KANSAS DEPARTMENT OF TRANSPORTATION

1. ROUTE-COUNTY NO. 004-089	7. SOUNDING NO. [redacted]	12. SHEET 1 OF 2
2. BRIDGE STA. 51+42	8. PROJECT NO. K-6252-01	13. BRIDGE NO. 70-89-19.92(000)
3. DESCRIPTION CROCO ROAD OVER I-70		14. HOLE STA. 53+43, 48' RT
4. GEOLOGIST R. BILLINGER	9. VERTICLE SCALE 1" = 10'	15. DATE 5-14-97
5. DRILLER H. SUNDERLAND	10. RIG MOBILE B-61	16. ELEVATION TOP OF HOLE 996.86
6. GROUND WATER ELEV. 992.8	11. TOTAL DEPTH OF HOLE 76 9/12	17. ELEVATION TOP OF ROCK 987.6

BIT TYPE & NO.	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION	STANDARD PENETRATION OR CASING DRIVE BLOWS	STANDARD PENETRATION OR CASING DRIVE ELEV.
					TOP HOLE ELEV. = 996.86			
4" CDH	MANTLE		9 3/12	990	CLAY, DARK-BROWN TO TAN-YELLOW, SILTY			
					987.6			
	TOPEKA LS FM. CURZON LS MBR	1	15 0/12		LIMESTONE GRAY TO LT. GRY, W/ORANGE STAINING, FOSSILIFEROUS	341.010		
					981.9	154.900		
				980	981.2 SHALE, DRK GRY, FIRM	3.331		
		2	20 8/12		LIMESTONE, GRAY TO LT GRY, FOSSILIFEROUS MASSIVE, HARD	171.000		
					976.1	448.785		
	HARTFORD LS MBR	3				3.776		
		4		970	SHALE, DARK GRAY, SANDY, FIRM, WITH SHALEY GRY SANDSTONE BEDS @ 973.2 TO 970.0, 968.8 TO 963.9, 961.4 TO 959.2, 956.2 TO 955.8, 945.2 TO 942.5	32.377		
		5				45.987		
						86.893		
		6				38.247		
				960		34.466		
		7				48.163		
						27.491		
		8		950	STREAK OF LS @ 940.6	52.838		
						37.421		
		9				207.029		
	IOWA POINT SH MBR					29.680		
		10		940		31.390		
						56.034		
		11				42.058		
	CALHOUN SHALE FORMATION	12		930		20.840		

