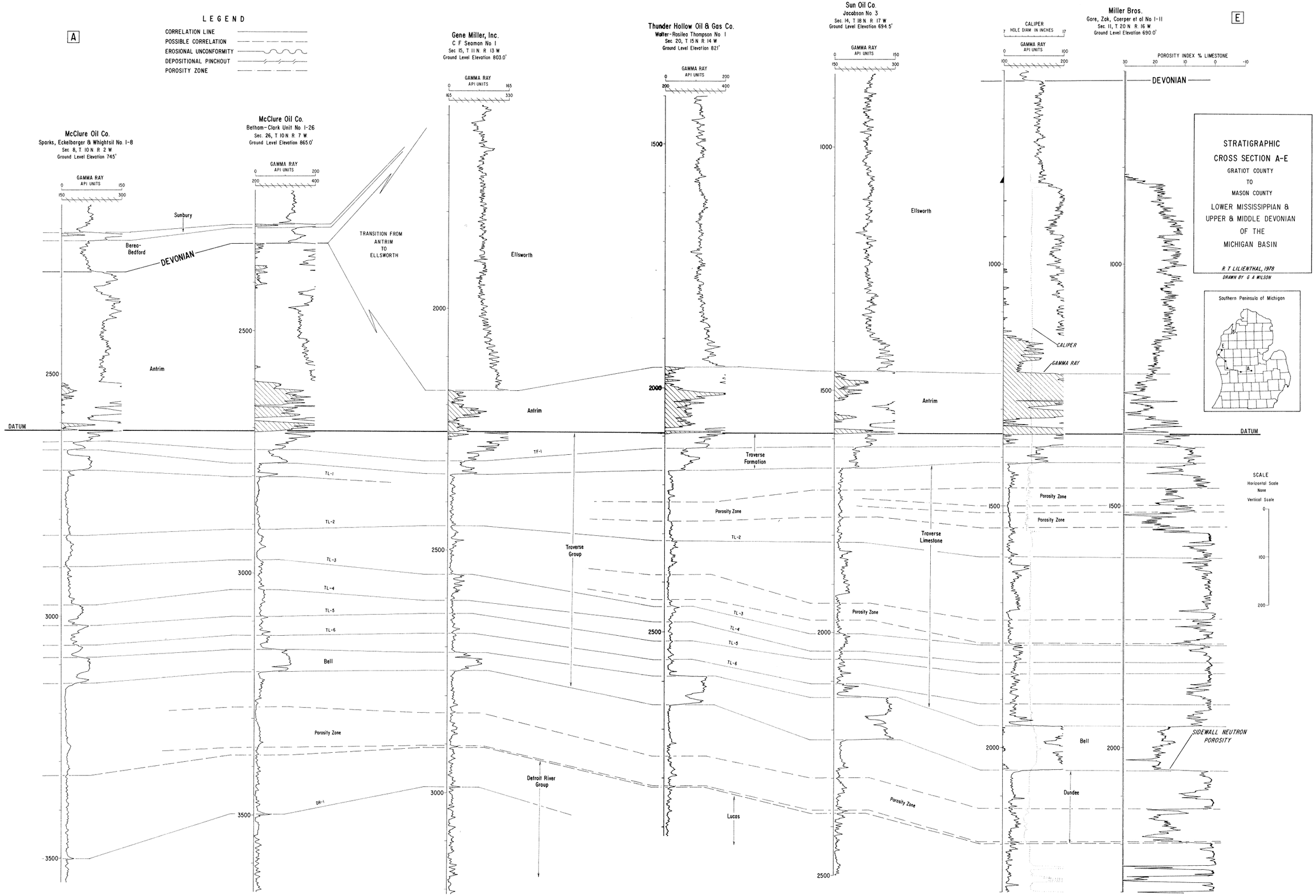
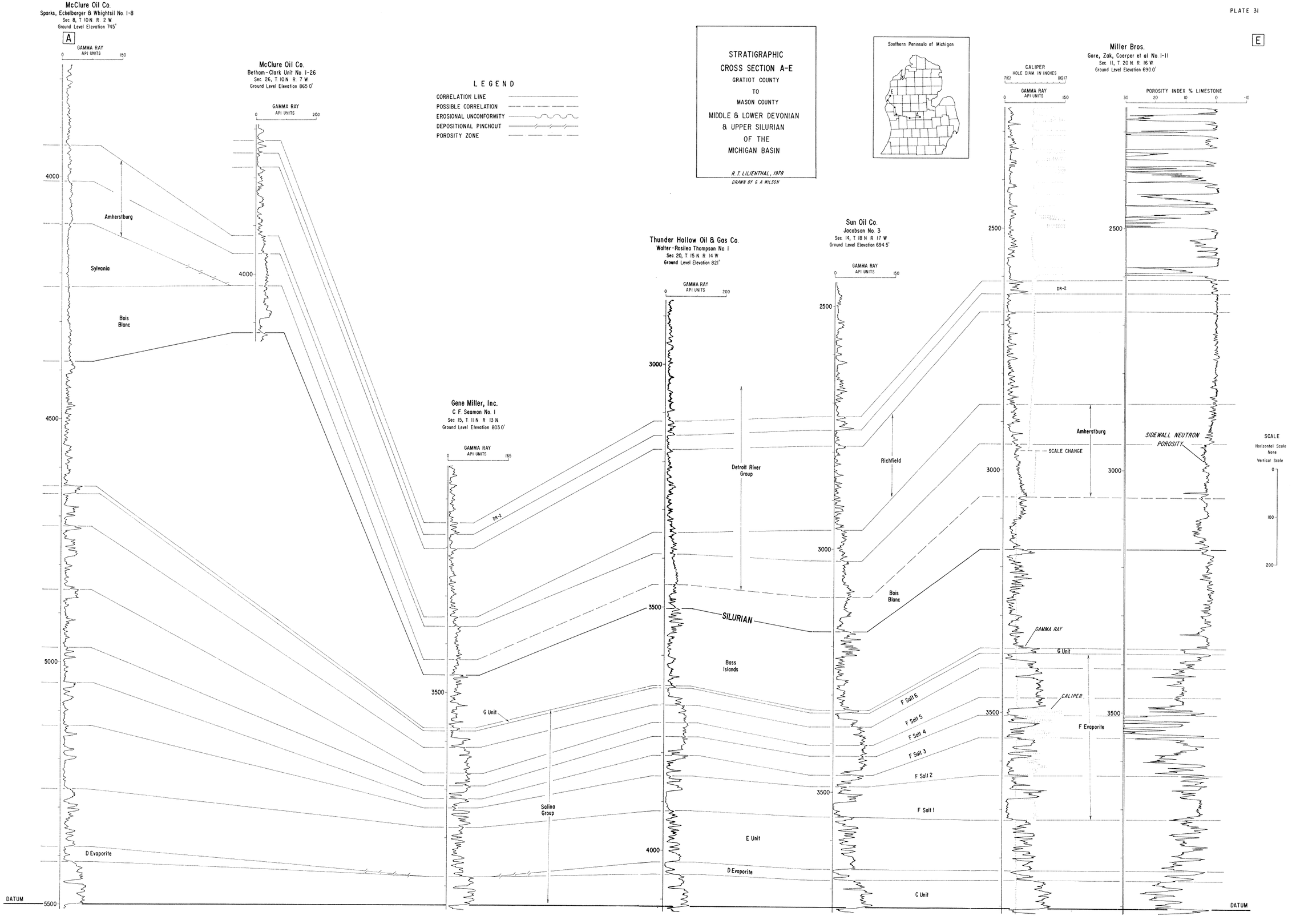
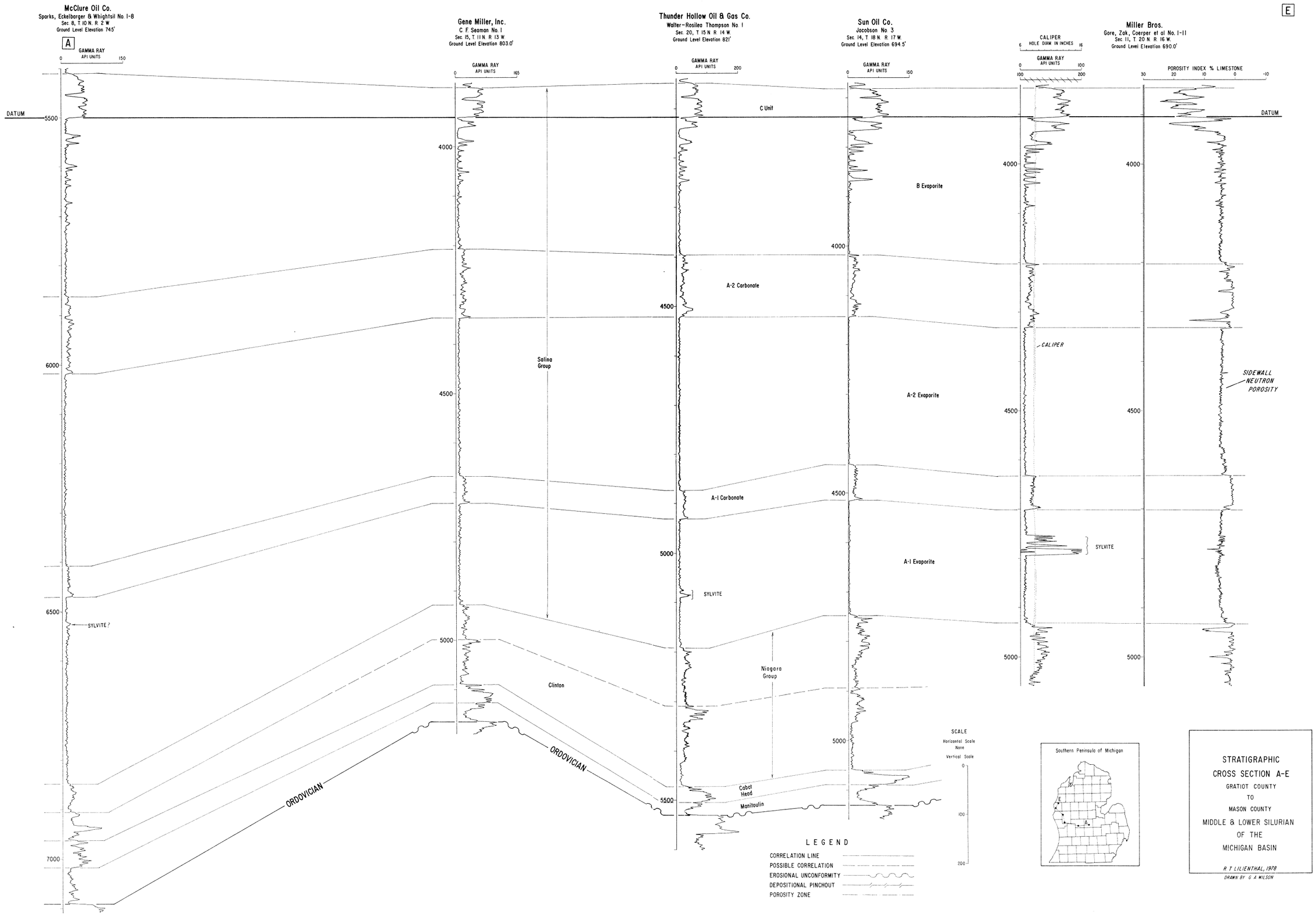
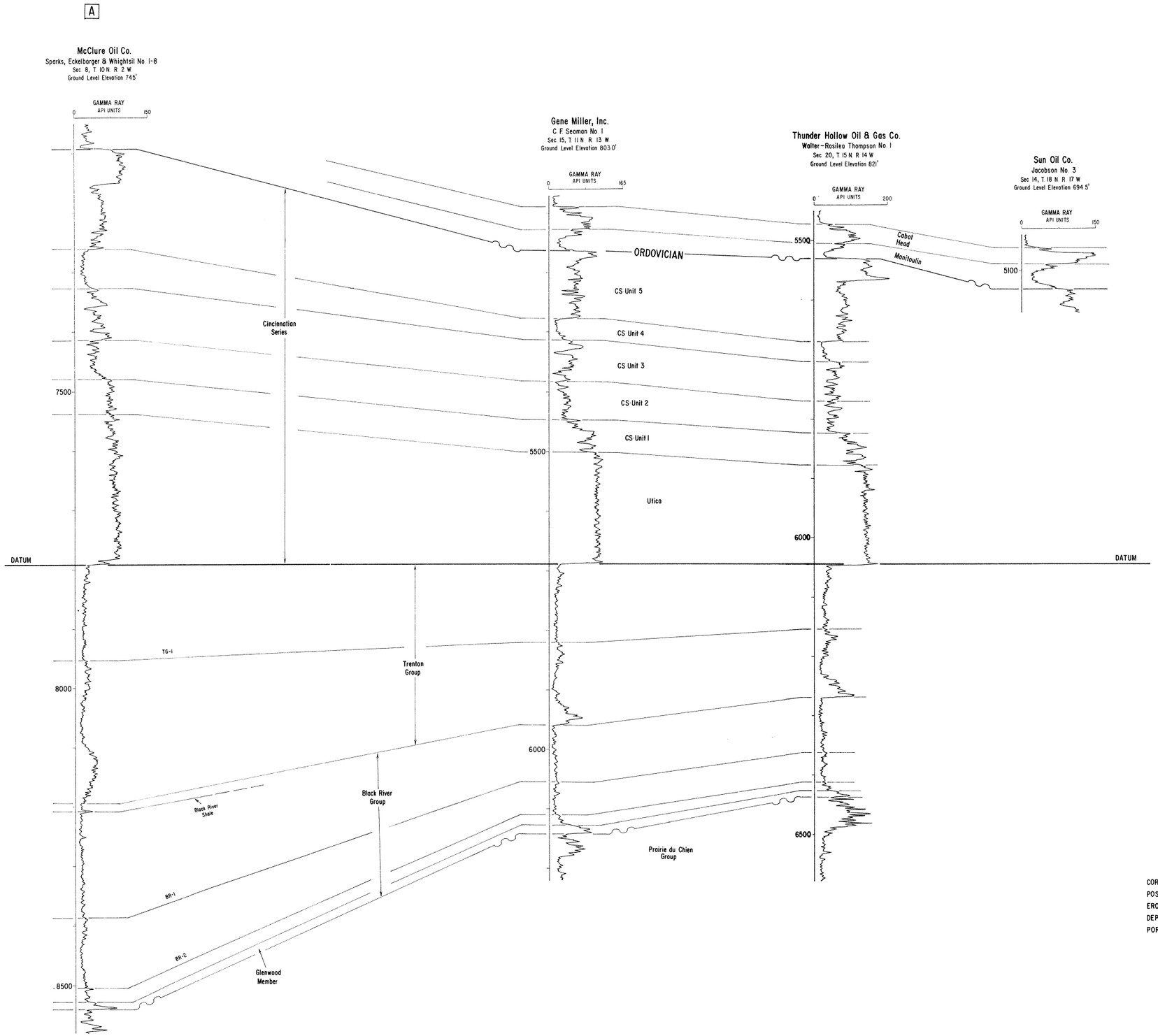

