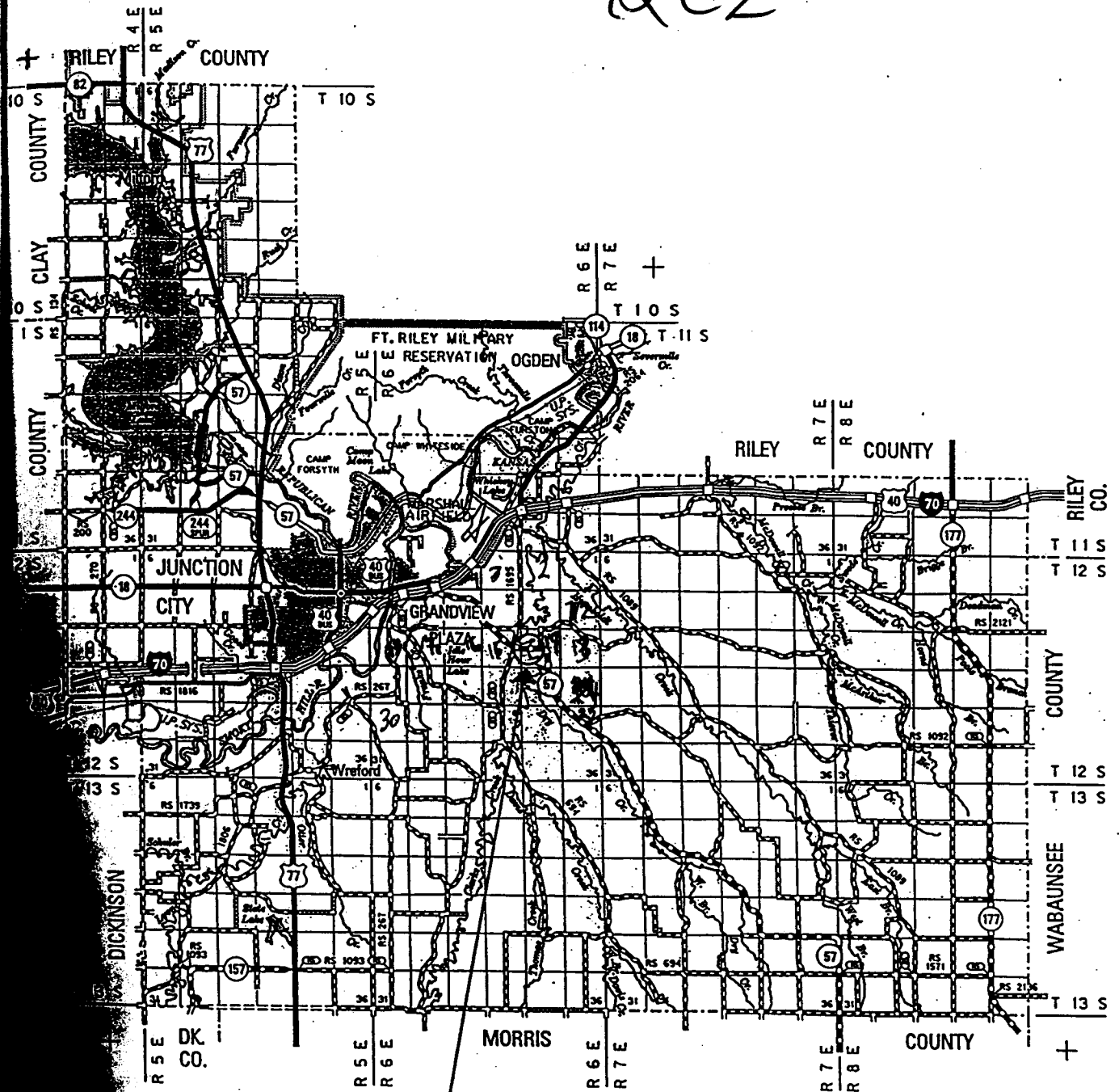


QC2

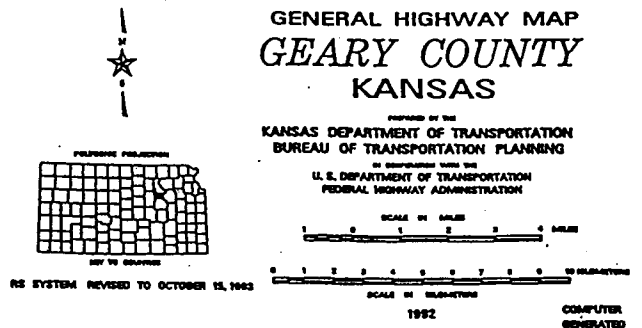
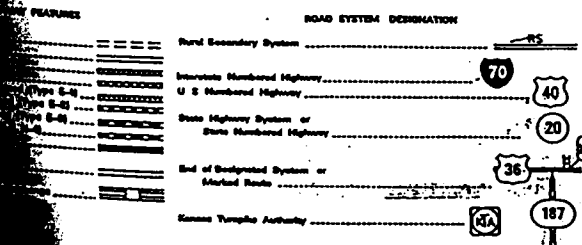


