Cust 4/R

AMOCO PRODUCTION COMPANY
Tulsa, Oklahoma
February 22, 1983

83053ART0078

FILE: Technical Service 825370PS

TO: O. R. Hille, Denver Region

ATTN: C. W. Sawyer

SUBJECT: Calcareous Microfossil Identifications from Mississippian Core, Hugoton Embayment, Southwestern Kansas.

Attached is a list of Mississippian calcareous microfossils identified by P. L. Brenckle from nine wells in the Hugoton area. The Kansas Geological Survey supplied all the core for this study with the provision that Amoco provide microfossil identifications for any material used. The enclosed list contains identifications only of literature taxa and no confidential Amoco paleo data are included. Transmission of the identifications to the Kansas Survey would be appropriate.

ERIC R. MICHAELIS

By Charles F. Upshaw
Charles F. Upshaw

PLB:sdg
Attachment

cc: J. A. Babcock
L. C. Babcock
W. S. Davis, Denver Region
H. R. Lane
A. R. Ormiston
J. W. Parks, Denver Region
R. W. Sherwood, Denver Region

Sample (depth in ft)	Identification
4742.5	Endothyra sp., Earlandia elegans gp.
4762	indet. Aoujgaliaceae, Nodosarchaediscus sp., Eoendothyranopsis sp., Brunsia? sp., Calcisphaera sp., Diplosphaerina inaequalis, Endothyra sp., Stacheoides meandriformis, Eoendothyranopsis scitula?, Tubisalebra sp.

M. L. Brown Crist No. 3, 31-21S-33W, Finney Co.

Sample (depth in ft)	Identification
4688	Nodosarchaediscus sp., Calcisphaera sp., Diplosphaerina inaequalis.
4695.8	indet. Endothyridae, indet. Aoujgaliaceae, Nodosarchaediscus sp., Eoendothyranopsis? sp. Calcisphaera sp., Koninckopora minuta/pruvosti, Globoendothyra? sp.
4728.5	indet. Endothyridae, indet. Aoujgaliaceae, Aoujgalia richi, Eoendothyranopsis sp., Brunsia? sp., Archaediscus sp., Eoendothyranopsis scitula, Koninckopora minuta/pruvosti, Endothyra obsoleta.

M. L. Brown Crist No. 4R, 31-21S-33W, Finney Co.

Sample (depth in ft)	Identification
4650.2	Barren
4656.8	indet. Endothyridae.
4661	indet. Endothyridae, indet. Aoujgaliaceae, Nodosarchaediscus sp., Calcisphaera sp., Diplosphaerina inaequalis, Endothyra sp.
4672	indet. Endothyridae, Nodosarchaediscus sp., Eoendothyranopsis sp., Endostaffella discoidea?, calcitornellid, Stacheoides sp.
4712.5	indet. Palaeotextulariidae.
4716.9	Archaediscus sp., Endothyra sp., Koninckopora minuta/pruvosti, Globoendothyra sp.
4721	Nodosarchaediscus sp., Eoendothyranopsis sp., Planoarchaediscus sp., indet. Salebridae, Archaediscus sp., Endothyra sp., Stacheoides sp., Kon-

Sample (depth in ft)	Identification
	inckopora minuta/pruvosti, Koninckopora tenuiramosa?

Superior H. L. Tucker 68A4, 4-29S-42W, Stanton Co.