LEGEND
CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE
A
McClure Oil Co.
Sparks, Eckelbarger & Whightsil No. 1-8
Sec. 8, T. 10 N. R. 2 W.
Ground Level Elevation 745'
McClure Oil Co.
Betham-Clark Unit No. 1-26
Sec. 26, T. 10 N. R. 7 W.
Ground Level Elevation 865.0'
Gene Miller, Inc.
C. F. Seaman No. 1
Sec. 15, T. 11 N. R. 13 W.
Ground Level Elevation 803.0'
Thunder Hollow Oil & Gas Co.
Walter-Rosilea Thompson No. 1
Sec. 20, T. 15 N. R. 14 W.
Ground Level Elevation 821'
Sun Oil Co.
Jacobson No. 3
Sec. 14, T. 18 N. R. 17 W.
Ground Level Elevation 694.5'
Miller Bros.
Gore, Zak, Coerper et al No. 1-11
Sec. 11, T. 20 N. R. 16 W.
Ground Level Elevation 690.0'
E
GAMMA RAY API UNITS
CALIPER HOLE DIAM IN INCHES
POROSITY INDEX % LIMESTONE
Sunbury
Berea-Bedford
DEVONIAN
TRANSITION FROM ANTRIM TO ELLSWORTH
Ellsworth
Antrim
DATUM
TF-1
TL-1
TL-2
TL-3
TL-4
TL-5
TL-6
Bell
DR-1
Traverse Group
Traverse Formation
Traverse Limestone
Porosity Zone
Detroit River Group
Lucas
Dundee
CALIPER
GAMMA RAY
SIDEWALL NEUTRON POROSITY
SCALE
Horizontal Scale
None
Vertical Scale
STRATIGRAPHIC CROSS SECTION A-E
GRATIOT COUNTY TO MASON COUNTY
LOWER MISSISSIPPIAN & UPPER & MIDDLE DEVONIAN OF THE MICHIGAN BASIN
R. T. LILIENTHAL, 1978
DRAWN BY G. A. WILSON
Southern Peninsula of Michigan


