

R 24 E

R 25 E

R 26 E

R 27 E

T 6 N

T 6 N

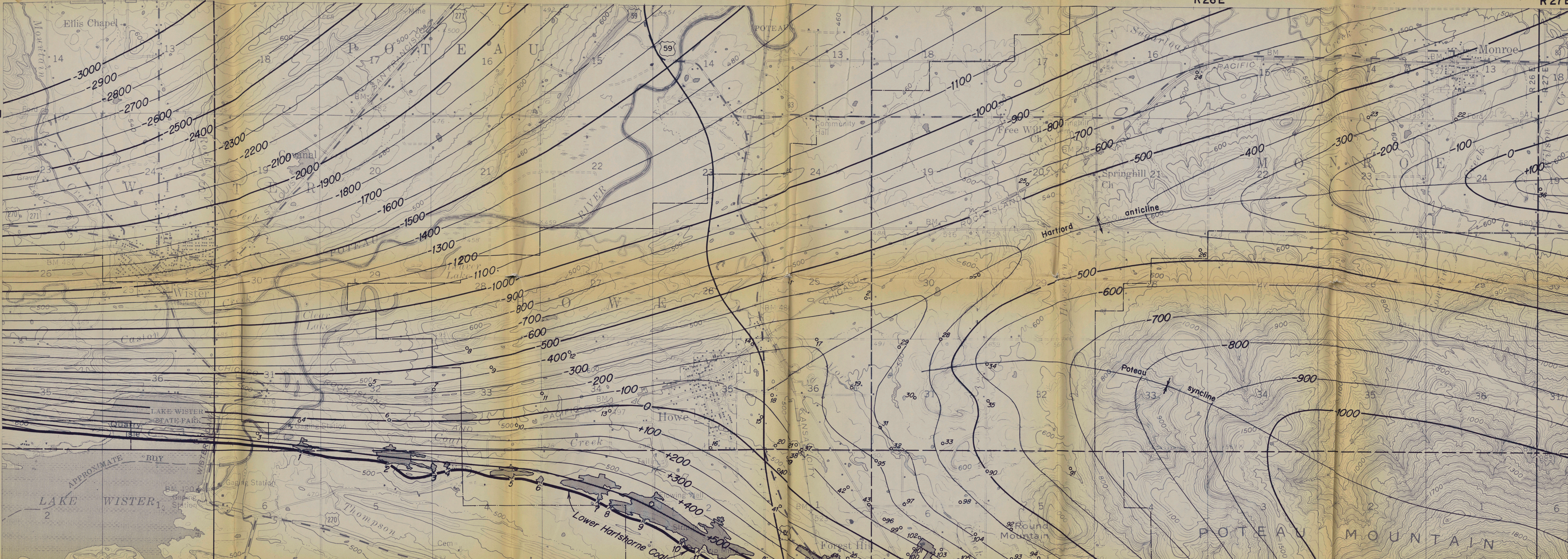
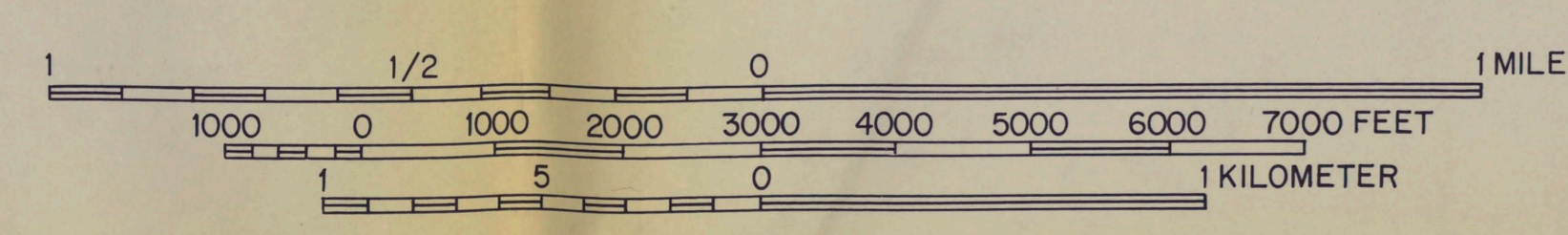
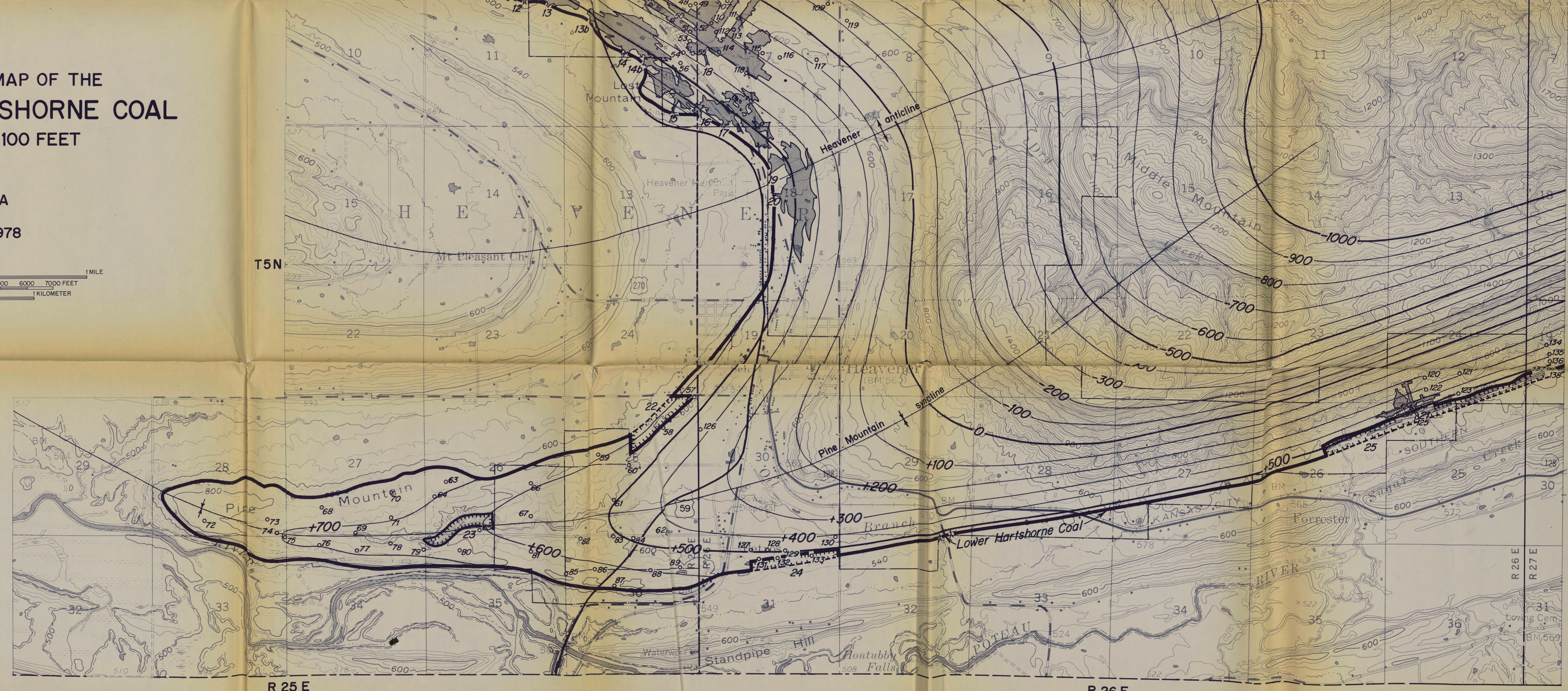


PLATE 1
 STRUCTURE-CONTOUR MAP OF THE
 TOP OF LOWER HARTSHORNE COAL
 CONTOUR INTERVAL: 100 FEET

BY
 DAVID R. DONICA
 M. S. THESIS 1978



- EXPLANATION**
- Coal test borehole
 - Abandoned shaft mine
 - Abandoned drift mine
 - Federal coal boundary
 - Subsurface axis of syncline
 - Subsurface axis of anticline
 - Abandoned or idle surface mine
 - Abandoned underground mine



R 25 E

R 26 E

R 27 E

T 5 N

T 5 N

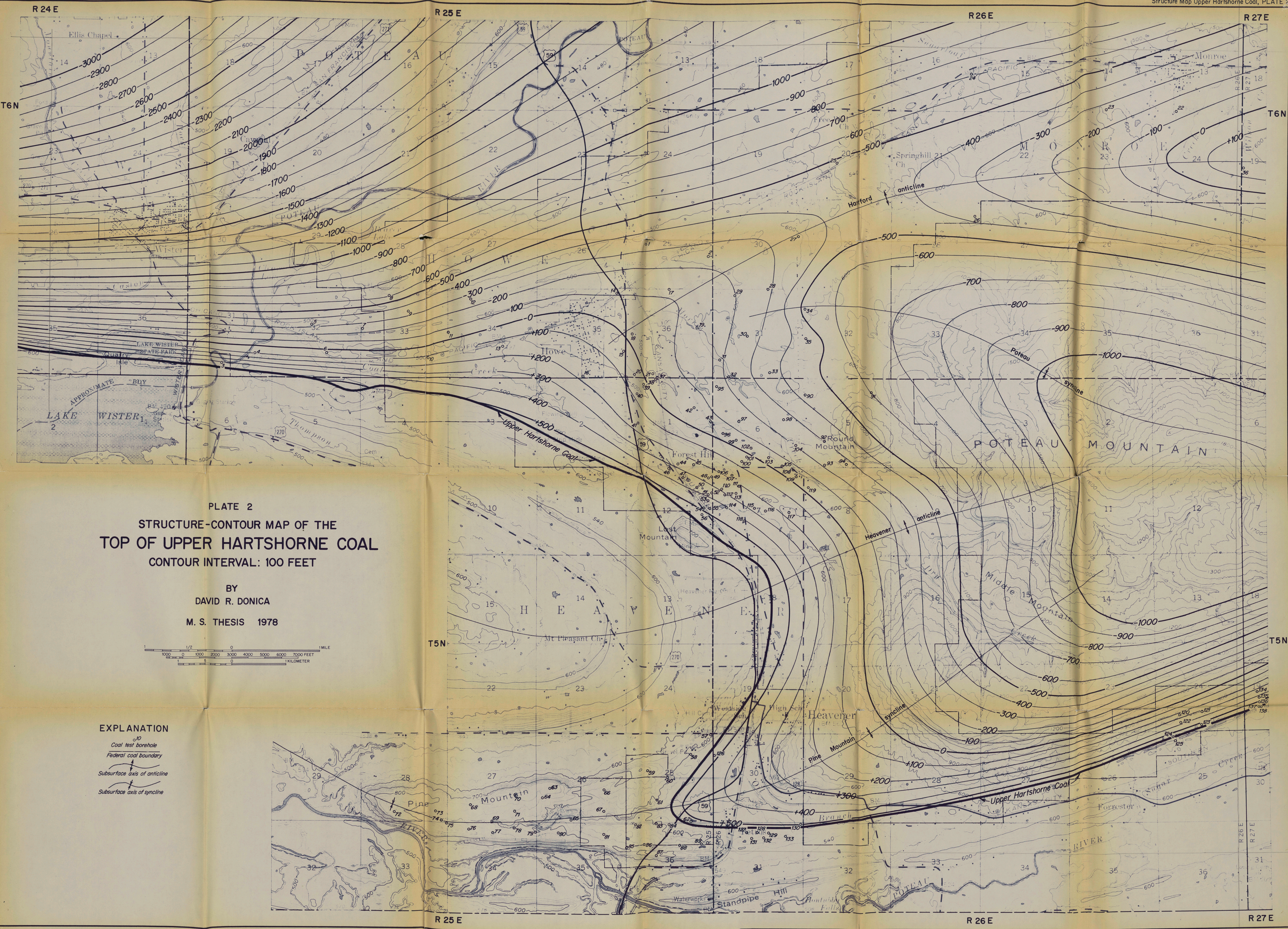
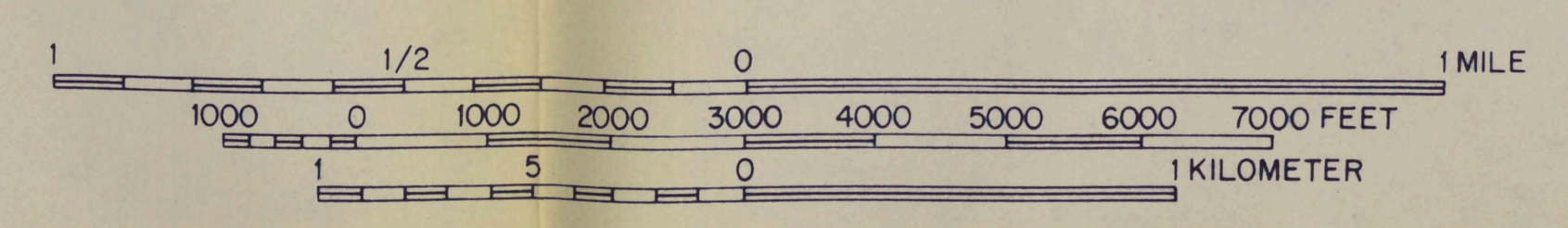


