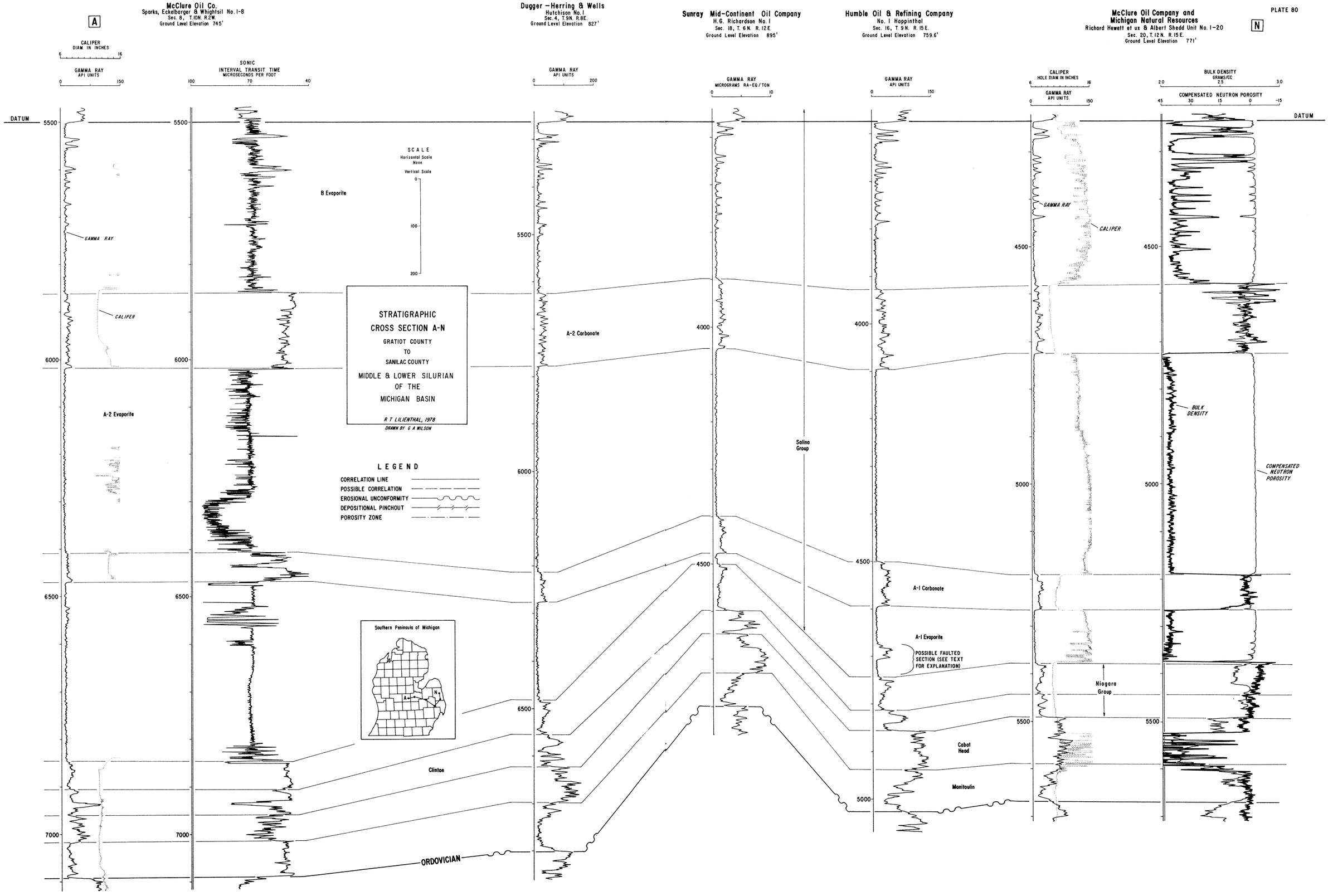
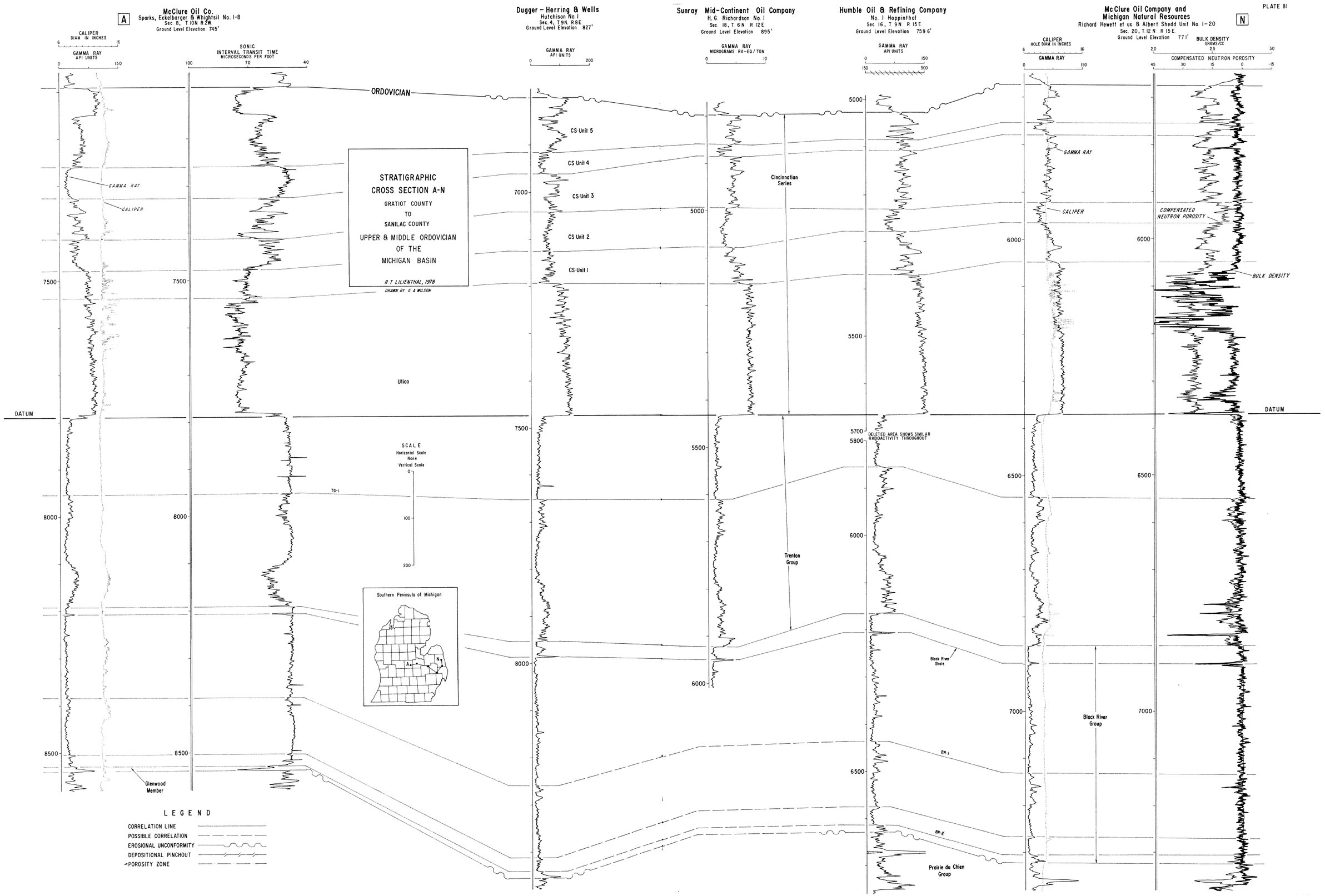