STRATIGRAPHIC
CROSS SECTION A-E
GRATIOT COUNTY
TO
MASON COUNTY
MIDDLE & LOWER DEVONIAN
& UPPER SILURIAN
OF THE
MICHIGAN BASIN
R. T. LILIENTHAL, 1978
DRAWN BY G. A. WILSON
Southern Peninsula of Michigan
A
E
LEGEND
CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE
McClure Oil Co.
Sparks, Eckelbarger & Whightsil No. 1-8
Sec. 8, T. 10 N. R. 2 W.
Ground Level Elevation 745'
GAMMA RAY
API UNITS
0
150
4000
4500
5000
5500
Amherstburg
Sylvania
Bois Blanc
D Evaporite
DATUM
McClure Oil Co.
Betham-Clark Unit No. 1-26
Sec. 26, T. 10 N. R. 7 W.
Ground Level Elevation 865.0'
GAMMA RAY
API UNITS
0
200
4000
3500
DR-2
G Unit
Salina Group
Gene Miller, Inc.
C. F. Seaman No. 1
Sec. 15, T. 11 N. R. 13 N.
Ground Level Elevation 803.0'
GAMMA RAY
API UNITS
0
165
DR-2
3500
Thunder Hollow Oil & Gas Co.
Walter-Rosilea Thompson No. 1
Sec. 20, T. 15 N. R. 14 W.
Ground Level Elevation 821'
GAMMA RAY
API UNITS
0
200
3000
3500
4000
Detroit River Group
SILURIAN
Bass Islands
E Unit
D Evaporite
Sun Oil Co.
Jacobson No. 3
Sec. 14, T. 18 N. R. 17 W.
Ground Level Elevation 694.5'
GAMMA RAY
API UNITS
0
150
2500
3000
3500
Richfield
Bois Blanc
F Salt 6
F Salt 5
F Salt 4
F Salt 3
F Salt 2
F Salt 1
C Unit
Miller Bros.
Gore, Zak, Coerper et al No. 1-11
Sec. 11, T. 20 N. R. 16 W.
Ground Level Elevation 690.0'
CALIPER
HOLE DIAM IN INCHES
7(6) (16)17
GAMMA RAY
API UNITS
0
150
POROSITY INDEX % LIMESTONE
30
20
10
0
-10
2500
3000
3500
DR-2
Amherstburg
SCALE CHANGE
GAMMA RAY
G Unit
CALIPER
F Evaporite
SIDEWALL NEUTRON POROSITY
SCALE
Horizontal Scale
None
Vertical Scale
0
100
200
DATUM

