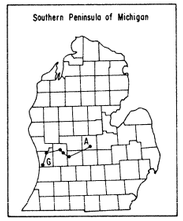
G

STRATIGRAPHIC CROSS SECTION A-G

GRATIOT COUNTY
TO
OTTAWA 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

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

GAMMA RAY API UNITS 0 150

A

4000
4500
5000
5500

Sylvania
F Evaporite
D Evaporite

DATUM

Ambassador Oil Corp.
Samuel Ten-Cate No. 1
Sec. 34, T.7N. R.8W.
Ground Level Elevation 765.1'

GAMMA RAY API UNITS 0 150

3000
3500
4000

DR-2
Lucas
Amherstburg
Bois Blanc
Bass Islands
Salina Group

Ambassador Oil Corp. Et Al
John Ten Have No. 1
Sec. 6, T.8N. R.9W.
Ground Level Elevation 857'

GAMMA RAY API UNITS 0 150
NEUTRON API UNITS 0 2000 4000
LATEROLOG CONDUCTIVITY MILLIMHOS/M (1000/OHM-M) 400 200 0

3500
4000

SILURIAN
G Unit
F Salt 6
F Salt 5
F Salt 4
F Salt 3
F Salt 2
F Salt 1

NEUTRON
CONDUCTIVITY

Beacon Resources Corp.
B.E. Goss No. 1
Sec. 35, T.9N. R.10W.
Ground Level Elevation 936'

GAMMA RAY API UNITS 0 100 200

3500
4000

Amherstburg
Bois Blanc
E Unit

McClure Oil, Mio Exploration, and Gordon Oil Companies
Vormittag No. 1
Sec. 9, T.8N. R.14W.
Ground Level Elevation 684'

GAMMA RAY API UNITS 0 165

2500
3000

"E" Porosity Zone
C Unit

Parke-Davis and Company
Brine Disposal No. 3
Sec. 20, T.5N. R.15W.
Ground Level Elevation 588.6'

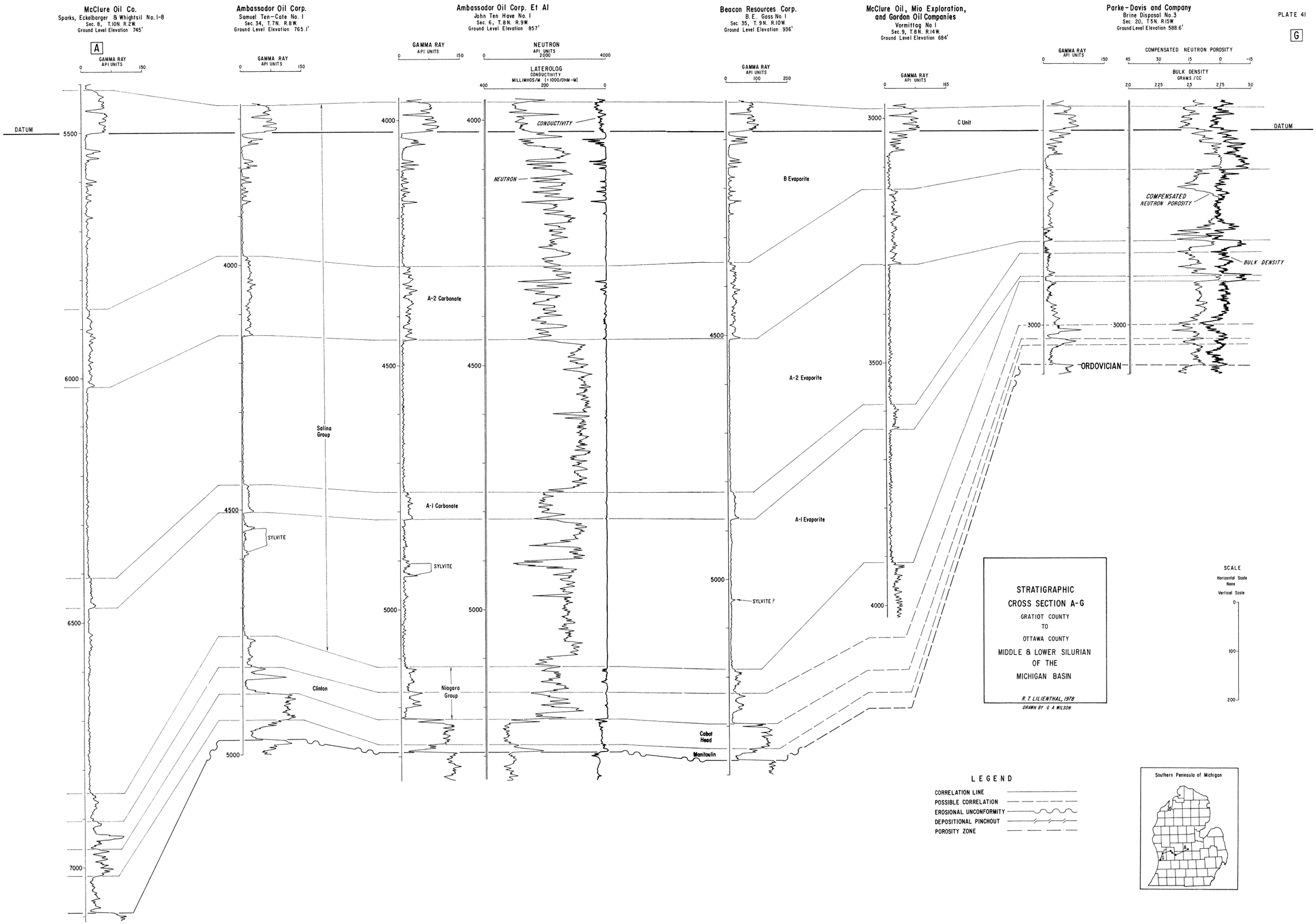
GAMMA RAY API UNITS 0 150
COMPENSATED NEUTRON POROSITY 45 30 15 0 -15
BULK DENSITY GRAMS/CC 2.0 2.25 2.5 2.75 3.0