PLATE 2
 STRUCTURE-CONTOUR MAP OF THE
 TOP OF UPPER HARTSHORNE COAL
 CONTOUR INTERVAL: 100 FEET

BY
 DAVID R. DONICA
 M. S. THESIS 1978



- EXPLANATION**
- Coal test borehole
 - Federal coal boundary
 - Subsurface axis of anticline
 - Subsurface axis of syncline

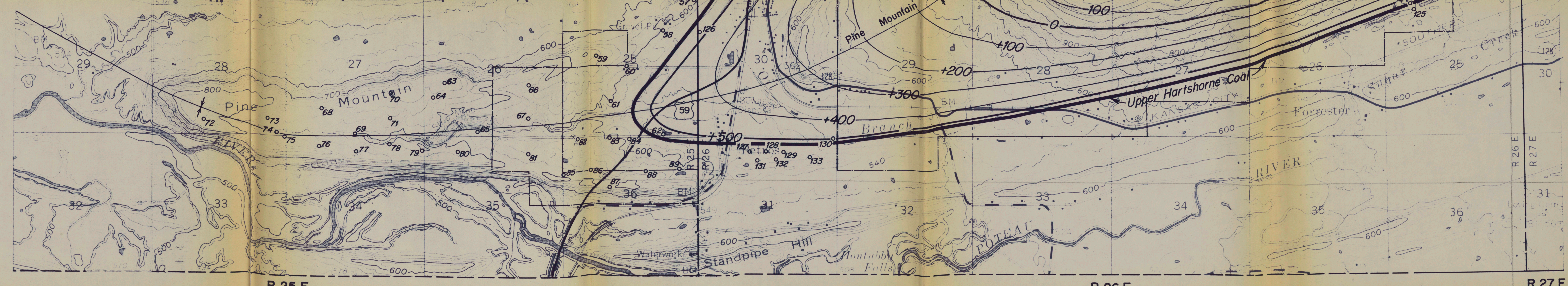
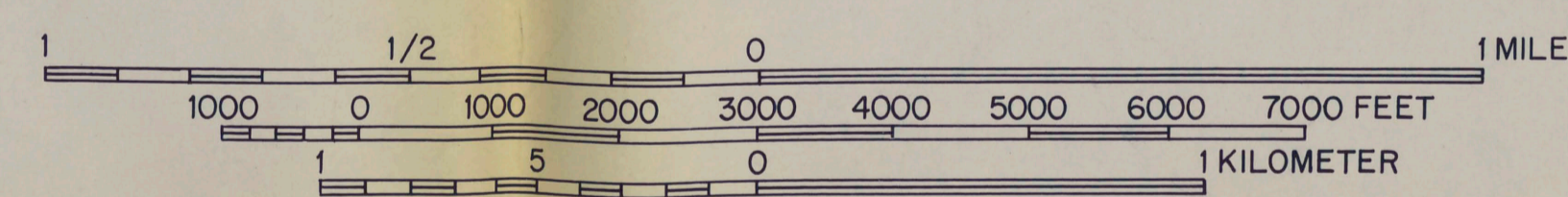




PLATE 3
 ISOPACHOUS MAP OF THE
 LOWER HARTSHORNE COAL
 CONTOUR INTERVAL: 0.5 FEET

BY
 DAVID R. DONICA

M. S. THESIS 1978



EXPLANATION

- Coal test borehole
- Coal thickness from mine map
- Abandoned shaft mine
- Abandoned drift mine
- Federal coal boundary
- Abandoned or idle surface mine
- Abandoned underground mine

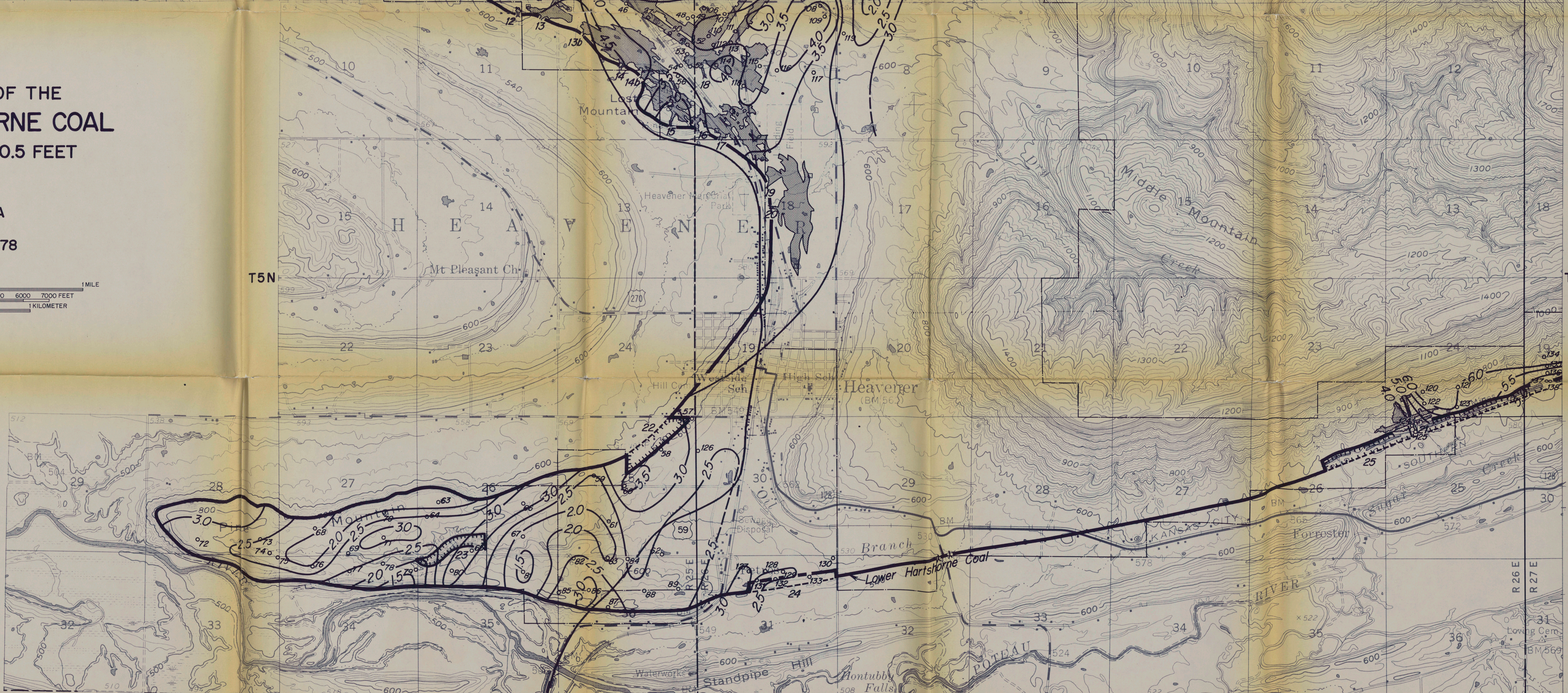
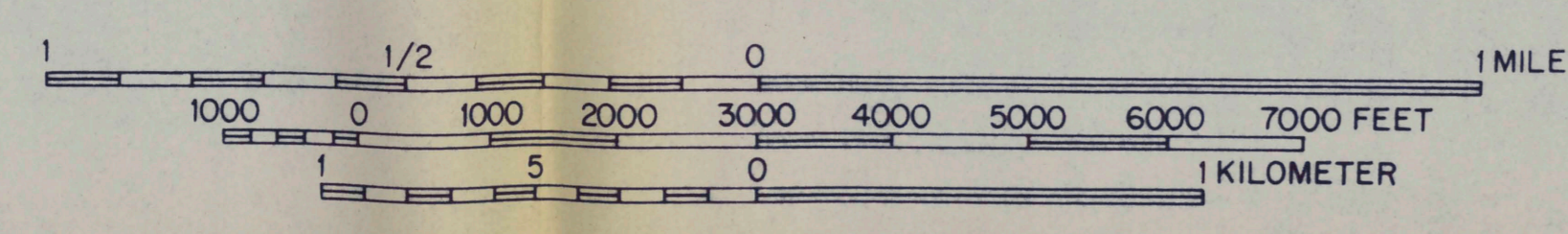




PLATE 4
 ISOPACHOUS MAP OF THE
 UPPER HARTSHORNE COAL
 CONTOUR INTERVAL: 0.5 FEET

BY
 DAVID R. DONICA
 M. S. THESIS 1978



EXPLANATION

- Coal test borehole
- Measured section 1
- Line of cross section
- Federal coal boundary