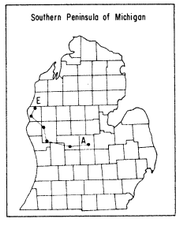

A
E
McClure Oil Co.
Sparks, Eckelberger & Whightsil No. 1-8
Sec. 8, T. 10 N. R. 2 W.
Ground Level Elevation 745'
GAMMA RAY
API UNITS
0
150
Gene Miller, Inc.
C. F. Seaman No. 1
Sec. 15, T. 11 N. R. 13 W.
Ground Level Elevation 803.0'
GAMMA RAY
API UNITS
0
165
Thunder Hollow Oil & Gas Co.
Walter-Rosilea Thompson No. 1
Sec. 20, T. 15 N. R. 14 W.
Ground Level Elevation 821'
GAMMA RAY
API UNITS
0
200
Sun Oil Co.
Jacobson No. 3
Sec. 14, T. 18 N. R. 17 W.
Ground Level Elevation 694.5'
GAMMA RAY
API UNITS
0
150
CALIPER
HOLE DIAM. IN INCHES
6
16
GAMMA RAY
API UNITS
0
100
100
200
Miller Bros.
Gore, Zak, Coerper et al No. 1-11
Sec. 11, T. 20 N. R. 16 W.
Ground Level Elevation 690.0'
POROSITY INDEX % LIMESTONE
30
20
10
0
-10
DATUM
5500
6000
6500
7000
4000
4500
5000
5500
SYLVITE ?
Salina Group
Clinton
ORDOVICIAN
ORDOVICIAN
C Unit
A-2 Carbonate
A-1 Carbonate
SYLVITE
Niagara Group
Cabot Head
Manitoulin
B Evaporite
A-2 Evaporite
A-1 Evaporite
CALIPER
SYLVITE
SIDEWALL NEUTRON POROSITY
SCALE
Horizontal Scale
None
Vertical Scale
0
100
200
LEGEND
CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE
Southern Peninsula of Michigan
E
A
STRATIGRAPHIC
CROSS SECTION A-E
GRATIOT COUNTY
TO
MASON COUNTY
MIDDLE & LOWER SILURIAN
OF THE
MICHIGAN BASIN
R. T. LILIENTHAL, 1978
DRAWN BY G. A. WILSON



STRATIGRAPHIC
CROSS SECTION A-E
GRATIOT COUNTY
TO
MASON COUNTY
UPPER & MIDDLE ORDOVICIAN
OF THE
MICHIGAN BASIN

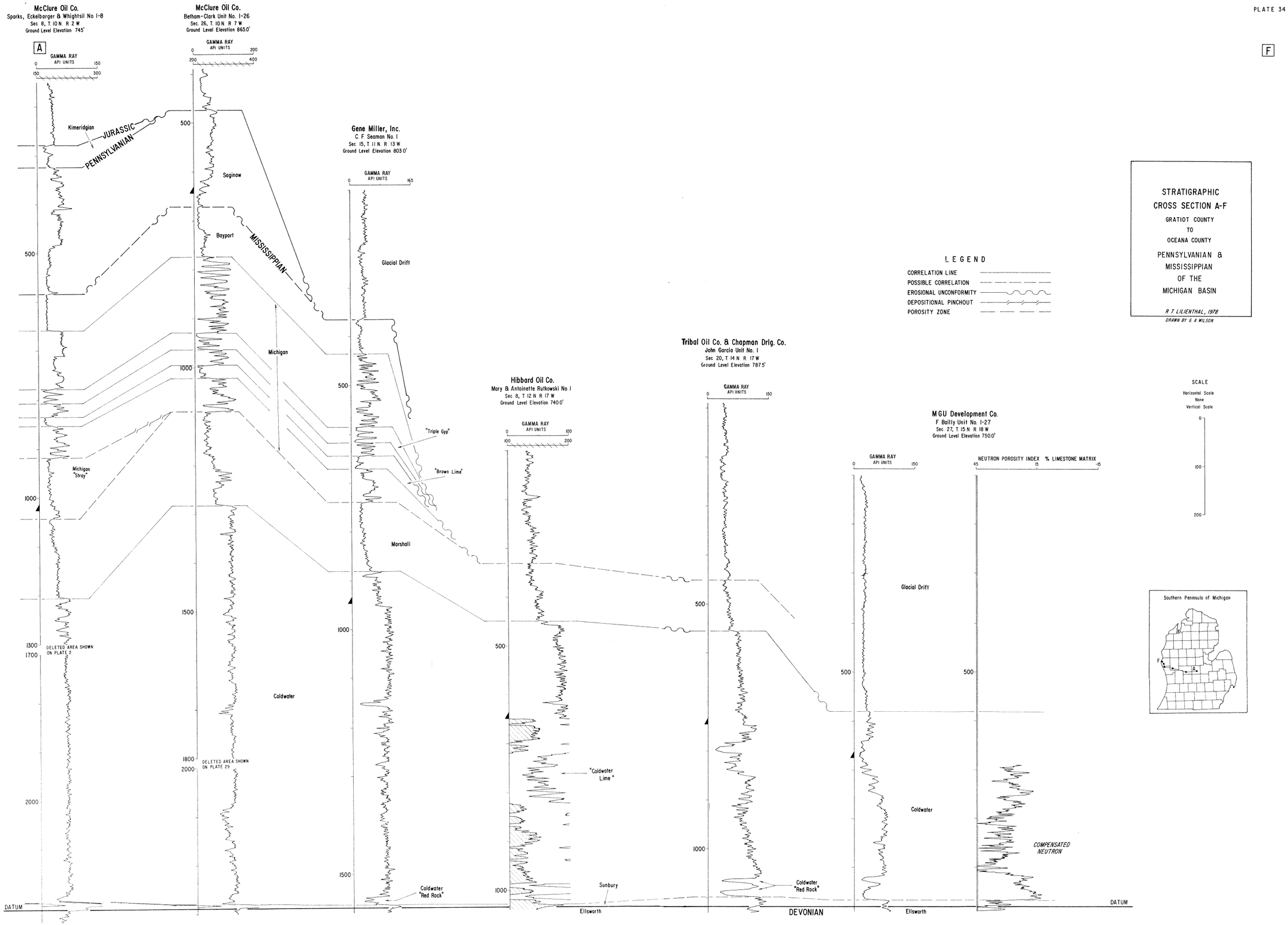
R. T. LILIENTHAL, 1978
DRAWN BY G. A. WILSON

