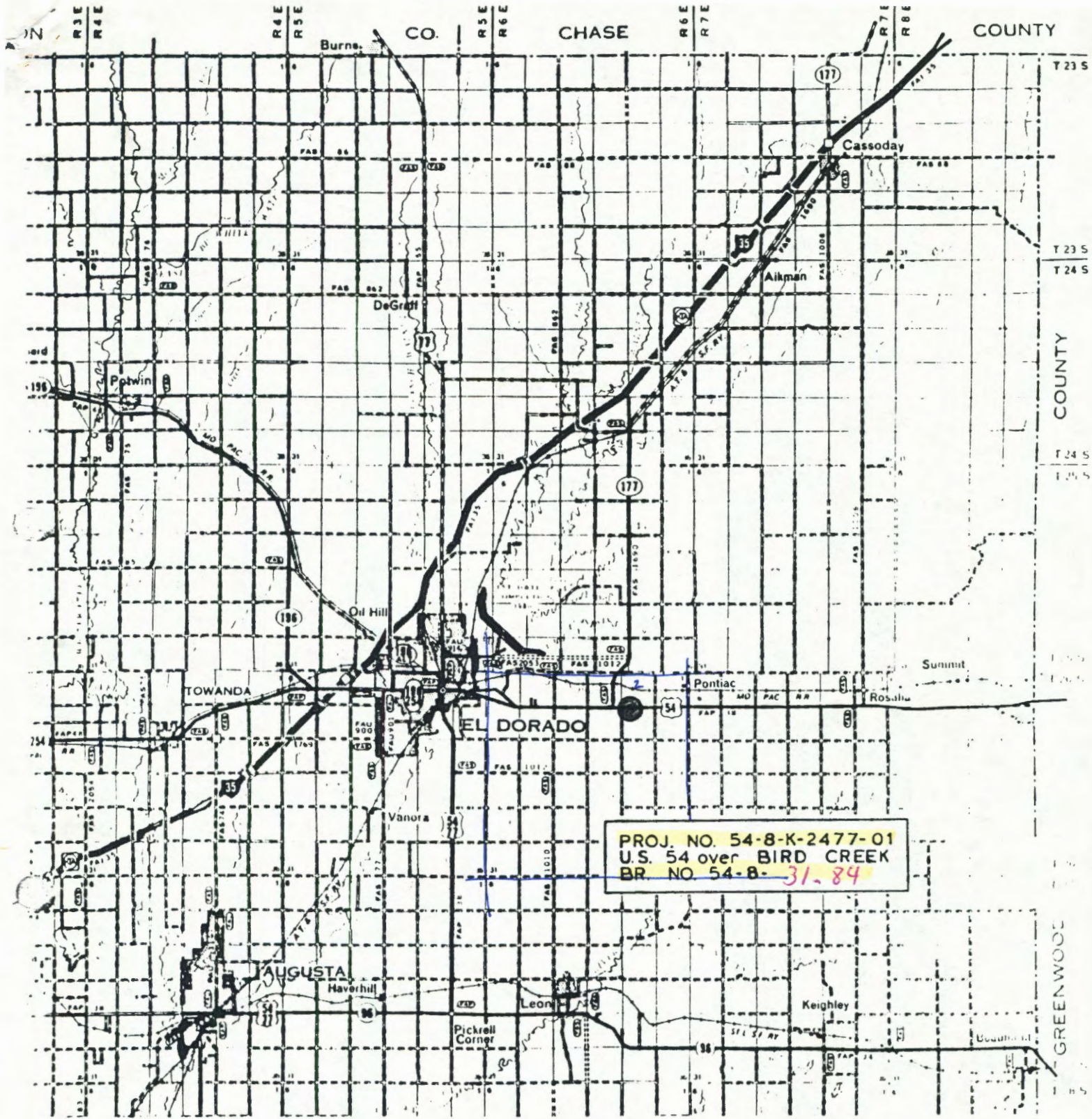




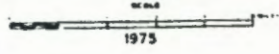
PROJ. NO. 54-8-K-2477-01
 U.S. 54 over BIRD CREEK
 BR. NO. 54-8-31.84

SW-SW-2-26S-6E
 0-40'
 chase
 Blue spring shale
 to
 Kinner Limestone



GENERAL HIGHWAY MAP BUTLER COUNTY KANSAS

PREPARED BY THE
 KANSAS DEPARTMENT OF TRANSPORTATION
 PLANNING AND DEVELOPMENT DEPARTMENT
 IN COOPERATION WITH THE
 U. S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION



KANSAS DEPARTMENT OF TRANSPORTATION

COUNTY *Butler* PROJECT NO. *54-8-K2477-01* BRIDGE NO. *31.84*DESCRIPTION *US 54 over Bird Creek* STA. *304+51, R. 22*GEOLOGIST *Koontz* VERTICAL SCALE *1 inch = 10 feet* DATE *7-85*

BIT TYPE & NO.	GEOLOGIC NAME	GEOLOGIC COLUMN	GROUNDWATER ELEVATION	DEPTH	ELEVATION	GEOLOGIC DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION	STANDARD PENETRATION OR CASING DRIVE	
								BLOWS	ELEV.
						<i>T.H.E. 1347.3</i>			
				<i>1.5</i>		<i>Silty clay, dark brown</i>			
				<i>5.0</i>		<i>Limestone gravel, coarse, in silty clay</i>			
				<i>7.0</i>	<i>1340</i>	<i>Limestone, Hard, tan to tan-gray</i>			
				<i>9.0</i>		<i>Limestone, gray, cherty, very hard</i>			
				<i>12.4</i>	<i>1334.9</i>	<i>Limestone, gray, with dark gray, thin shaly partings, not as hard</i>			
				<i>15.4</i>		<i>Shale, dark gray to blue-gray, very limy, very firm</i>			
				<i>19.8</i>	<i>1330</i>	<i>Shale, dark gray, with light gray Limestone zones, very firm to hard</i>			
				<i>27.5</i>	<i>1320</i>	<i>Shale, gray to blue-gray, not as firm</i>			
				<i>32.4</i>		<i>Shale, dark maroon, firm</i>			
				<i>33.5</i>	<i>1313.8</i>	<i>Shale, dk. gray to blue-gray, limy, very firm</i>			
				<i>35.7</i>		<i>Limestone, tan-white to tan, hard</i>			
				<i>39.8</i>	<i>1310</i>	<i>Limestone, tan-white to tan with gray to blue-gray shaly zones, not as hard</i>			
						<i>T.D. 39.8 Elev. 1307.5</i>			
					<i>1300</i>				
					<i>1290</i>				
					<i>1280</i>				

*7' N' Hawthorne**Soil Mantle**3 1/2" Tri-cone**Florence
Member**Blue Springs Mbr.**Kinney Member**1343.3*