R 25 E

R 26 E

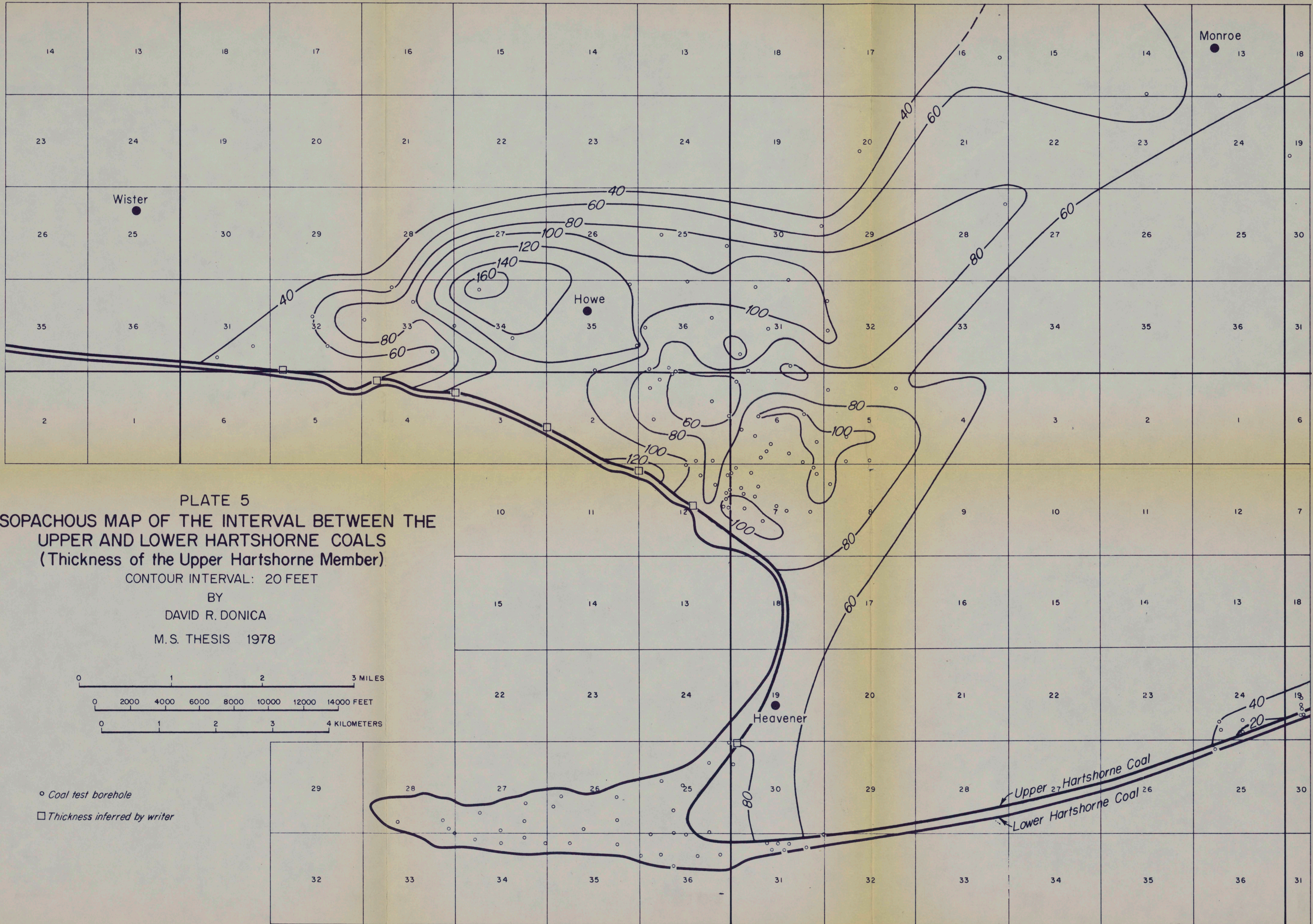
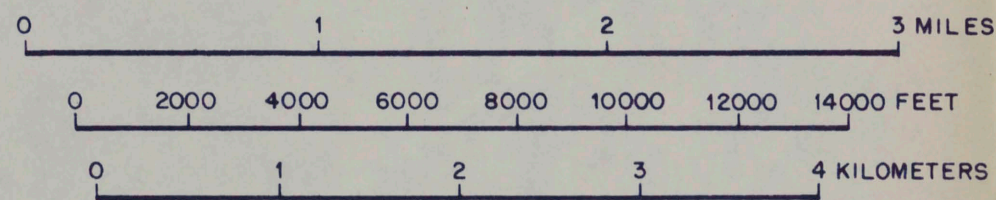


PLATE 5
 ISOPACHOUS MAP OF THE INTERVAL BETWEEN THE
 UPPER AND LOWER HARTSHORNE COALS
 (Thickness of the Upper Hartshorne Member)
 CONTOUR INTERVAL: 20 FEET
 BY
 DAVID R. DONICA
 M.S. THESIS 1978



- Coal test borehole
- Thickness inferred by writer

T 6 N

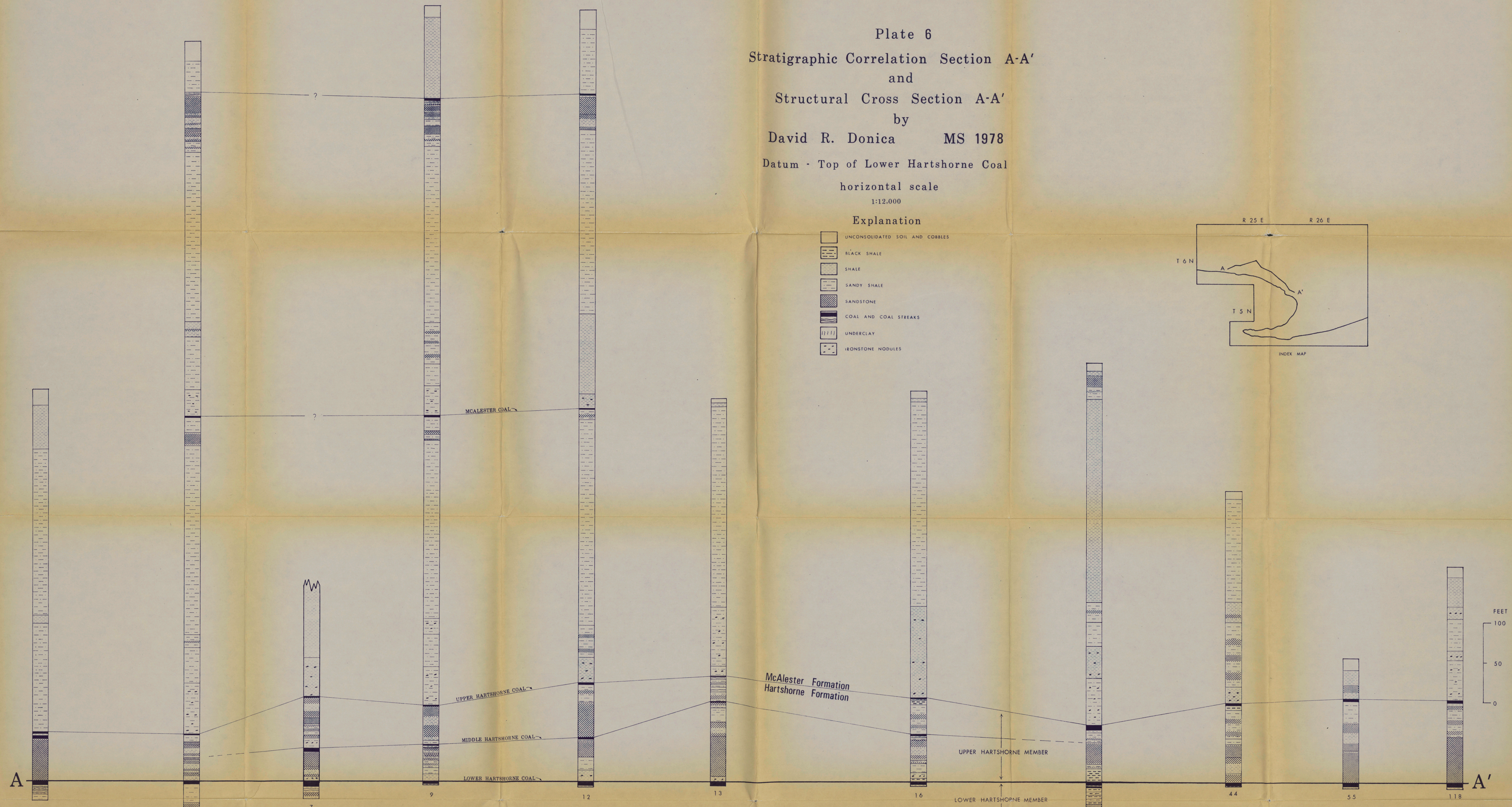
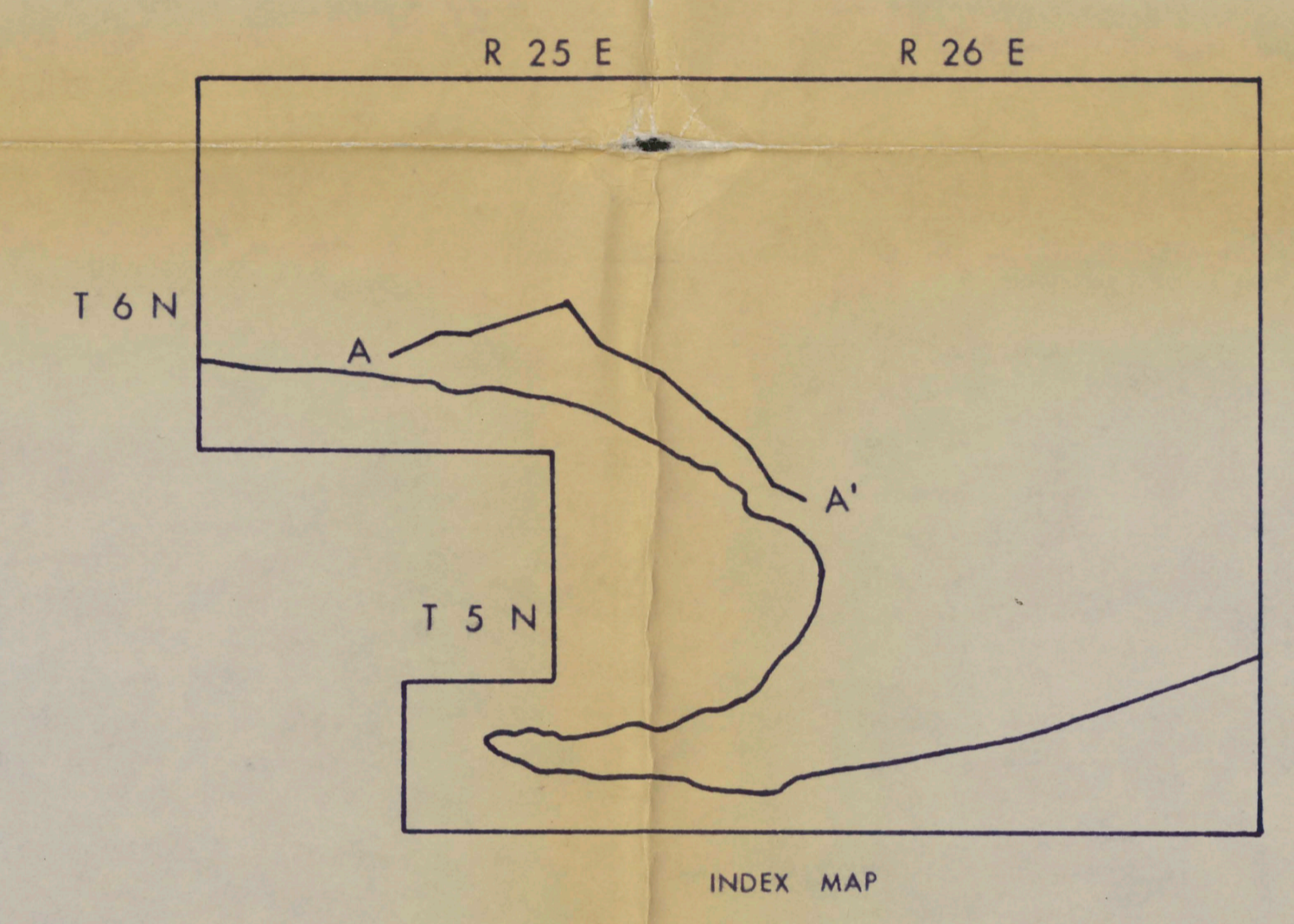
T 5 N

Upper Hartshorne Coal²⁷
 Lower Hartshorne Coal²⁶

Plate 6
 Stratigraphic Correlation Section A-A'
 and
 Structural Cross Section A-A'
 by
 David R. Donica MS 1978
 Datum - Top of Lower Hartshorne Coal

horizontal scale
 1:12,000

- Explanation
- UNCONSOLIDATED SOIL AND COBBLES
 - BLACK SHALE
 - SHALE
 - SANDY SHALE
 - SANDSTONE
 - COAL AND COAL STREAKS
 - UNDERCLAY
 - IRONSTONE NODULES



FEET
 100
 50
 0

Plate 6a
 Stratigraphic Correlation Section A-A'
 vertical scale 1" = 50 FEET

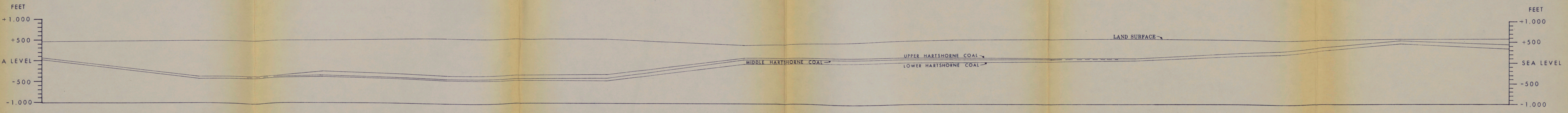


Plate 6b
 Structural Cross Section A-A'
 0 1 MILE

Plate 7
Stratigraphic Correlation Section B-B'
and
Structural Cross Section B-B'

by
David R. Donica MS 1978

Datum - Top of Lower Hartshorne Coal

horizontal scale
1:12,000

- Explanation
- UNCONSOLIDATED SOIL AND COBBLES
 - BLACK SHALE
 - SHALE
 - SANDY SHALE
 - SANDSTONE
 - COAL AND COAL STREAKS
 - UNDERCLAY
 - IRONSTONE NODULES