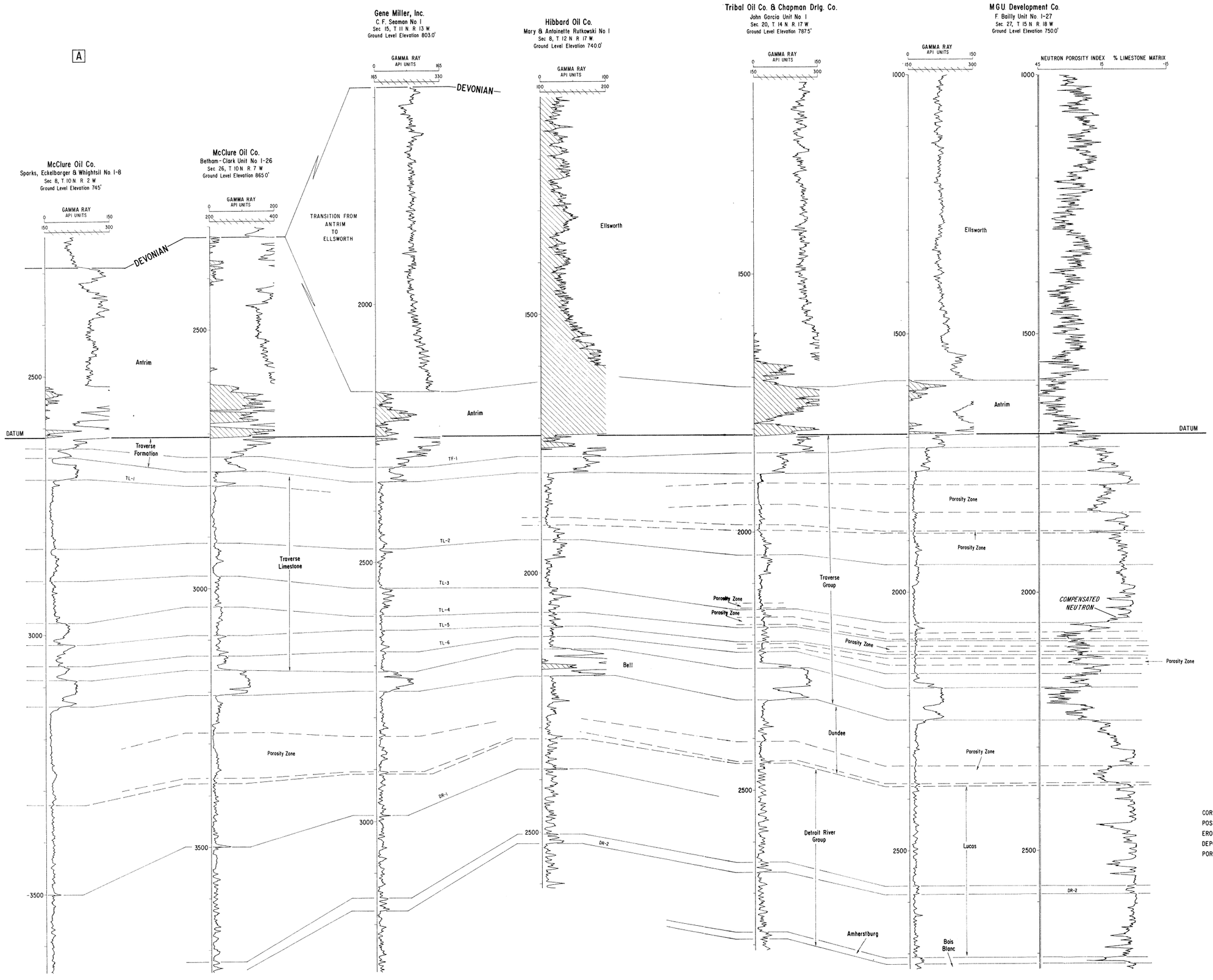
SCALE
Horizontal Scale
None
Vertical Scale
0
100
200