2000
2500

Detroit River Group
Bass Islands
Amherstburg

COMPENSATED NEUTRON POROSITY
BULK DENSITY

DATUM


McClure Oil Co.
Sparks, Eckelbarger & Whightsil No. 1-8
Sec. 8, T.10N. R.2W.
Ground Level Elevation 745'
A
GAMMA RAY
API UNITS
0
150
Ambassador Oil Corp.
Samuel Ten-Cate No. 1
Sec. 34, T.7N. R.8W.
Ground Level Elevation 765.1'
GAMMA RAY
API UNITS
0
150
Ambassador Oil Corp. Et Al
John Ten Have No. 1
Sec. 6, T.8N. R.9W.
Ground Level Elevation 857'
GAMMA RAY
API UNITS
0
150
NEUTRON
API UNITS
0
2000
4000
LATEROLOG
CONDUCTIVITY
MILLIMHOS/M (=1000/OHM-M)
400
200
0
Beacon Resources Corp.
B.E. Goss No. 1
Sec. 35, T.9N. R.10W.
Ground Level Elevation 936'
GAMMA RAY
API UNITS
0
100
200
McClure Oil, Mio Exploration, and Gordon Oil Companies
Vormittag No. 1
Sec. 9, T.8N. R.14W.
Ground Level Elevation 684'
GAMMA RAY
API UNITS
0
165
Parke-Davis and Company
Brine Disposal No. 3
Sec. 20, T.5N. R.15W.
Ground Level Elevation 588.6'
GAMMA RAY
API UNITS
0
150
COMPENSATED NEUTRON POROSITY
45
30
15
0
-15
BULK DENSITY
GRAMS / CC
2.0
2.25
2.5
2.75
3.0
G
DATUM
5500
6000
6500
7000
4000
4500
5000
CONDUCTIVITY
NEUTRON
A-2 Carbonate
A-1 Carbonate
SYLVITE
SYLVITE
Salina Group
Clinton
Niagara Group
Cabot Head
Manitoulin
B Evaporite
A-2 Evaporite
A-1 Evaporite
SYLVITE ?
3000
3500
4000
C Unit
COMPENSATED NEUTRON POROSITY
BULK DENSITY
ORDOVICIAN
STRATIGRAPHIC
CROSS SECTION A-G
GRATIOT COUNTY
TO
OTTAWA 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
LEGEND
CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE
Southern Peninsula of Michigan
A
G