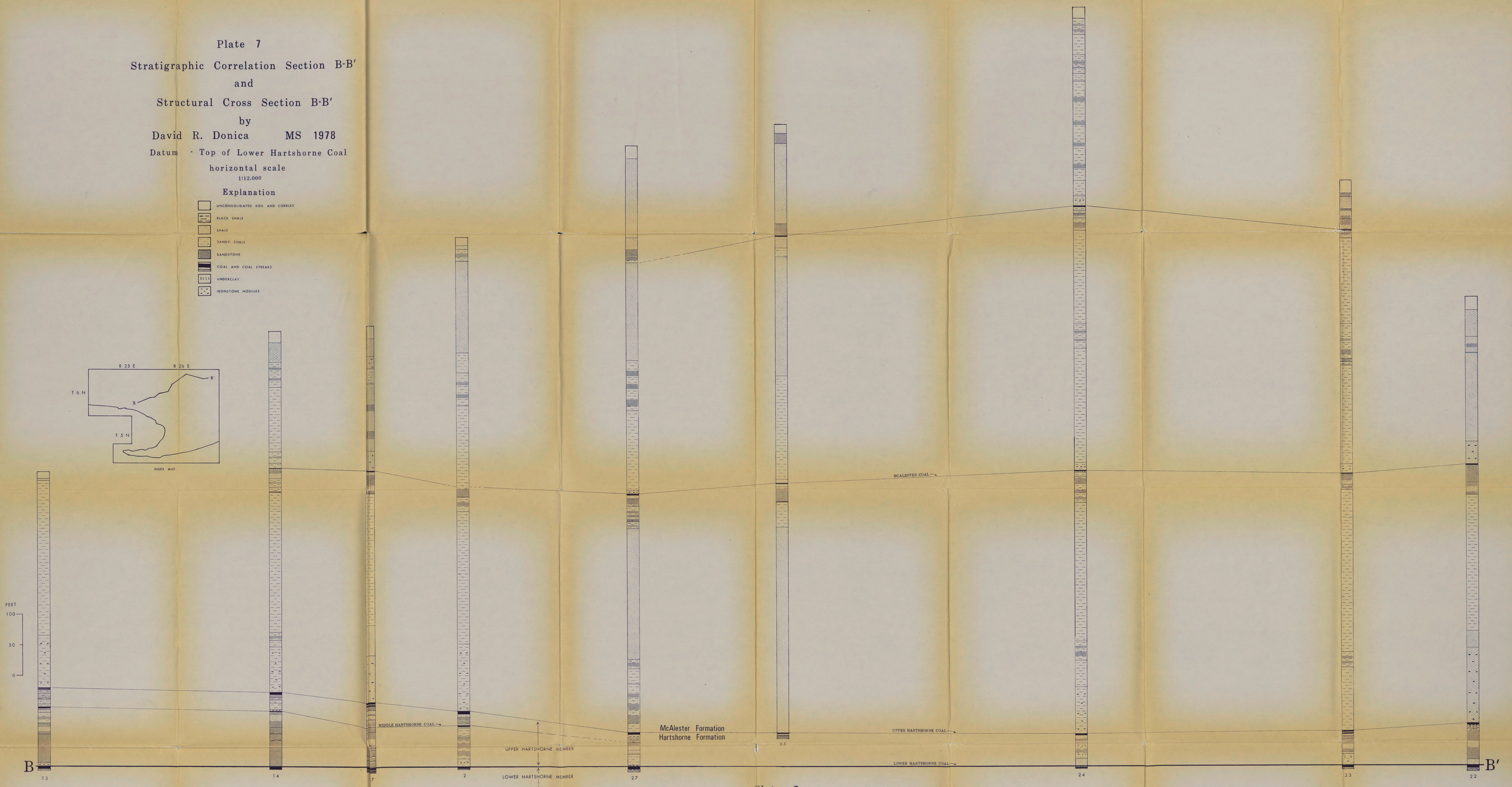
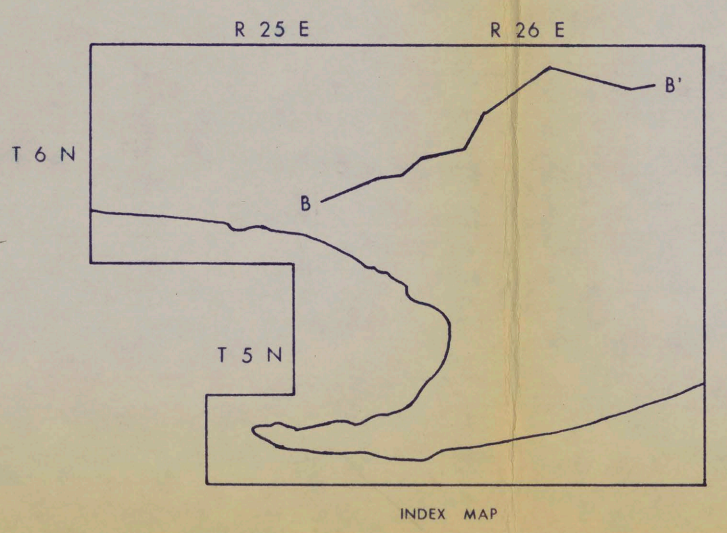


Plate 7a
Stratigraphic Correlation Section B-B'
vertical scale 1" = 50 FEET

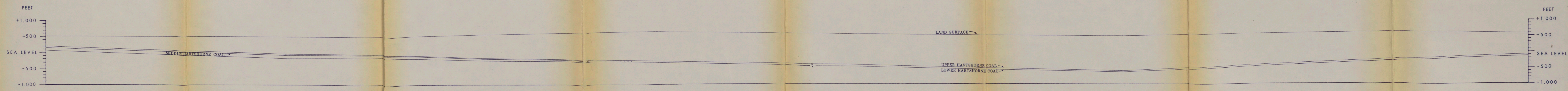


Plate 7b
Structural Cross Section B-B'

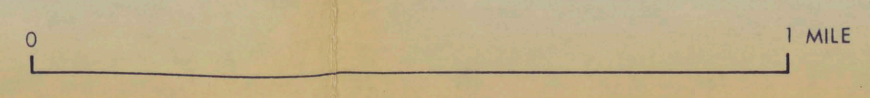


Plate 8

Stratigraphic Correlation Section C-C'
and
Structural Cross Section C-C'
by

David R. Donica

MS 1978

Datum - Top of Lower Hartshorne Coal

horizontal scale
1:12,000

Explanation

- UNCONSOLIDATED SOIL AND COBBLES
- BLACK SHALE
- SHALE
- SANDY SHALE
- SANDSTONE
- COAL AND COAL STREAKS
- UNDERCLAY
- IRONSTONE NODULES

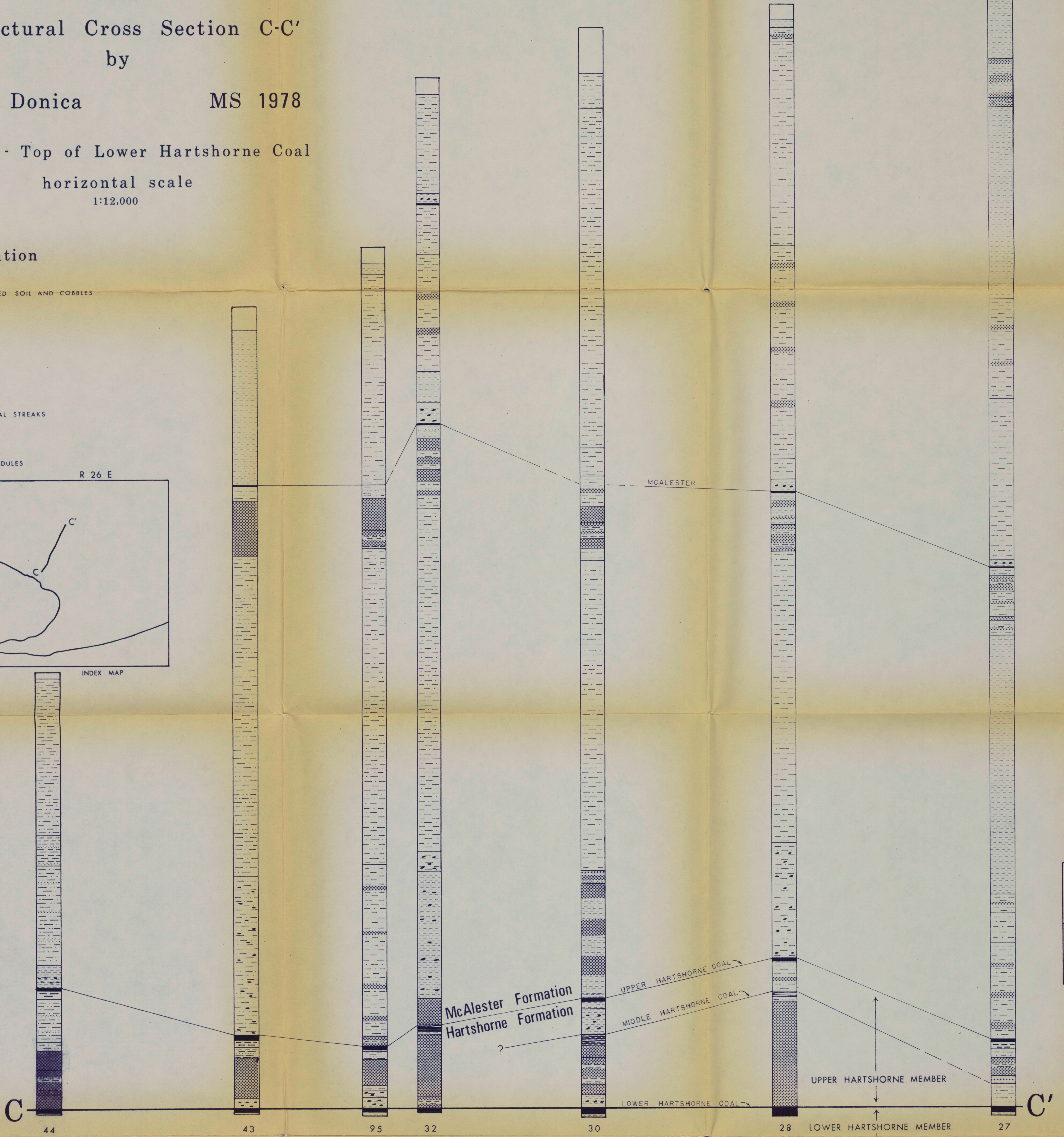
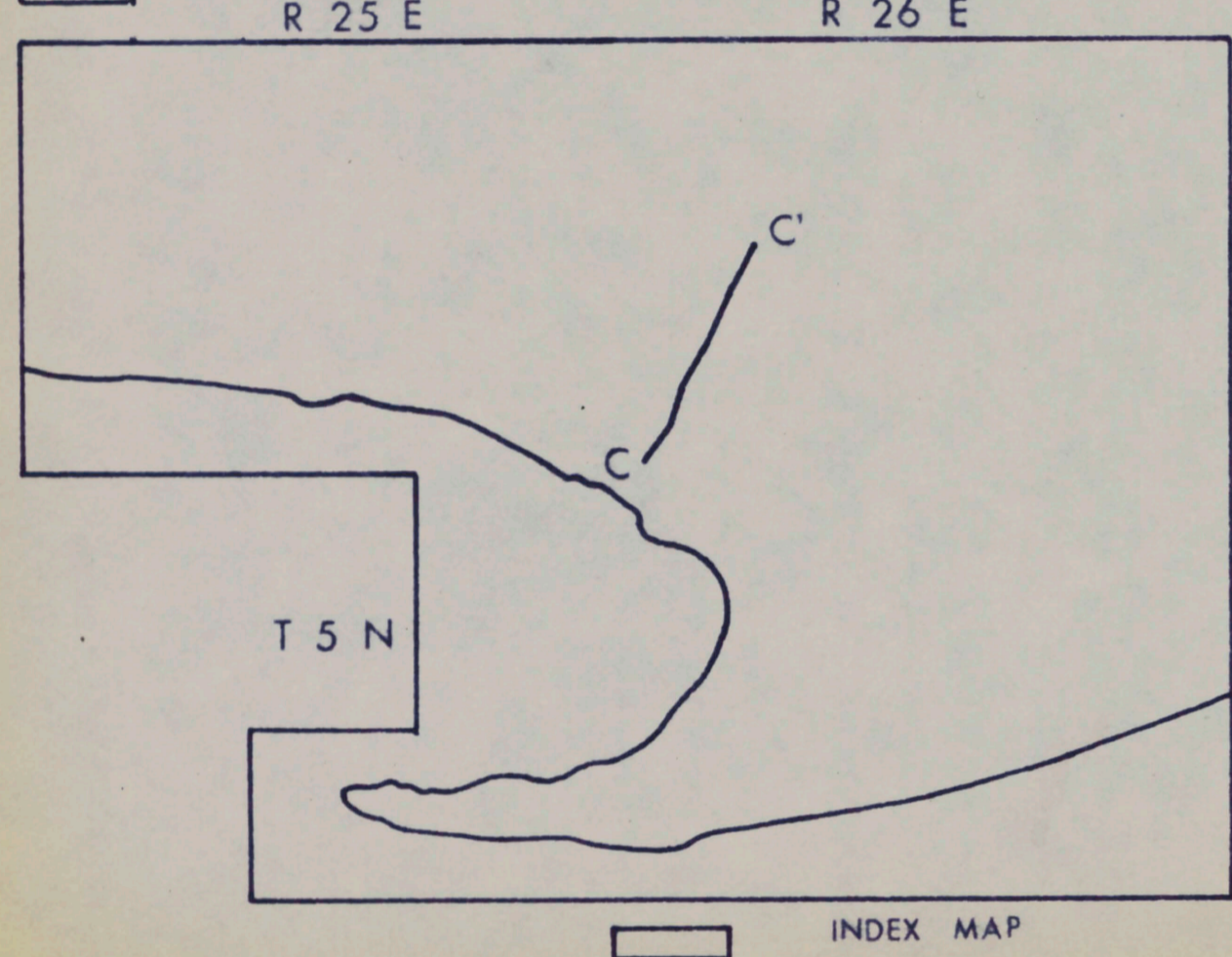