A
McClure Oil Co.
Sparks, Eckelbarger & Whightsil No. 1-8
Sec. 8, T.10N. R.2W.
Ground Level Elevation 745'
Dugger – Herring & Wells
Hutchison No. 1
Sec. 4, T.9N. R.8E.
Ground Level Elevation 827'
Sunray Mid-Continent Oil Company
H.G. Richardson No. 1
Sec. 18, T. 6N. R. 12E.
Ground Level Elevation 895'
Humble Oil & Refining Company
No. 1 Hoppinthal
Sec. 16, T. 9N. R. 15E.
Ground Level Elevation 759.6'
McClure Oil Company and
Michigan Natural Resources
Richard Hewett et ux & Albert Shedd Unit No. 1-20
Sec. 20, T.12N. R.15E.
Ground Level Elevation 771'
N
CALIPER
DIAM IN INCHES
6 16
GAMMA RAY
API UNITS
0 150
SONIC
INTERVAL TRANSIT TIME
MICROSECONDS PER FOOT
100 70 40
GAMMA RAY
API UNITS
0 200
GAMMA RAY
MICROGRAMS RA-EQ/TON
0 10
GAMMA RAY
API UNITS
0 150
CALIPER
HOLE DIAM IN INCHES
6 16
GAMMA RAY
API UNITS
0 150
BULK DENSITY
GRAMS/CC
2.0 2.5 3.0
COMPENSATED NEUTRON POROSITY
45 30 15 0 -15
DATUM
5500
6000
6500
7000
5500
6000
6500
7000
5500
6000
6500
4000
4500
5000
4000
4500
5000
5500
4500
5000
5500
GAMMA RAY
CALIPER
GAMMA RAY
CALIPER
BULK DENSITY
COMPENSATED NEUTRON POROSITY
B Evaporite
A-2 Evaporite
A-2 Carbonate
Salina Group
A-1 Carbonate
A-1 Evaporite
POSSIBLE FAULTED SECTION (SEE TEXT FOR EXPLANATION)
Niagara Group
Cabot Head
Manitoulin
Clinton
ORDOVICIAN
SCALE
Horizontal Scale
None
Vertical Scale
0
100
200
STRATIGRAPHIC
CROSS SECTION A-N
GRATIOT COUNTY
TO
SANILAC COUNTY
MIDDLE & LOWER SILURIAN
OF THE
MICHIGAN BASIN
R T LILIENTHAL, 1978
DRAWN BY G A WILSON
LEGEND
CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE
Southern Peninsula of Michigan
A
N


A
McClure Oil Co.
Sparks, Eckelbarger & Whightsil No. 1-8
Sec. 8, T 10N R 2W
Ground Level Elevation 745'
CALIPER
DIAM IN INCHES
GAMMA RAY
API UNITS
SONIC
INTERVAL TRANSIT TIME
MICROSECONDS PER FOOT
Dugger - Herring & Wells
Hutchison No. 1
Sec. 4, T 9N R 8E
Ground Level Elevation 827'
GAMMA RAY
API UNITS
Sunray Mid-Continent Oil Company
H. G. Richardson No. 1
Sec. 18, T 6N R 12E
Ground Level Elevation 895'
GAMMA RAY
MICROGRAMS RA-EQ/TON
Humble Oil & Refining Company
No. 1 Hoppinthal
Sec. 16, T 9N R 15E
Ground Level Elevation 759.6'
GAMMA RAY
API UNITS
McClure Oil Company and
Michigan Natural Resources
Richard Hewett et ux & Albert Shedd Unit No. 1-20
Sec. 20, T 12N R 15E
Ground Level Elevation 771'
N
CALIPER
HOLE DIAM IN INCHES
GAMMA RAY
BULK DENSITY
GRAMS/CC
COMPENSATED NEUTRON POROSITY
ORDOVICIAN
STRATIGRAPHIC
CROSS SECTION A-N
GRATIOT COUNTY
TO
SANILAC COUNTY
UPPER & MIDDLE ORDOVICIAN
OF THE
MICHIGAN BASIN
R T LILIENTHAL, 1978
DRAWN BY G A WILSON
CS Unit 5
CS Unit 4
CS Unit 3
CS Unit 2
CS Unit 1
Cincinnation Series
Utica
DATUM
SCALE
Horizontal Scale
None
Vertical Scale
TG-1
Trenton Group
DELETED AREA SHOWS SIMILAR RADIOACTIVITY THROUGHOUT
Black River Shale
Black River Group
BR-1
BR-2
Prairie du Chien Group
Glenwood Member
Southern Peninsula of Michigan
LEGEND
CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE

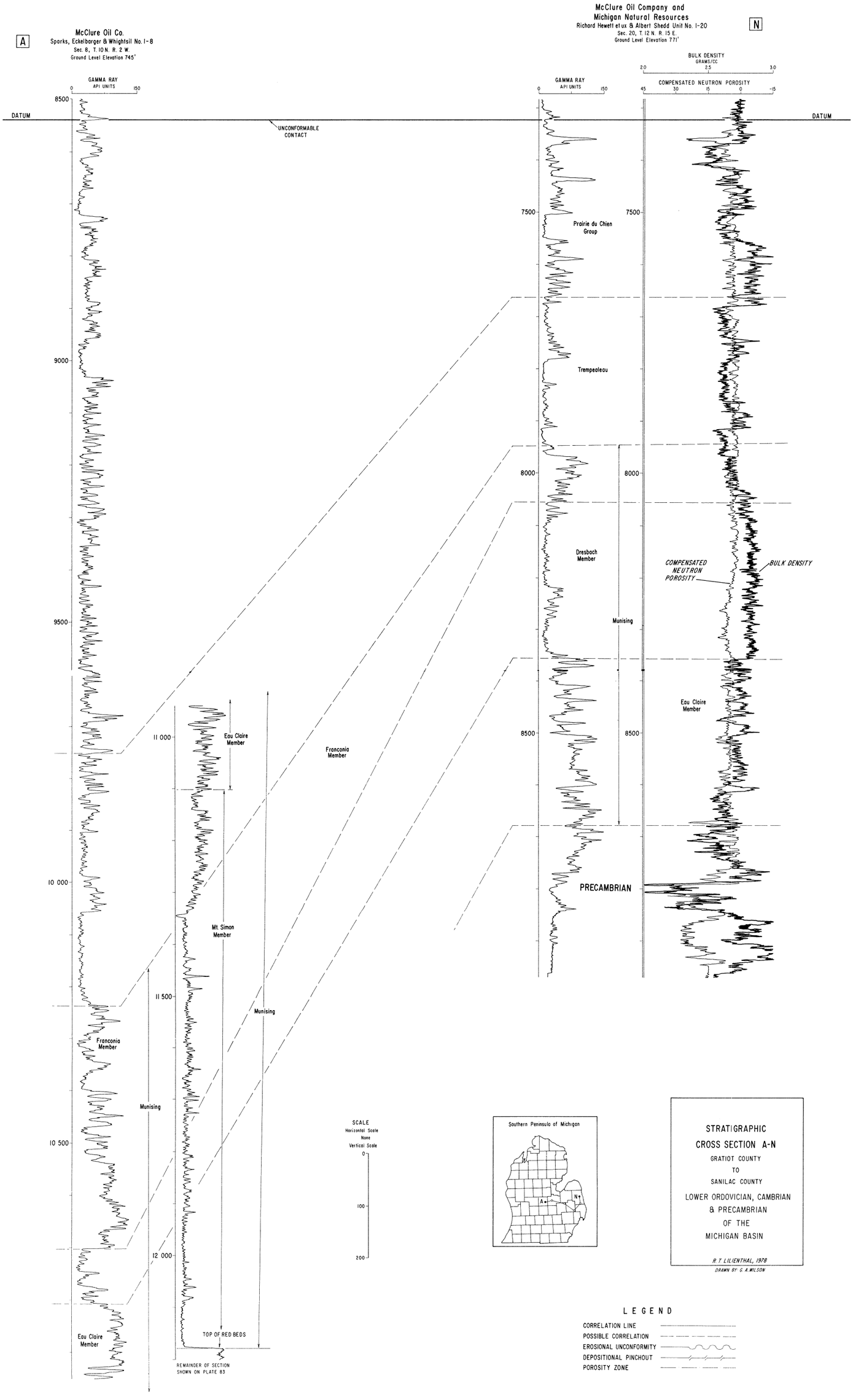
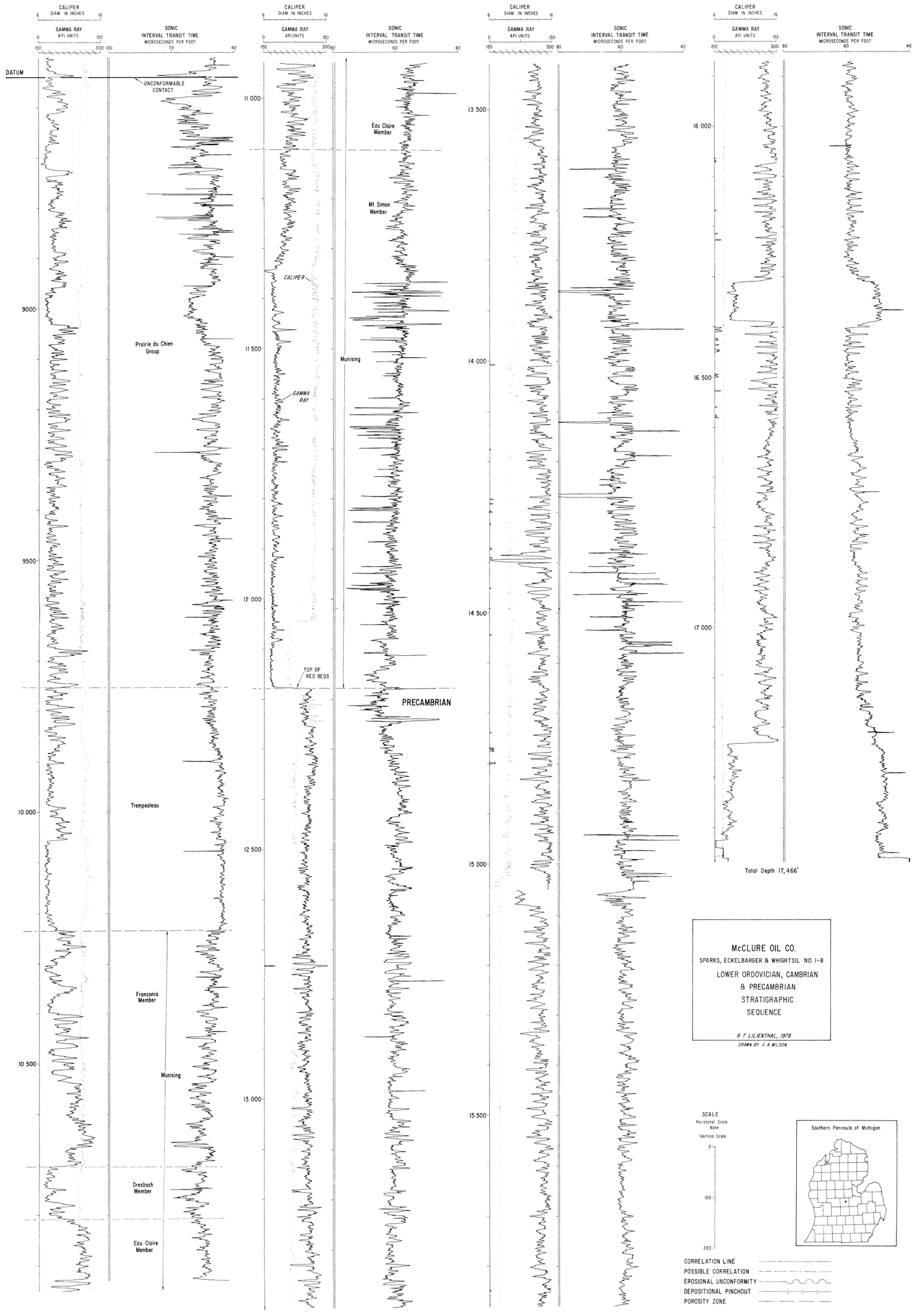

