State Highway Commission of Kansas

JULY 1963

MEMORANDUM TO: MR. H. O. REED, ENGINEER OF DESIGN

FROM: MR. VIRGIL A. BURGAT, CHIEF GEOLOGIST
By Paul Clark and Don Ubel, Geologists
Wallace K. Taylor, Regional Geologist

SUBJECT: Geological Report
Project No. 16-75 S-1305 (2)
Pottawatomie County

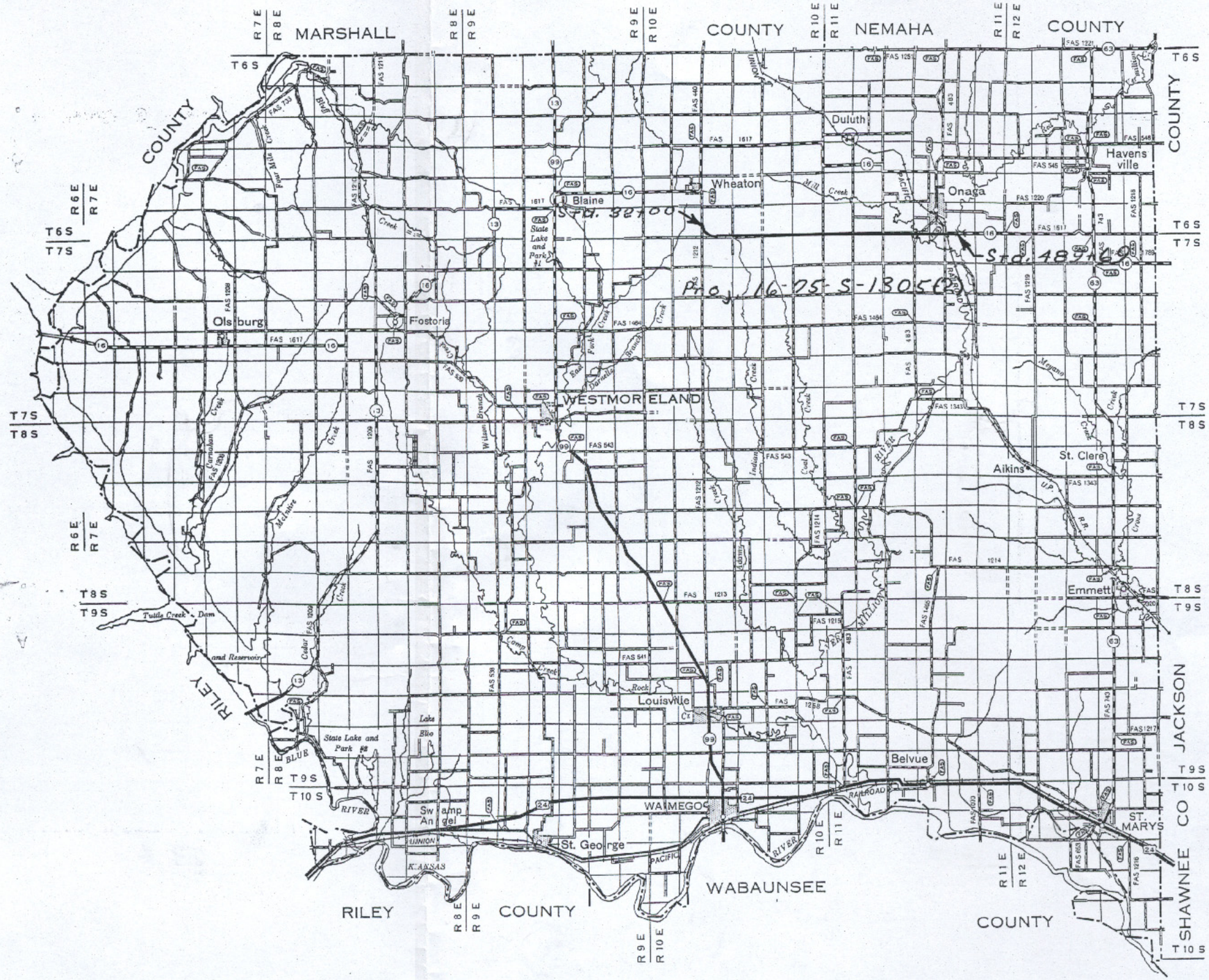
INTRODUCTION

This report presents geological information obtained by the Kansas Highway Commission through field study and is submitted for use in the design and construction of the above project with reference to the formations that occur and the engineering problems affected by the geology of the project.

The report is divided into three sections for the purpose of grouping the information and discussion of the different phases. This report is intended to be complete within itself, but is best used in conjunction with the Geo-Engineering Survey.

RESUME OF SECTIONS

Section I	Geological Description and Formational Sequence
Section II	Geology of the Project
Section III	Geo-Engineering Aspects and Recommendations