Sample (depth in ft)	Identification
5469	indet. Endothyridae.
5470	Calcisphaera laevis, indet. Endothyridae, indet. Archaediscidae.
5481	Nodosarchaediscus sp., Calcisphaera laevis, Diplosphaerina sp., indet. Aoujgaliaceae, Stacheoides meandriformis, indet. Stacheiinae?, Endothyra sp., indet. Archaediscidae.
5499	Nodosarchaediscus sp., Planoarchaediscus? sp., Aoujgalia sp., Endostaffella sp., indet. Aoujgaliaceae, Stacheoides meandriformis, Endothyra sp., Eoendothyranopsis? sp.
5505	Calcisphaera laevis, Archaediscus sp., Diplosphaerina sp., Pseudoammodiscus? sp., Endothyra bowmani gp.
5510	Diplosphaerina sp., Aoujgalia? sp., Asphaltina? cordillerensis?
5518	Calcisphaera laevis, indet. Endothyridae, Archaediscus? sp., Diplosphaerina sp., Pseudoammodiscus sp., indet. Salebridae.
5523	Nodosarchaediscus sp., Calcisphaera laevis, indet. Endothyridae, Archaediscus? sp., Pseudoammodiscus? sp., indet. Salebridae.
5541	Nodosarchaediscus sp., Calcisphaera laevis, indet. Endothyridae, Archaediscus? sp., Diplosphaerina sp., Priscella? sp.
5561	Nodosarchaediscus sp., Calcisphaera laevis, indet. Endothyridae, Archaediscus sp., Earlandia? sp., Planoarchaediscus? sp., Diplosphaerina sp., Archaediscus pauxillus.

4. M.L. Brown C NE SW 31-21S-33W

#4 R. Crist

Mississippian 4640-4681; 4710-4721

CORE REBOXED 5/82

Core Available In: 9 flat boxes Condition: Whole Core

Coverage: Incomplete

Available Footage (By Box):

Box	Interval
2700	4640-4646
2701	4646-53½
2702	4653½-59½
2703	4659½-66
2704	4666-71½
2705	4671½-77½
2706	4677½-4681
2707	4710-4715 3/4
2708	4715 3/4-4721

*NOTES: 10 Samples (for Ø, k, Srw, Sro) taken from 4640'-4681'; 5 samples taken from 4710'-4721'; samples probably account for part of missing intervals.

2699

4. M.L. Brown C NE SW 31-21S-33W

#4 R. Crist

Mississippian 4640-4681; 4710-4721

OLD BOXES

Core Available In: 16 ~~three-foot boxes~~ Condition: Whole Core

Coverage: Incomplete

Available Footage (By Box):

2700	1	4640-43		2707	8	4710-13	
		4643-46				4713-16	
2701	2	4646-50	Incomplete	2708	9	4716-21	Incomplete
		4650-53½	Incomplete				
2702	3	4653½-56½					
		4656½-59½	Box Dropped, Pieces Scrambled				
2703	4	4659½-62½					
		4662½-66	Incomplete				
2704	5	4666-69					
		4669-72					
2705	6	4672-75					
		4675-78					
2706	7	4678-81					

1 2700
2 2701
3 2702
4 2703
5 2704
6 2705
7 2706
8 2707
9 2708

NOTES: 10 samples (for Ø, k, Srw, Sro) taken from 4640'-4681'; 5 samples taken from 4710'-4721'; samples probably account for part of missing intervals.

M.L. Brown II-1 Crist

Annotations recs.
4-19-83
Al. Zeller

31 21S 33W

4650.3- Sand bed, finer sand than below

Lanes?

4656.8- Sand bed. A few scattered fossils among them.

4661.- Sand bed with stringer of fossil material in it.

4672- Fossilif - bad shape - recrystallized

4675- Frag. fossils, oolites recrystall. all badly altered
Cannot identify plectogyrids.

4710.- Sand bed

4712.5- Fossil "hash". Just macerated, recrystallized poor preservation,
few but large E. spms.? and lge. archaediscids.

4716.9- oolites. All recrystallized. Some silicification Oil stain?