A
McClure Oil Co.
Sparks, Eckelberger & Whightsil No. 1-8
Sec. 8, T. 10 N. R. 2 W.
Ground Level Elevation 745'
McClure Oil Company and
Michigan Natural Resources
Richard Hewett et ux & Albert Shedd Unit No. 1-20
Sec. 20, T. 12 N. R. 15 E.
Ground Level Elevation 771'
N
GAMMA RAY
API UNITS
0
150
BULK DENSITY
GRAMS/CC
2.0
2.5
3.0
COMPENSATED NEUTRON POROSITY
45
30
15
0
-15
DATUM
UNCONFORMABLE CONTACT
8500
9000
9500
10 000
10 500
11 000
11 500
12 000
7500
8000
8500
Prairie du Chien Group
Trempealeau
Dresbach Member
Munising
Eau Claire Member
PRECAMBRIAN
COMPENSATED NEUTRON POROSITY
BULK DENSITY
Franconia Member
Mt. Simon Member
TOP OF RED BEDS
REMAINDER OF SECTION SHOWN ON PLATE 83
SCALE
Horizontal Scale
None
Vertical Scale
0
100
200
Southern Peninsula of Michigan
A
N
STRATIGRAPHIC
CROSS SECTION A-N
GRATIOT COUNTY
TO
SANILAC COUNTY
LOWER ORDOVICIAN, CAMBRIAN
& PRECAMBRIAN
OF THE
MICHIGAN BASIN
R. T. LILIENTHAL, 1978
DRAWN BY G. A. WILSON
LEGEND
CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE

PLATE 82

## McClure Oil Co.; Sparks, Eckelbarger & Whightsil No. 1-8
Sec. 8, T. 10N. R. 2 W.; Ground Level Elevation 745'




McCLURE OIL CO.
SPARKS, ECKELBARGER & WHIGHTSIL NO. 1-8
LOWER ORDOVICIAN, CAMBRIAN
& PRECAMBRIAN
STRATIGRAPHIC
SEQUENCE

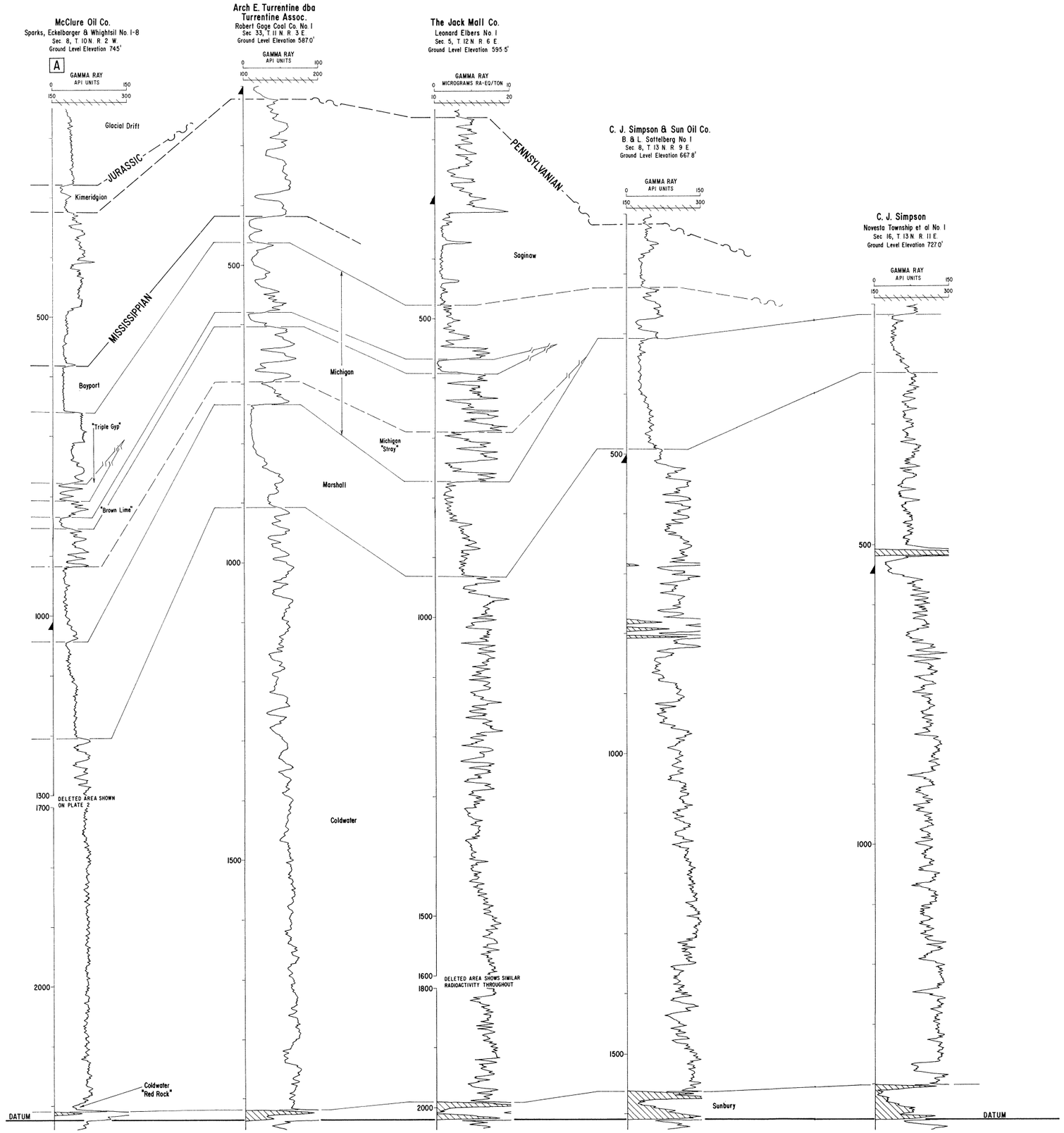
R. T. LILIENTHAL, 1978
DRAWN BY: G. A. WILSON