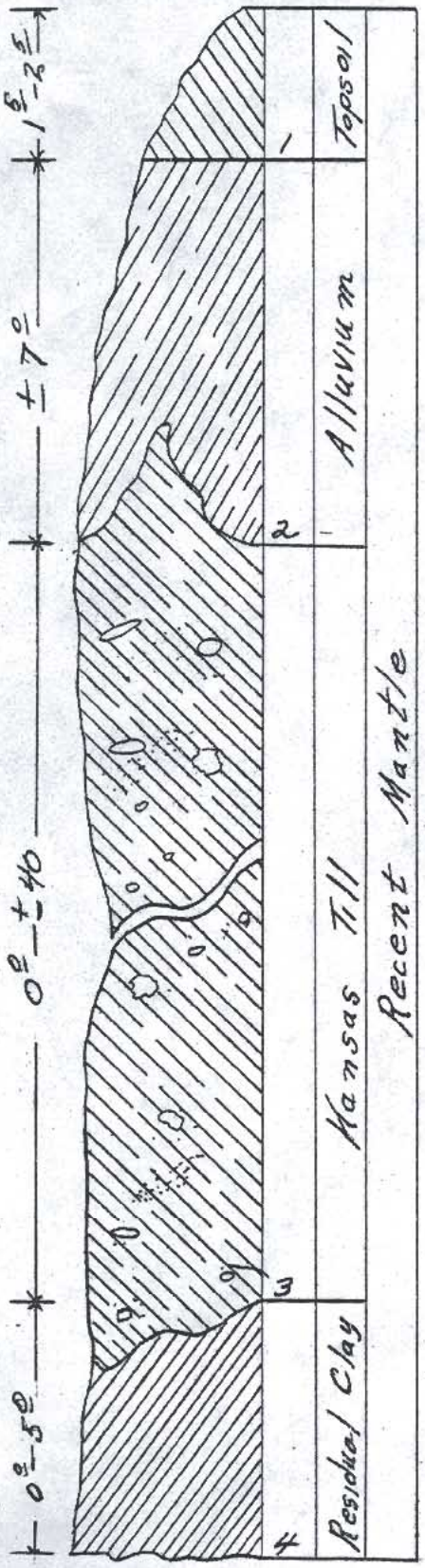


POTTAWATOMIE COUNTY
KANSAS

1959

SCALE 0 1 2 3 4 MILES

16-75 S-1305 (2) Pottawatomie County



SECTION I

Geological Description and

Formational Sequence

Recent Mantle

Topsoil

1. Clay, silty, dark gray-brown.

Alluvium

2. Clay, silty, dark gray.

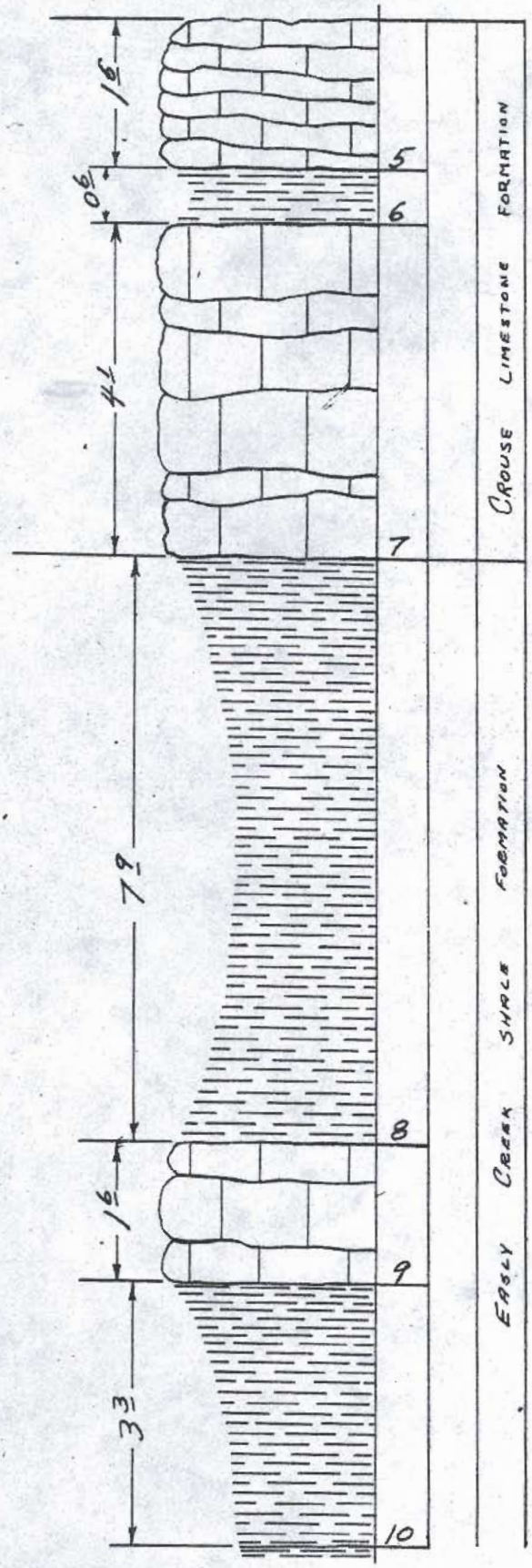
Kansas Till

3. Clay, silty and sandy, brown and red-brown, contains pebbles and boulders locally.

Residual Clay

4. Clay, tan-brown, limy nodules locally.

16-75 S-1305 (2) Pottawatomie County



Permian System

Wolfcampian Series

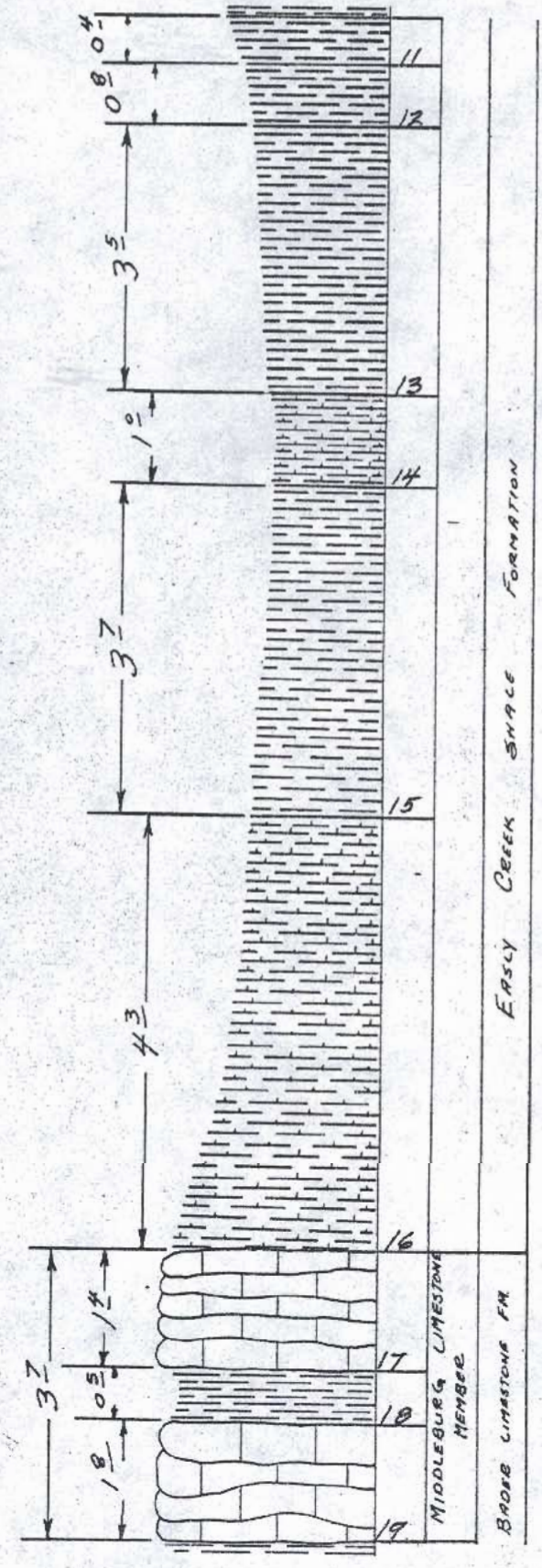
Council Grove Group

Crouse Limestone

5. Limestone, gray, slabby, weathers tan-gray.
6. Shale, gray, blocky, weathers tan-green.
7. Limestone, gray, blocky, weathers tan-gray.