Plate 8a

Stratigraphic Correlation Section C-C'

vertical scale 1" = 50 FEET

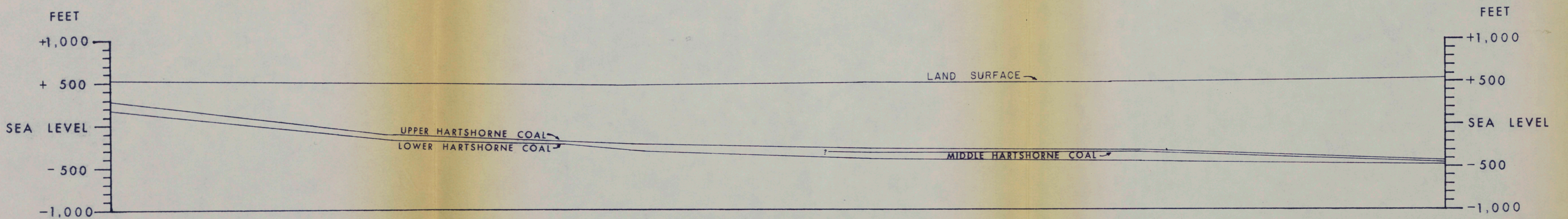


Plate 8b

Structural Cross Section C-C'

0 1 MILE

Plate 9 Stratigraphic Correlation Section D-D' and Structural Cross Section D-D'

by
David R. Donica MS 1978

Datum - Top of Lower Hartshorne Coal

horizontal scale
1:12,000

Explanation

- UNCONSOLIDATED SILT AND COBBLES
- BLACK SHALE
- SHALE
- SANDY SHALE
- SANDSTONE
- COAL AND COAL STREAKS
- UNDERCLAY
- IRONSTONE NODULES

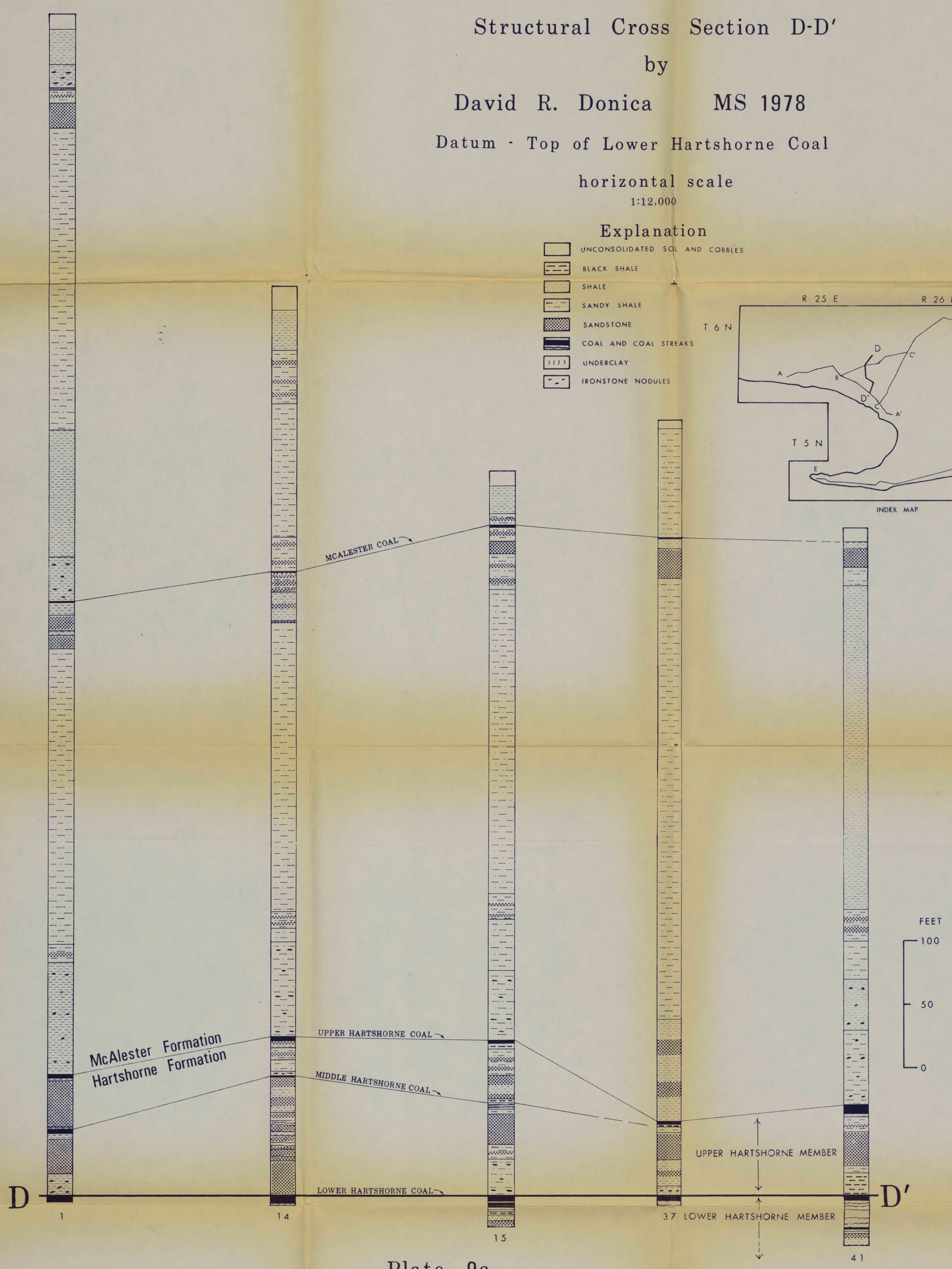
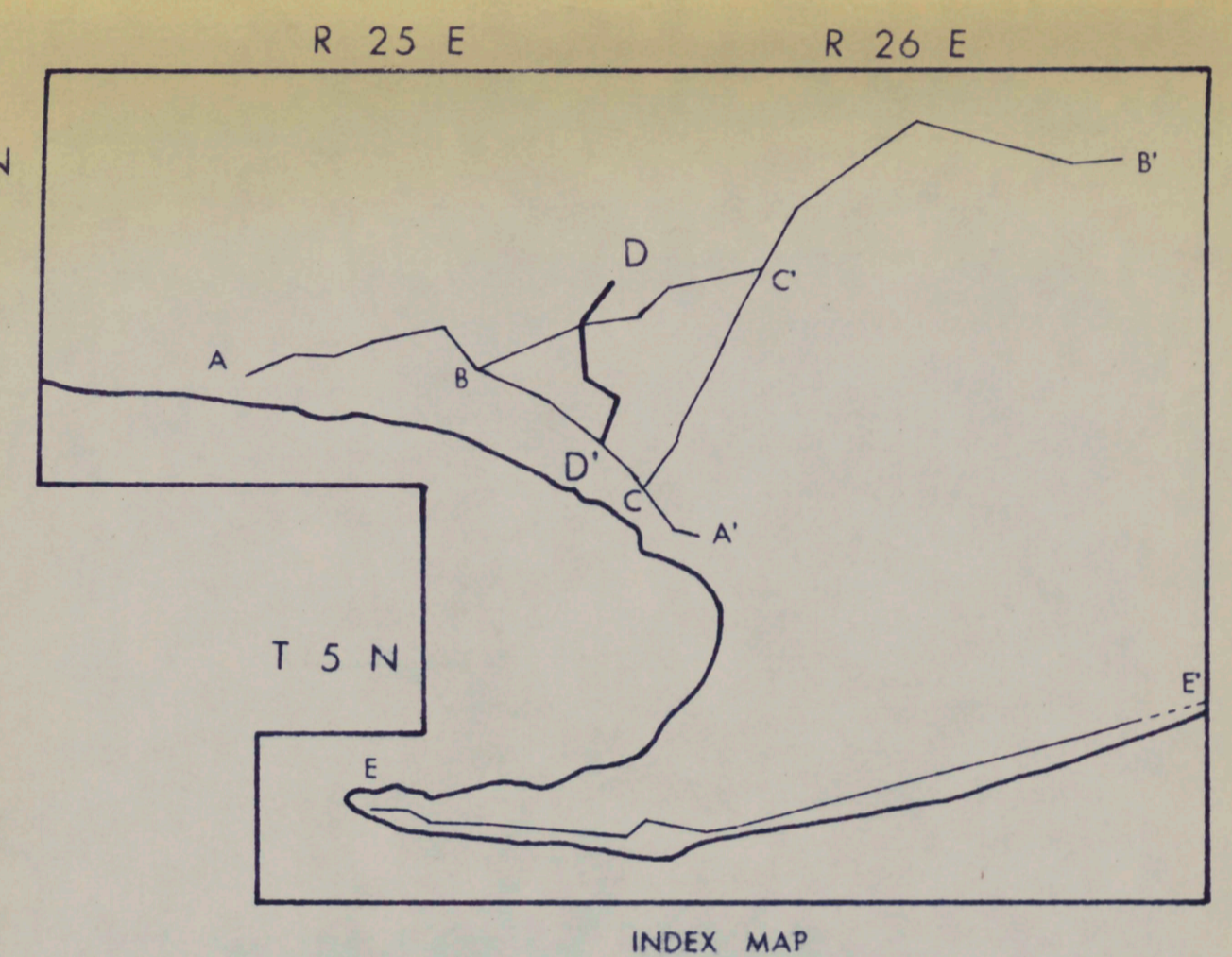