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'

STRATIGRAPHIC CROSS SECTION A-G

GRATIOT COUNTY
TO
OTTAWA COUNTY
UPPER & MIDDLE ORDOVICIAN
OF THE
MICHIGAN BASIN

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

Parke-Davis and Company
Brine Disposal No.3
Sec. 20, T.5N R.1W.
Ground Level Elevation 588.6'

G

GAMMA RAY API UNITS 0 150
NEUTRON API UNITS 2000 0 4000
LATEROLOG CONDUCTIVITY MILLIMHOS/M (=1000/OHM-M) 400 200 0
GAMMA RAY API UNITS 0 100 200
GAMMA RAY API UNITS 0 150
COMPENSATED NEUTRON POROSITY 45 30 15 0 -15
BULK DENSITY GRAMS/CC 2.0 2.25 2.5 2.75 3.0

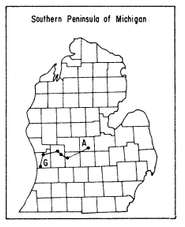
DATUM

5000
5500
6000
6500
7500
8000
8500
3000
3500

CS Unit 5
CS Unit 4
CS Unit 3
CS Unit 2
CS Unit 1
NEUTRON
CONDUCTIVITY
Cincinnatian Series
Utica
ORDOVICIAN
Trenton Group
Black River Group
TG-I
Black River Shale
BR-I
BR-2
Glenwood Member
COMPENSATED NEUTRON POROSITY
BULK DENSITY

SCALE
Horizontal Scale None
Vertical Scale
0
100
200

Southern Peninsula of Michigan



LEGEND

CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE

A

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

GAMMA RAY
API UNITS
0 150

Parke-Davis and Company
Brine Disposal Number 3
Sec. 20, T. 5 N. R. 15 W.
Ground Level Elevation 588.6

G

GAMMA RAY
API UNITS
150 300

COMPENSATED NEUTRON POROSITY
45 30 15 0 -15

BULK DENSITY
GRAMS/CC
2.0 2.25 2.5 2.75 3.0

8500
DATUM

UNCONFORMABLE CONTACT

Southern Peninsula of Michigan

9000
9500
10 000
10 500
11 000
11 500
12 000

4000
4500
5000
5500

Prairie du Chien Group
Franconia Member
Dresbach Member
Eau Claire Member
Mt. Simon Member
Munising

Trempealeau
Franconia Member
Dresbach Member
Eau Claire Member
Mt. Simon Member
Munising
Munising

COMPENSATED NEUTRON POROSITY
BULK DENSITY

TOP OF RED BEDS

REMAINDER OF SECTION SHOWN ON PLATE 83

STRATIGRAPHIC
CROSS SECTION A-G
GRATIOT COUNTY
TO
OTTAWA COUNTY
LOWER ORDOVICIAN, CAMBRIAN
& PRECAMBRIAN
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

PLATE 43

A

H

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

McClure Oil Co.
Wildman No. 1
Sec. 15, T. 5 N. R. 7 W.
Ground Level Elevation 857.2'

McClure Oil Co.
Schaibly No. 1
Sec. 20, T. 4 N. R. 7 W.
Ground Level Elevation 868.6'

Continental Oil Co.
Simpson No. 1
Sec. 10, T. 2 N. R. 12 W.
Ground Level Elevation 813.2'

The UpJohn Co.
UpJohn No. 3
Sec. 14, T. 3 S. R. 11 W.
Ground Level Elevation 871'

Turtle Drlg. Co.
Kern No. 1
Sec. 34, T. 4 S. R. 14 W.
Ground Level Elevation 911.0'

GAMMA RAY API UNITS 0 150 300
GAMMA RAY API UNITS 0 200 400
NEUTRON API UNITS 400 1400 2400
GAMMA RAY API UNITS 0 150
NEUTRON API UNITS 600 0 1200
GAMMA RAY API UNITS 0 200

JURASSIC
Kimeridgian
Saginaw
Glacial Drift
PENNSYLVANIAN
MISSISSIPPIAN
Bayport
Michigan
"Brown Lime"
Michigan "Stray"
"Triple Grp"
Marshall
NEUTRON
Coldwater
Coldwater "Red Rock"
Sunbury
DELETED AREA SHOWN ON PLATE 2
DATUM
TOP OF ELLSWORTH
DEVONIAN