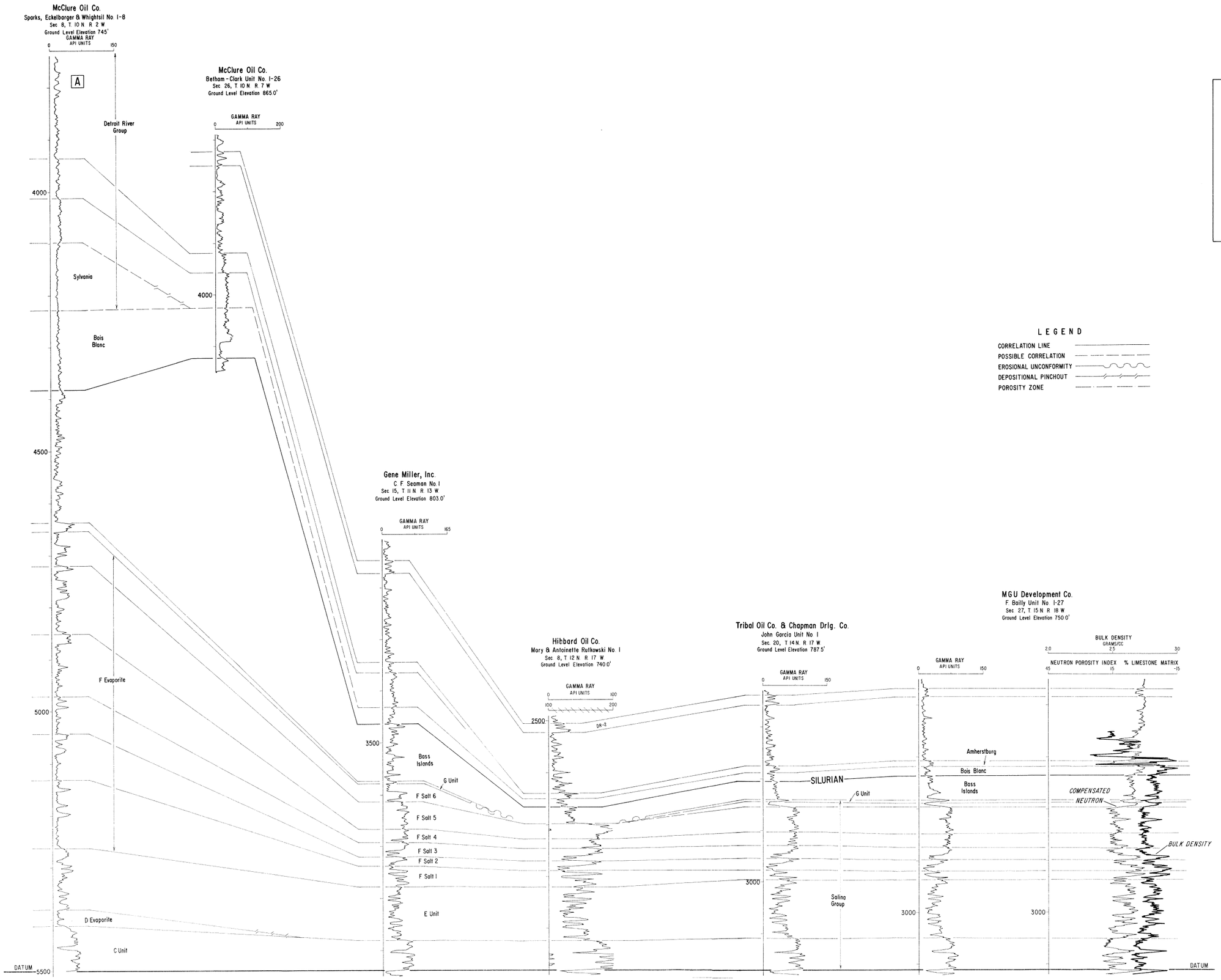


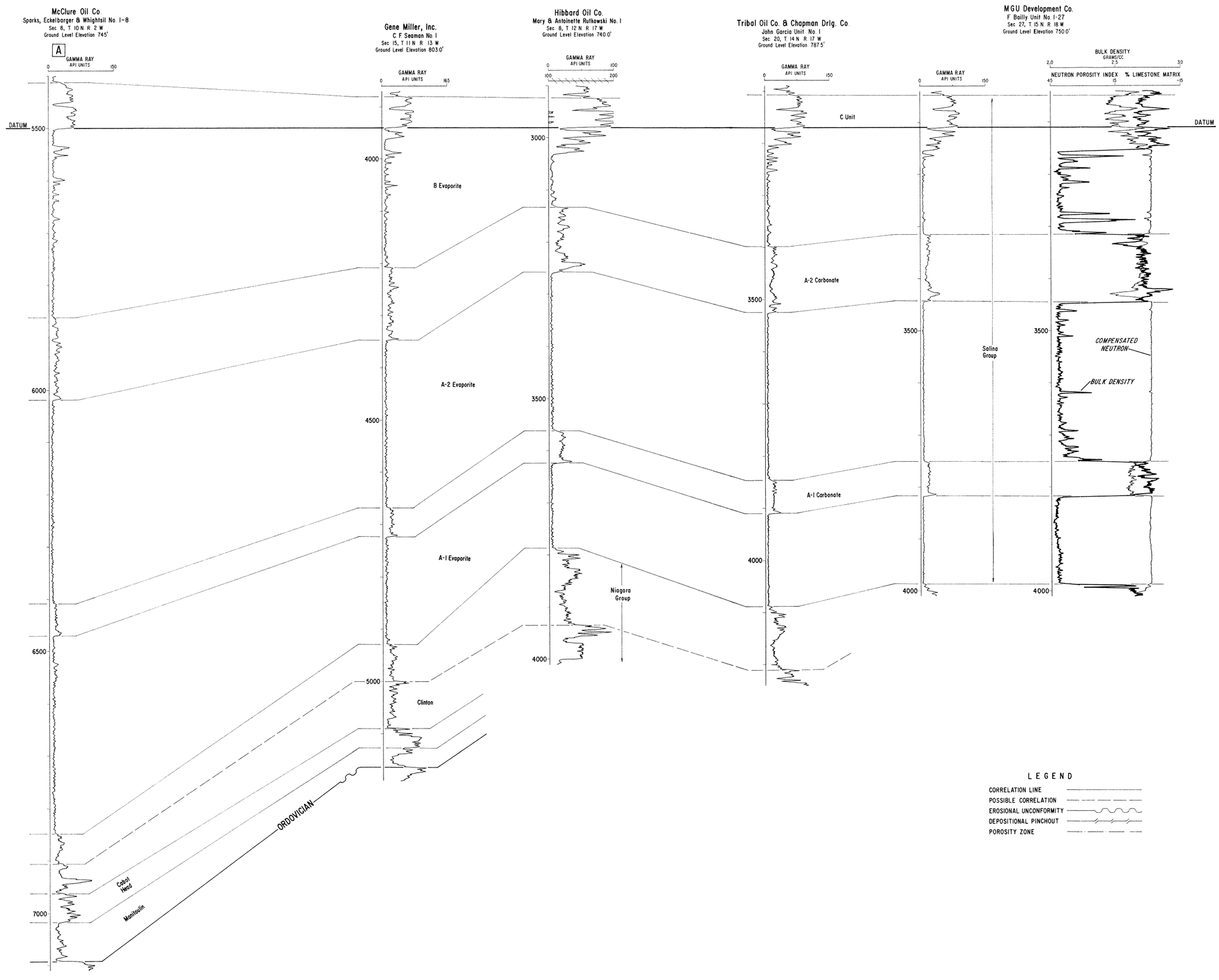
LEGEND

CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE


A
F
McClure Oil Co.
Sparks, Eckelberger & Whightsil No 1-8
Sec 8, T 10 N R 2 W
Ground Level Elevation 745'
McClure Oil Co.
Bethom-Clark Unit No. 1-26
Sec. 26, T. 10 N R 7 W
Ground Level Elevation 865.0'
Gene Miller, Inc.
C F Seaman No. 1
Sec 15, T 11 N R 13 W
Ground Level Elevation 803.0'
Tribal Oil Co. & Chapman Drlg. Co.
John Garcia Unit No. 1
Sec 20, T 14 N R 17 W
Ground Level Elevation 787.5'
Hibbard Oil Co.
Mary & Antoinette Rutkowski No 1
Sec 8, T 12 N R 17 W
Ground Level Elevation 740.0'
MGU Development Co.
F Bailly Unit No. 1-27
Sec 27, T 15 N R 18 W
Ground Level Elevation 750.0'
GAMMA RAY
API UNITS
NEUTRON POROSITY INDEX % LIMESTONE MATRIX
Kimeridgian
JURASSIC
PENNSYLVANIAN
MISSISSIPPIAN
Saginaw
Bayport
Michigan
Michigan "Stray"
Glacial Drift
"Triple Gyp"
"Brown Lime"
Marshall
Coldwater
"Coldwater Lime"
Coldwater "Red Rock"
Sunbury
Ellsworth
DEVONIAN
DELETED AREA SHOWN ON PLATE 2
DELETED AREA SHOWN ON PLATE 29
COMPENSATED NEUTRON
DATUM
LEGEND
CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE
STRATIGRAPHIC
CROSS SECTION A-F
GRATIOT COUNTY
TO
OCEANA COUNTY
PENNSYLVANIAN &
MISSISSIPPIAN
OF THE
MICHIGAN BASIN
R T LILIENTHAL, 1978
DRAWN BY G. A. WILSON
SCALE
Horizontal Scale
None
Vertical Scale
Southern Peninsula of Michigan


A
F
McClure Oil Co.
Sparks, Eckelbarger & Whightsil No. 1-8
Sec. 8, T. 10 N. R. 2 W.
Ground Level Elevation 745'
McClure Oil Co.
Betham-Clark Unit No. 1-26
Sec. 26, T. 10 N. R. 7 W.
Ground Level Elevation 865.0'
Gene Miller, Inc.
C. F. Seaman No. 1
Sec. 15, T. 11 N. R. 13 W.
Ground Level Elevation 803.0'
Hibbard Oil Co.
Mary & Antoinette Rutkowski No. 1
Sec. 8, T. 12 N. R. 17 W.
Ground Level Elevation 740.0'
Tribal Oil Co. & Chapman Drlg. Co.
John Garcia Unit No. 1
Sec. 20, T. 14 N. R. 17 W.
Ground Level Elevation 787.5'
MGU Development Co.
F. Bailly Unit No. 1-27
Sec. 27, T. 15 N. R. 18 W.
Ground Level Elevation 750.0'
GAMMA RAY API UNITS
NEUTRON POROSITY INDEX
% LIMESTONE MATRIX
DEVONIAN
TRANSITION FROM ANTRIM TO ELLSWORTH
Ellsworth
Antrim
DATUM
Traverse Formation
Traverse Limestone
Traverse Group
Porosity Zone
Bell
Dundee
Detroit River Group
Amherstburg
Lucos
Bois Blanc
COMPENSATED NEUTRON
TL-1
TL-2
TL-3
TL-4
TL-5
TL-6
DR-1
DR-2
STRATIGRAPHIC CROSS SECTION A-F
GRATIOT COUNTY TO OCEANA COUNTY
LOWER MISSISSIPPIAN & UPPER & MIDDLE DEVONIAN OF THE MICHIGAN BASIN
R. T. LILIENTHAL, 1978
DRAWN BY G. A. WILSON
SCALE
Horizontal Scale
None
Vertical Scale
Southern Peninsula of Michigan
LEGEND
CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE

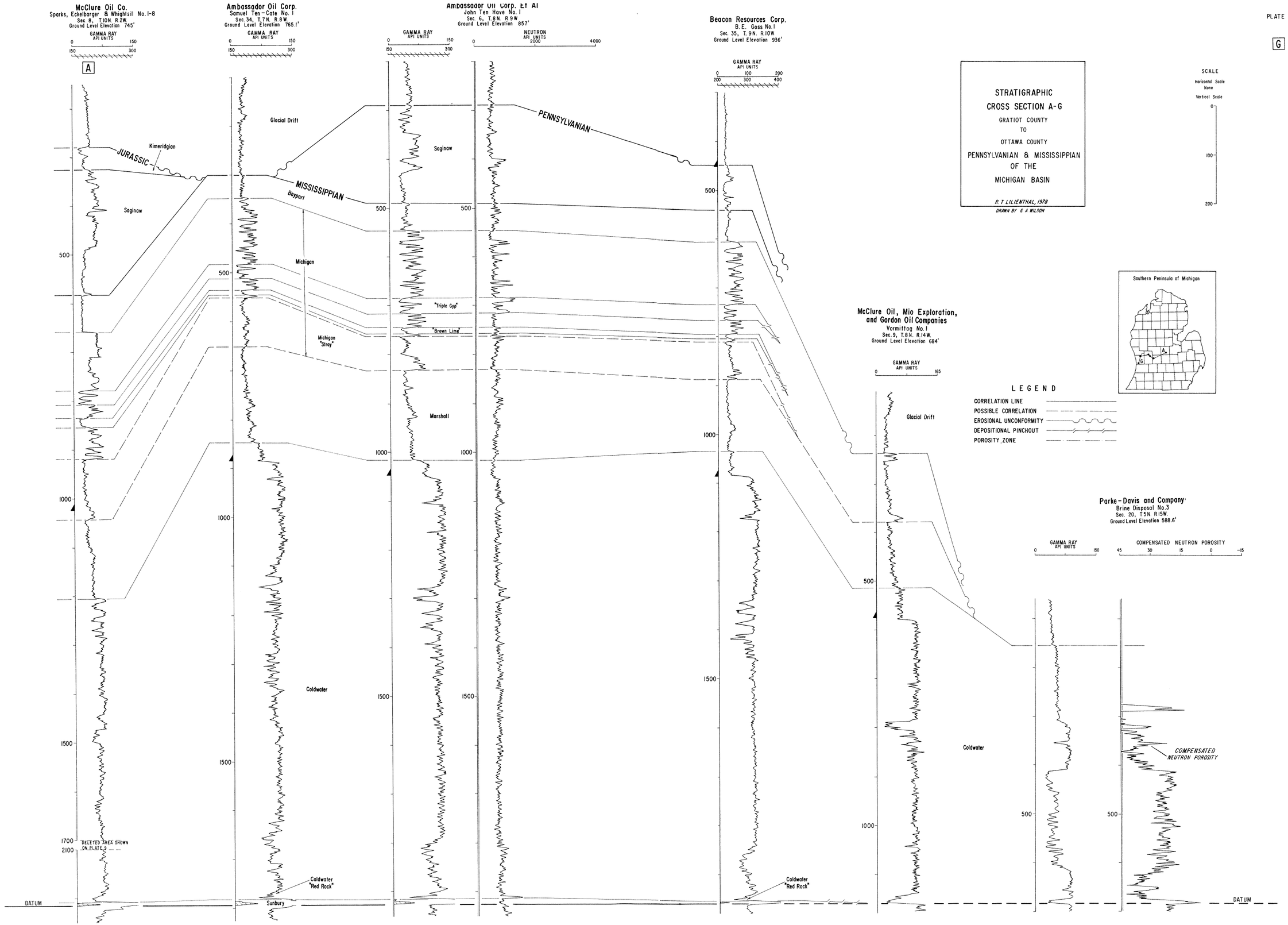

F
STRATIGRAPHIC
CROSS SECTION A-F
GRATIOT COUNTY
TO
OCEANA COUNTY
MIDDLE & LOWER DEVONIAN
& UPPER SILURIAN
OF THE
MICHIGAN BASIN
R.T. LILIENTHAL, 1978
DRAWN BY G.A. WILSON
SCALE
Horizontal Scale
None
Vertical Scale
0
100
200
LEGEND
CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE
Southern Peninsula of Michigan
F
A
A
McClure Oil Co.
Sparks, Eckelberger & Whightsil No. 1-8
Sec. 8, T 10 N R 2 W
Ground Level Elevation 745'
GAMMA RAY
API UNITS
0
150
Detroit River Group
Sylvania
Bois Blanc
F Evaporite
D Evaporite
C Unit
4000
4500
5000
DATUM 5500
McClure Oil Co.
Betham-Clark Unit No. 1-26
Sec. 26, T 10 N R 7 W
Ground Level Elevation 865.0'
GAMMA RAY
API UNITS
0
200
4000
Gene Miller, Inc.
C F Seaman No. 1
Sec. 15, T 11 N R 13 W
Ground Level Elevation 803.0'
GAMMA RAY
API UNITS
0
165
3500
Bass Islands
G Unit
F Salt 6
F Salt 5
F Salt 4
F Salt 3
F Salt 2
F Salt 1
E Unit
Hibbard Oil Co.
Mary & Antoinette Rutkowski No. 1
Sec. 8, T 12 N R 17 W
Ground Level Elevation 740.0'
GAMMA RAY
API UNITS
0
100
100
200
2500
DR-2
Tribal Oil Co. & Chapman Drlg. Co.
John Garcia Unit No. 1
Sec. 20, T 14 N. R 17 W
Ground Level Elevation 787.5'
GAMMA RAY
API UNITS
0
150
SILURIAN
G Unit
3000
Salina Group
MGU Development Co.
F. Bailly Unit No. 1-27
Sec. 27, T 15 N R 18 W
Ground Level Elevation 750.0'
GAMMA RAY
API UNITS
0
150
Amherstburg
Bois Blanc
Bass Islands
3000
BULK DENSITY
GRAMS/CC
2.0
2.5
3.0
NEUTRON POROSITY INDEX
% LIMESTONE MATRIX
45
15
-15
COMPENSATED NEUTRON
BULK DENSITY
3000
DATUM