4718- Oolitic bed, some Ps centers, pressure solution

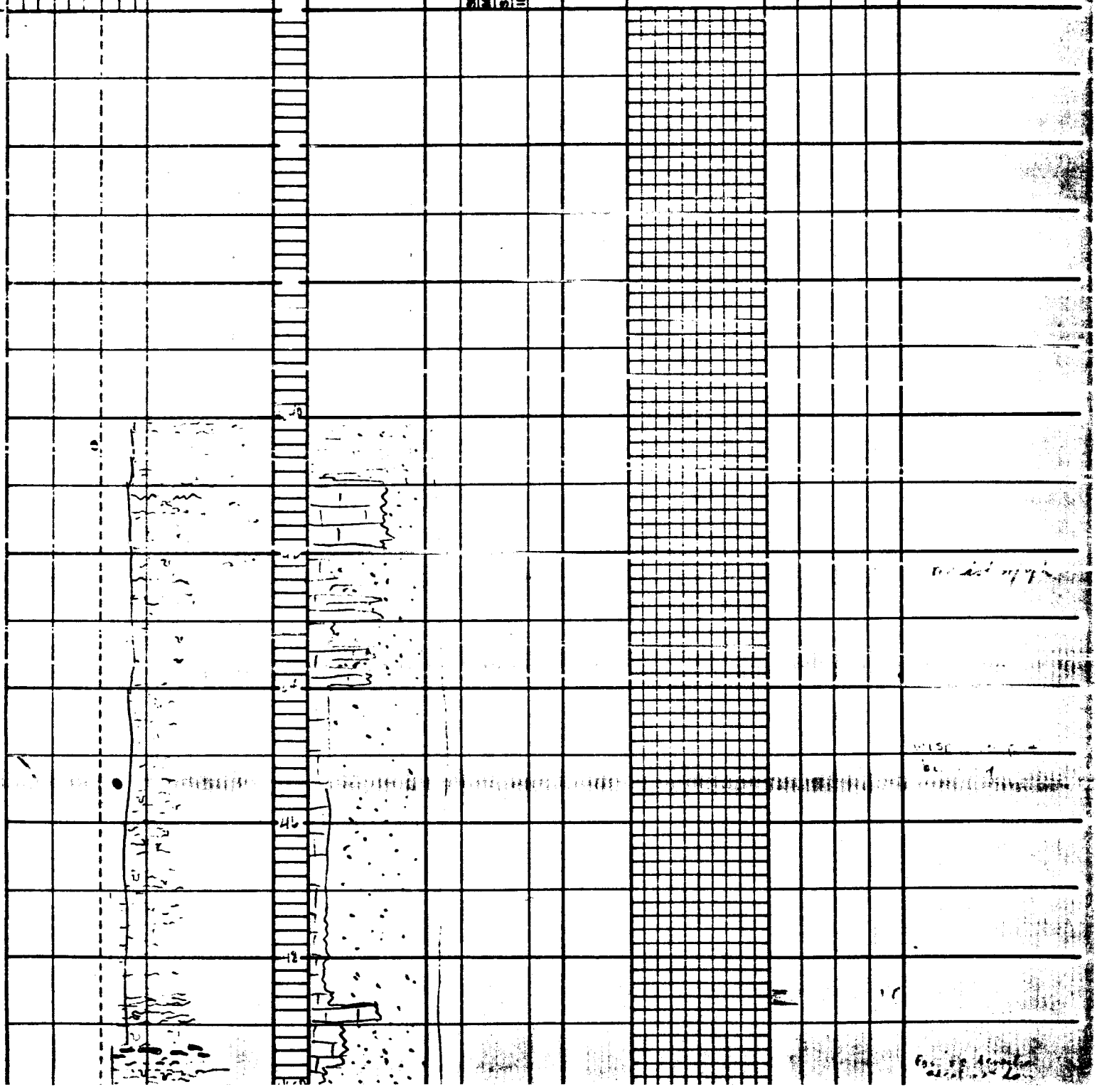
4721- Frag. fossilif., well sorted, some oolites chesterian P.
E. symmetrica(?)