Plate 9a Stratigraphic Correlation Section D-D'

vertical scale 1" = 50 FEET

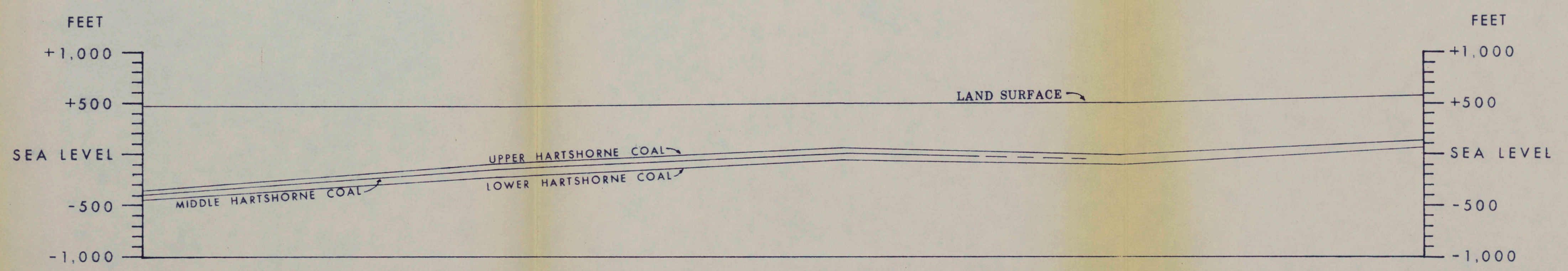
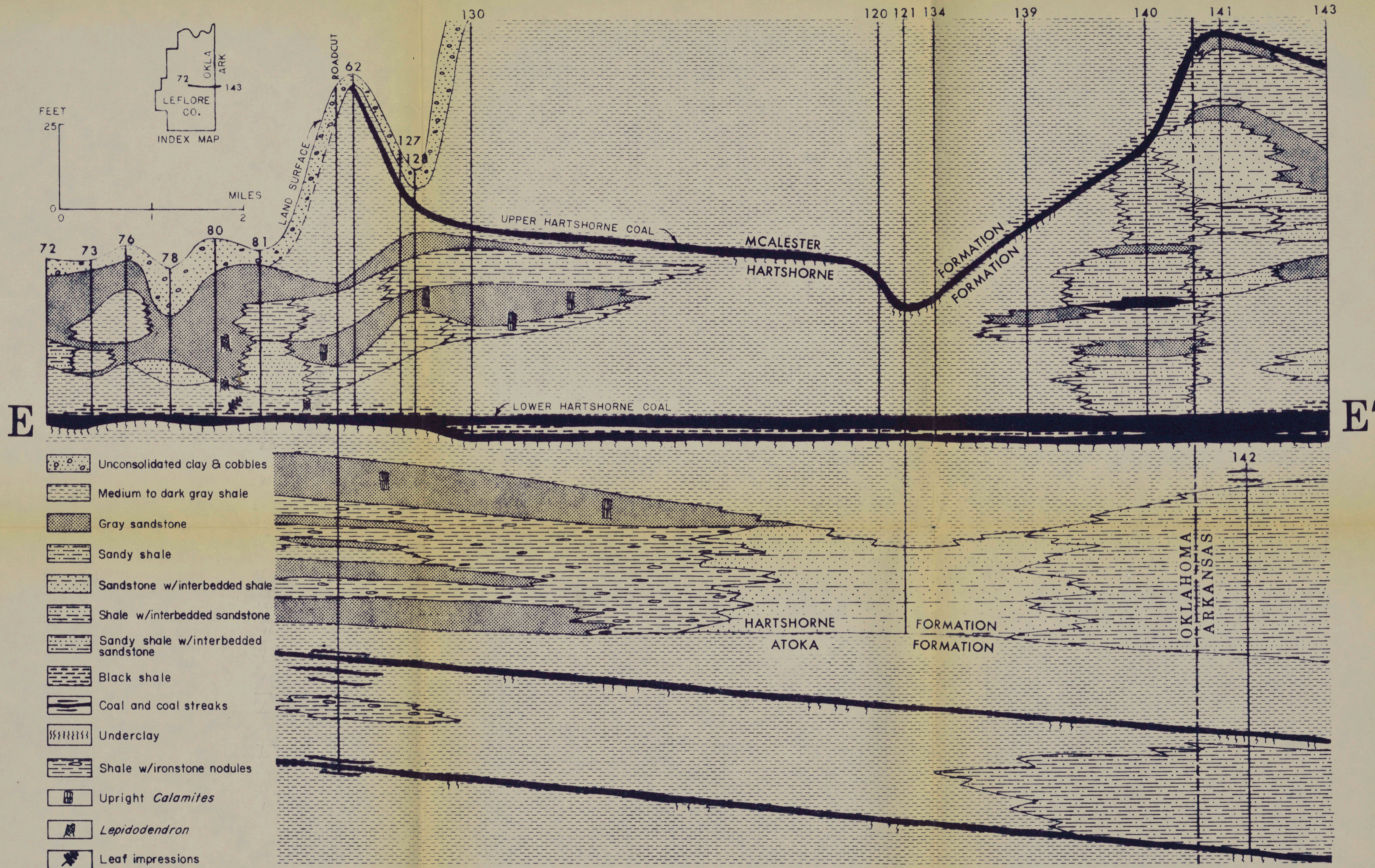


Plate 9b Structural Cross Section D-D'

0 1 MILE



Cross Section E-E', stratigraphic relations of coals and sandstones in the Hartshorne and Atoka Formations.