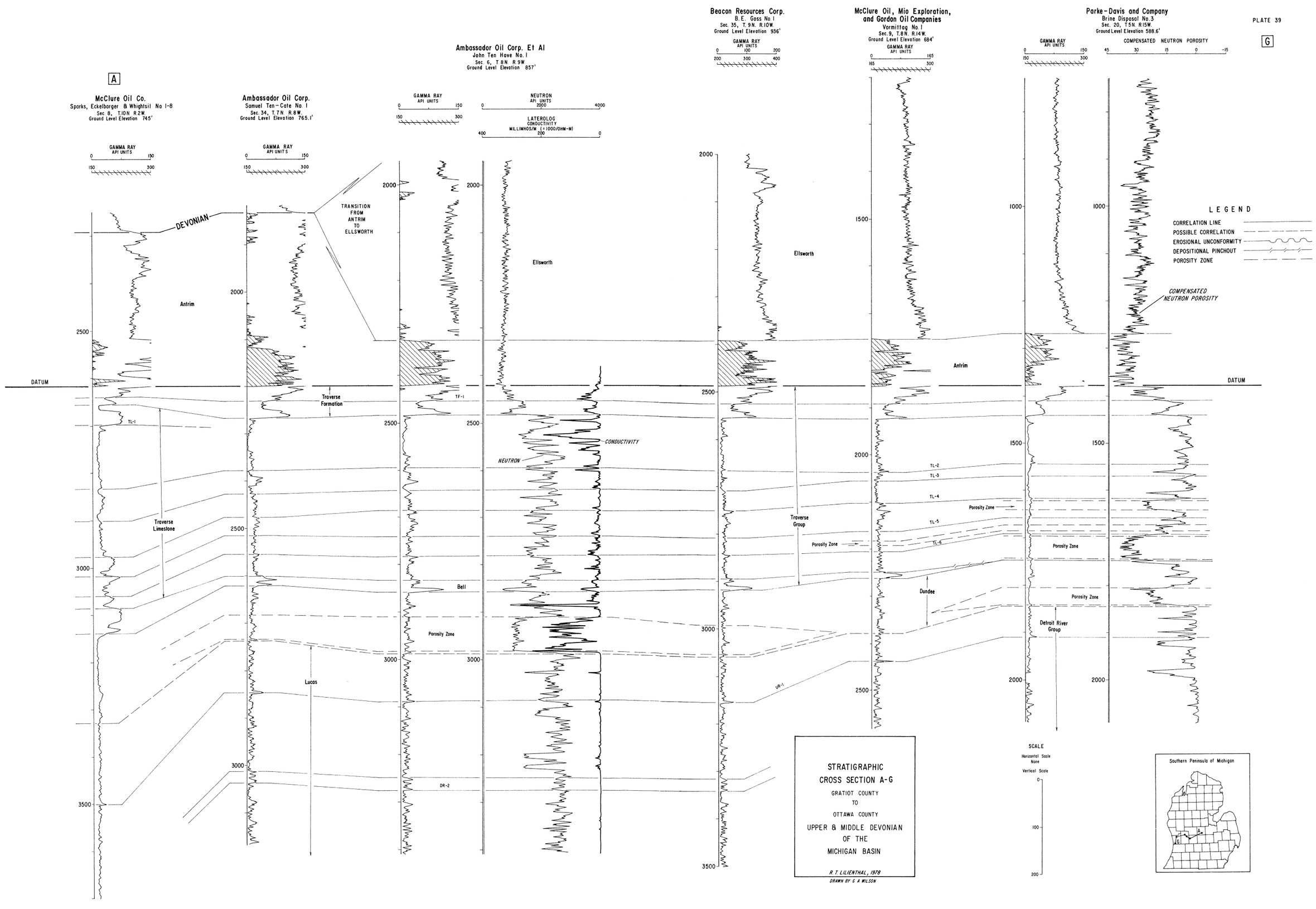


STRATIGRAPHIC CROSS SECTION A-F
GRATIOT COUNTY TO OCEANA COUNTY
MIDDLE & LOWER SILURIAN OF THE MICHIGAN BASIN

R. T. LILIENTHAL, 1978
DRAWN BY G. A. WILSON

SCALE
Horizontal Scale None
Vertical Scale


G
McClure Oil Co.
Sparks, Eckelberger & Whightsil No. I-8
Sec 8, T.10N. R.2W.
Ground Level Elevation 745'
GAMMA RAY API UNITS
A
Ambassador Oil Corp.
Samuel Ten-Cate No. I
Sec.34, T.7N. R.8W.
Ground Level Elevation 765.1'
Ambassador Oil Corp. Et Al
John Ten Have No. I
Sec. 6, T.8N. R.9W.
Ground Level Elevation 857'
NEUTRON API UNITS
Beacon Resources Corp.
B.E. Goss No. I
Sec. 35, T. 9N. R.10W
Ground Level Elevation 936'
STRATIGRAPHIC
CROSS SECTION A-G
GRATIOT COUNTY
TO
OTTAWA COUNTY
PENNSYLVANIAN & MISSISSIPPIAN
OF THE
MICHIGAN BASIN
R.T. LILIENTHAL, 1978
DRAWN BY G.A. WILSON
SCALE
Horizontal Scale
None
Vertical Scale
Southern Peninsula of Michigan
JURASSIC
Kimeridgian
Saginaw
MISSISSIPPIAN
Bayport
Michigan
Michigan "Stray"
Marshall
"Triple Gyp"
"Brown Lime"
PENNSYLVANIAN
Glacial Drift
Coldwater
Coldwater "Red Rock"
Sunbury
DELETED AREA SHOWN ON PLATE 9
DATUM
McClure Oil, Mio Exploration, and Gordon Oil Companies
Vormittag No. I
Sec. 9, T.8N. R.14W.
Ground Level Elevation 684'
Parke-Davis and Company
Brine Disposal No. 3
Sec. 20, T.5N. R.15W.
Ground Level Elevation 588.6'
COMPENSATED NEUTRON POROSITY
LEGEND
CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE


A
McClure Oil Co.
Sparks, Eckelbarger & Whightsil No 1-8
Sec. 8, T.10N R.2W.
Ground Level Elevation 745'
Ambassador Oil Corp.
Samuel Ten-Cate No. 1
Sec. 34, T.7N. R.8W.
Ground Level Elevation 765.1'
Ambassador Oil Corp. Et Al
John Ten Have No. 1
Sec. 6, T.8N. R.9W.
Ground Level Elevation 857'
Beacon Resources Corp.
B.E. Goss No. 1
Sec. 35, T.9N. R.10W.
Ground Level Elevation 936'
McClure Oil, Mio Exploration, and Gordon Oil Companies
Vormittag No. 1
Sec.9, T.8N. R.14W.
Ground Level Elevation 684'
Parke-Davis and Company
Brine Disposal No.3
Sec. 20, T.5N. R.15W.
Ground Level Elevation 588.6'
G
GAMMA RAY API UNITS
NEUTRON API UNITS
LATEROLOG CONDUCTIVITY MILLIMHOS/M (=1000/OHM-M)
COMPENSATED NEUTRON POROSITY
DEVONIAN
TRANSITION FROM ANTRIM TO ELLSWORTH
Antrim
Ellsworth
DATUM
Traverse Formation
Traverse Limestone
Traverse Group
Bell
Lucas
Dundee
Detroit River Group
Porosity Zone
TL-1
TL-2
TL-3
TL-4
TL-5
TL-6
TF-1
DR-2
UR-1
NEUTRON
CONDUCTIVITY
COMPENSATED NEUTRON POROSITY
LEGEND
CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE
STRATIGRAPHIC CROSS SECTION A-G
GRATIOT COUNTY TO OTTAWA COUNTY
UPPER & MIDDLE DEVONIAN OF THE MICHIGAN BASIN
R. T. LILIENTHAL, 1978
DRAWN BY G. A. WILSON
SCALE
Horizontal Scale None
Vertical Scale
Southern Peninsula of Michigan