SCALE
Horizontal Scale
None
Vertical Scale
0
100
200

Southern Peninsula of Michigan

CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE

PLATE 83




STRATIGRAPHIC CROSS SECTION A-O

GRATIOT COUNTY TO HURON COUNTY

PENNSYLVANIAN & MISSISSIPPIAN OF THE MICHIGAN BASIN

R. T. LILIENTHAL, 1978

DRAWN BY G. A. WILSON

SCALE

Horizontal Scale None

Vertical Scale

0 — 100 — 200

LEGEND

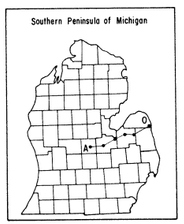
CORRELATION LINE

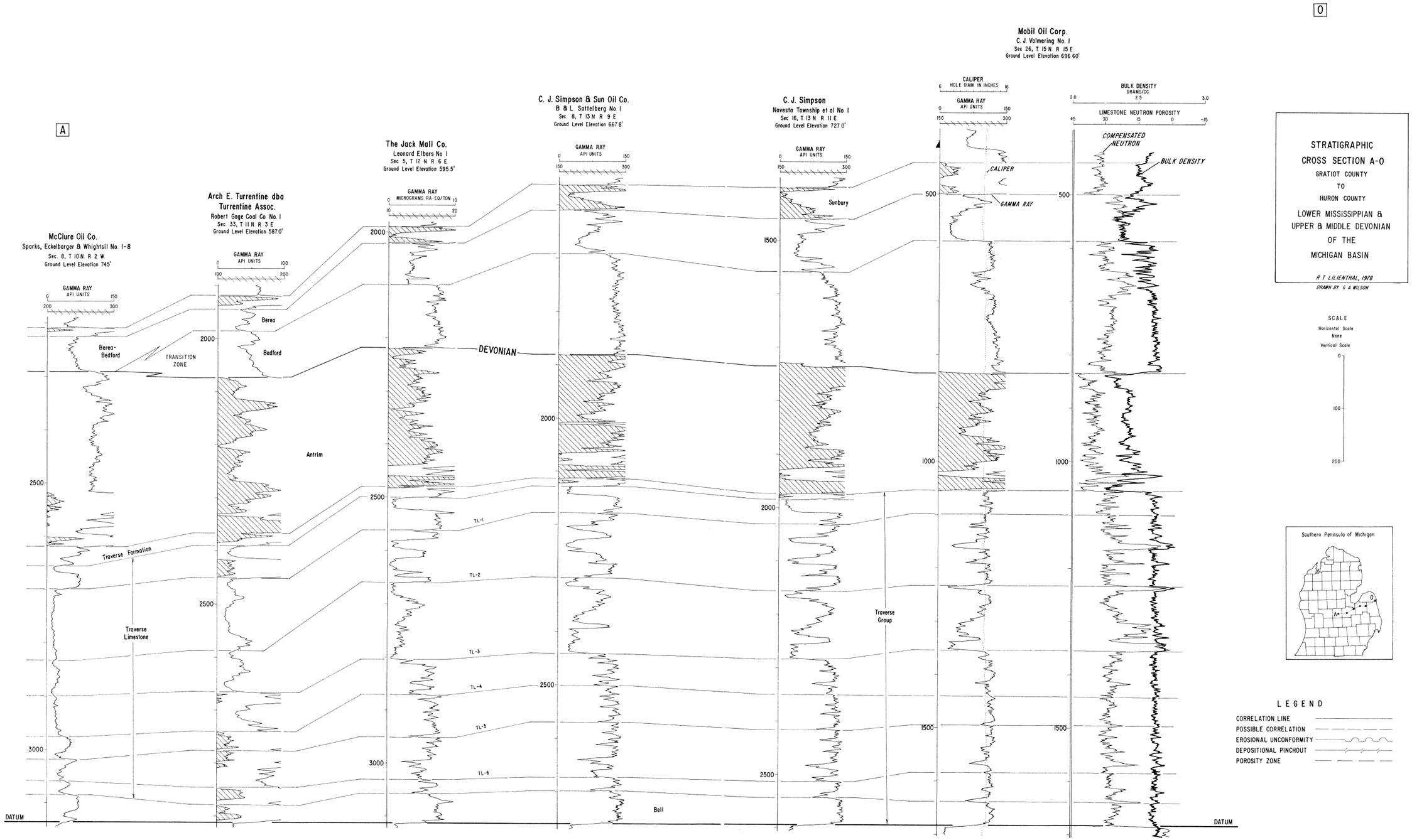
POSSIBLE CORRELATION

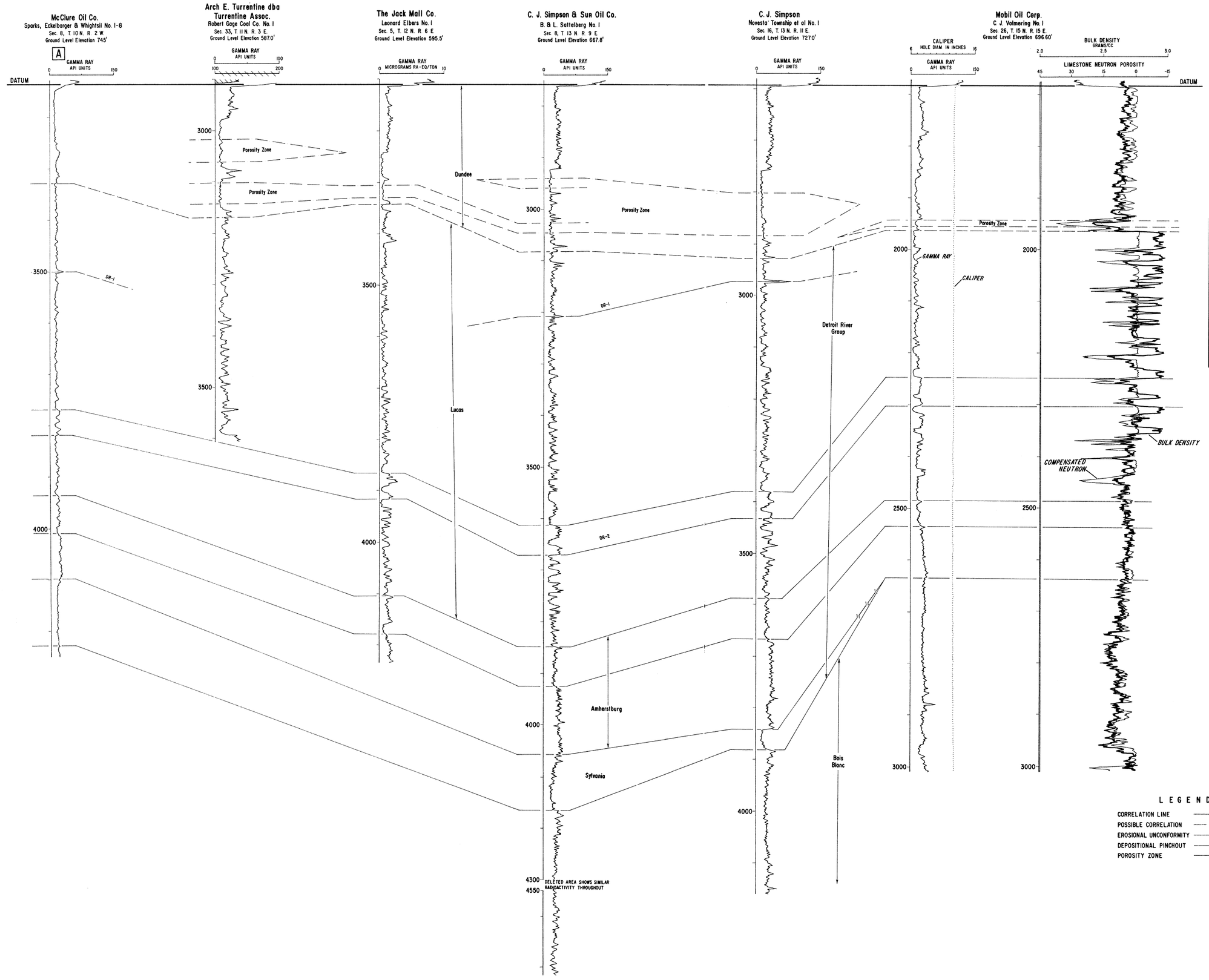
EROSIONAL UNCONFORMITY

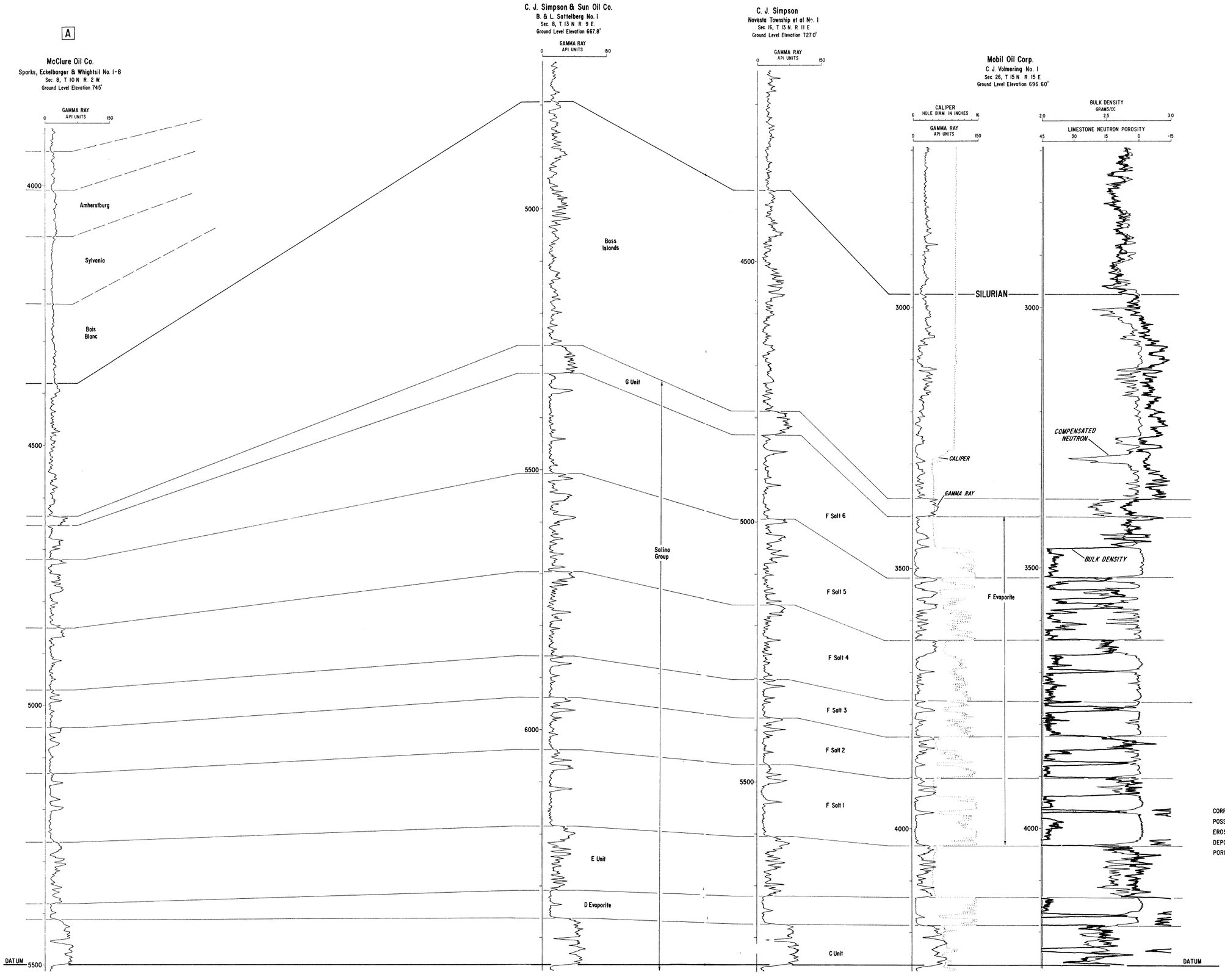