500
1000
1300
1700
1500
2000

STRATIGRAPHIC CROSS SECTION A-H

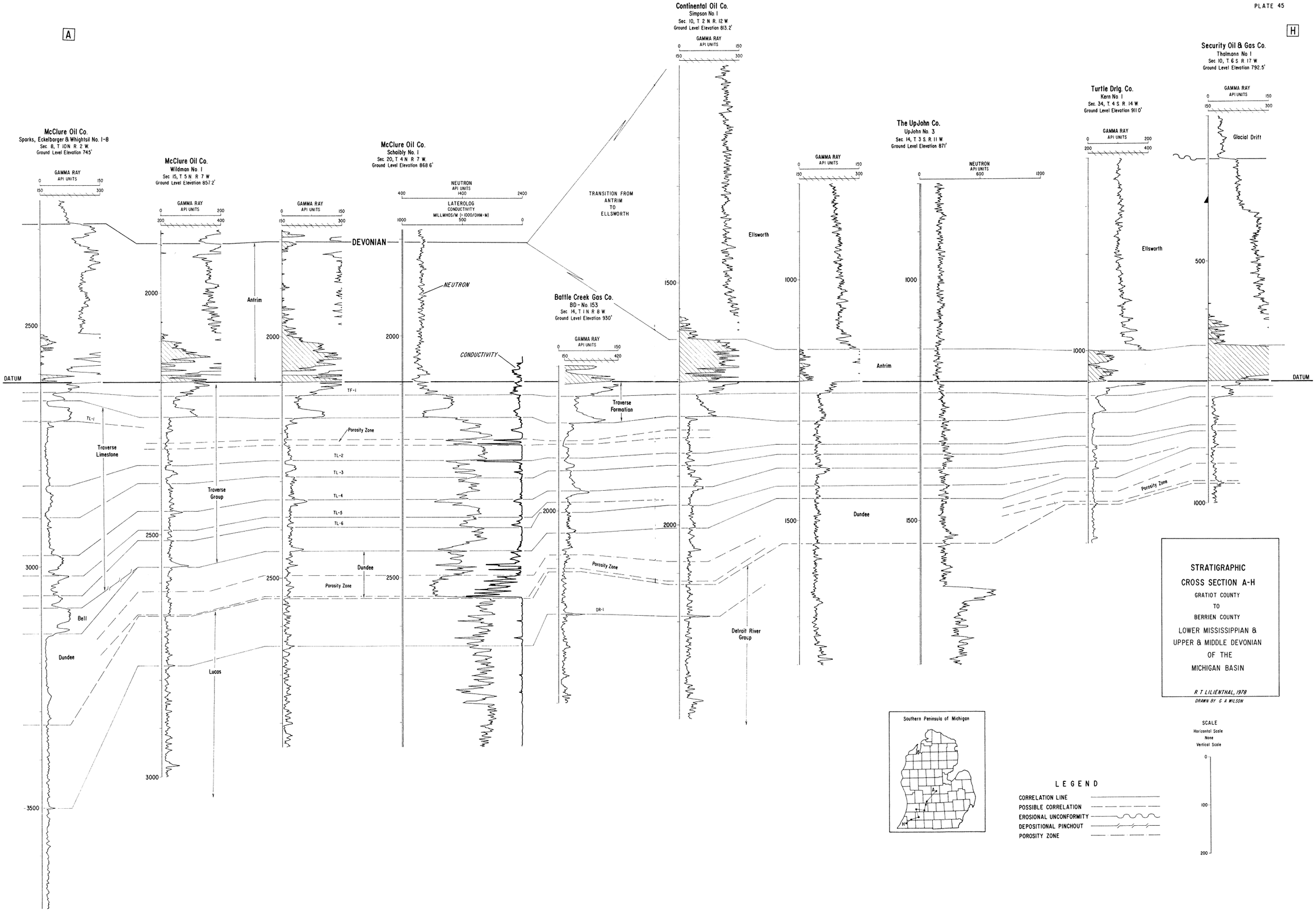
GRATIOT COUNTY
TO
BERRIEN COUNTY
PENNSYLVANIAN &
MISSISSIPPIAN
OF THE
MICHIGAN BASIN