M. L. Brown

MEASURED SECTION NO. #4 R Crist
LOCALITY S.31 T21S R33W
SETTING Kansas, Finney Co
Sec. 31 – 21S–33W

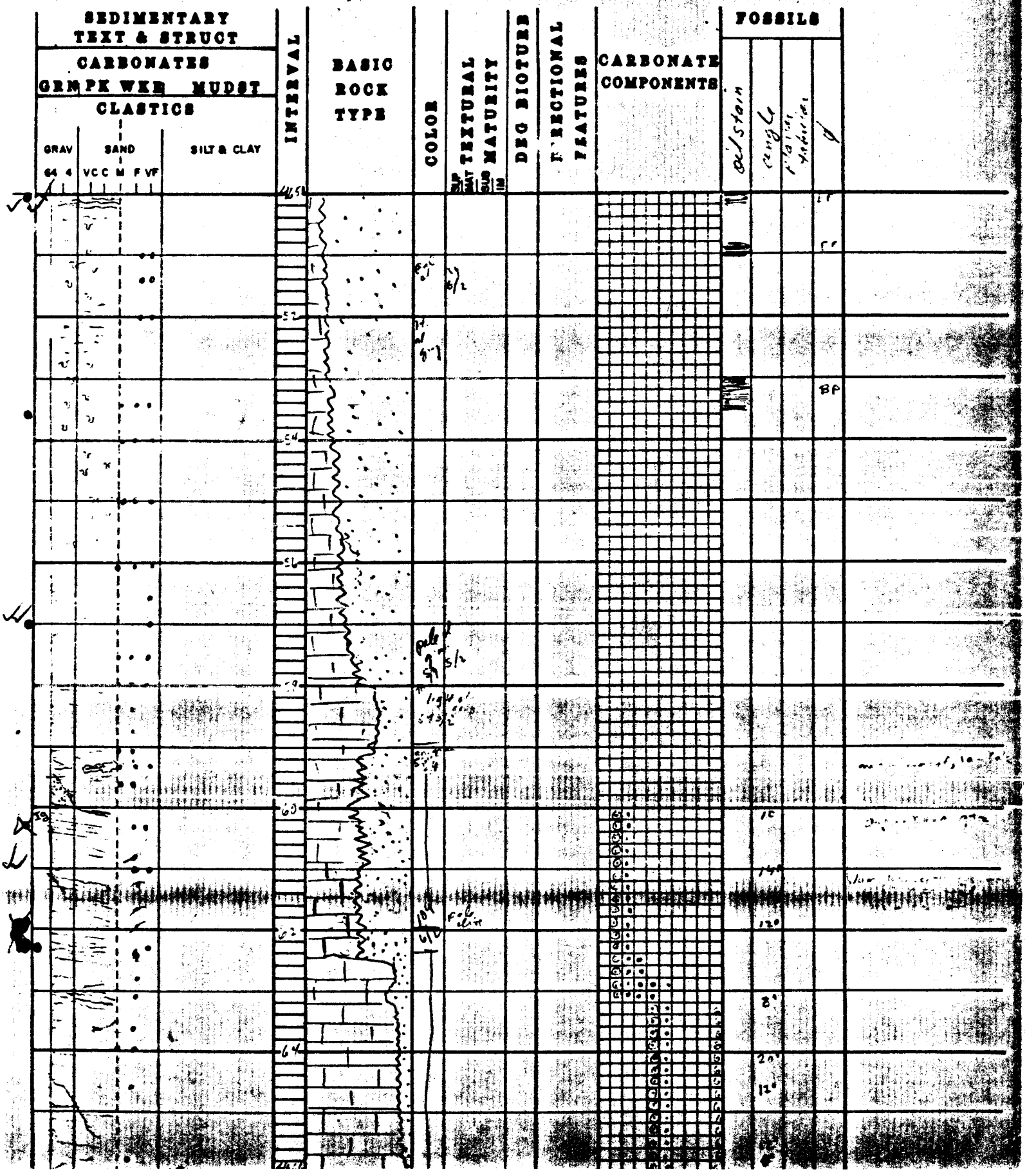
DATE 9-10-82
STRATIGRAPHIC UNIT Miss.
MEASURED BY M. Brown