Easly Creek Shale

8. Shale, gray, blocky, weathers gray-green.
9. Limestone, gray, blocky, weathers light gray.
10. Shale, green, blocky, weathers tan-green.



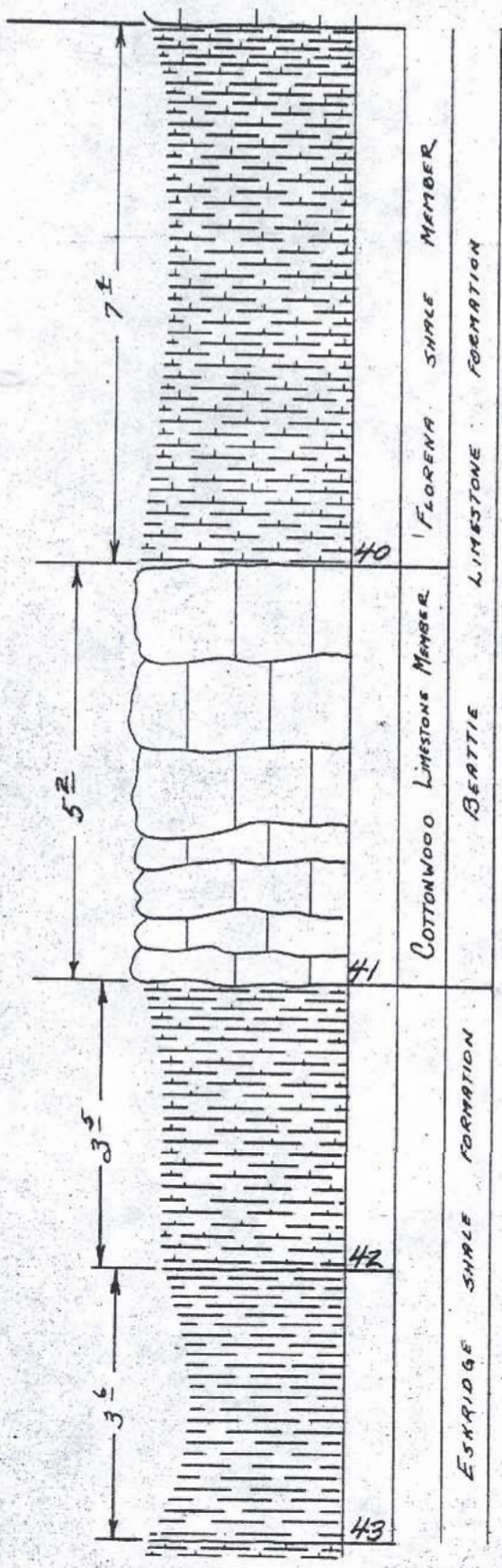
11. Shale, maroon, blocky, weathers maroon.
12. Shale, green, blocky, weathers green.
13. Shale, maroon, blocky, weathers maroon.
14. Shale, limy, green, blocky, weathers green.
15. Shale, maroon, blocky, weathers maroon.
16. Shale, limy, green, blocky, weathers tan-green.

Bader Limestone

Middleburg Limestone Member

17. Limestone, gray, blocky, weathers gray.
18. Shale, gray-green, blocky, weathers green, lower 0.2 is very dark blue-gray, weathers gray.
19. Limestone, gray, blocky, weathers gray.