DEPOSITIONAL PINCHOUT

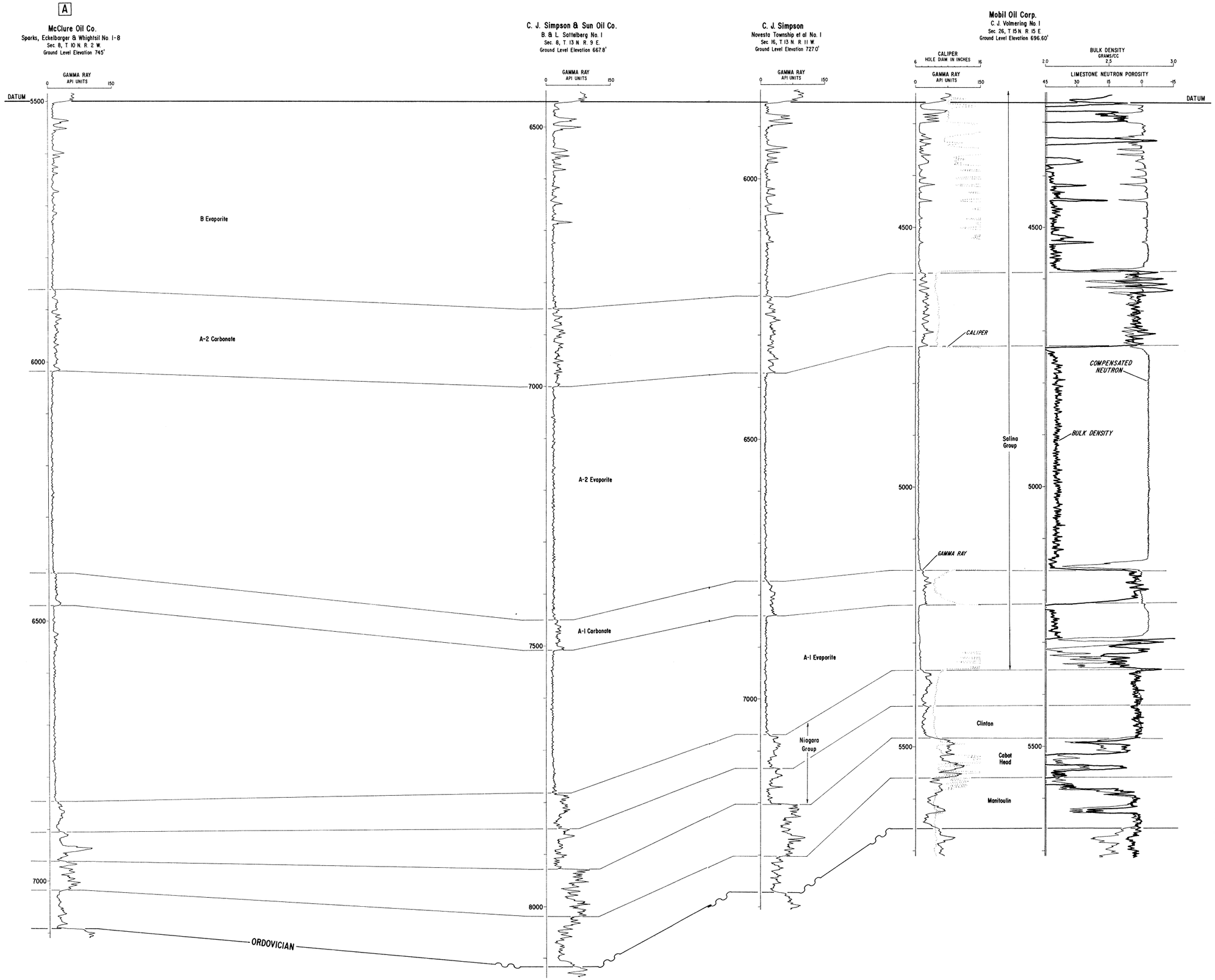
POROSITY ZONE

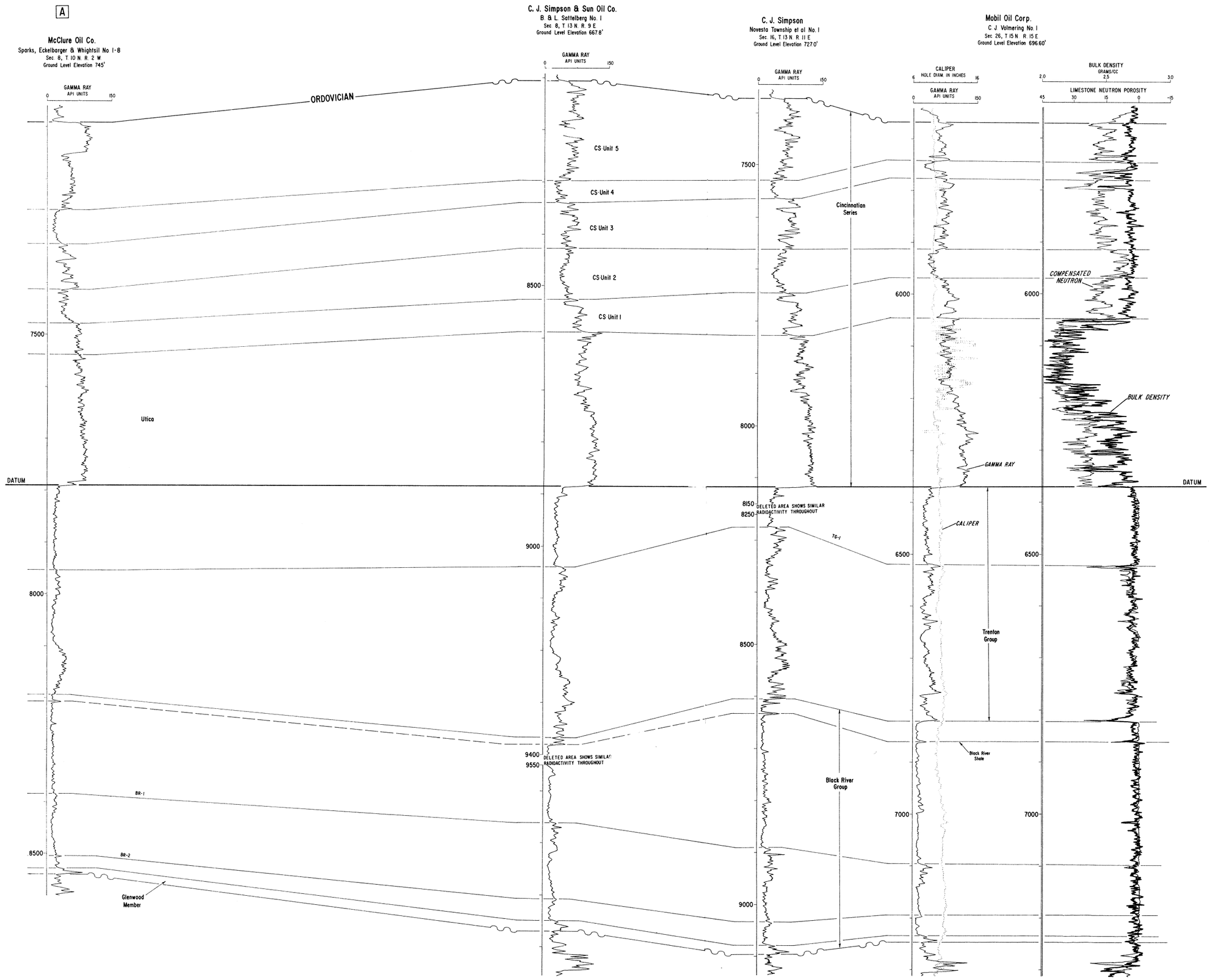



A
O
McClure Oil Co.
Sparks, Eckelbarger & Whightsil No. 1-8
Sec. 8, T 10 N R 2 W
Ground Level Elevation 745'
Arch E. Turrentine dba Turrentine Assoc.
Robert Gage Coal Co No. 1
Sec 33, T 11 N R 3 E
Ground Level Elevation 587.0'
The Jack Mall Co.
Leonard Elbers No 1
Sec 5, T 12 N R 6 E
Ground Level Elevation 595.5'
C. J. Simpson & Sun Oil Co.
B & L. Sattelberg No. 1
Sec. 8, T 13 N R 9 E
Ground Level Elevation 667.8'
C. J. Simpson
Novesta Township et al No 1
Sec 16, T 13 N R 11 E
Ground Level Elevation 727.0'
Mobil Oil Corp.
C. J. Volmering No. 1
Sec 26, T 15 N R 15 E
Ground Level Elevation 696.60'
GAMMA RAY
API UNITS
GAMMA RAY
MICROGRAMS RA-EQ/TON
CALIPER
HOLE DIAM IN INCHES
BULK DENSITY
GRAMS/CC
LIMESTONE NEUTRON POROSITY
COMPENSATED NEUTRON
BULK DENSITY
CALIPER
GAMMA RAY
Berea-Bedford
TRANSITION ZONE
Berea
Bedford
Antrim
DEVONIAN
Traverse Formation
Traverse Limestone
Traverse Group
Sunbury
Bell
TL-1
TL-2
TL-3
TL-4
TL-5
TL-6
DATUM
DATUM
STRATIGRAPHIC CROSS SECTION A-O
GRATIOT COUNTY
TO
HURON 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