SEDIMENTARY TEXT & STRUCT	INTERVAL	BASIC ROCK TYPE	COLOR	TEXTURAL MATURITY	DEG BIOTURB	DIRECTIONAL FEATURES	CARBONATE COMPONENTS	FOSSILS
CARBONATES: GRNPK WKST MUDST CLASTICS: GRAV 64 4 | SAND VC C M F VF | SILT & CLAY				SLP CONT SUB MAT				



MEASURED SECTION NO. M.L. Brown #4 R. Crist
LOCALITY S. 31, T 21S, R 33W
SETTING Kansas, Finney Co.

DATE 7-13-82
STRATIGRAPHIC UNIT Lans.
MEASURED BY [illegible]



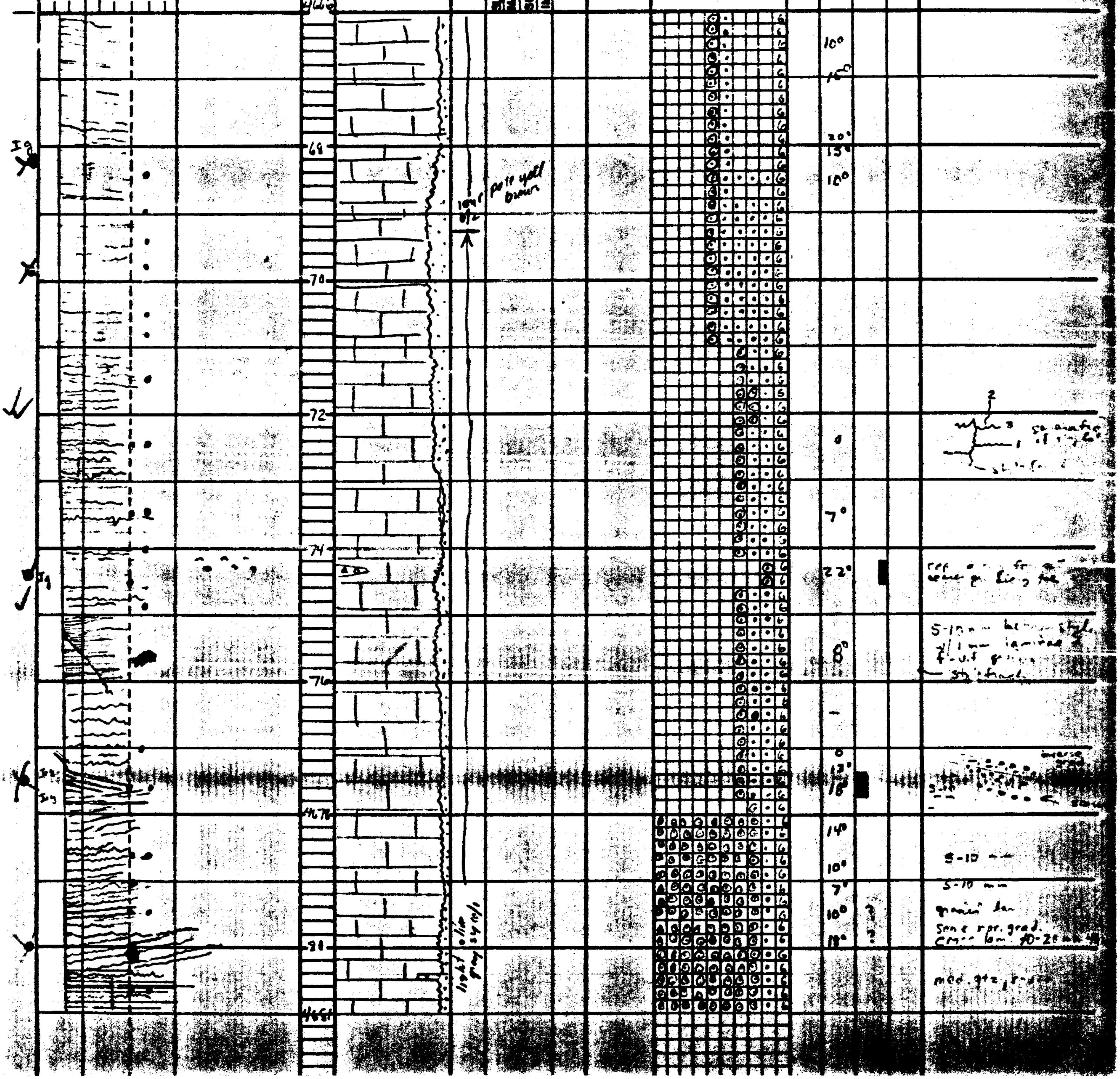
M. L. Brown

MEASURED SECTION NO. #4 R-Crist **DATE** 9-9-82

LOCALITY S.31, T21S, R33W **STRATIGRAPHIC UNIT** Miss.

SETTING Kansas, Finney Co. **MEASURED BY** Ha.lford

SEDIMENTARY TEXT & STRUCT — CARBONATES (GRN PK WKR MUDST) — CLASTICS (GRAV 64 4; SAND VC C M F VF; SILT & CLAY)	INTERVAL	BASIC ROCK TYPE	COLOR	TEXTURAL MATURITY	DEG BIOTURB	DIRECTIONAL FEATURES	CARBONATE COMPONENTS	FOSSILS: Oil stain	angle	planar	tang	ø