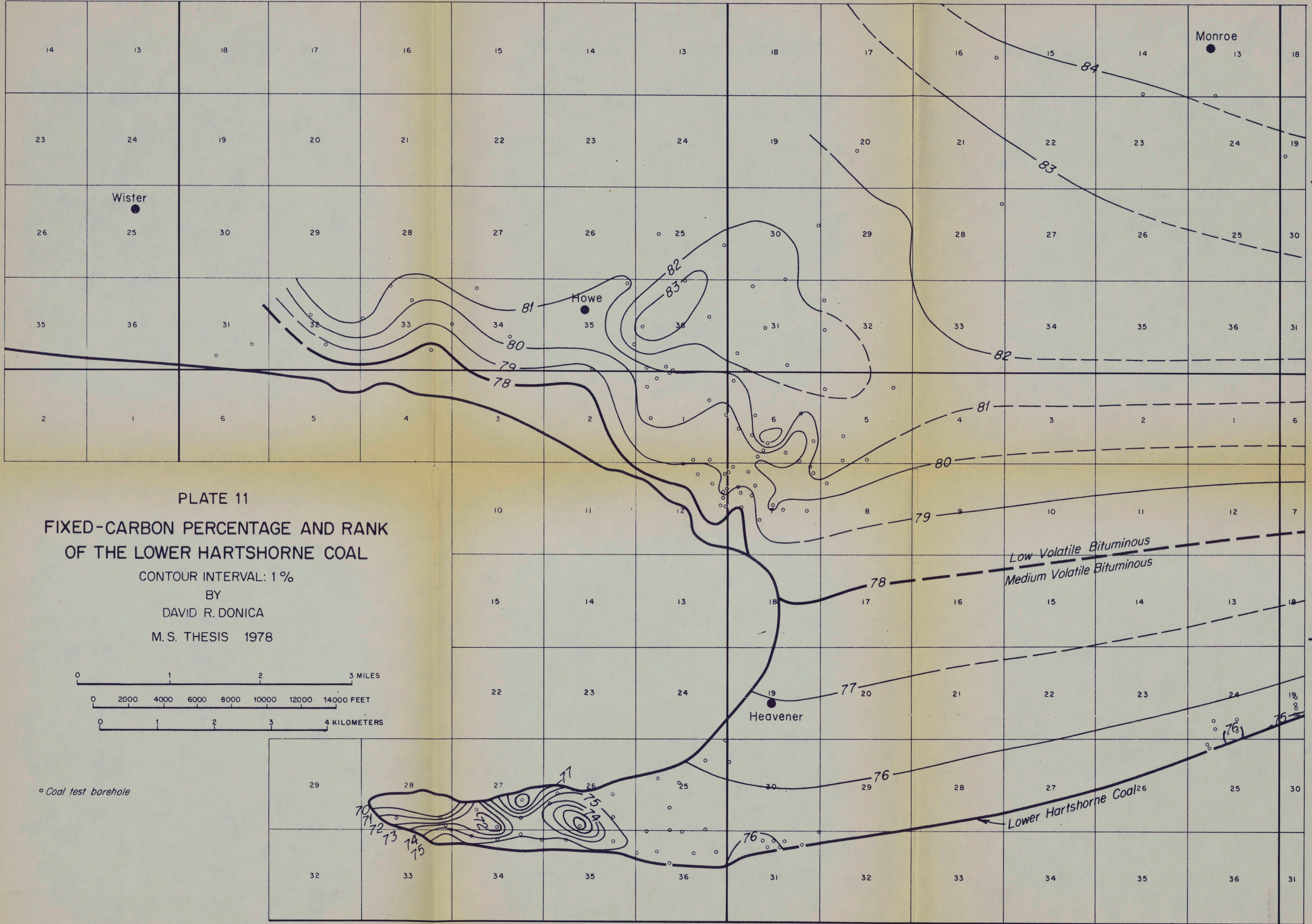
by

David R. Donica

M.S. 1978

R 25 E

R 26 E



T 6 N

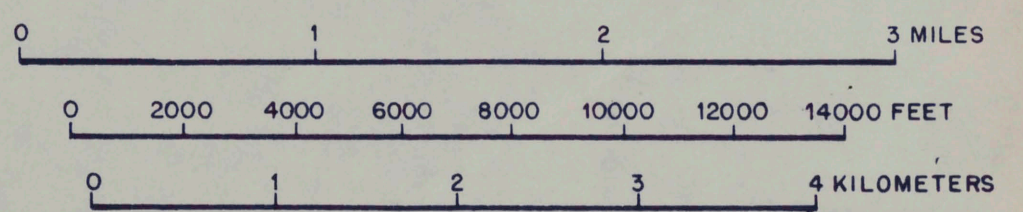
T 5 N

PLATE 11

FIXED-CARBON PERCENTAGE AND RANK OF THE LOWER HARTSHORNE COAL

CONTOUR INTERVAL: 1%

BY DAVID R. DONICA
M.S. THESIS 1978



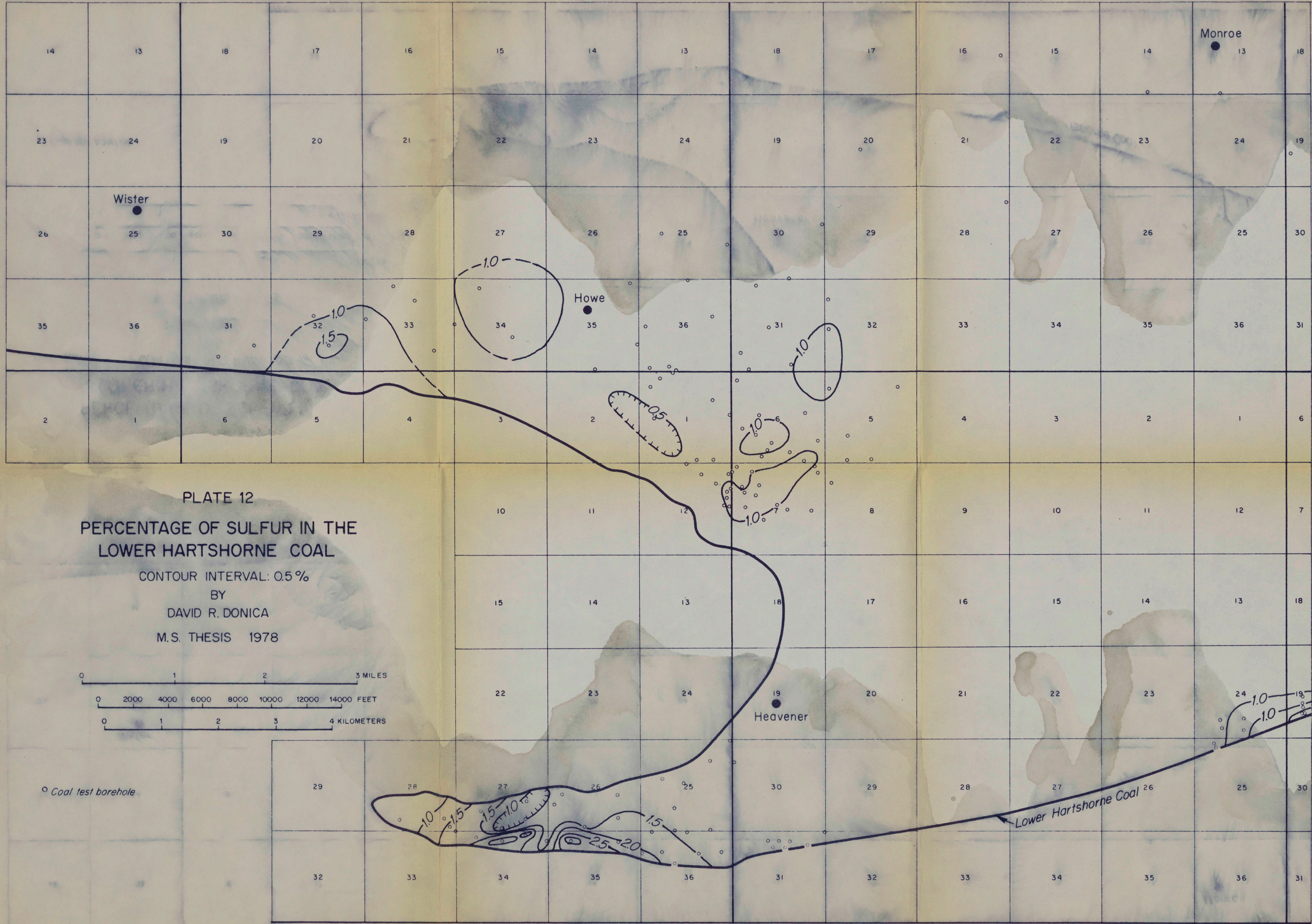
o Coal test borehole

Low Volatile Bituminous
Medium Volatile Bituminous

Lower Hartshorne Coal

R 25 E

R 26 E



T 6 N

T 5 N

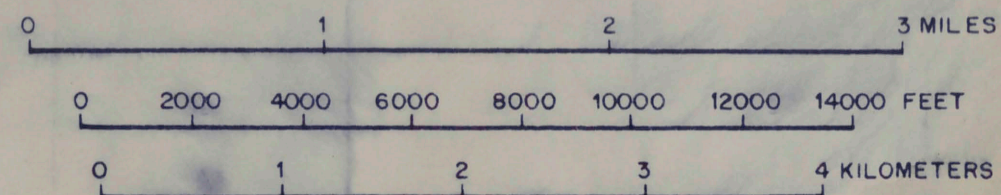
PLATE 12

PERCENTAGE OF SULFUR IN THE LOWER HARTSHORNE COAL

CONTOUR INTERVAL: 0.5 %

BY DAVID R. DONICA

M.S. THESIS 1978

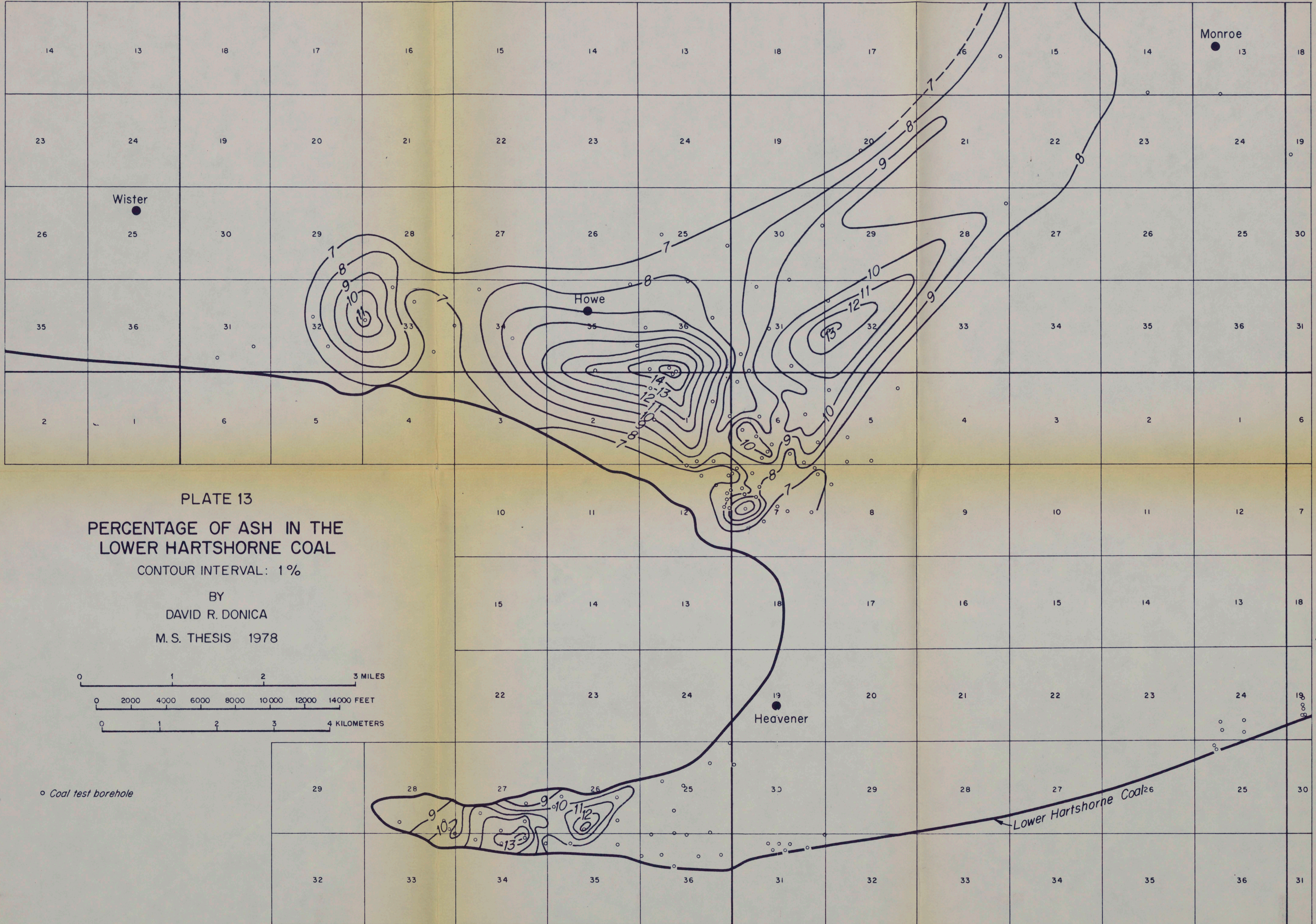


○ Coal test borehole

Lower Hartshorne Coal

R 25 E

R 26 E



T 6 N

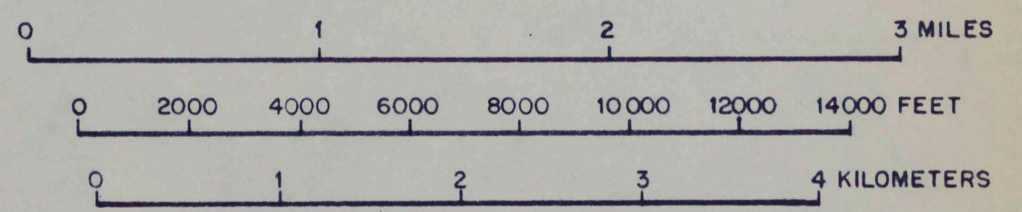
T 5 N

PLATE 13

PERCENTAGE OF ASH IN THE LOWER HARTSHORNE COAL

CONTOUR INTERVAL: 1%

BY DAVID R. DONICA
M. S. THESIS 1978

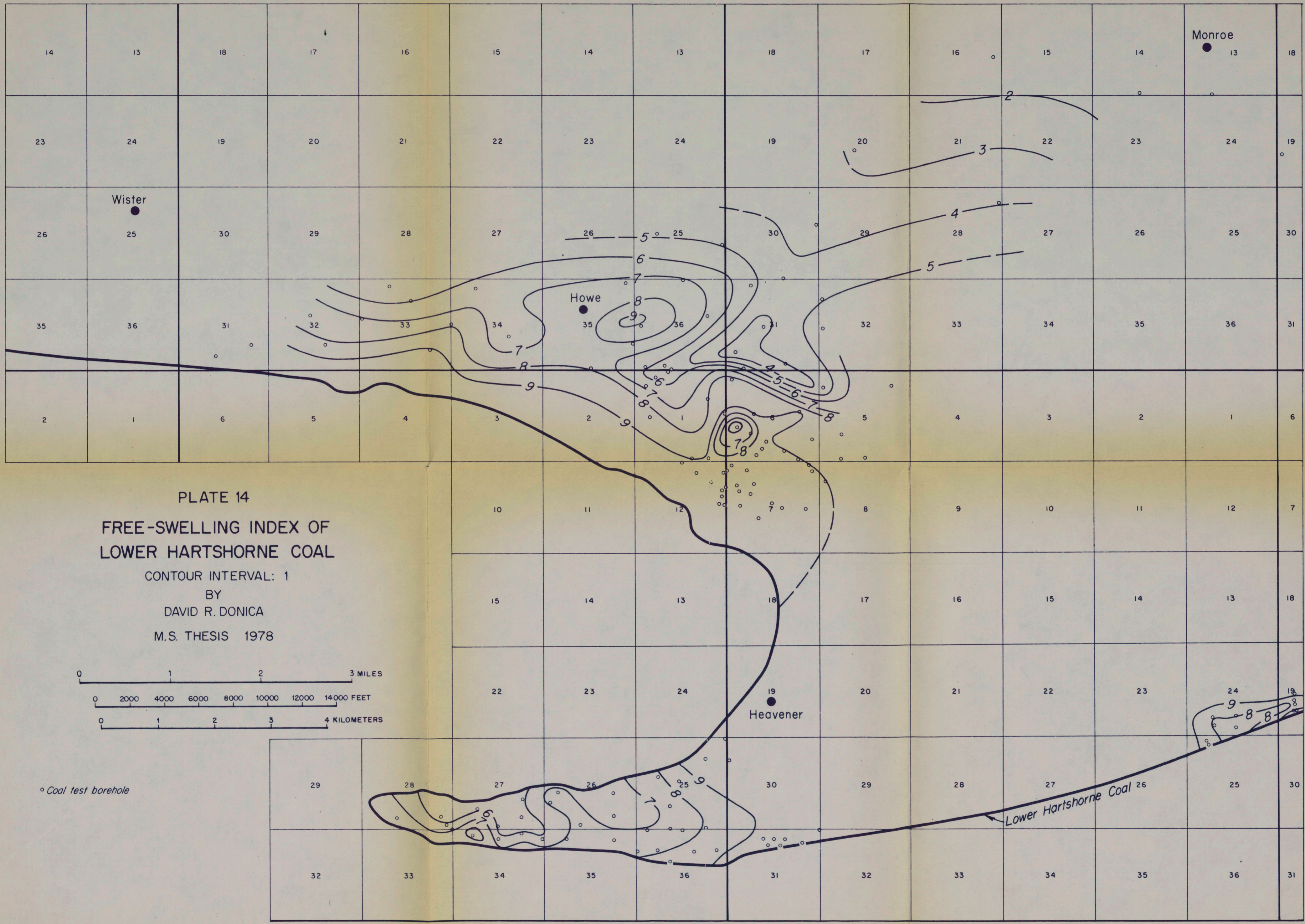


o Coal test borehole

Lower Hartshorne Coal

R 25 E

R 26 E



Monroe

Wister

Howe

Heavener

Lower Hartshorne Coal

T 6 N

T 5 N

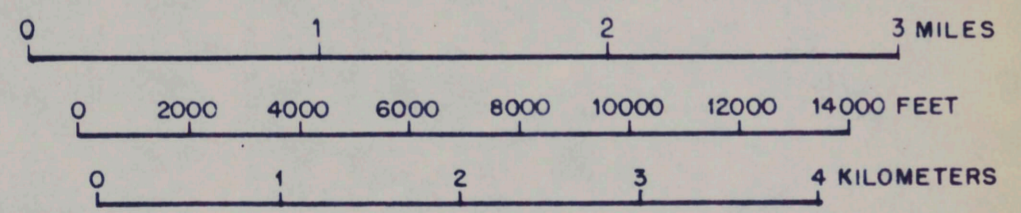
PLATE 14

FREE-SWELLING INDEX OF LOWER HARTSHORNE COAL

