

CORE ANALYSIS REPORT

FOR

PENDLETON LAND AND EXPLORATION, INC.
SCHAUF NO. 1 WELL
GRAY COUNTY, KANSAS

*Top coal
analysis log*

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
OKLAHOMA CITY, OKLAHOMA

May 23, 1979

REPLY TO
SUITE 133
400 SOUTH VERMONT
OKLAHOMA CITY, OKLA.
73108

Pendleton Land and Exploration, Inc.
1700 Security Life Building
Denver, Colorado 80202

Subject: Core Analysis Data
Schauf No. 1 Well
Gray County, Kansas
CLI File 3402-9675

Gentlemen:

Cores taken in the subject well in the Lansing-Kansas City formation were received at the Oklahoma City laboratory for special analytical testing described on the procedure page.

The accompanying Coregraph presents the Surface Core-Gamma Log and binomially averaged core analysis data in graphical form to aid correlation with downhole electrical surveys.

Tabular presentation of the measured physical properties may be found on pages one through seven of this report. Data averages reflecting zone changes are presented on page eight.

It is a pleasure to have this opportunity of serving you.

Very truly yours,

CORE LABORATORIES, INC.



J. Michael Edwards for
Dale E. Boyle
District Manager

DEB:JME:nm

5 cc - Addressee

Pendleton Land and Exploration, Inc.
Schauf No. 1 Well
CLI File 3402-9675

Procedure Page

Handling and Analytical Procedures

Diamond coring equipment and water base mud were used to obtain 4.0 inch diameter cores between 4201 and 4260, 4850 and 5080 feet.

The cores were preserved at the well site in a CO₂ atmosphere by CLI personnel.

The cores were transported to Oklahoma City by CLI personnel.

A Core-Gamma Log was recorded for downhole E-Log correlation.

Core analysis was made in the intervals requested on right cylinder full diameter samples.

Fluid removal was accomplished using vacuum retorts.

Porosity was determined by density balance method.

Air permeability in two horizontal directions--measured without Klinkenberg correction.

Cores were slabbed for future geological study.

Slab segments have been shipped to Kansas Geological Survey in Lawrence, Kansas.

Temporary storage of slabs in the Oklahoma City laboratory awaiting additional instructions.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

1

PENDLETON LAND & EXP., INC.
SCHAUF NO. 1 WELL

GRAY COUNTY, KANSAS

DATE: 4/24/79

FORMATION: LANSING-KANSAS CITY

DRLG. FLUID: WATER BASE MUD

LOCATION:

FILE NO: 3402-9675
ENGINEER: BOYLE
ELEVATION:

* INDICATES PLUG PERM

SMP. NO.	DEPTH	PERM. MAXIMUM	TO AIR 90 DEG	POROSITY PERCENT	FLUID OIL	SATS. WTR.	GR. DEN.	DESCRIPTION
WHOLE CORE ANALYSIS								
1	4201.0-02.0	568.0	477.0	21.1	10.8	40.0	2.72	SH
2	4202.0-03.0	1008.0	706.0	20.5	10.7	54.6	2.71	LM, V/VGY
3	4203.0-04.0	398.0	380.0	18.5	5.2	37.2	2.71	LM, V/VGY
4	4204.0-05.0	<0.1	<0.1	5.5	3.6	73.5	2.72	LM
5	4205.0-06.0	<0.1	<0.1	6.3	4.5	65.6	2.73	LM
6	4206.0-07.0	<0.1	<0.1	2.7	0.0	56.5	2.72	LM
7	4207.0-08.0	0.2	0.1	6.7	3.7	51.1	2.72	LM
8	4208.0-09.0	2.1	2.0	16.1	0.0	53.0	2.76	LM, SL/DOL
9	4209.0-10.0	2.9	2.8	15.8	0.0	51.3	2.75	LM, SL/DOL
10	4210.0-11.0	1.1	1.0	14.8	2.1	59.8	2.75	LM, SL/FOSS, SL/DOL
11	4211.0-12.0	0.1	<0.1	10.0	1.2	67.9	2.74	LM, SH STKS, FOSS, DOL
12	4212.0-13.0	1.3	1.2	14.1	1.4	60.0	2.74	LM, SL/FOSS, SL/DOL
13	4213.0-14.0	3.1	3.0	14.6	1.6	46.0	2.74	LM, SL/DOL
14	4214.0-15.0	6.2	1.3	15.3	0.8	65.2	2.71	LM, CHI, SL/FOSS
15	4215.0-16.0	9.6	2.1	15.7	1.2	57.7	2.72	LM, CHI
16	4216.0-17.0	22.0	18.0	15.5	1.9	51.1	2.72	LM, CHI, VE
17	4217.0-18.0	8.1	4.7	13.9	1.5	53.4	2.71	LM, CHI, VF
18	4218.0-19.0	7.8	7.8	15.1	2.3	54.1	2.72	LM, CHI
19	4219.0-20.0	2.2	2.0	12.4	2.0	61.1	2.70	LM, CHI
20	4220.0-21.0	1.7	0.7	11.1	3.4	68.4	2.72	LM, CHI, SHY
21	4221.0-22.0	0.2	0.1	4.4	3.2	69.6	2.72	LM, CHI
22	4222.0-23.0	17.0	13.0	6.4	4.8	69.4	2.70	LM, CHI, STY
23	4223.0-24.0	<0.1	<0.1	1.5	3.8	70.9	2.72	LM, SHY, CHI
24	4224.0-25.0	2.7	1.2	6.0	7.0	59.0	2.71	LM, SHY, CHI
25	4225.0-26.0	4.0	3.7	11.2	9.6	34.9	2.71	LM, SHY, CHI, VGY
	4226.0-27.0							

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FILE NO: 3402-9675
ENGINEER: BOYLE

DATE: 4/24/79
FORMATION: LANSING-KANSAS CITY

PENDLETON LAND & EXP., INC.
CHAUF NO. 1 WELL

MP. 10.	DEPTH	PERM. MAXIMUM	TO AIR MD. 90 DEG	POROSITY PERCENT	FLUID SATS, OIL WTR.	GR. DEN.	DESCRIPTION
26	4227.0-28.0	6.9	6.2	10.7	7.5	2.70	LM,SHY,CHI,STY
27	4228.0-29.0	0.2	0.1	6.6	4.6	2.71	LM,STY,SHY,CHI
28	4229.0-30.0	2.4	2.1	7.1	4.7	2.71	LM,CHI
29	4230.0-31.0	12.0	3.0	12.4	4.9	2.70	LM,CHI
30	4231.0-32.0	77.0	43.0	17.2	4.6	2.71	LM,SHY
31	4232.0-33.0	36.0	16.0	13.1	4.2	2.66	LM,CHI
32	4233.0-34.0	13.0	11.0	16.0	3.9	2.71	LM,CHI,PP VGS
33	4234.0-35.0	0.4	0.4	6.0	3.7	2.71	LM
34	4235.0-36.0	1.8	0.2	10.4	4.0	2.72	LM,CHI,SHY
35	4236.0-37.0	0.6	0.6	10.0	4.0	2.69	LM,CHI,SHY
36	4237.0-38.0	1.1	0.7	10.1	4.1	2.72	LM,CHI,SHY
37	4238.0-39.0	1.4	0.7	8.6	3.1	2.72	LM,CHI,SHY
38	4239.0-40.0	0.3	0.2	5.0	3.5	2.72	LM,CHI
39	4240.0-41.0	<0.1	<0.1	2.8	2.7	2.65	CHI,LMY
40	4241.0-42.0	0.5	0.2	5.6	0.0	2.64	CHI,LMY
	4242.0-55.0						LM,SHY
41	4255.0-56.0	1.6	1.3	6.1	0.0	2.70	LM,CHI
42	4256.0-57.0	1.7	1.1	12.7	5.5	2.70	LM
43	4257.0-58.0	0.6	0.5	11.9	5.5	2.71	LM,SH,STKS
	4258.0-59.0						LM,SHY
	4259.0-4260.0	LOST CORE					
	4260.0-4850.0	DRILLED					
	4850.0-54.0	0.1	<0.1	1.2	0.0	2.70	SH
44	4854.0-55.0	<0.1	<0.1	1.1	59.7	2.71	LM,SH STKS
45	4855.0-56.0				54.5		LM,SH STKS,PYR
	4856.0-57.0						SH
46	4857.0-58.0	0.3	0.2	3.8	0.0	2.71	LM,V/SHY
	4858.0-63.0						SH
47	4863.0-64.0	0.2	0.2	2.4	0.0	2.71	LM,V/SHY,FOSS