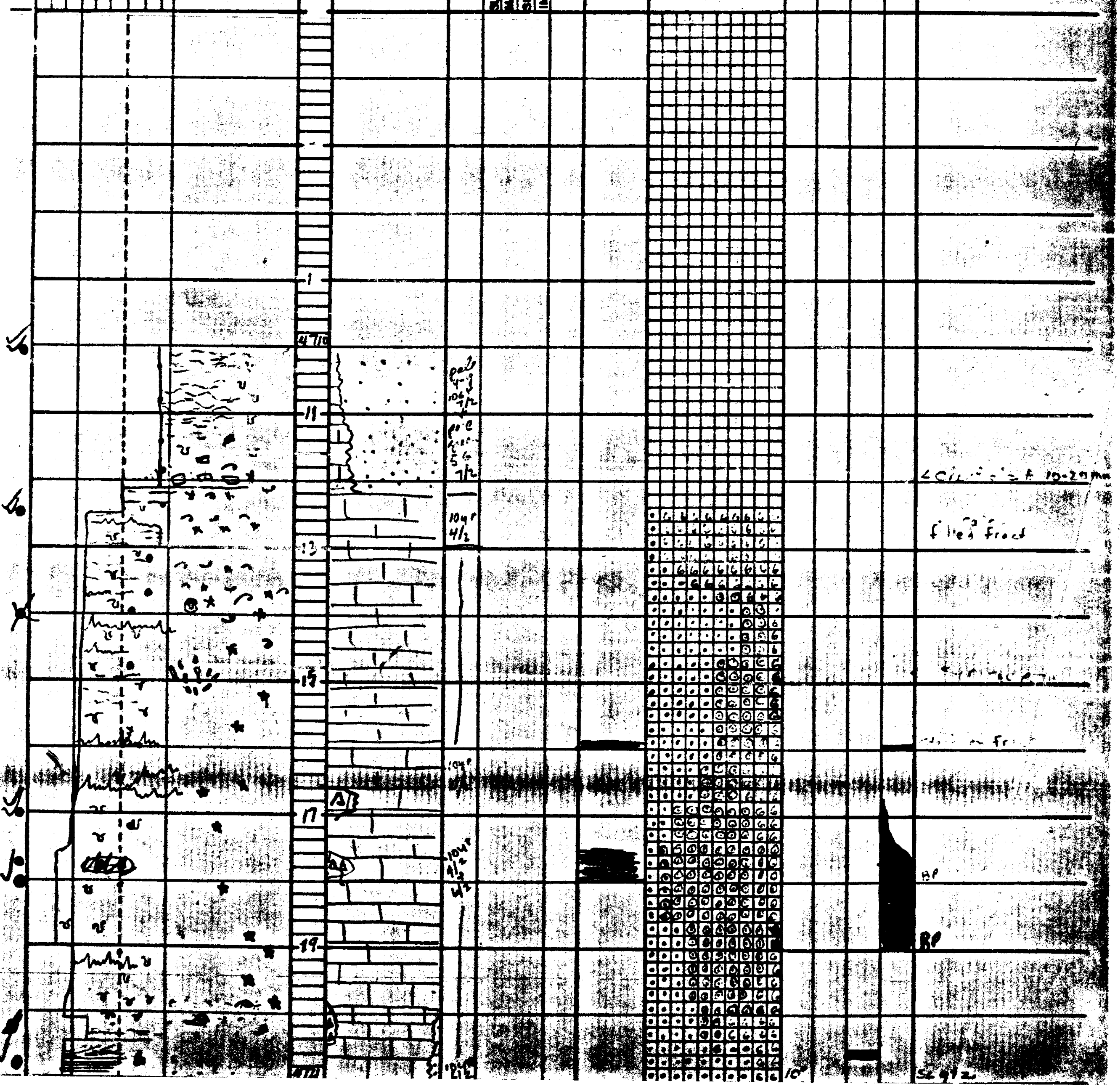


M. L. Brown

MEASURED SECTION NO [illegible]
LOCALITY [illegible]
SETTING *Kansas, Finney Co.*

DATE *9-9-82*
STRATIGRAPHIC UNIT *Miss.*
MEASURED BY *Harafeie*

SEDIMENTARY TEXT & STRUCT — CARBONATES: GRN PK WKR MUDST; CLASTICS: GRAV (64 4), SAND (VC C M F VF), SILT & CLAY	INTERVAL	BASIC ROCK TYPE	COLOR	TEXTURAL MATURITY (SUP MAT, SUB, IM)	DEG BIOTURB	DEPOSITIONAL FEATURES	CARBONATE COMPONENTS	FOSSILS: Angle	planar	Tangential	∅	



CORE LABORATORIES, INC. *Petroleum Reservoir Engineering*

COMPANY AMOCO PRODUCTION COMPANY — FILE NO. RP-2-6923

WELL CRIST NO. 4 — DATE 8-2-82

FIELD ____ FORMATION ____ ELEV. ____

COUNTY ____ STATE ____ DRLG. FLD. ____ CORES ____

LOCATION ____

CORRELATION COREGRAPH

VERTICAL SCALE: 5" = 100'

Gamma Ray
RADIATION INCREASE →

Permeability ____
MILLIDARCIES
100 10 1.0 .1

Depth Feet

Porosity ____
PERCENT
30 20 10 0

Total Water ____
PERCENT PORE SPACE
100 80 60 40 20 0

Oil Saturation
PERCENT PORE SPACE
0 20 40 60 80 100

4640
4650
4681
4711
4722

CORE LABORATORIES, INC. *Petroleum Reservoir Engineering*

COMPANY AMOCO PRODUCTION COMPANY FILE NO. RP-2-6923

WELL CRIST NO. 4 DATE 8-2-82

FIELD _____ FORMATION _____ ELEV. _____

COUNTY _____ STATE _____ DRLG. FLD. _____ CORES _____

LOCATION _____

CORRELATION COREGRAPH

VERTICAL SCALE: 5" = 100'

Gamma Ray
RADIATION INCREASE →

Permeability
MILLIDARCIES
100 10 1.0 .1

Depth Feet

Porosity
PERCENT
30 20 10 0

Total Water
PERCENT PORE SPACE
100 80 60 40 20 0

Oil Saturation
PERCENT PORE SPACE
0 20 40 60 80 100

4640
4650
4681
4711
4722