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

LEGEND

CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE

SCALE
Horizontal Scale
None
Vertical Scale
0
100
200



STRATIGRAPHIC
CROSS SECTION A-H
GRATIOT COUNTY
TO
BERRIEN COUNTY
LOWER MISSISSIPPIAN &
UPPER & MIDDLE DEVONIAN
OF THE
MICHIGAN BASIN

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

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

A

GAMMA RAY API UNITS 0 150

McClure Oil Co.
Wildman No. 1
Sec 15, T 5N R 7 W
Ground Level Elevation 857.2'

GAMMA RAY API UNITS 0 200

McClure Oil Co.
Schaibly No. 1
Sec 20, T 4 N R 7 W
Ground Level Elevation 868 6'

GAMMA RAY API UNITS 0 150

NEUTRON API UNITS 400 1400 2400

LATEROLOG CONDUCTIVITY MILLIMHOS/M (1000/OHM-M) 1000 500 0

Battle Creek Gas Co.
BD-No. 153
Sec. 14, T 1 N R 8 W
Ground Level Elevation 930'

GAMMA RAY API UNITS 0 150

Continental Oil Co.
Simpson No. 1
Sec 10, T 2 N R 12 W
Ground Level Elevation 813.2'

GAMMA RAY API UNITS 0 150

The UpJohn Co.
UpJohn No. 3
Sec. 14, T 3 S R 11 W
Ground Level Elevation 871'

GAMMA RAY API UNITS 0 150

NEUTRON API UNITS 600 1200

Turtle Drlg. Co.
Kern No. 1
Sec. 34, T 4 S. R 14 W
Ground Level Elevation 911.0'

GAMMA RAY API UNITS 0 200

Security Oil & Gas Co.
Thalmann No. 1
Sec 10, T 6 S. R 17 W
Ground Level Elevation 792.5'

GAMMA RAY API UNITS 0 150

4000
4500
5000
5500
DATUM
3000
3500
2500
1800
1500
1000

Amherstburg
Bois Blanc
G Unit
F Salt 6
F Salt 5
F Salt 4
F Salt 3
F Salt 2
F Salt 1
F Evaporite
D Evaporite
C Unit
Salina Group
SILURIAN
NEUTRON
CONDUCTIVITY
Bass Islands
E Unit
C Unit
Sylvania
Bass Islands
Salina Group
NEUTRON
Sylvania
Salina Group

H

LEGEND

- CORRELATION LINE
- POSSIBLE CORRELATION
- EROSIONAL UNCONFORMITY
- DEPOSITIONAL PINCHOUT
- POROSITY ZONE

STRATIGRAPHIC CROSS SECTION A-H

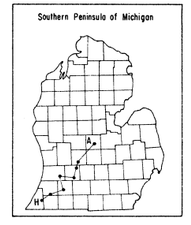
GRATIOT COUNTY
TO
BERRIEN COUNTY

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



H

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

A

McClure Oil Co.
Wildman No. 1
Sec. 15, T. 5 N. R. 7 W.
Ground Level Elevation 857.2'

McClure Oil Co.
Schaibly No. 1
Sec. 20, T. 4 N. R. 7 W.
Ground Level Elevation 868.6

Battle Creek Gas Co.
BD-No. 153
Sec. 14, T. 1 N. R. 8 W.
Ground Level Elevation 930'

Continental Oil Co.
Simpson No. 1
Sec. 10, T. 2 N. R. 12 W.
Ground Level Elevation 813.2'

The UpJohn Co.
UpJohn No. 3
Sec. 14, T. 3 S. R. 11 W.
Ground Level Elevation 871'

Turtle Drlg. Co.
Kern No. 1
Sec. 34, T. 4 S. R. 14 W.
Ground Level Elevation 911.0'

Security Oil & Gas Co.
Thalmann No. 1
Sec. 10, T. 6 S. R. 17 W.
Ground Level Elevation 792.5'

GAMMA RAY API UNITS 0 150
GAMMA RAY API UNITS 0 200
NEUTRON API UNITS 400 1400 2400
LATEROLOG CONDUCTIVITY MILLMHOS/M (=1000/OHM-M) 1000 500 0
NEUTRON API UNITS 0 600 1200