4800-4800
4800-4800

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PENDLETON LAND & EXP., INC.
CHAUF NO. 1 WELL

DEPTH	PERM. TO AIR MD. MAXIMUM	POROSITY PERCENT	FLUID SATS. OIL	GR. DEN.	DESCRIPTION
4864.0-70.0					SH
4870.0-71.0	1.0	2.2	0.0	2.71	LM, SHY
4871.0-72.0	3.8	7.0	0.0	2.72	LM, V/SHY
4872.0-73.0	0.5	3.5	0.0	2.71	LM, V/SHY
4873.0-74.0	1.3	4.4	0.0	2.71	LM, V/SHY
4874.0-77.0					SH
4877.0-78.0	1.4	2.7	0.0	2.71	LM, SHY, SL/SDY
4878.0-79.0	<0.1	1.2	0.0	2.70	LM
4879.0-80.0	<0.1	1.3	0.0	2.70	LM, SH STKS
4880.0-81.0	<0.1	1.6	0.0	2.71	LM, SH LAMS
4881.0-82.0	0.1	1.7	0.0	2.71	LM, SH LAMS, FOSS
4882.0-83.0	<0.1	1.1	3.6	2.70	LM
4883.0-84.0	0.7	0.7	3.2	2.70	LM, VF
4884.0-85.0	0.1	1.5	0.0	2.71	LM, SL/FOSS
4885.0-86.0	<0.1	1.0	0.0	2.70	LM, SH SIKS
4886.0-87.0	1.8	1.8	0.0	2.72	LM, V/SHY, SL/FOSS
4887.0-88.0	4.9	2.6	0.0	2.72	LM, V/SHY, SL/FOSS
4888.0-89.0	0.4	1.9	9.5	2.71	LM, VF
4889.0-90.0	0.5	2.9	4.8	2.71	LM, RP VGS, VF
4890.0-91.0	2.5	1.3	1.4	2.71	LM, CHT, VF
4891.0-92.0	<0.1	0.9	0.0	2.71	LM, VF
4892.0-93.0	0.2	1.1	0.0	2.70	LM, SH INCL
4893.0-94.0	<0.1	2.5	0.0	2.70	LM, SHY
4894.0-95.0	<0.1	1.1	0.0	2.71	LM
4895.0-99.0					SH
4899.0-54.0	<0.1	0.9	0.0	2.70	SH
4954.0-55.0	<0.1	0.9	0.0	2.70	LM, SL/PYR, VF
4955.0-56.0	4.7	2.7	0.0	2.73	LM, SHY
4956.0-57.0	<0.1	0.7	0.0	2.71	LM, SHY
4957.0-58.0	0.2	0.9	0.0	2.71	LM, SHY, SLT INCL, VF
4958.0-59.0	0.2	2.1	0.0	2.73	LM, SH LAMS
4959.0-60.0					SH

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

4

FILE NO: 3402-9675
ENGINEER: BOYLE

DATE: 4/24/79
FORMATION: LANSING-KANSAS CITY

PENDLETON LAND & EXP., INC.
SCHAUF NO. 1 WELL

SMP. NO.	DEPTH	PERM. MAXIMUM	TO AIR MD. 90 DEG	POROSITY PERCENT	FLUID OIL	SATS. WTR.	GR. DEN.	DESCRIPTION
75	4960.0-61.0	0.2	<0.1	2.5	0.0	69.7	2.69	LM, CHT INCL
76	4961.0-62.0	<0.1	<0.1	1.0	0.0	60.9	2.71	LM
77	4962.0-63.0	<0.1	<0.1	1.3	0.0	60.8	2.71	LM
78	4963.0-64.0	<0.1	<0.1	1.2	0.0	59.9	2.68	LM
79	4964.0-65.0	<0.1	<0.1	0.8	0.0	90.0	2.69	LM, SH. INCL, SLT LAMS
80	4965.0-66.0	11.0	1.8	2.8	0.0	90.8	2.70	LM, SLTY
81	4966.0-67.0	5.3	3.6	4.6	0.0	84.3	2.70	LM, SLTY
82	4967.0-68.0	6.2	5.5	8.1	0.0	84.7	2.70	LM, SLTY
83	4968.0-69.0	0.9	0.3	2.8	0.0	72.9	2.70	LM, FILLED VGS
84	4969.0-70.0	22.0	5.3	4.7	0.0	70.8	2.73	LM, SHY
85	4970.0-71.0	55.0	30.0	4.4	0.0	71.9	2.72	LM, SHY
86	4971.0-72.0	13.0	4.7	8.6	3.8	78.4	2.71	LM, SLTY, CHT INCL
87	4972.0-73.0	<0.1	<0.1	2.6	0.0	72.1	2.69	LM, SLTY
88	4973.0-74.0	<0.1	<0.1	2.9	0.0	72.8	2.70	LM, SL/SLTY
89	4974.0-75.0	1.0	0.7	4.3	0.0	78.9	2.70	LM, SLTY
90	4975.0-76.0	<0.1	<0.1	3.1	0.0	65.9	2.70	LM, SL/SLTY
91	4976.0-77.0	<0.1	<0.1	2.7	0.0	64.2	2.70	LM, SL/SLTY
92	4977.0-78.0	<0.1	<0.1	3.4	0.0	71.0	2.70	LM, SL/SLTY
93	4978.0-79.0	<0.1	<0.1	3.3	0.0	74.1	2.69	LM, SL/SLTY
94	4979.0-80.0	<0.1	<0.1	3.9	0.0	75.6	2.68	LM, SL/SLTY
95	4980.0-81.0	<0.1	<0.1	2.6	0.0	72.5	2.69	LM
4981.0-4982.0	TAKEN BY CLIENT							
96	4982.0-83.0	<0.1	<0.1	1.7	0.0	64.7	2.70	LM
97	4983.0-84.0	<0.1	<0.1	2.3	0.0	66.5	2.70	LM, SL/SLTY
98	4984.0-85.0	<0.1	<0.1	2.3	0.0	67.4	2.70	LM
99	4985.0-86.0	<0.1	<0.1	2.3	0.0	72.2	2.70	LM
4986.0-4987.0	TAKEN BY CLIENT							
100	4987.0-88.0	<0.1	<0.1	1.8	0.0	61.7	2.70	LM

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PENDLETON LAND & EXP., INC.
SCHAUF NO. 1 WELL