McClure Oil Co.
Sparks, Eckelberger & Whightsil No. 1-8
Sec. 8, T 10 N. R. 2 W.
Ground Level Elevation 745'
A
GAMMA RAY
API UNITS
0
150
DATUM
3500
DR-1
4000
Arch E. Turrentine dba
Turrentine Assoc.
Robert Gage Coal Co. No. 1
Sec. 33, T. 11 N. R. 3 E.
Ground Level Elevation 587.0'
GAMMA RAY
API UNITS
0
100
100
200
3000
Porosity Zone
Porosity Zone
3500
The Jack Mall Co.
Leonard Elbers No. 1
Sec. 5, T. 12 N. R. 6 E.
Ground Level Elevation 595.5'
GAMMA RAY
MICROGRAMS RA-EQ/TON
0
10
Dundee
3500
Lucas
4000
C. J. Simpson & Sun Oil Co.
B. & L. Sattelberg No. 1
Sec. 8, T 13 N. R 9 E.
Ground Level Elevation 667.8'
GAMMA RAY
API UNITS
0
150
3000
Porosity Zone
DR-1
3500
DR-2
Amherstburg
4000
Sylvania
4300
4550
DELETED AREA SHOWS SIMILAR
RADIOACTIVITY THROUGHOUT
C. J. Simpson
Novesta Township et al No. 1
Sec. 16, T. 13 N. R. 11 E.
Ground Level Elevation 727.0'
GAMMA RAY
API UNITS
0
150
3000
Detroit River
Group
3500
Bois
Blanc
4000
Mobil Oil Corp.
C. J. Volmering No. 1
Sec. 26, T. 15 N. R. 15 E.
Ground Level Elevation 696.60'
CALIPER
HOLE DIAM IN INCHES
6
16
GAMMA RAY
API UNITS
0
150
2000
GAMMA RAY
CALIPER
2500
3000
BULK DENSITY
GRAMS/CC
2.0
2.5
3.0
LIMESTONE NEUTRON POROSITY
45
30
15
0
-15
DATUM
Porosity Zone
2000
BULK DENSITY
COMPENSATED
NEUTRON
2500
3000
O
STRATIGRAPHIC
CROSS SECTION A-O
GRATIOT COUNTY
TO
HURON COUNTY
MIDDLE DEVONIAN
OF THE
MICHIGAN BASIN
R. T. LILIENTHAL, 1978
DRAWN BY G. A. WILSON
SCALE
Horizontal Scale
None
Vertical Scale
0
100
200
Southern Peninsula of Michigan
A
O
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'
GAMMA RAY
API UNITS
0
150
4000
4500
5000
5500
Amherstburg
Sylvania
Bois Blanc
DATUM
C. J. Simpson & Sun Oil Co.
B. & L. Sattelberg No. 1
Sec. 6, T 13 N R 9 E.
Ground Level Elevation 667.8'
GAMMA RAY
API UNITS
0
150
5000
5500
6000
Bass Islands
G Unit
Salina Group
E Unit
D Evaporite
C. J. Simpson
Novesta Township et al No. 1
Sec. 16, T 13 N. R 11 E
Ground Level Elevation 727.0'
GAMMA RAY
API UNITS
0
150
4500
5000
5500
F Salt 6
F Salt 5
F Salt 4
F Salt 3
F Salt 2
F Salt 1
C Unit
Mobil Oil Corp.
C. J. Volmering No. 1
Sec 26, T 15 N R 15 E
Ground Level Elevation 696.60'
CALIPER
HOLE DIAM IN INCHES
6
16
GAMMA RAY
API UNITS
0
150
BULK DENSITY
GRAMS/CC
2.0
2.5
3.0
LIMESTONE NEUTRON POROSITY
45
30
15
0
-15
SILURIAN
3000
3500
4000
CALIPER
GAMMA RAY
F Evaporite
COMPENSATED NEUTRON
BULK DENSITY
DATUM
O
STRATIGRAPHIC
CROSS SECTION A-O
GRATIOT COUNTY
TO
HURON 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
Southern Peninsula of Michigan
O
A
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'
C. J. Simpson & Sun Oil Co.
B. & L. Sattelberg No. 1
Sec. 8, T 13 N R. 9 E.
Ground Level Elevation 667.8'
C. J. Simpson
Novesta Township et al No. 1
Sec 16, T 13 N R 11 W.
Ground Level Elevation 727.0'
Mobil Oil Corp.
C. J. Volmering No. 1
Sec. 26, T 15 N R 15 E
Ground Level Elevation 696.60'
O
GAMMA RAY
API UNITS
0
150
CALIPER
HOLE DIAM IN INCHES
6
16
BULK DENSITY
GRAMS/CC
2.0
2.5
3.0
LIMESTONE NEUTRON POROSITY
45
30
15
0
-15
DATUM
5500
6000
6500
7000
7500
8000
4500
5000
5500
B Evaporite
A-2 Carbonate
A-2 Evaporite
A-1 Carbonate
A-1 Evaporite
Niagara Group
Salina Group
Clinton
Cabot Head
Manitoulin
ORDOVICIAN
CALIPER
GAMMA RAY
COMPENSATED NEUTRON
BULK DENSITY
STRATIGRAPHIC
CROSS SECTION A-O
GRATIOT COUNTY
TO
HURON COUNTY
MIDDLE & LOWER SILURIAN
OF THE
MICHIGAN BASIN
R T LILIENTHAL, 1978
DRAWN BY G A WILSON
SCALE
Horizontal Scale
None
Vertical Scale
0
100
200
Southern Peninsula of Michigan
A
O
LEGEND
CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE


A
O
McClure Oil Co.
Sparks, Eckelbarger & Whightsil No 1-8
Sec. 8, T 10 N. R. 2 W
Ground Level Elevation 745'
C. J. Simpson & Sun Oil Co.
B. & L. Sattelberg No. 1
Sec 8, T 13 N. R. 9 E
Ground Level Elevation 667.8'
C. J. Simpson
Novesta Township et al No. 1
Sec. 16, T. 13 N. R. 11 E
Ground Level Elevation 727.0'
Mobil Oil Corp.
C J Volmering No 1
Sec 26, T 15 N. R 15 E
Ground Level Elevation 696.60'
GAMMA RAY
API UNITS
0
150
CALIPER
HOLE DIAM. IN INCHES
6
16
BULK DENSITY
GRAMS/CC
2.0
2.5
3.0
LIMESTONE NEUTRON POROSITY
45
30
15
0
-15
ORDOVICIAN
CS Unit 5
CS Unit 4
CS Unit 3
CS Unit 2
CS Unit 1
Cincinnatian Series
COMPENSATED NEUTRON
BULK DENSITY
GAMMA RAY
CALIPER
Utica
DATUM
DELETED AREA SHOWS SIMILAR RADIOACTIVITY THROUGHOUT
TG-1
Trenton Group
Black River Shale
Black River Group
BR-1
BR-2
Glenwood Member
7500
8000
8500
9000
9400
9550
8150
8250
6000
6500
7000
STRATIGRAPHIC
CROSS SECTION A-O
GRATIOT COUNTY
TO
HURON 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
Southern Peninsula of Michigan
LEGEND
CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE