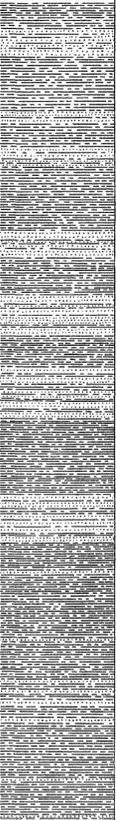
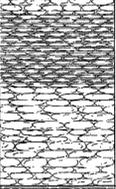
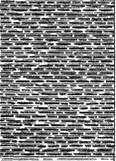
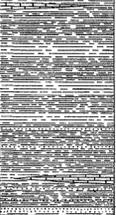
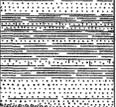


COLUMNAR SECTION

GENERALIZED SECTION OF THE SEDIMENTARY ROCKS EXPOSED IN THE HOT SPRINGS DISTRICT ARKANSAS.							
SCALE: 1 INCH=500 FEET.							
SYSTEM.	SUBSYSTEM.	FORMATION.	SYMBOL.	SECTION.	THICKNESS IN FEET.	CHARACTER OF TOPOGRAPHY AND SOIL.	
CARBONIFEROUS	MISSISSIPPIAN	Stanley shale.	Cs		3,500±	Bluish-black and black fissile clay shale and fine-grained compact greenish-gray or bluish-gray sandstone in both thin and thick layers.	Low ridges and hills and narrow valleys; cultivated in places. Rocky soil, suitable for farming in the more level tracts, in others for grazing.
		Hot Springs sandstone.	Chs		0-200+	Laminated hard gray quartzitic sandstone. Conglomerate at base consists of round to subangular novaculite pebbles in sandy and argillaceous matrix.	Sharp-crested ridges and steep slopes; rock ledges numerous. Scaanty soil suitable for grazing.
DEVONIAN ?	DEVONIAN	Arkansas novaculite.	Da		100-800	Massive novaculite, highly calcareous in most places. Thin-bedded dark novaculite interbedded with clay and siliceous shale that are commonly black. Massive white novaculite, slightly calcareous.	Generally high ridges with steep slopes; rock ledges abound. Scaanty soil, suitable for grazing.
		Missouri Mountain shale.	Sm		50-100	Clay shale, commonly dark greenish drab to black but locally red.	Steep slopes or narrow valleys. Rocky soil, suitable for grazing.
SILURIAN	SILURIAN	Blaylock sandstone.	Sb		0-550+	Fine-grained light to dark gray or green compact, hard sandstone and dark fissile shale.	Hilly narrow valleys and steep slopes. Rocky thin soil, suitable for grazing.
		Polk Creek shale.	Opc		25-200	Black graphitic shale, in some places siliceous and in others clay shale.	Sharp rocky slopes and narrow valleys. Thin soil, suitable for grazing.
ORDOVICIAN	UPPER ORDOVICIAN	Bigfork chert.	Obt		700	Thin-bedded gray to black chert, much shattered and interbedded with layers of black shale, which are commonly thin.	Steep-sided low ridges and round knobs; little cultivated except in stream flats and on gentle slopes. Soil is black, stony, and fertile on gentle slopes and in flats along streams; suitable in some places for fruit culture and general farming, in others for grazing.
	MIDDLE ORDOVICIAN	Womble shale.	Ow		250-900	Clay shale in alternating black and green layers and thin lenses of bluish-black limestone.	Low hills. Rocky soil, cultivated in places but mostly suitable for grazing.
	LOWER ORDOVICIAN	Blakely sandstone.	Oby		500	Sandstone, mostly siliceous and gray, the rest calcareous and bluish black, interbedded with argillaceous shale made up of black and green layers.	Sharp ridges; rock ledges abundant. Scaanty stony soil, suitable for grazing.
	LOWER ORDOVICIAN	Mazaru shale.	Om		1,000±	Black and green banded clay shale, containing thin layers of gray sandstone and lenses of bluish-black limestone.	Steep slopes and low hills. Rocky soil, suitable in most places for grazing; only small tracts are cultivated.