SMP. NO.	DEPTH	PERM. MAXIMUM	TO AIR MD. 90 DEG	POROSITY PERCENT	FLUID OIL	SATS. WTR.	GR. DEN.	DESCRIPTION
101	4988.0-89.0	<0.1	<0.1	1.8	0.0	73.7	2.70	LM
102	4989.0-90.0	<0.1	<0.1	1.1	0.0	67.6	2.68	LM
103	4990.0-91.0	0.1	<0.1	0.8	0.0	72.7	2.69	LM,VF
104	4991.0-92.0	<0.1	<0.1	1.1	0.0	67.0	2.69	LM,SH LAMS
105	4992.0-93.0	<0.1	<0.1	1.7	0.0	68.6	2.70	LM,SH LAMS
106	4993.0-94.0	<0.1	<0.1	1.1	0.0	73.2	2.69	LM,SH LAMS
107	4994.0-95.0	<0.1	<0.1	1.1	0.0	64.0	2.70	LM,SH LAMS
108	4995.0-96.0	<0.1	<0.1	1.5	0.0	62.1	2.70	LM,SH LAMS
109	4996.0-97.0	<0.1	<0.1	1.3	0.0	61.7	2.70	LM,SH LAMS
110	4997.0-98.0	<0.1	<0.1	1.8	0.0	64.6	2.70	LM,SH LAMS,VF
111	4998.0-99.0	<0.1	<0.1	2.1	0.0	66.4	2.70	LM,SH LAMS,VF
112	4999.0-00.0	<0.1	<0.1	1.9	0.0	63.4	2.70	LM,SH LAMS,VF
113	5000.0-01.0	<0.1	<0.1	2.2	0.0	64.0	2.70	LM,SH LAMS
114	5001.0-02.0	<0.1	<0.1	1.8	0.0	60.1	2.70	LM,SH LAMS,VF
115	5002.0-03.0	0.5	<0.1	1.4	0.0	59.0	2.70	LM,VF
116	5003.0-04.0	<0.1	<0.1	0.9	0.0	66.8	2.70	LM,VF
117	5004.0-05.0	<0.1	<0.1	1.1	0.0	63.4	2.69	LM,CHT,INCL
118	5005.0-06.0	0.1	<0.1	1.1	0.0	62.3	2.70	LM,SH LAMS
119	5006.0-07.0	0.2	0.1	1.4	0.0	65.9	2.70	LM,SH LAMS,VF
120	5007.0-08.0	<0.1	<0.1	1.6	0.0	68.3	2.70	LM,SH LAMS,VF
121	5008.0-09.0	<0.1	<0.1	1.4	0.0	64.5	2.68	LM
122	5009.0-10.0	<0.1	<0.1	1.4	0.0	67.0	2.68	LM
123	5010.0-11.0	<0.1	<0.1	1.4	0.0	65.6	2.69	LM,SL/SHY
124	5011.0-12.0	<0.1	<0.1	1.3	0.0	66.6	2.70	LM,SH LAMS,FILLED VF
125	5012.0-13.0	<0.1	<0.1	2.9	0.0	61.3	2.69	LM
126	5013.0-13.5	<0.1	<0.1	3.6	0.0	69.8	2.69	LM
LOST CORE								
5013.5-5014.0								
127	5014.0-15.0	<0.1	<0.1	3.4	0.0	83.7	2.70	LM
#+128	5015.0-16.0	*	0.1	9.4	0.0	78.1	2.70	SH,V/LMY
# 129	5016.0-17.0	1.0	1.0	7.3	0.0	74.7	2.70	SH,V/LMY

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

6

FILE NO: 3402-9675
ENGINEER: BOYLE

DATE: 4/24/79
FORMATION: LANSING-KANSAS CITY

PENDLETON LAND & EXP., INC.
SCHAUF NO. 1 WELL

SMP. NO.	DEPTH	PERM. MAXIMUM	TO AIR MD. 90 DEG	POROSITY PERCENT	FLUID OIL	SATS. WTR.	GR. DEN.	DESCRIPTION
130	5017.0-18.0	1.8	1.6	6.4	0.0	89.8	2.70	LM,SHY
131	5018.0-19.0	<0.1	<0.1	2.0	0.0	75.1	2.69	LM
132	5019.0-20.0	<0.1	<0.1	2.4	0.0	78.7	2.70	LM
133	5020.0-21.0	<0.1	<0.1	2.1	0.0	60.9	2.69	LM
134	5021.0-22.0	<0.1	<0.1	3.3	0.0	71.7	2.70	LM
135	5022.0-23.0	<0.1	<0.1	2.3	0.0	70.7	2.69	LM,SL/PYR
136	5023.0-24.0	<0.1	<0.1	2.9	0.0	65.8	2.69	LM
137	5024.0-25.0	<0.1	<0.1	2.7	0.0	76.3	2.70	LM,SLTY
138	5025.0-26.0	<0.1	<0.1	1.6	0.0	63.2	2.70	LM,SL/SLTY
139	5026.0-27.0	<0.1	<0.1	1.2	0.0	70.3	2.70	LM,SL/SLTY,VF
140	5027.0-28.0	<0.1	<0.1	1.6	0.0	75.0	2.70	LM,SH LAMS
141	5028.0-29.0	15.0	<0.1	1.8	0.0	64.7	2.71	LM,SLTY,SL/SHY,VF
142	5029.0-30.0	<0.1	<0.1	2.0	0.0	72.0	2.71	LM,SH LAMS
143	5030.0-31.0	<0.1	<0.1	1.7	0.0	68.3	2.70	LM
144	5031.0-32.0	<0.1	<0.1	2.3	0.0	73.3	2.71	LM,SH LAMS,PYR
145	5032.0-33.0	<0.1	<0.1	1.9	0.0	74.4	2.70	LM,SH LAMS,PYR
146	5033.0-34.0	<0.1	<0.1	2.3	0.0	68.5	2.71	LM,SH LAMS,PYR INCL
147	5034.0-35.0	<0.1	<0.1	2.0	0.0	67.7	2.70	LM,SH LAMS
148	5035.0-36.0	<0.1	<0.1	1.9	0.0	79.0	2.70	LM,SH LAMS,SL/PYR
149	5036.0-37.0	<0.1	<0.1	3.3	0.0	55.2	2.73	LM,SH LAMS,SL/PYR
150	5037.0-38.0	<0.1	<0.1	2.6	0.0	72.5	2.71	LM,SH LAMS
151	5038.0-39.0	<0.1	<0.1	1.9	0.0	73.6	2.70	LM
152	5039.0-40.0	<0.1	<0.1	1.8	0.0	65.6	2.72	LM
153	5040.0-41.0	0.2	<0.1	3.4	0.0	78.6	2.73	LM,V/SHY,SL/FOSS
154	5041.0-42.0	1.3	0.5	2.8	0.0	78.2	2.72	LM,FOSS
155	5042.0-43.0	<0.1	<0.1	1.1	0.0	74.3	2.70	LM
156	5043.0-44.0	<0.1	<0.1	2.0	0.0	66.9	2.74	LM,SH LAMS
157	5044.0-45.0	<0.1	<0.1	1.3	0.0	55.7	2.70	LM,SHY,VF
158	5045.0-46.0	1892.0	<0.1	5.8	0.0	73.3	2.73	LM,VF
159	5046.0-47.0	<0.1	<0.1	1.5	0.0	62.8	2.69	LM,OOL,VF
160	5047.0-48.0	2.0	2.0	7.7	9.8	37.9	2.69	LM,OOL
161	5048.0-49.0	0.4	0.1	6.6	10.0	43.0	2.70	LM,VF