16-75 S-1305 (2) Pottawatomie County



40. Shale, limy, gray, blocky, weathers tan-green.

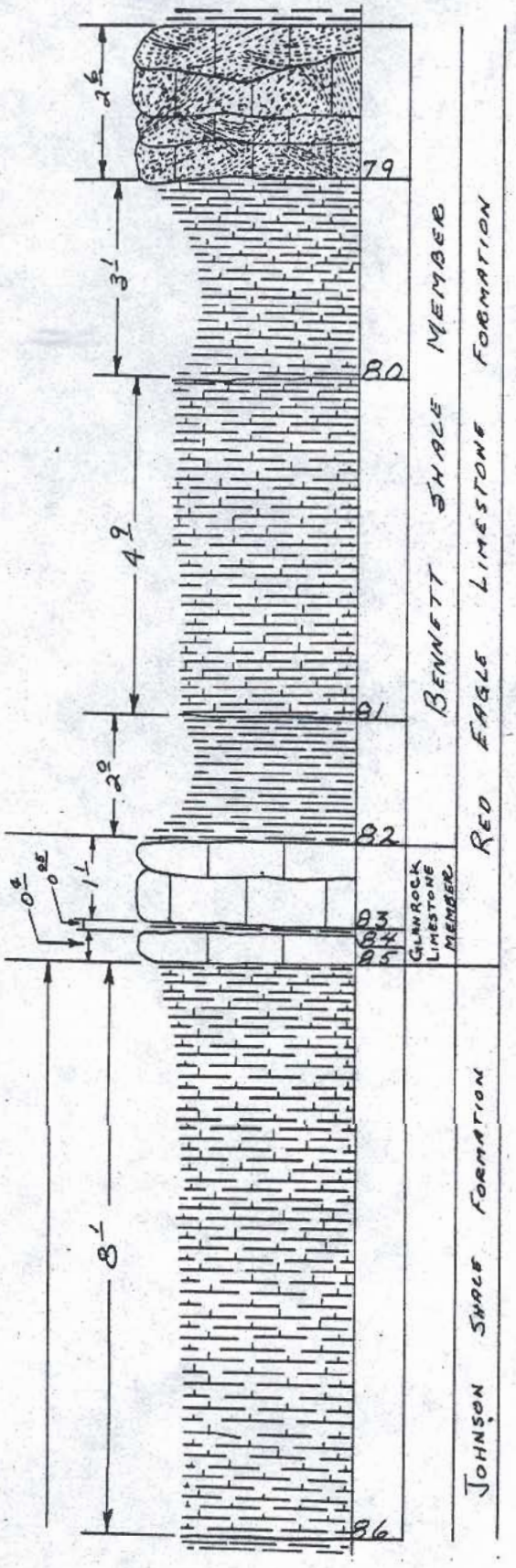
Cottonwood Limestone Member

41. Limestone, gray, massive to blocky, weathers light gray, contains scattered chert nodules.

Eskridge Shale

42. Shale, limy, green, blocky, weathers green.

43. Shale, clayey, green, blocky, weathers gray-green.



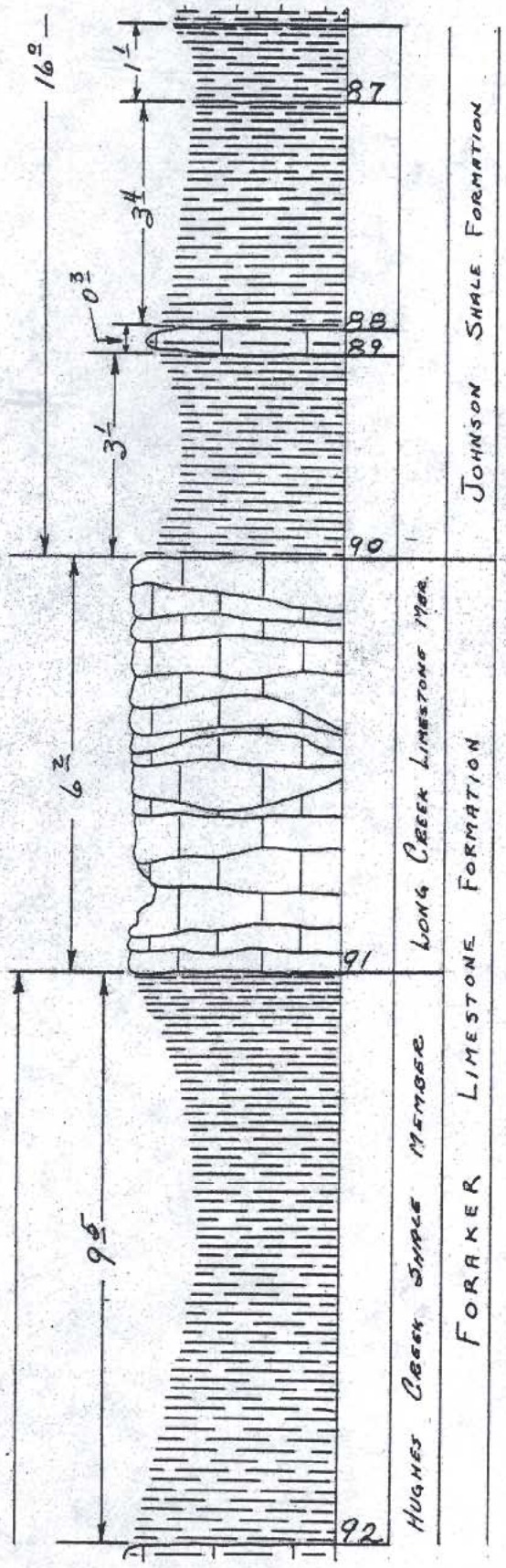
79. Sandstone, fine grained, rust-tan.
80. Shale, light green to light tan, platy, weathers light green and light tan, limy.
81. Shale, limy, dark gray, platy, weathers gray.
82. Shale, dark gray, platy, weathers gray.

Glenrock Limestone Member

83. Limestone, dark gray, blocky, weathers tan-gray.
84. Shale, gray-green, platy.
85. Limestone, limy, gray, blocky, weathers light gray.

Johnson Shale

86. Shale, limy, gray, blocky, weathers gray-green.



87. Shale, maroon, blocky, weathers maroon.

88. Shale, dark gray, blocky, weathers gray-green, limy nodules.

89. Limestone, shaly, gray, blocky, weathers tan.

90. Shale, gray, blocky, weathers gray-green, limy nodules.

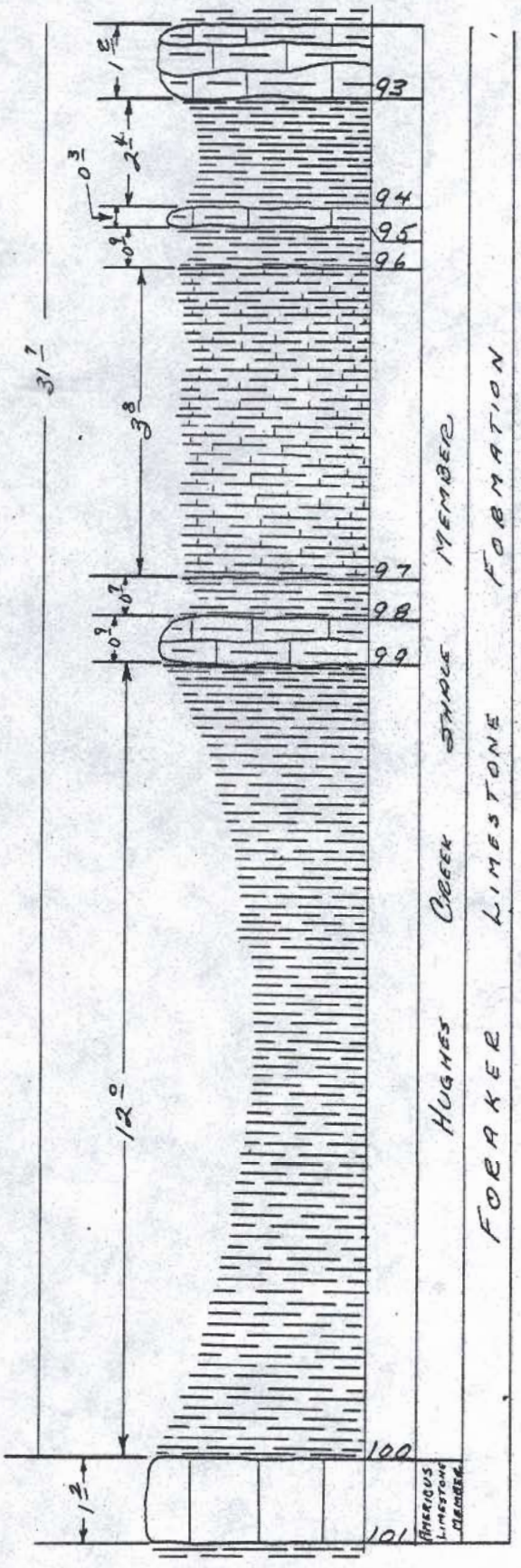
Foraker Limestone

Long Creek Limestone Member

91. Limestone, tan, blocky, to platy, weathers tan, water carrier, honey-combed, irregular top and base.

Hughes Creek Member

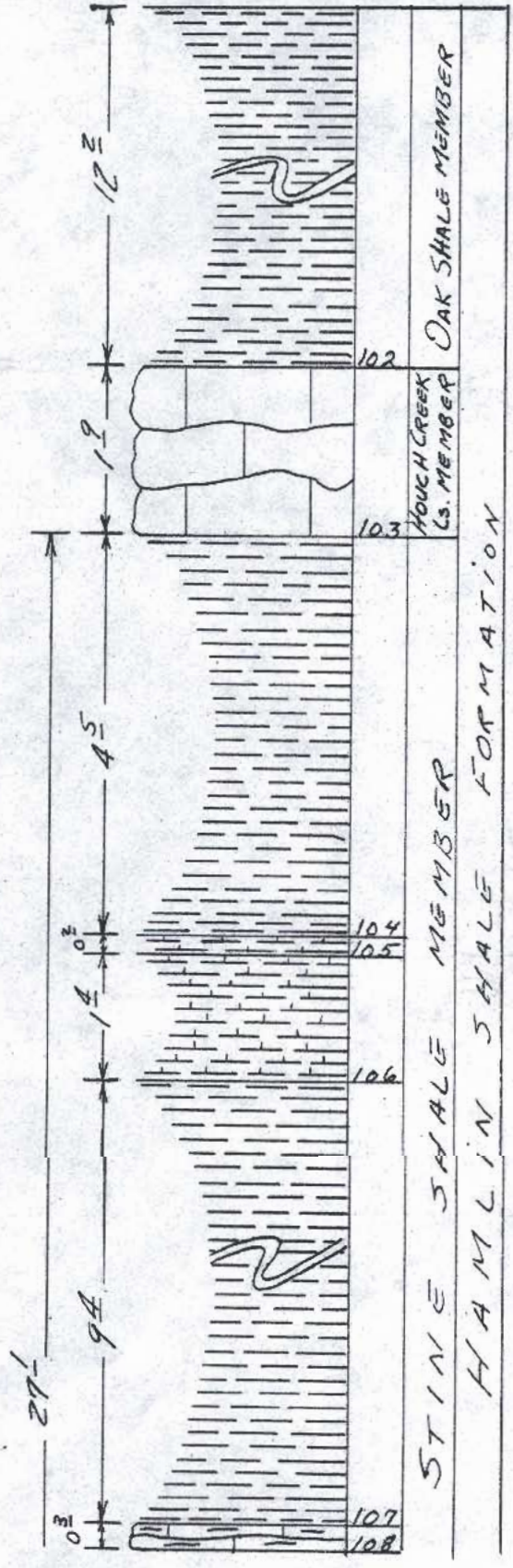
92. Shale, dark gray, blocky, weathers gray-green, contains some limy stringers and nodules.



93. Limestone, shaly, gray, blocky, weathers tan-gray.
94. Shale, dark blue gray, blocky, weathers gray.
95. Limestone, shaly, gray, blocky, weathers gray.
96. Shale, dark blue gray, blocky, weathers gray.
97. Shale, limy, gray, blocky, weathers gray.
98. Shale, dark blue gray, blocky, weathers gray.
99. Limestone, shaly, gray, blocky, weathers gray.
100. Shale, dark blue gray, blocky, weathers gray.

Americus Limestone Member

101. Limestone, gray, unit bedded, weathers gray.



Hamlin Shale

Oaks Shale Member

102. Shale, gray, blocky, weathers tan-green.

Houchen Creek Limestone Member

103. Limestone, yellow-brown, blocky, impure, weathers yellow-brown.

Stine Shale Member

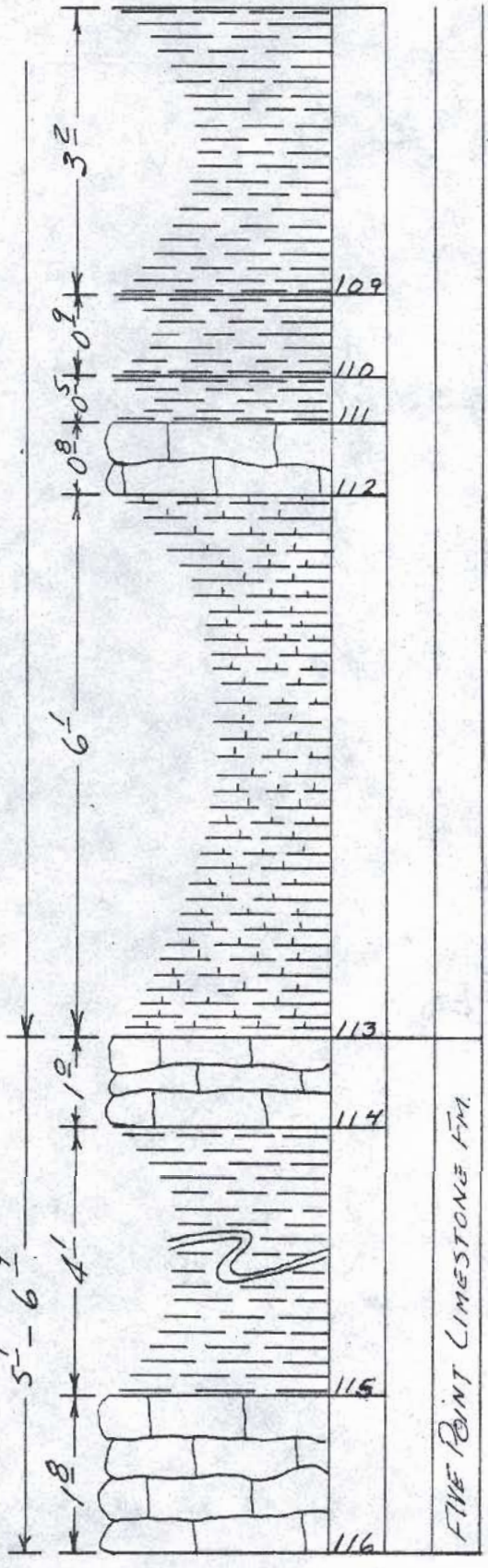
104. Shale, gray, platy, weathers gray-green, limy nodules throughout.

