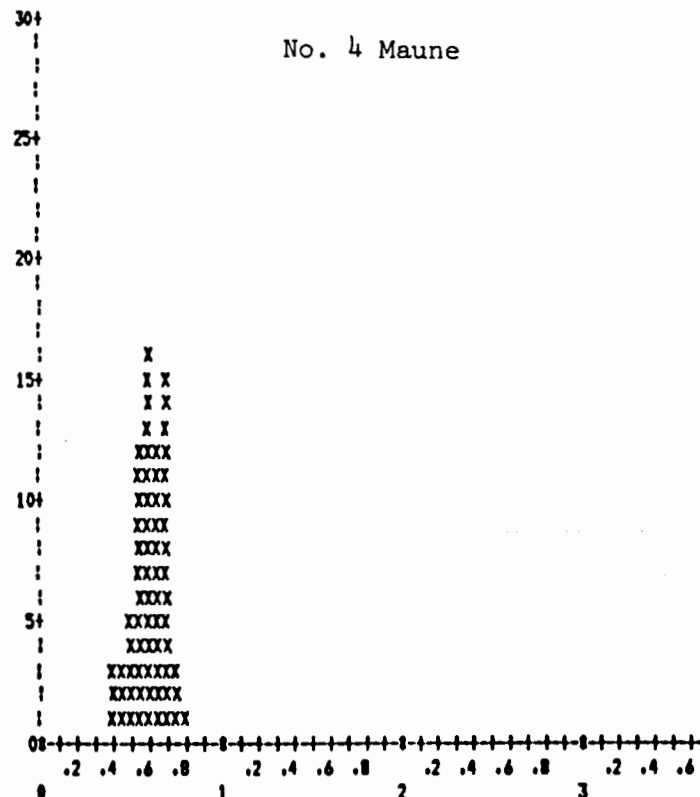
VITRINITE REFLECTANCE HISTOGRAM - IRo

POP.# 1 TOTAL CTS. 12 MIN. 0.39 MAX. 0.74 AVG. 0.54 STD. DEV. 0.12
 POP.# 2 TOTAL CTS. 54 MIN. 0.76 MAX. 1.16 AVG. 0.97 STD. DEV. 0.12
 POP.# 3 TOTAL CTS. 4 MIN. 1.37 MAX. 1.59 AVG. 1.47 STD. DEV. 0.10

CLIENT..... AMOCO PROD. COMPANY FILE NAME..... S-778
 DEPTH/SAMPLE NO.. 4646'-4649' TYPE OF SAMPLE..... CORE; TS-9266
 LOCATION..... UNKNOWN; PENN. SH. DATE..... 8-22-83
 ANALYST..... K. W. SCHMAB NO. OF OBSERVATIONS. 70

STANDARD IRo START: 1.02 FINISH: 1.02

REFLECTANCE DATA: MIN. 0.42 MAX. 0.80 AVG. 0.63 STD. DEV. 0.09



VITRINITE REFLECTANCE HISTOGRAM - IRo

POP.# 1 TOTAL CTS. 70 MIN. 0.42 MAX. 0.80 AVG. 0.63 STD. DEV. 0.09

1006C

1/10/1961

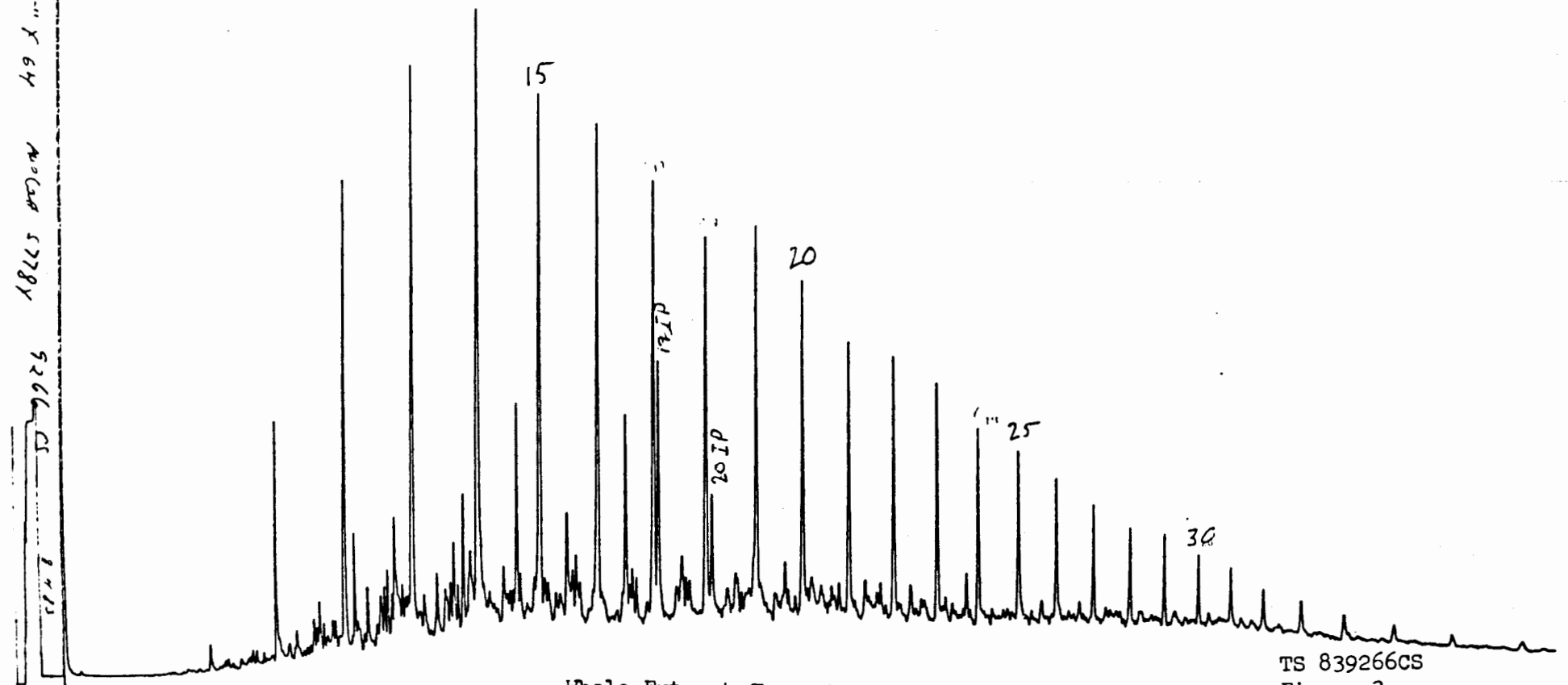
49 x .01

1865 #0004

5266

1/10/1961

S-778 No. 4 Maune



Whole Extract Chromatogram

TS 839266CS
Figure 3