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

7

FILE NO: 3402-9675
ENGINEER: BOYLE

DATE: 4/24/79
FORMATION: LANSING-KANSAS CITY

PENDLETON LAND & EXP., INC.
SCHAUF NO. 1 WELL

SMP. NO.	DEPTH	PERM. MAXIMUM	TO AIR MD. 90 DEG	POROSITY PERCENT	FLUID OIL	SATS. WTR.	GR. DEN.	DESCRIPTION
162	5049.0-50.0	*	2.0	4.7	9.7	58.4	2.70	LM,VF
163	5050.0-51.0	<0.1	<0.1	1.2	0.0	71.2	2.70	LM,VF
164	5051.0-52.0	<0.1	<0.1	1.0	0.0	33.3	2.70	LM,OOL,VF
165	5052.0-53.0	<0.1	<0.1	1.1	0.0	71.3	2.70	LM,SH LAMS,VF
166	5053.0-54.0	<0.1	<0.1	1.6	0.0	65.6	2.70	LM,SL/FOSS,SH LAMS
167	5054.0-55.0	<0.1	<0.1	1.2	0.0	67.7	2.70	LM,V/OOL,SH LAMS
168	5055.0-56.0	<0.1	<0.1	1.1	0.0	67.1	2.70	LM,V/OOL,SH LAMS
169	5056.0-57.0	<0.1	<0.1	1.4	0.0	57.8	2.70	LM,OOL,SH LAMS,VF
170	5057.0-58.0	<0.1	<0.1	1.6	0.0	66.2	2.71	LM,SH LAMS,OOL,VF
171	5058.0-59.0	1546.0	<0.1	1.6	0.0	62.1	2.70	LM,OOL,STY,VF
172	5059.0-60.0	287.0	<0.1	1.7	0.0	74.4	2.70	LM,SH LAMS,OOL,VF
173	5060.0-61.0	<0.1	<0.1	0.9	0.0	53.7	2.70	LM,OOL
174	5061.0-62.0	<0.1	<0.1	1.3	0.0	62.3	2.70	LM,SH LAMS,VF
175	5062.0-63.0	<0.1	<0.1	1.2	0.0	63.1	2.70	LM,OOL,SH LAMS,VF
176	5063.0-64.0	0.1	<0.1	0.8	0.0	58.7	2.70	LM,CHI INCL,STY,VF
177	5064.0-65.0	0.3	<0.1	1.0	0.0	59.1	2.69	LM,CHI INCL,STY,VF
178	5065.0-66.0	0.1	<0.1	0.8	0.0	50.5	2.69	LM,CHI INCL,STY
179	5066.0-67.0	<0.1	<0.1	0.7	0.0	39.6	2.70	LM,OOL
180	5067.0-68.0	<0.1	<0.1	1.1	0.0	51.4	2.70	LM,OOL,SH LAMS
181	5068.0-69.0	<0.1	<0.1	0.5	0.0	56.0	2.69	LM,OOL,FOSS,STY
182	5069.0-70.0	<0.1	<0.1	0.6	0.0	59.2	2.70	LM,OOL,FOSS
183	5070.0-71.0	<0.1	<0.1	0.5	0.0	67.1	2.66	LM,V/CHI,OOL
184	5071.0-72.0	<0.1	<0.1	2.1	0.0	72.1	2.70	LM,OOL,VF
185	5072.0-73.0	0.1	<0.1	6.3	3.4	77.7	2.70	LM,OOL,PP VGS,VF
186	5073.0-74.0	2.6	0.4	8.8	3.0	80.8	2.70	LM,PP VGS,VF
187	5074.0-75.0	0.1	0.1	8.7	1.7	89.3	2.70	LM,OOL,PP VGS,VF
188	5075.0-76.0	8.2	<0.1	6.2	1.8	90.8	2.70	LM,OOL,PP VGS,VF
189	5076.0-77.0	<0.1	<0.1	5.4	1.8	91.1	2.70	LM,OOL,PP VGS,VF
190	5077.0-78.0	0.4	<0.1	2.3	0.0	73.2	2.70	LM,OOL,SHY,VF
191	5078.0-79.0	<0.1	<0.1	2.9	0.0	71.8	2.70	LM,OOL,SHY
192	5079.0-80.0	<0.1	<0.1	1.5	0.0	59.8	2.70	LM,OOL

+ DENOTES HORIZONTAL CRACKS

DENOTES CHAOTIC FISSURES

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

CORE SUMMARY

Company PENDLETON LAND & EXP., INC.
Well SCHAUF NO. 1
Page 8 of 8 File 3402-9675

DEPTH FEET	HORIZONTAL PERMEABILITY, Md. MAXIMUM	POROSITY PER CENT	SATURATION		GRAIN DENSITY
			OIL	WATER	
4202.0-05.0	658	20.0	8.9	43.9	2.71
4205.0-09.0	0.1	5.3	3.0	61.7	2.72
4209.0-22.0	5.2	14.2	1.5	57.6	2.73
4222.0-26.0	5.0	4.6	4.7	67.2	2.71
4226.0-28.0	5.5	11.0	8.6	39.3	2.71
4228.0-30.0	1.3	6.9	4.7	65.3	2.71
4230.0-34.0	35	14.7	4.4	45.3	2.70
4235.0-39.0	1.2	9.8	3.8	62.8	2.71
4239.0-42.0	0.3	4.5	2.1	47.4	2.67
4256.0-58.0	1.2	12.3	5.5	52.2	2.71
4854.0-82.0	0.7	2.6	0.0	69.8	2.71
4882.0-84.0	0.4	0.9	3.4	58.0	2.70
4884.0-88.0	1.7	1.7	0.0	61.4	2.71
4888.0-91.0	1.1	2.0	5.2	56.3	2.71
4891.0-71.0	5.3	2.4	0.0	70.4	2.71
4971.0-72.0	13	8.6	3.8	78.4	2.71
4972.0-47.0	27	2.4	0.0	69.1	2.70
5047.0-50.0	1.2	6.3	9.8	46.4	2.70
5050.0-80.0	62	2.2	0.4	65.5	2.70

AMOCO PRODUCTION COMPANY
Tulsa, Oklahoma
May 22, 1984

84143ART0091

FILE: Tech. Service 845152, Locality No. 13493

SUBJECT: Conodonts from the Pendleton No. 1 Shauf, SW 1/4, SW 1/4, Sec.
16, T27S, ~~R25W~~, Gray County, Kansas

R29W

INTRODUCTION

The following samples were processed for conodonts.

FAUNA

<u>Footage</u>	<u>Spl. No.</u>	<u>Taxon No.</u>	<u>Identification</u>	<u>No. Spec.</u>
4955	1	20586	<u>Idiognathodus delicatus</u>	18
		21064	<u>Neognathodus n. sp.</u>	10
		01431	<u>Neognathodus columbiensis</u>	5
		02618	Indet. conodonts	63
4988	2	02826	<u>Cavusgnathus sp.</u>	1
		02618	Indet. conodonts	2
5027-28	3	02740	<u>Spathognathodus n. sp.</u>	1
		02618	Indet. conodonts	5
5046	4	02828	<u>Cavusgnathus unicornis</u>	3
		23088	<u>Magnilaterella robusta</u>	1
		02826	<u>Cavusgnathus sp.</u>	1
		02858	<u>Neoprioniodus sp.</u>	1
		02618	Indet. conodonts	5
5076-77	5	02827	<u>Cavusgnathus altus</u>	1
		02828	<u>Cavusgnathus unicornis</u>	2
		02741	<u>Spathognathodus cristulus</u>	1
		03093	<u>Ligonodina sp.</u>	1
		02858	<u>Neoprioniodus sp.</u>	1
		02618	Indet. conodonts	5

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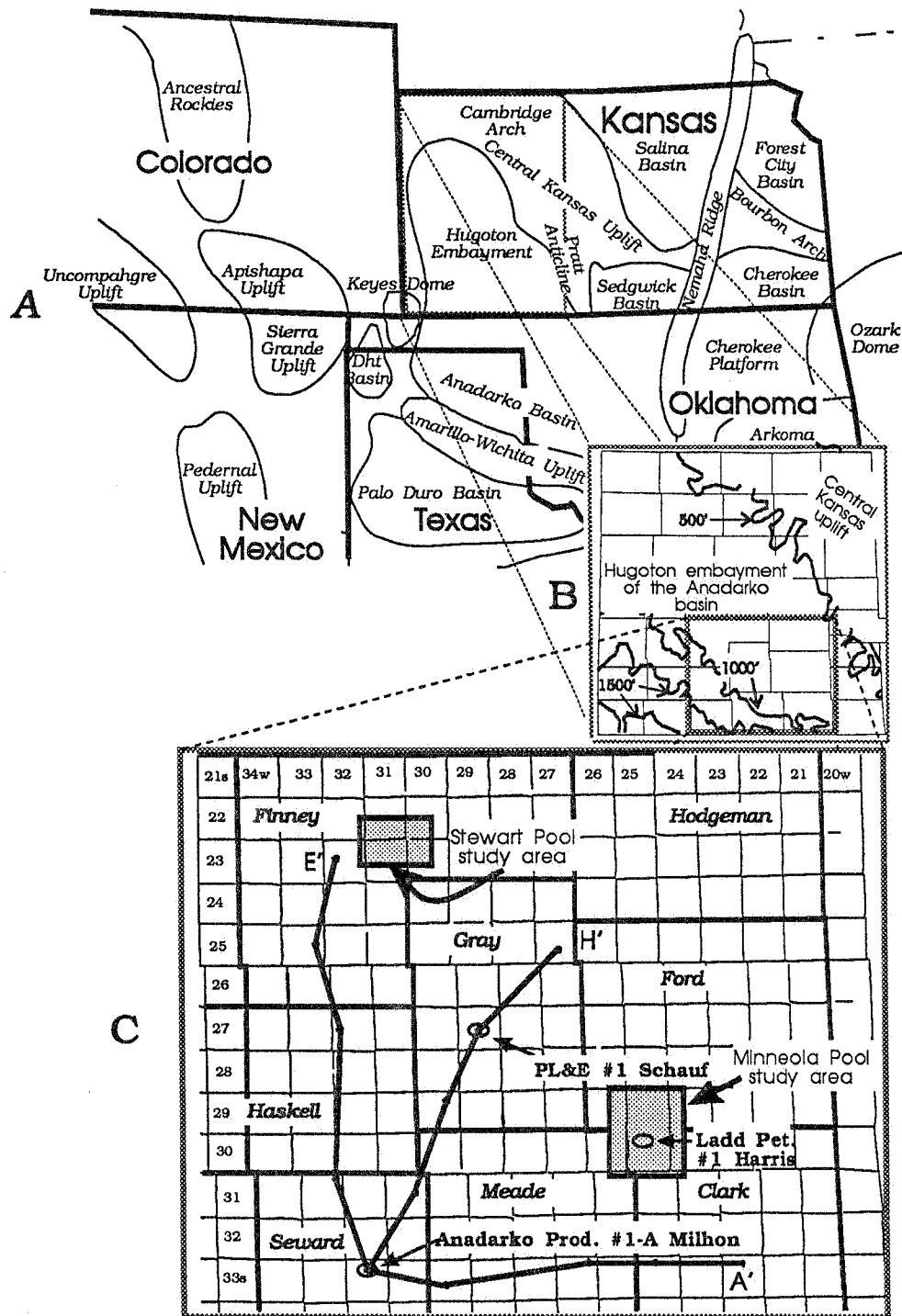