105. Shale, limy, maroon, platy, weathers maroon.

106. Shale, limy, green, blocky, weathers tan-green.

107. Shale, micaceous, gray, platy, weathers tan-green.

108. Limestone, shaly, gray, blocky, weathers tan-gray, water carrier.



109. Shale, gray, blocky, weathers tan-gray.

110. Shale, maroon, blocky, weathers maroon.

111. Shale, gray, blocky, weathers gray-green.

112. Limestone, gray, blocky, weathers tan.

113. Shale, limy, green, blocky, weathers gray-green, contains shaly limestone zones.

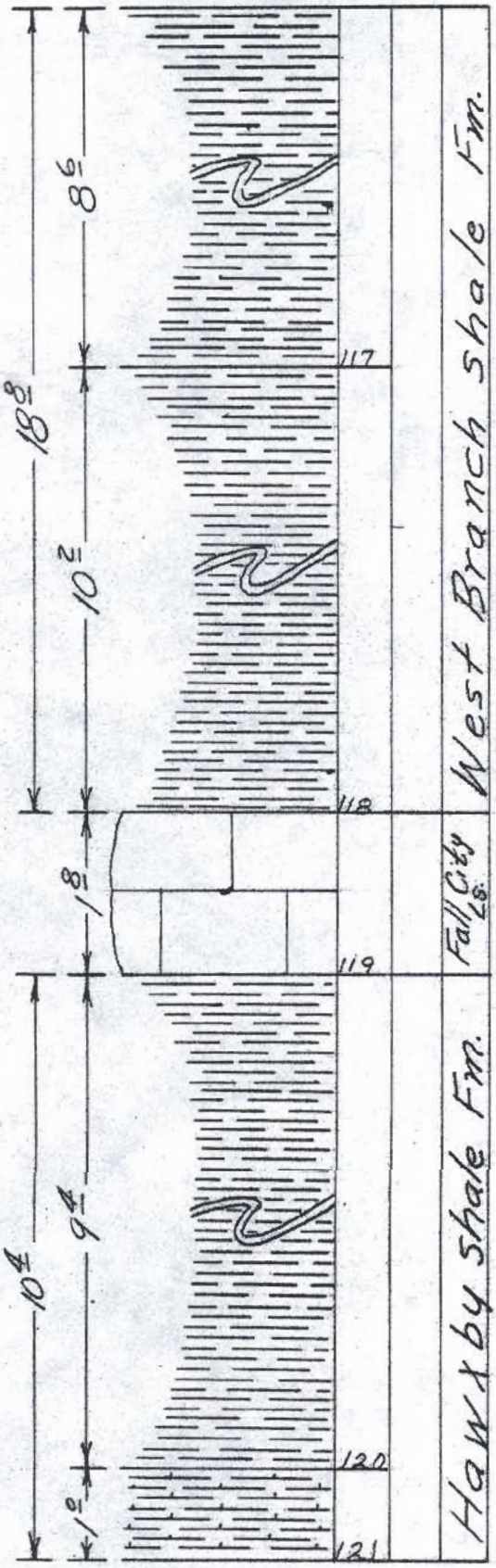
Five Point Limestone

114. Limestone, gray, blocky, weathers gray.

115. Shale, gray, blocky, weathers gray-green.

116. Limestone, gray, blocky, weathers gray.

Pottawatomie County



West Branch Shale

117. Shale, maroon, gray, and green, blocky, weathers vari-colored.

118. Shale, gray, blocky, weathers gray-green.

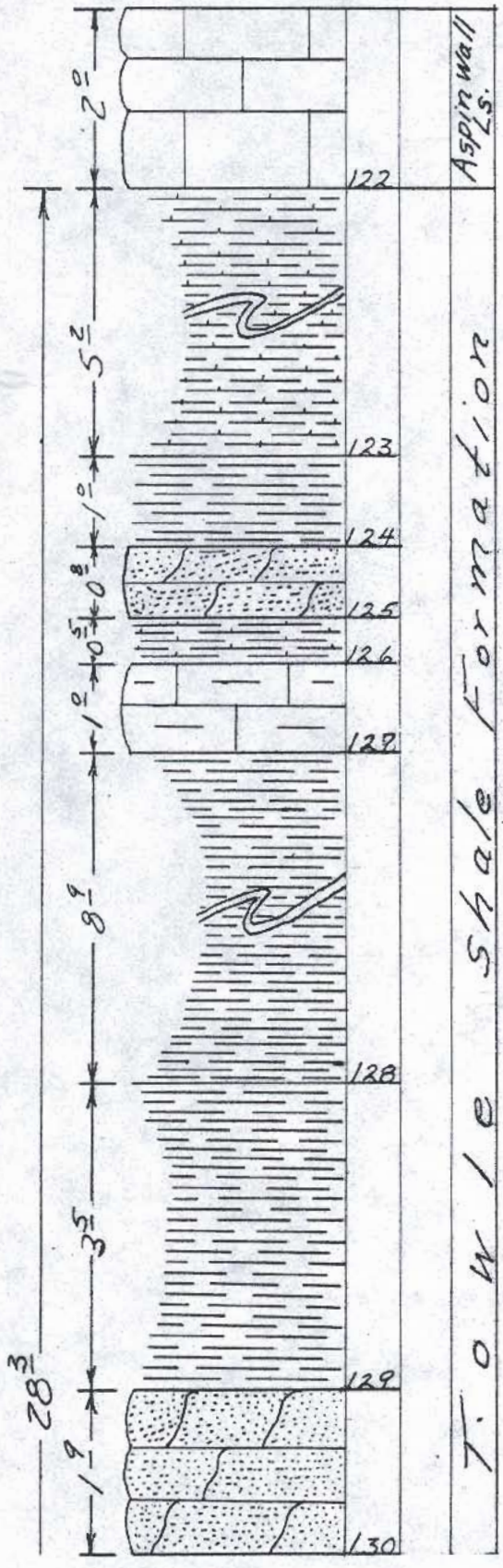
Falls City Limestone

119. Limestone, gray, blocky, weathers gray.

Hawxby Shale

120. Shale, gray, blocky, weathers gray-green.