ROCK TYPES OF DIKES
AND SILLS.

Numbers correspond to those on
the map.

1. Ouachitite (?).
2. Ouachitite.
3. Fourchite (?).
4. Ouachitite.
5. Ouachitite.
6. Ouachitite.
7. Fourchite.
8. Tinguaitite.
9. Ouachitite (?).
10. Tinguaitite.
11. Fourchite.
12. Ouachitite.
13. Ouachitite.
14. Ouachitite (?).
15. Ouachitite.
16. Ouachitite.
17. Ouachitite.
18. Ouachitite.
19. Tinguaitite.
20. Ouachitite (?).
21. Ouachitite.
22. Fourchite (?).
23. Ouachitite (?).
24. Fourchite.
25. Ouachitite.
26. Tinguaitite.
27. Ouachitite.
28. Ouachitite (?).
29. Ouachitite (?).
30. Ouachitite (?).
31. Ouachitite (?).
32. Tinguaitite.
33. Tinguaitite.
34. Ouachitite (?).
35. Fourchite.
36. Tinguaitite.
37. Ouachitite (?).
38. Nephelite syenite.
39. Nephelite syenite.
40. Fourchite containing
inclusions of ouachitite.
41. Ouachitite (?).
42. Tinguaitite.
43. Fourchite (?).
44. Ouachitite (?).
45. Ouachitite (?).
46. Tinguaitite (?).
47. Ouachitite (?).
48. Ouachitite (?).
49. Tinguaitite.
50. Tinguaitite.
51. Tinguaitite (?).
52. Nephelite syenite.
53. Tinguaitite (?).
54. Tinguaitite.
55. Tinguaitite (?).
56. Fourchite.
57. Nephelite syenite (?).
58. (?)
59. (?)
60. Ouachitite.
61. Ouachitite.
62. Ouachitite (?).
63. (?)
64. Fourchite (?).
65. Fourchite.
66. Fourchite.
67. Tinguaitite.
68. Ouachitite.
69. Fourchite (?).
70. Ouachitite.
71. Fourchite.
72. Fourchite.
73. Tinguaitite.
74. Ouachitite (?).
75. Ouachitite.
76. Tinguaitite.
77. Nephelite syenite.
78. Nephelite syenite.
79. Tinguaitite.
80. Ouachitite.
81. (?)
82. (?)
83. Nephelite syenite.
84. Fourchite (?).
85. Tinguaitite.
86. Ouachitite.
87. Tinguaitite.
88. Fourchite.
89. Fourchite.
90. Fourchite.
91. Ouachitite.
92. Nephelite syenite.
93. Tinguaitite.
94. Ouachitite.
95. Fourchite.
96. Fourchite.
97. Fourchite.
98. Fourchite.
99. Fourchite.
100. Tinguaitite.
101. Nephelite syenite.
102. Ouachitite.
103. Ouachitite (?).
104. Fourchite.
105. Fourchite.
106. Tinguaitite.
107. Nephelite syenite.
108. Ouachitite.
109. Tinguaitite.
110. Tinguaitite.
111. Tinguaitite.
112. Tinguaitite (?).
113. Nephelite syenite.
114. Fourchite.
115. Nephelite syenite.
116. Nephelite syenite.
117. Fourchite.
118. Nephelite syenite.
119. Nephelite syenite.
120. Ouachitite.
121. Ouachitite.
122. Nephelite syenite.
123. Fourchite.
124. Nephelite syenite.
125. Nephelite syenite.
126. Tinguaitite (?).
127. Tinguaitite.
128. Fourchite.
129. Nephelite syenite.
130. Nephelite syenite.
131. Ouachitite.
132. Ouachitite (?).

Question mark (?) indicates that
rock is disintegrated to soft clayey
materials so that an exact petro-
graphic determination is impossible.