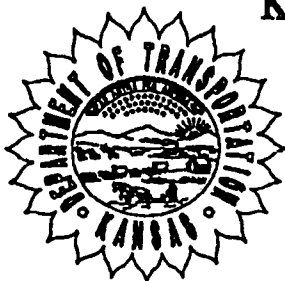
Prot. 57-31-K-5657-01

Br. No. 57-31-14.72

K-57 over Clarks Creek

LEGEND





KANSAS DEPARTMENT OF TRANSPORTATION

ROUTE-COUNTY NO. 57-31	SOUNDING NO. CD# 2	SHEET 1 OF 2
BRIDGE STA. 10+733.72	PROJECT NO. K-5657-01	BRIDGE NO. 14.72 (054)
DESCRIPTION K-57 over Clarks Creek	HOLE STA. 10+779.1694	
GEOLOGIST Streiler	VERTICLE SCALE 1"=2m	DATE 9-22-98
DRILLER Verrynek	RIG B-61	ELEVATION TOP OF HOLE 337.765
GROUND WATER ELEV. 333.81	TOTAL DEPTH OF HOLE 14.32	ELEVATION TOP OF ROCK 332.455

BIT TYPE & NO.	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION KPa	STANDARD PENETRATION OR CASING DRIVE	
							BLOWS	ELEV.
			0.00	338	337.765 T.H.E.			
	Alluvium			336	brown silty clay			
			5.31	334				
			5.81	332	332.455			
					gray ls, rugy. brown @ top			
					gray shale	264.0	#1	331.015
			7.60	330	330.165			
			7.83		329.935			
					gray ls. shaly	1288.0	#2	329.775
					light gray ls, wavy, lams			
			8.61		329.155			
					green shale	1543.4	#3	328.579
				328				
			10.43		327.335			
			11.29		326.475			
					maroon shale w/ gypsum xls.			
				326				
					Unconsolidated gray and maroon silt w/ fine gr. gypsum xls - cavern fill			



KANSAS DEPARTMENT OF TRANSPORTATION

ROUTE-COUNTY NO. 57-31	SOUNDING NO. CD#2	SHEET 2 OF 2
BRIDGE STA. 10+733.72	PROJECT NO. K-5657-01	BRIDGE NO. 14.72 (054)
DESCRIPTION K-57 over Clarks Creek	HOLE STA. 10+779.16.94	DATE 9-22-98
GEOLOGIST Steiler	VERTICLE SCALE 1"=2m	ELEVATION TOP OF HOLE 337.765
DRILLER Vervynck	RIG B-61	ELEVATION TOP OF ROCK 332.455
GROUND WATER ELEV. 333.81	TOTAL DEPTH OF HOLE	

BIT TYPE & NO.	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION	STANDARD PENETRATION OR CASING DRIVE	
							BLOWS	ELEV.
Diamond	Easy Creek Shale		12.84		324.925			
			13.22		324.845			
	Middleburg Limestone		13.38		324.845			
			14.27	324	324.845			
			14.32		323.495			
			TD.		323.495 TD, SIS			
	Hooser Shale			322				

CD#2 T.H.E. 337.77

Core #1 5.31 to 6.63 (332.46-331.14)

Cut 1.32 **Rec.** 1.32 **RQD** 39%

5.31-5.81 ls. vugy, gray, brown @ top

5.81-6.63 gray shale

Core #2 6.63 to 8.16 (331.14-329.61)

Cut 1.52 **Rec.** 1.53 **RQD** 83%

6.63-7.60 gray shale

7.60-7.83 limestone, gray, shaly

7.83-8.16 limestone, light gray, wavy laminations, Sample #2 7.83-7.97

Core #3 8.16 to 9.53 (329.61-328.24)

Cut 1.37 **Rec.** 1.28 **RQD** 96%

8.16-8.61 limestone, light gray, wavy laminations

8.61-9.53 shale, green, Sample # 3 8.61-8.81

Core #4 9.53 to 11.20 (328.24-326.57)

Cut 1.52 **Rec.** 1.37 **RQD** 70%

9.53-10.43 shale, gray-green

10.43-11.05 shale, maroon with gypsum crystals

11.05-11.20 shale, maroon

Split Spoon Drive

11.29-11.74 (326.48-326.03, 7 blows) unconsolidated gray and maroon silt

11.74-12.24 (326.03-325.53, 8 blows) unconsolidated gray and maroon silt with fine gr. gypsum

12.24-12.84 (325.53-324.93, 1 blow) unconsolidated gray and maroon silt with gypsum @base

Core #5 12.84 to 14.32 (364.93-14.32)

Cut 1.52 **Rec.** 1.48 **RQD** 89%

12.84-12.92 limestone, brown- broken, no resistance

12.92-13.22 limestone, light gray-vugy

13.22-13.38 shale, black

13.38-14.27 limestone, gray with white laminations, Sample #4 14.36-13.62

14.27-14.32 shale, gray