121. Shale, limy, gray, blocky, weathers gray.



Aspinwall Limestone

122. Limestone, gray, blocky.

Towle Shale

123. Shale, limy, gray, platy, weathers gray.

124. Shale, maroon, platy, weathers maroon.

125. Sandstone, maroon, fine grained.

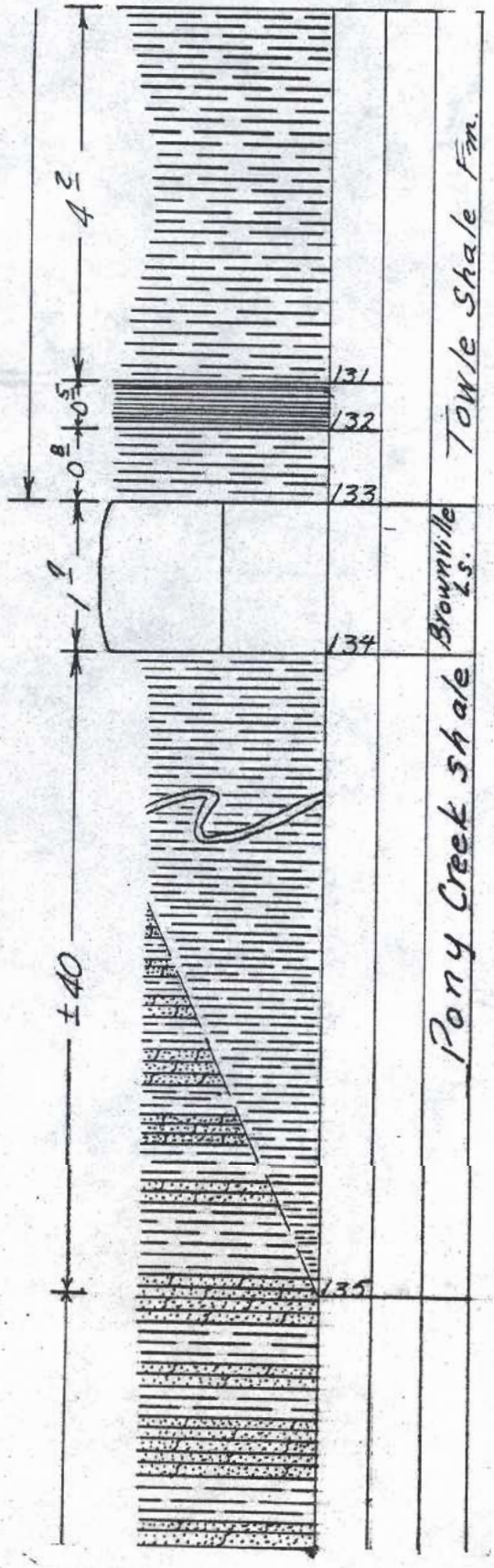
126. Shale, limy, green, platy, weathers tan-green.

127. Limestone, shaly, light green, blocky.

128. Shale, maroon, platy, weathers maroon.

129. Shale, green, platy, weathers tan-green.

130. Sandstone, gray-green, fine grained.



131. Shale, gray, platy, weathers tan-gray.

132. Shale, black, fissile, weathers dark gray.

133. Shale, gray, platy, weathers light gray.

Pennsylvanian System

Virgilian Series

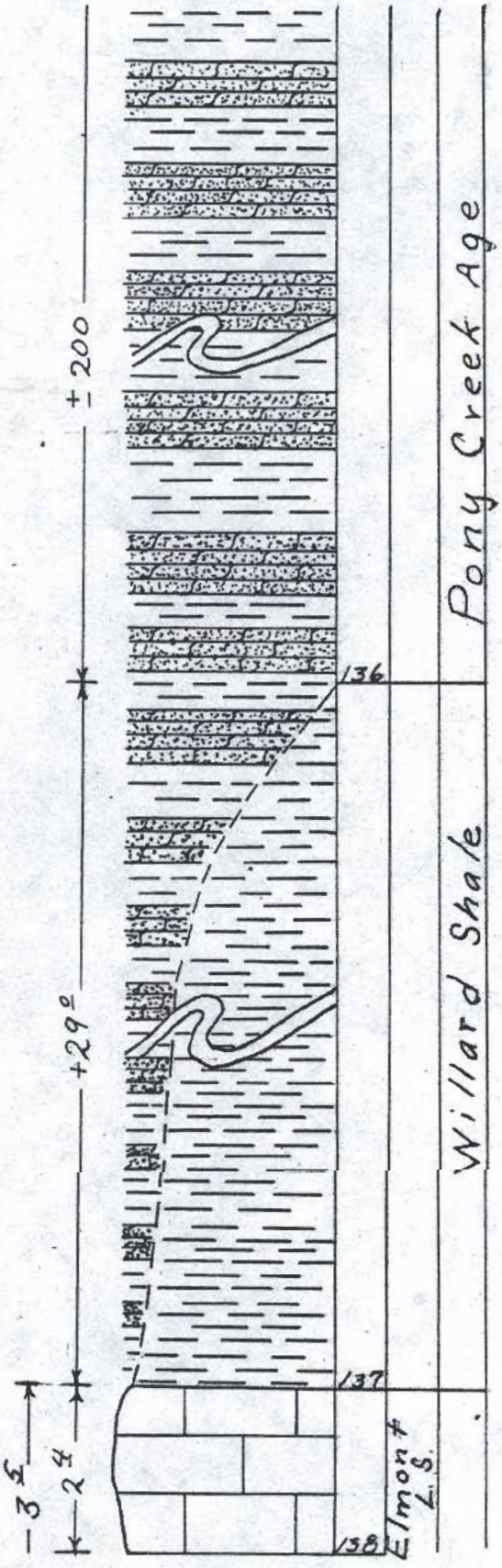
Wabaunsee Group

Brownville Limestone

134. Limestone, rust-brown, blocky.

Pony Creek Shale

135. Shale, blue-gray, platy, weathers tan gray-green, contains thin sandstone zones.



Pony Creek Age

Channel Material

136. Alternating sandstone and shale, sandstone fine-grained, gray, weathers tan-brown, shale is platy, weathers tan, clayey.

