

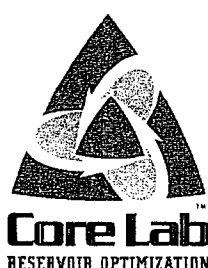
SEQUENCE STRATIGRAPHY AND PETROPHYSICAL STUDY OF THE MORROW SANDSTONES DELAWARE BASIN

FINAL REPORT

Volume 1

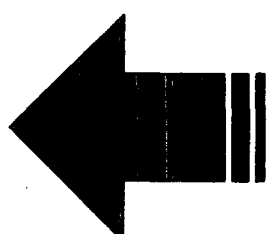
Text

***Prepared by
Integrated Reservoir Solutions***



October, 2004

Samson Cross-Ex. 1



**Landscape Feed
New Form Follows...**

TABLE 4-1
PETROGRAPHIC POINT COUNT SUMMARY
MORROW SANDSTONES
 (% Bulk Volume for 250 points)

FRAMEWORK GRAINS

	Qtz	PL	KF	SRF	MRF	URF	PRF	PG	CG	Ct	Mc	Oo/ Ff	Gl	HM/ OP	Ot
Min:	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max:	86.0	8.4	1.2	4.4	1.2	2.8	1.2	0.8	4.0	3.6	3.2	6.8	5.2	2.4	0.0
Ave:	70.9	1.5	0.1	0.2	0.2	0.3	0.1	0.0	0.1	0.1	0.4	0.2	0.1	0.3	0.0

PORE-FILLING CONSTITUENTS

	Mc	QO	Dol	Cal	Sid	UC	Chl	Kao	Py	FO	Bar
Min:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max:	16.0	27.2	24.4	32.0	10.8	13.6	4.0	8.8	4.8	0.8	0.4
Ave:	0.2	10.2	2.2	0.7	0.5	1.9	0.2	1.4	0.6	0.0	0.0

GRAIN REPLACEMENTS

	Dol	Cal	Kao	Alb	Py	Cl
Min:	0.0	0.0	0.0	0.0	0.0	0.0
Max:	17.6	15.2	6.4	0.4	2.0	4.4
Ave:	2.6	0.4	1.2	0.0	0.1	0.1

	Avg. Size (μ)	Sorting
Min:	LVF (63)	V. Well
Max:	UVC (1920)	V. Poor
Ave:	LC (695)	Poor

VISIBLE PORE TYPES

	IG	LG	Ratio of LG to IG
Min:	0.0	0.0	0.1
Max:	10.0	17.2	37.0
Ave:	2.2	3.2	3.5

	IGV	COPL
Min:	4.8	2.6
Max:	32.4	27.4
Ave:	18.7	17.3

KEY:

Qtz = Quartz

PL = Plagioclase

KF = K-Feldspar

SRF = Sedimentary Rock Fragments

MRF = Metamorphic Rock Fragments

URF = Unidentified Rock Fragments

PRF = Plutonic Rock Fragments

PG = Phosphatic Grains

CG = Carbonate Grains

Ct = Chert

Mc = Mica

Oo/ Ff = Ooids and Fossil Fragments

Gl = Glauconite

HM/ OP = Heavy and Opaque Minerals

Ot = Other

Mc = Matrix Clay

QO = Quartz Overgrowths

Dol = Dolomite

Cal = Calcite

Sid = Siderite

UC = Undifferentiated Clay

Chl = Chlorite

Kao = Kaolinite

Py = Pyrite

FO = Feldspar Overgrowths

Bar = Barite

Alb = Albite

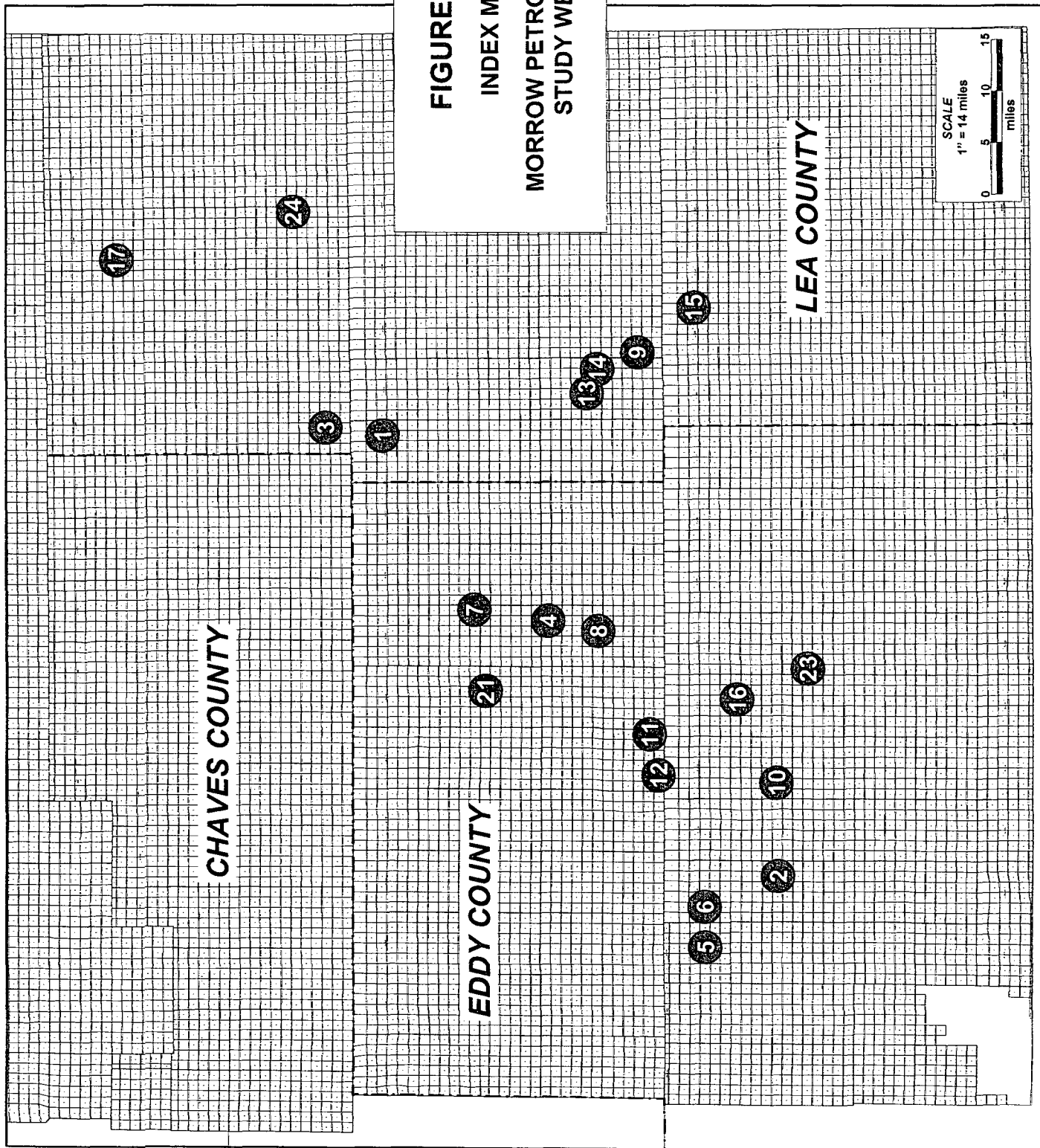
Cl = Clay

IG = Intergranular

LG = Leached Grain

IGV = Intergranular Volume (cement+
intergranular porosity)

COPL = Compactional Porosity Loss



Samson Cross-Ex. 2