DATUM 5500
DATUM 1500

B Evaporite
A-2 Carbonate
A-2 Evaporite
A-1 Carbonate
A-1 Evaporite
Clinton
ORDOVICIAN

C Unit
Salina Group
Niagara Group
A-1 Carbonate
Cabot Head
Manitoulin
A-2 Carbonate
Niagara Group

CONDUCTIVITY
NEUTRON

3500 4000 4500 6000 6500 7000
2000 2500 3000 1500

Southern Peninsula of Michigan

SCALE
Horizontal Scale
None
Vertical Scale
0
100
200

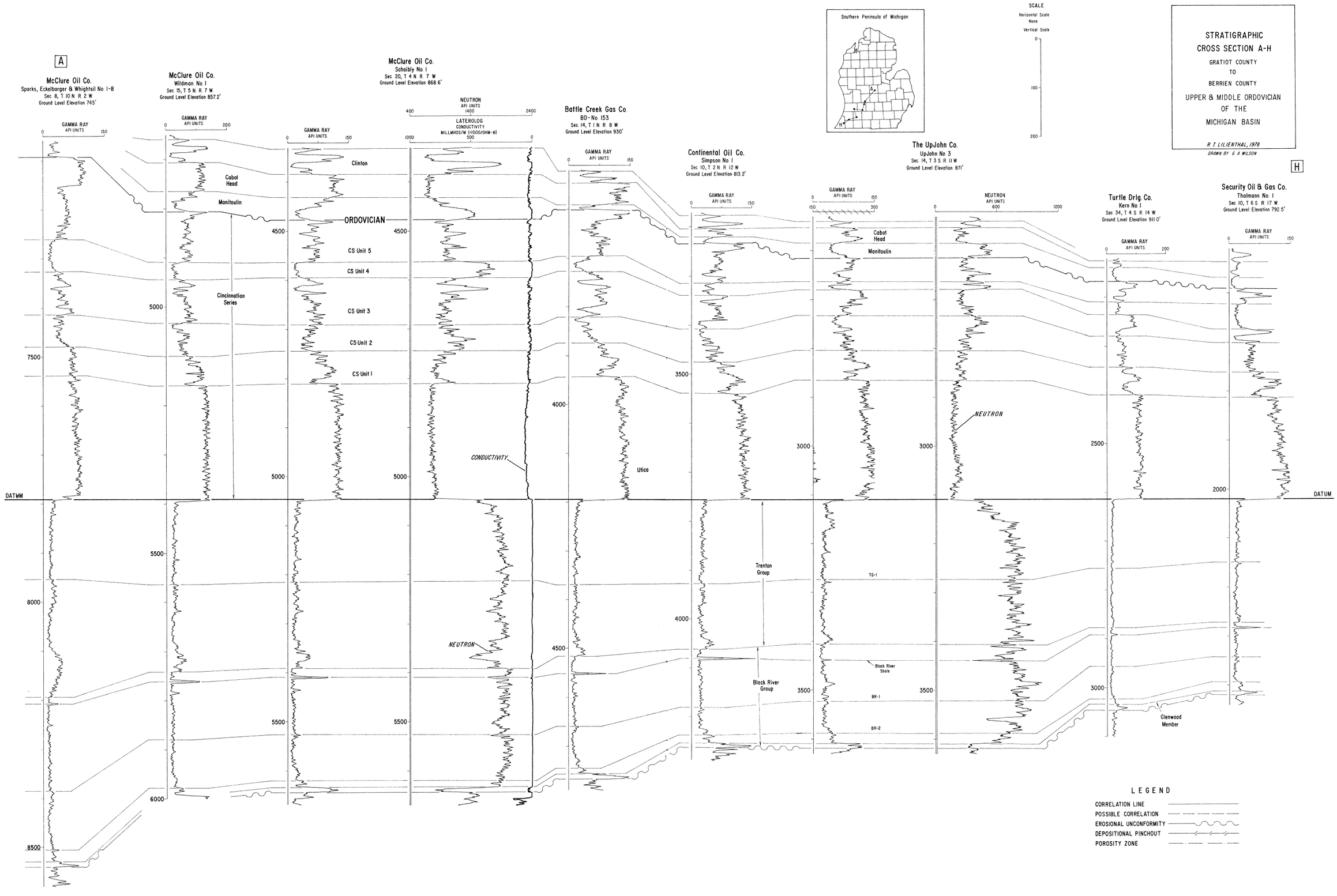
STRATIGRAPHIC CROSS SECTION A-H

GRATIOT COUNTY
TO
BERRIEN 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


STRATIGRAPHIC
CROSS SECTION A-H
GRATIOT COUNTY
TO
BERRIEN COUNTY
UPPER & MIDDLE ORDOVICIAN
OF THE
MICHIGAN BASIN
R. T. LILIENTHAL, 1978
DRAWN BY G. A. WILSON
Southern Peninsula of Michigan
SCALE
Horizontal Scale
None
Vertical Scale
A
H
McClure Oil Co.
Sparks, Eckelbarger & Whightsil No. 1-8
Sec. 8, T. 10 N. R. 2 W.
Ground Level Elevation 745'
McClure Oil Co.
Wildman No. 1
Sec. 15, T. 5 N. R. 7 W.