CONTOUR INTERVAL: 1

BY DAVID R. DONICA

M.S. THESIS 1978



o Coal test borehole

R 25 E

R 26 E

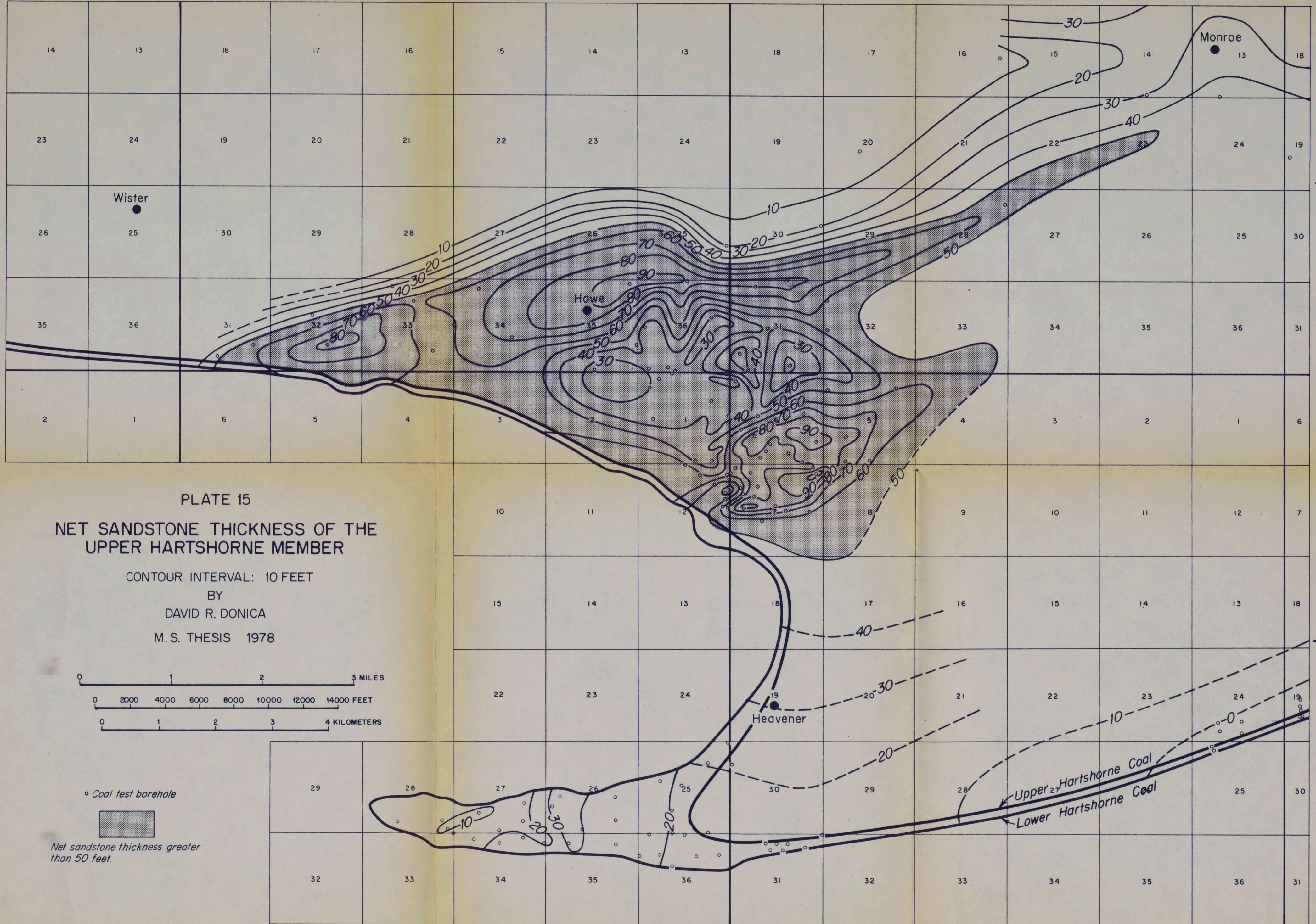
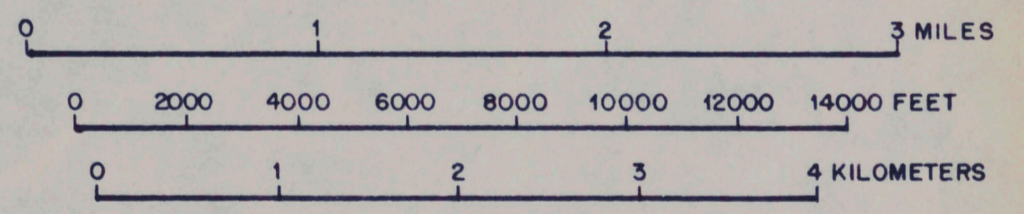


PLATE 15

NET SANDSTONE THICKNESS OF THE UPPER HARTSHORNE MEMBER

CONTOUR INTERVAL: 10 FEET
 BY
 DAVID R. DONICA
 M.S. THESIS 1978



o Coal test borehole



Net sandstone thickness greater than 50 feet.

T6N

T5N

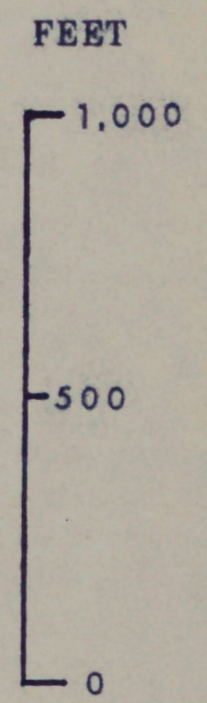
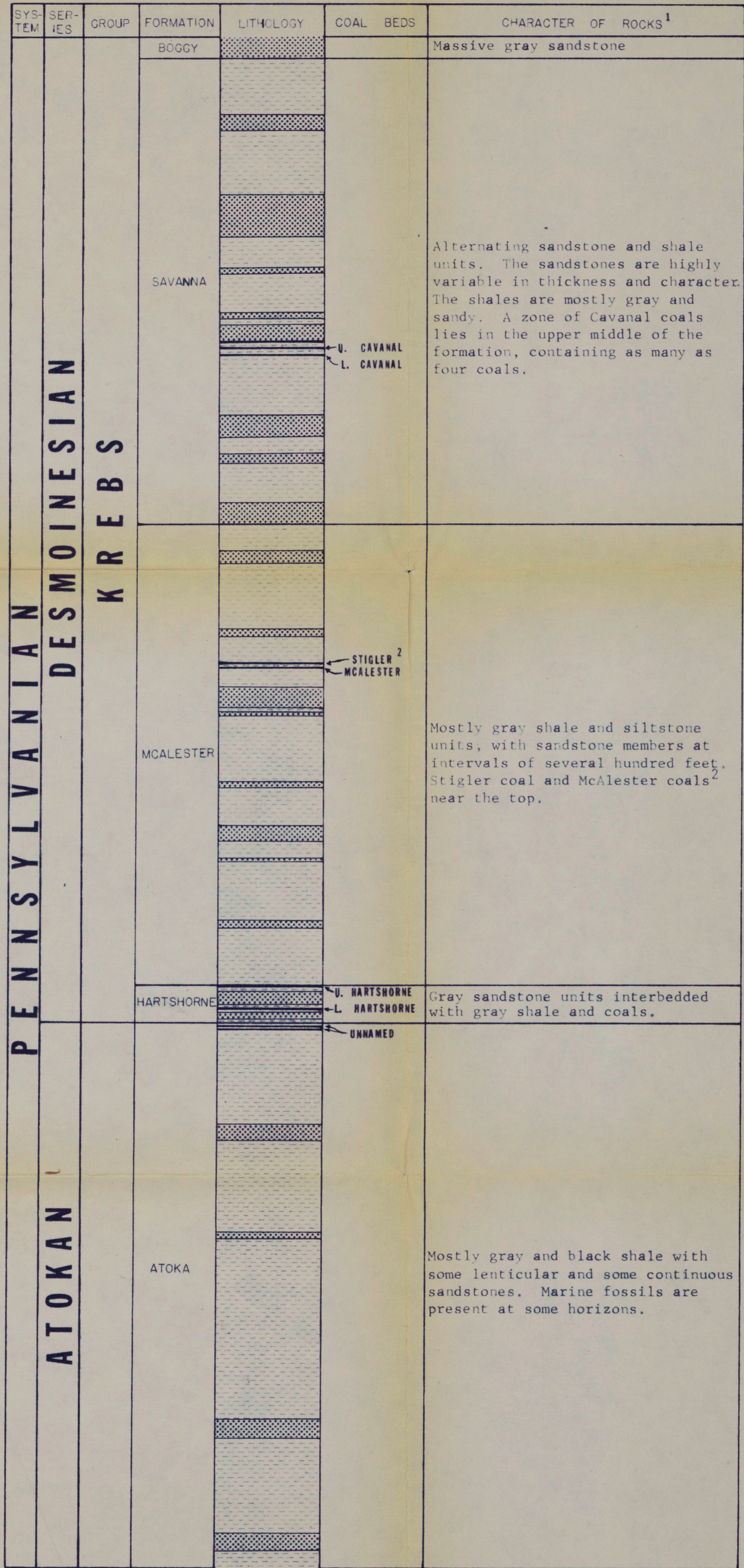


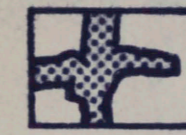
PLATE 16
Composite Geologic Column
 showing strata exposed in the map area

¹ ADAPTED FROM HENDRICKS (1939) AND KNECHTEL (1949)
² STIGLER MAY CORRELATE WITH MCALESTER COAL. THIS MAY BE UPPER MCALESTER COAL AND NOT STIGLER COAL.

Map showing categories of coal resources



Explanation



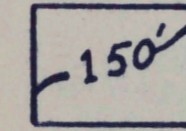
ABANDONED UNDERGROUND MINE



COAL TEST BOREHOLE

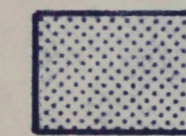


THICKNESS OF COAL FROM MINE MAP

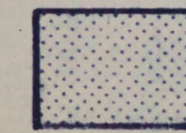


DEPTH OF COAL

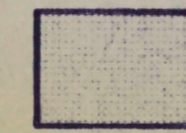
CATEGORIES OF COAL RESOURCES RELIABILITY



MEASURED



INDICATED



INFERRED



by

David R. Donica

MS 1978