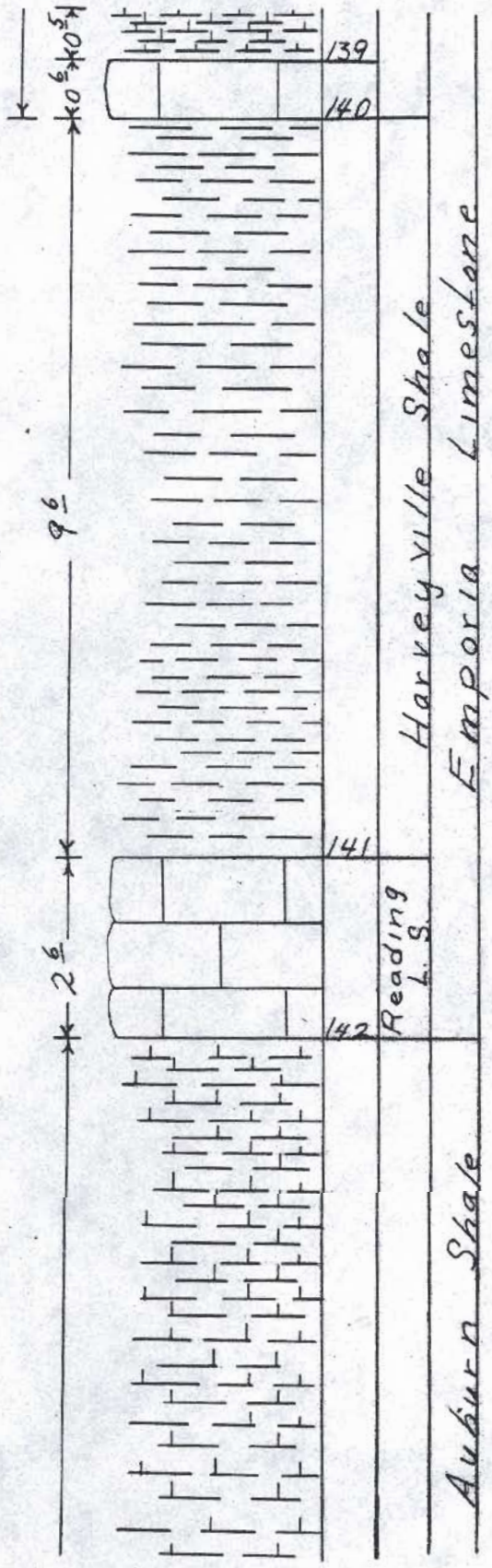
Willard Shale

137. Shale, blue-gray, platy.

Emporia Limestone

Elmont Limestone Member

138. Limestone, gray blocky, weathers light gray-brown, fossiliferous.



139. Shale limy green, blocky weathers green.

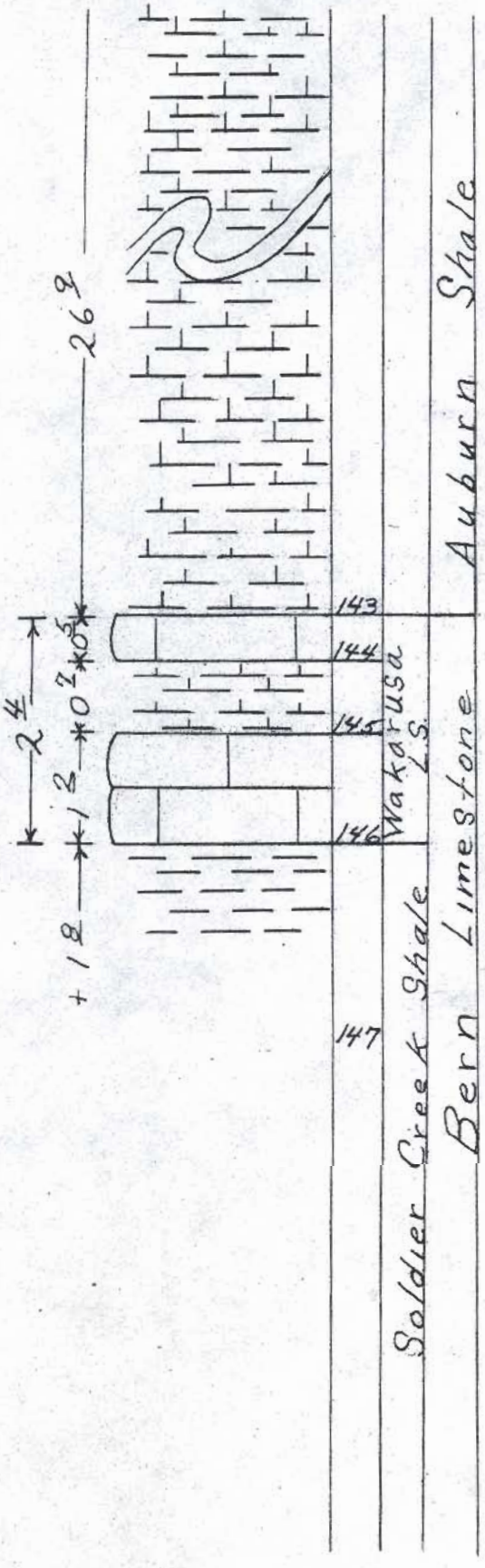
140. Limestone, gray, platy, weathers gray-green.

Harveyville Shale Member

141. Shale, gray-green, platy, weathers tan-green, clayey, slick.

Reading Limestone Member

142. Limestone, brown, blocky, weathers rust-brown, fossiliferous, contains two horizontal partings, vertical joints 3 to 6 feet.



Auburn Shale

143. Shale limy, gray, platy, weathers tan-gray.

Bern Limestone

Wakarusa Limestone Member

144. Limestone, gray, blocky.

145. Shale, limy, gray, blocky, weathers gray-green.

146. Limestone, gray, blocky.

Soldier Creek Shale Member

147. Shale, gray, blocky, weathers gray-green