Ground Level Elevation 857.2'
McClure Oil Co.
Schaibly No. 1
Sec. 20, T. 4 N. R. 7 W.
Ground Level Elevation 868.6'
Battle Creek Gas Co.
BD-No. 153
Sec. 14, T. 1 N. R. 8 W.
Ground Level Elevation 930'
Continental Oil Co.
Simpson No. 1
Sec. 10, T. 2 N. R. 12 W.
Ground Level Elevation 813.2'
The UpJohn Co.
UpJohn No. 3
Sec. 14, T. 3 S. R. 11 W.
Ground Level Elevation 871'
Turtle Drlg. Co.
Kern No. 1
Sec. 34, T. 4 S. R. 14 W.
Ground Level Elevation 911.0'
Security Oil & Gas Co.
Thalmann No. 1
Sec. 10, T. 6 S. R. 17 W.
Ground Level Elevation 792.5'
GAMMA RAY
API UNITS
NEUTRON
API UNITS
LATEROLOG
CONDUCTIVITY
MILLMHOS/M (=1000/OHM-M)
Cabot Head
Manitoulin
Clinton
ORDOVICIAN
CS Unit 5
CS Unit 4
CS Unit 3
CS Unit 2
CS Unit 1
Cincinnatian Series
Utica
Trenton Group
Black River Group
Black River Shale
TG-1
BR-1
BR-2
Glenwood Member
CONDUCTIVITY
NEUTRON
DATUM
LEGEND
CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE

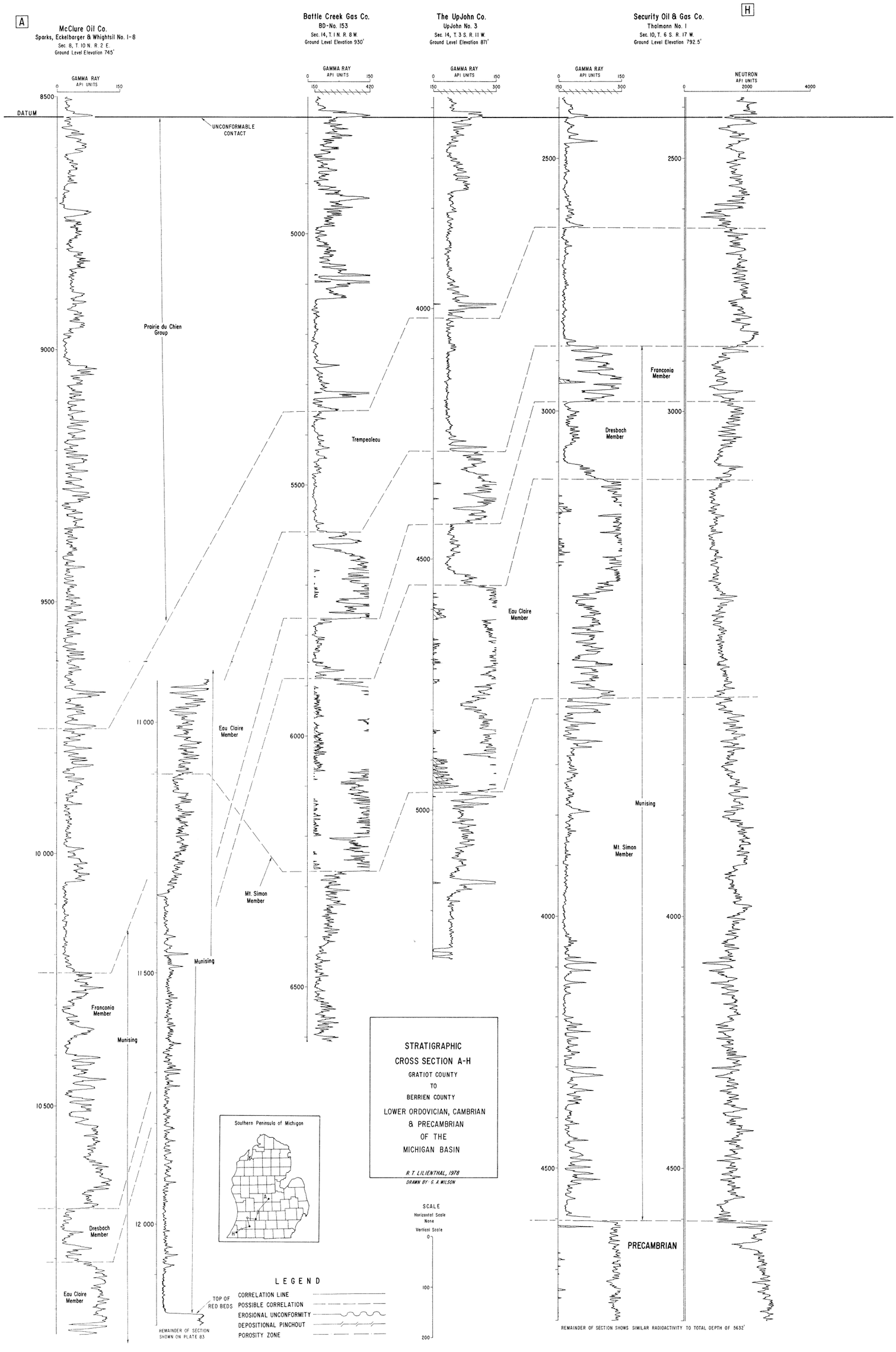

A
McClure Oil Co.
Sparks, Eckelberger & Whightsil No. 1-8
Sec. 8, T. 10 N. R. 2 E.
Ground Level Elevation 745'
Battle Creek Gas Co.
BD-No. 153
Sec. 14, T. 1 N. R. 8 W.
Ground Level Elevation 930'
The UpJohn Co.
UpJohn No. 3
Sec. 14, T. 3 S. R. 11 W.
Ground Level Elevation 871'
Security Oil & Gas Co.
Thalmann No. 1
Sec. 10, T. 6 S. R. 17 W.
Ground Level Elevation 792.5'
H
GAMMA RAY
API UNITS
NEUTRON
DATUM
UNCONFORMABLE CONTACT
Prairie du Chien Group
Trempealeau
Eau Claire Member
Mt. Simon Member
Munising
Franconia Member
Dresbach Member
Eau Claire Member
TOP OF RED BEDS
REMAINDER OF SECTION SHOWN ON PLATE 83
Franconia Member
Dresbach Member
Eau Claire Member
Munising
Mt. Simon Member
PRECAMBRIAN
REMAINDER OF SECTION SHOWS SIMILAR RADIOACTIVITY TO TOTAL DEPTH OF 5632'
Southern Peninsula of Michigan
LEGEND
CORRELATION LINE
POSSIBLE CORRELATION
EROSIONAL UNCONFORMITY
DEPOSITIONAL PINCHOUT
POROSITY ZONE
SCALE
Horizontal Scale
None
Vertical Scale
STRATIGRAPHIC
CROSS SECTION A-H
GRATIOT COUNTY
TO
BERRIEN COUNTY
LOWER ORDOVICIAN, CAMBRIAN
& PRECAMBRIAN
OF THE
MICHIGAN BASIN
R. T. LILIENTHAL, 1978
DRAWN BY: G. A. WILSON

PLATE 49