Fig. 1 A. Pennsylvanian features of the Midcontinent (modified from Moore, 1979). B. Isopach of Lansing to Mississippian (500' C.I.; modified from Merriam, 1963). C. Study area including key wells and cross sections.

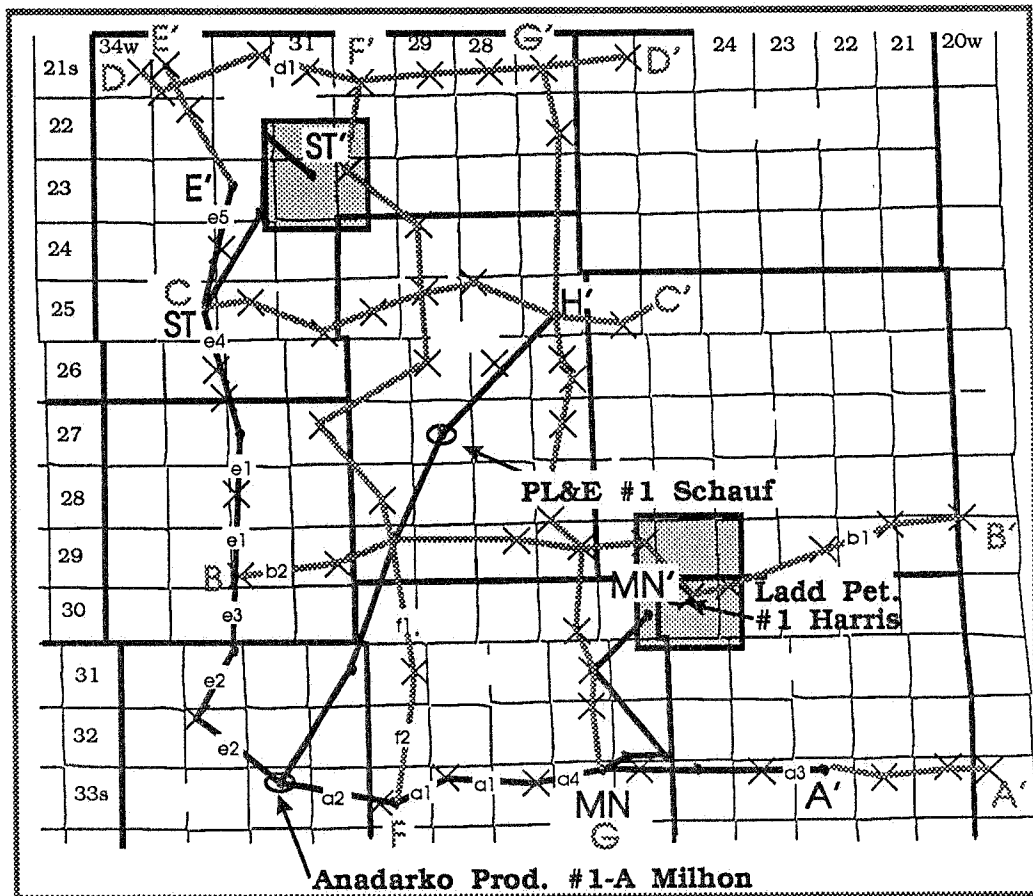


Fig. 2 Regional cross sections used in this investigation (Youle, 1992). Black dots and thicker black lines denote wells and cross-sections presented in this report. Crosses and gray lines indicate other wells and cross sections used in this investigation. Small letters with numbers indicate locations of fine-scale cross-sections (average 1 mile between wells). Light gray areas indicate field study areas.

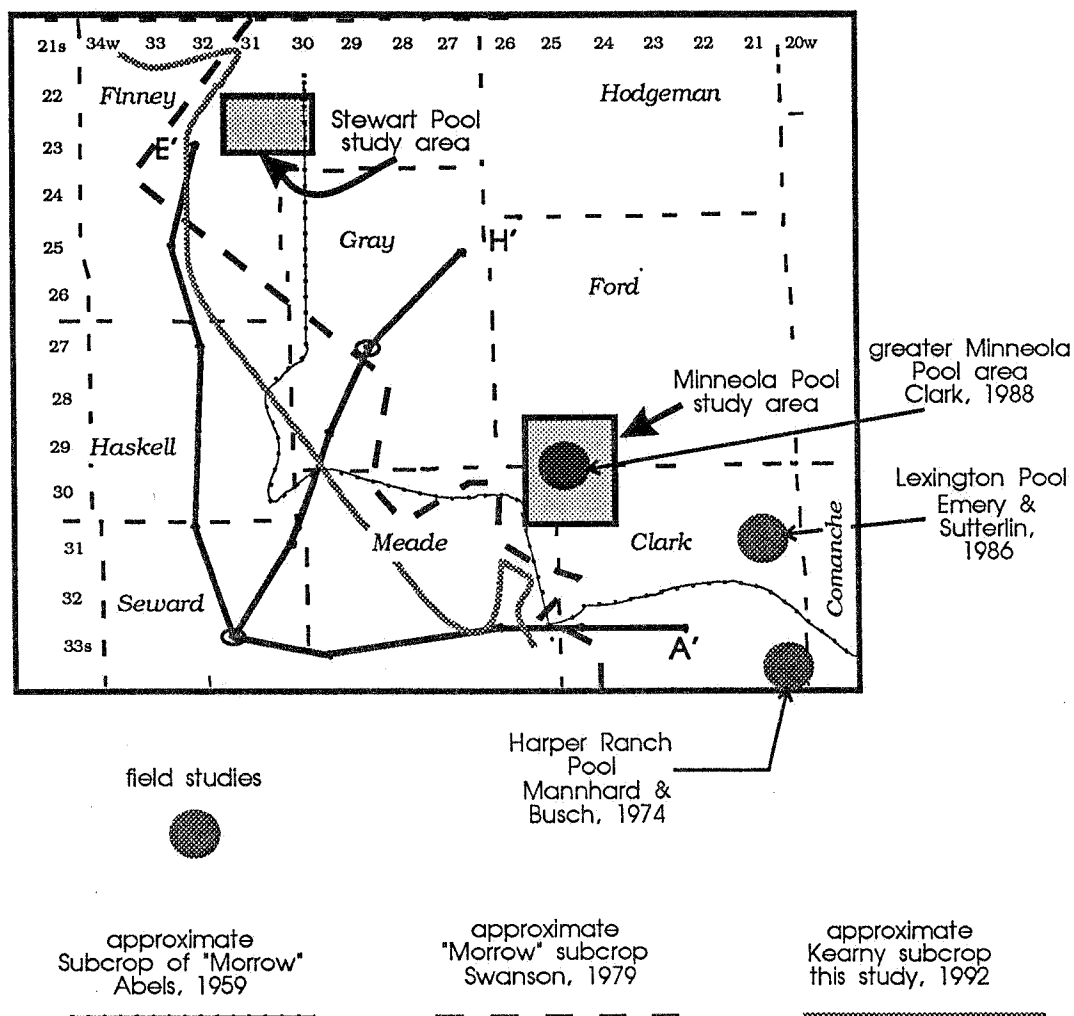


Fig. 3. Selected "Morrow" subcrops and areas of previous investigation of basal Pennsylvanian sandstones. "Morrow" or Kearny rocks are present west of the subcrop lines.

box #
2078-2985

4376
11/20/88
Crawford

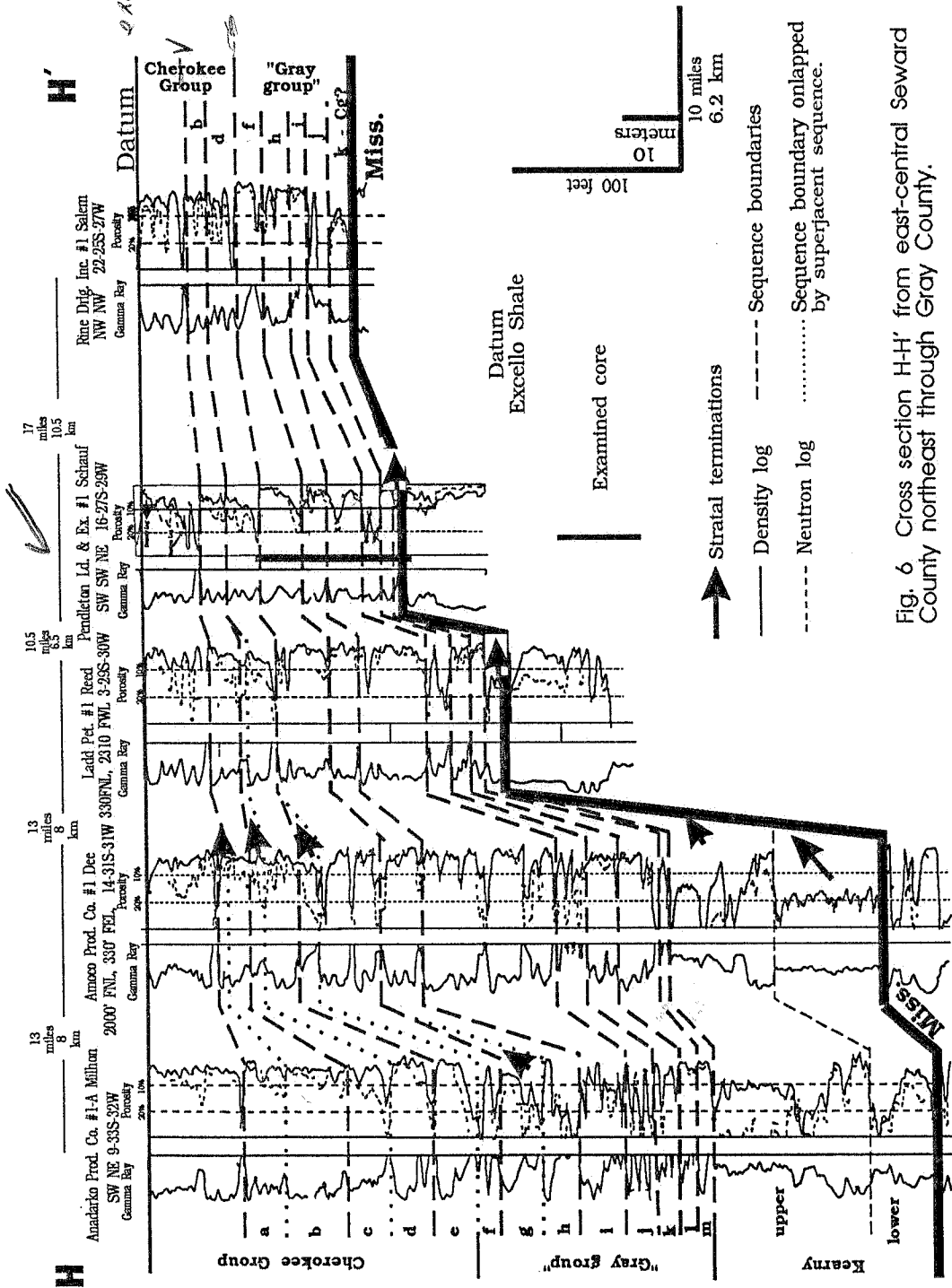


Fig. 6 Cross section H-H' from east-central Seward County northeast through Gray County.

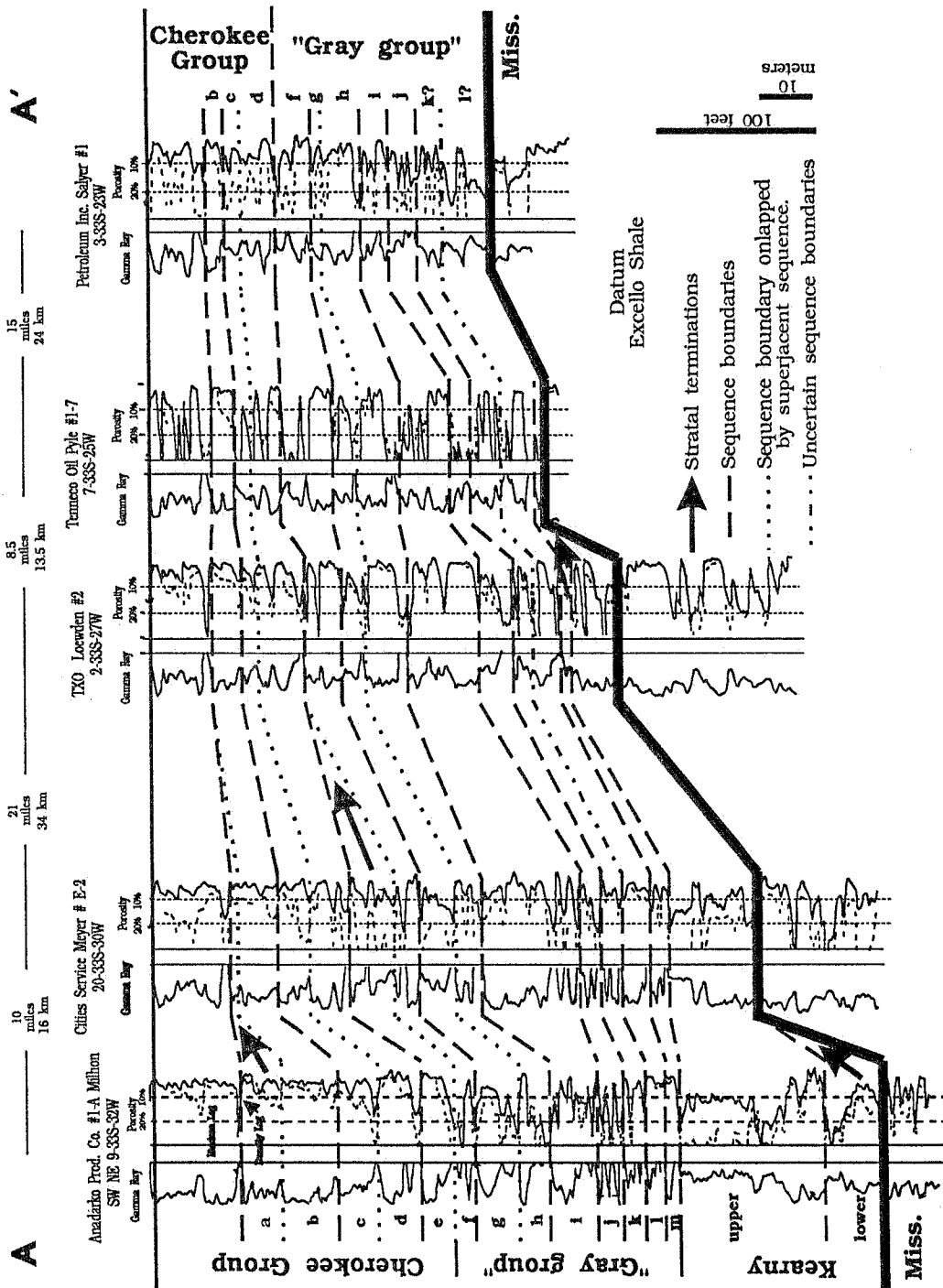


Fig. 7 Cross section A-A' from east-central Seward County east to mid-Clark County.

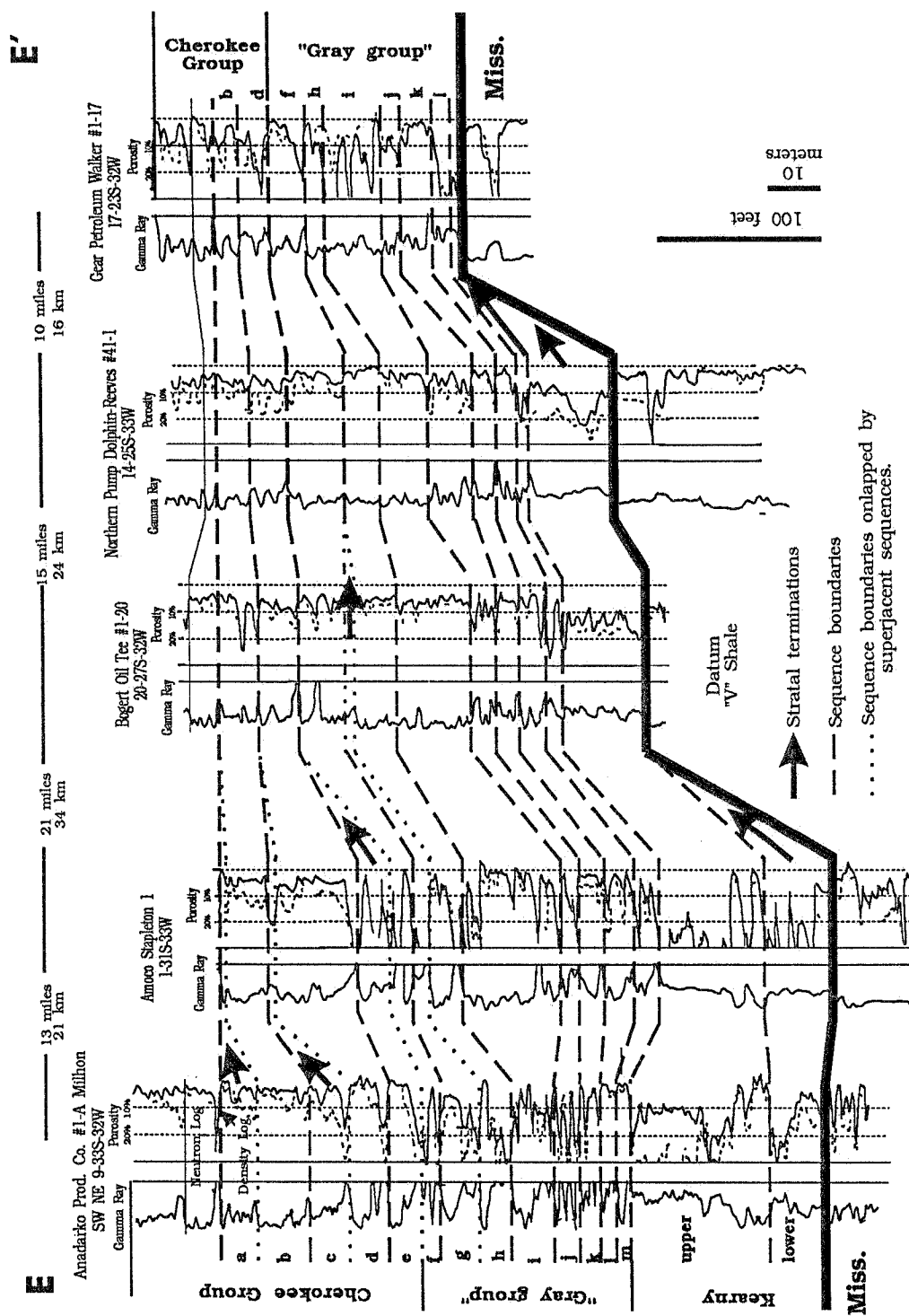


Fig. 8 Cross section E-E' from east-central Seward County north to mid-Finney County.

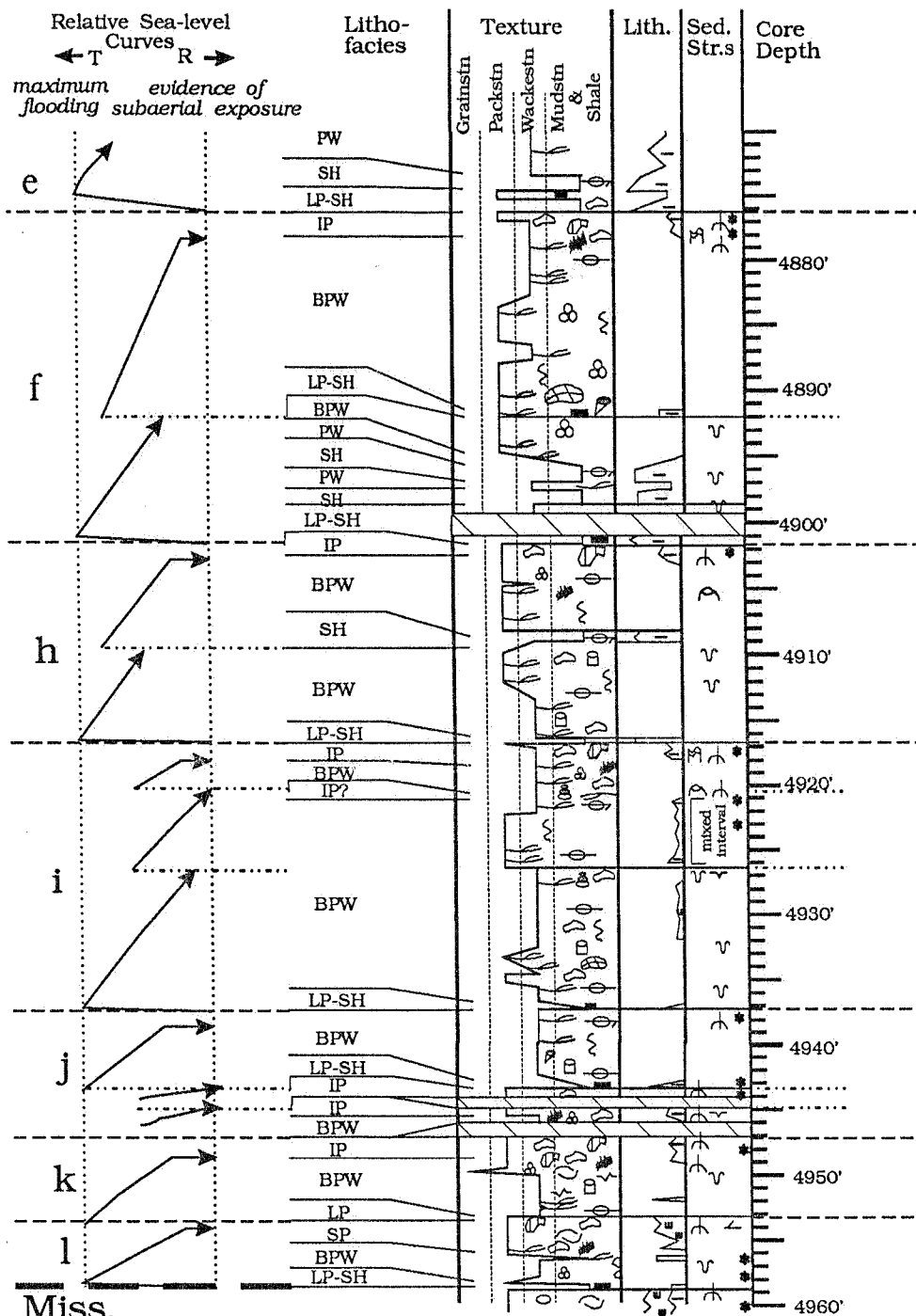


Fig 9. Core description of "Gray group" rocks in the Pendleton Ld & Ex. #1 Schaaf, sec. 16 T27S R29W, Gray Co., Kansas. Key Fig. 5.

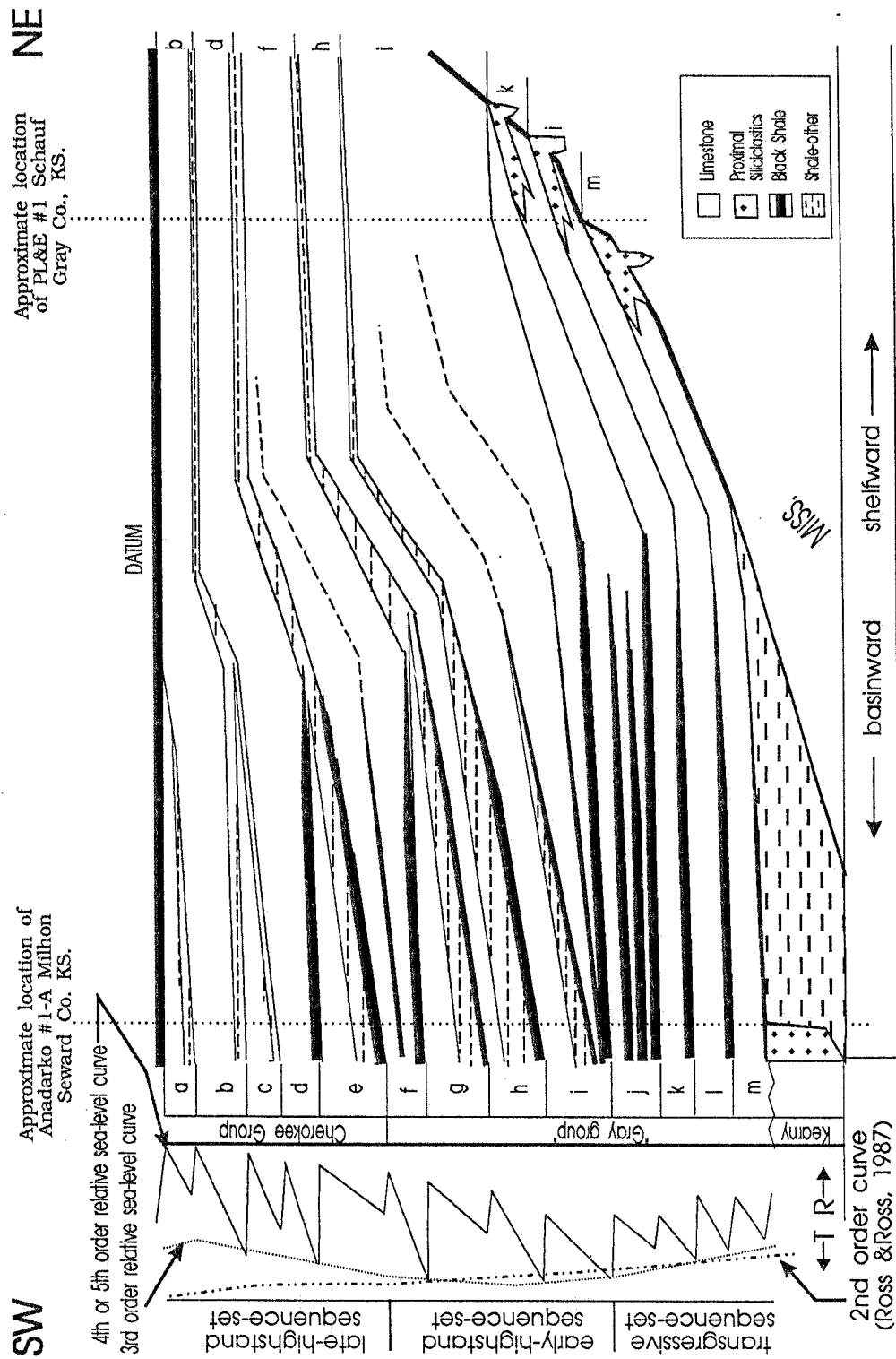


Fig. 40 Conceptual cross-section from distal Hugoton shelf northeastward through study area.

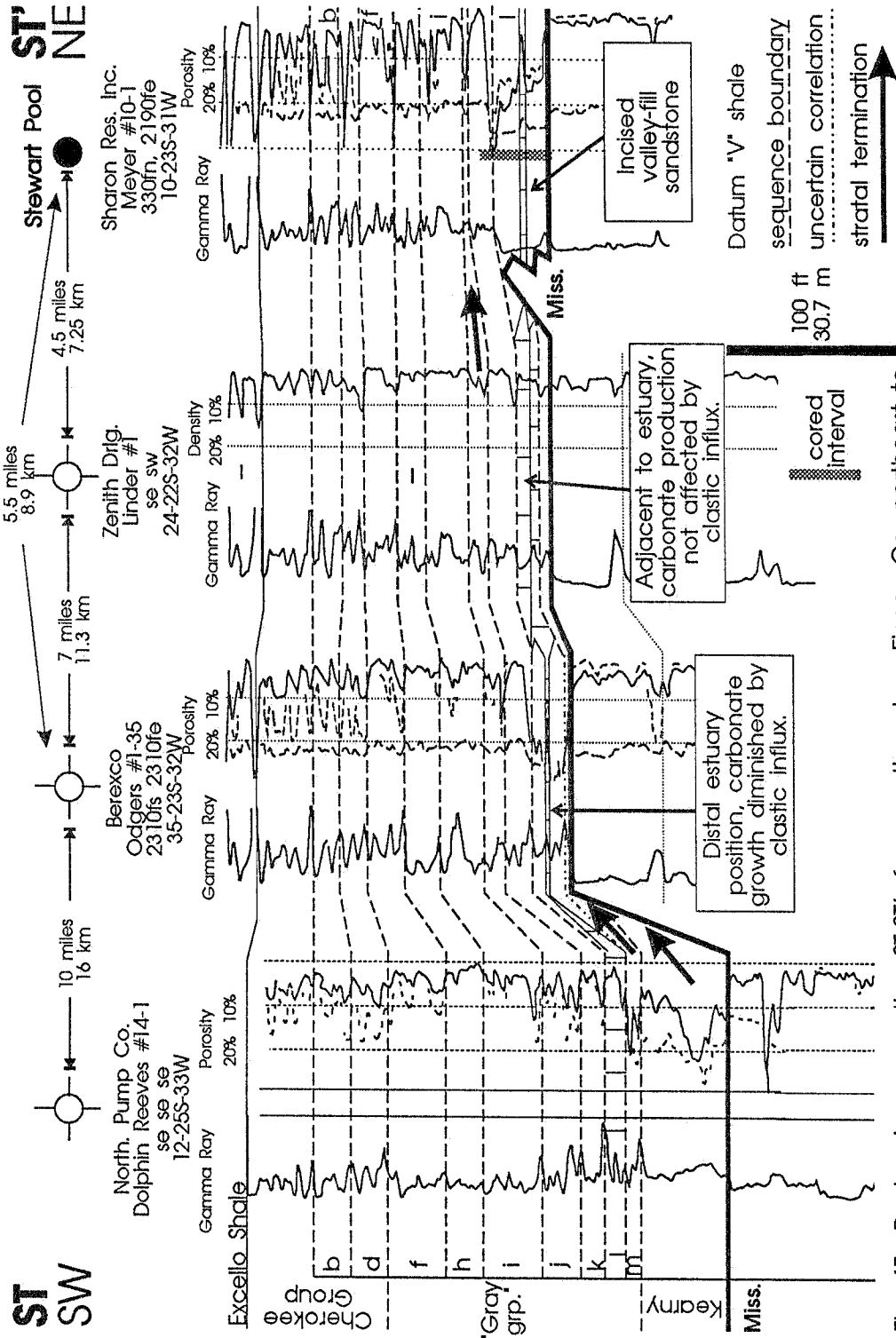


Fig. 45 Regional cross section ST-ST', from southwestern Finney Co. northeast to Stewart Pool. See Fig. 2 for location of cross section.