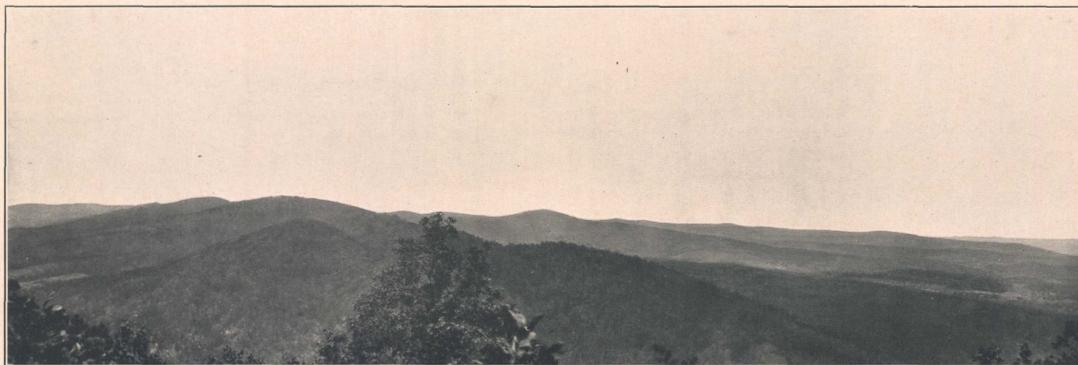


PLATE I.—VIEW LOOKING EAST FROM HOT SPRINGS MOUNTAIN.
 Indian Mountain in the near distance. The level-crested ridges in the far distance terminate westward in the Mazon Basin at the right.



PLATE II.—CRUMPLING IN THE BIGFORK CHERT IN ROAD-MATERIAL QUARRY IN NORTHERN PART OF HOT SPRINGS.

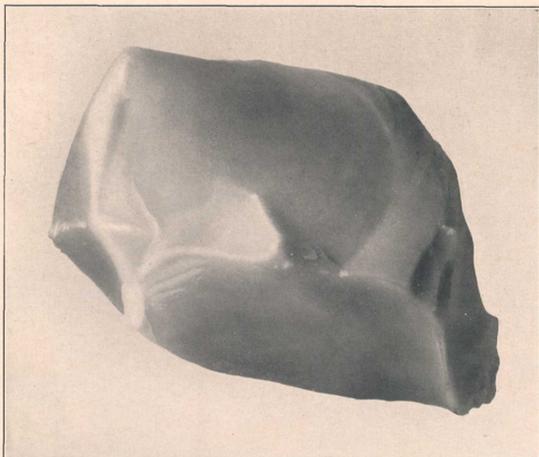


PLATE III.—SPECIMEN OF MASSIVE ARKANSAS NOVACULITE ILLUSTRATING ITS PERFECT CONCHOIDAL FRACTURE AND FINE-GRAINED EVEN TEXTURE.
 Natural size.



PLATE IV.—"RIBBONED" SHALE IN THE WOMBLE SHALE NEAR CEDAR GLADES, ARK., WEST OF THE HOT SPRINGS DISTRICT.
 The bedding is nearly vertical, and the ribbed effect is produced by cleavage nearly at right angles to the bedding. Similar shales occur in the Mazon, Blakely, and Womble formations in the Hot Springs district.



PLATE V.—FOLDED BEDS IN THE MIDDLE DIVISION OF THE ARKANSAS NOVACULITE AT THE CITY WATER PUMPING STATION 1 MILE NORTH OF HOT SPRINGS.
 The hammer is lying on a bed of conglomerate.



PLATE VI.—CRUMPLING IN THE MIDDLE DIVISION OF THE ARKANSAS NOVACULITE ON EAST SIDE OF CENTRAL AVENUE, HOT SPRINGS.



PLATE VII.—BEDDING SURFACE OF MASSIVE ARKANSAS NOVACULITE CUT BY NUMEROUS JOINTS, HOT SPRINGS.



PLATE VIII.—MASSIVE BEDS OF HOT SPRINGS SANDSTONE AT CITY WATER PUMPING STATION 1 MILE NORTH OF HOT SPRINGS.