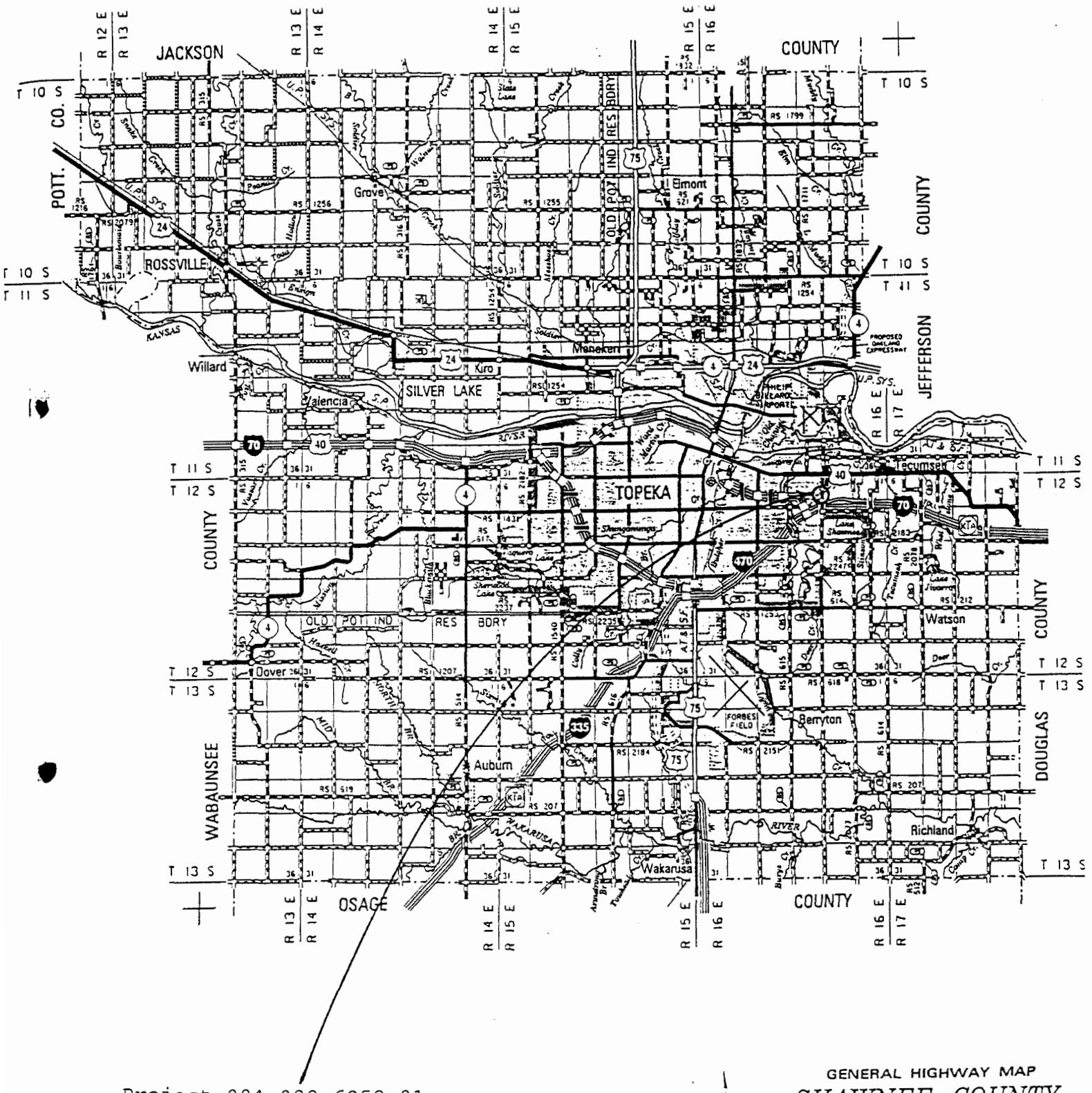
'NX' DIAMOND

KANSAS DEPARTMENT OF TRANSPORTATION

1. ROUTE-COUNTY NO. 004-089	7. SOUNDING NO. CD No 2	12. SHEET 2 OF 2
2. BRIDGE STA. 51+42	4. PROJECT NO. K-6252-01	13. BRIDGE NO. 70-89-19.92(000)
3. DESCRIPTION CROCO ROAD OVER I-70		14. HOLE STA. 53+43, 48' RT
4. GEOLOGIST R. BILLINGER	8. VERTICLE SCALE 1"=10'	15. DATE 5-14-97
5. DRILLER H. SUNDERLAND	10. RIG MOBILE B-61	16. ELEVATION TOP OF HOLE 996.86
6. GROUND WATER ELEV. 992.8	11. TOTAL DEPTH OF HOLE 76 9	17. ELEVATION TOP OF ROCK 987.6

BIT TYPE & NO.	GEOLOGIC NAME	STRATIGRAPHIC COLUMN	DEPTH	ELEVATION	CLASSIFICATION OF MATERIALS DESCRIPTION AND REMARKS	UNCONFINED COMPRESSION	STANDARD PENETRATION OR CASING DRIVE BLOWS	STANDARD PENETRATION OR CASING DRIVE ELEV.
NX DIAMOND	DEER CREEK LS FM. — ERVINE CREEK LS MBR	13	69'	927.8	LIMESTONE, GRAY, MASSIVE UNIT BEDDED, FOSSILIFEROUS	331.505		
		14	76 9	920.0 T.D.		188.885		
						816.839		

CORE #	DEPTH	ELEV.	CUT	REC	%	RQD
1	9 3	987.6	4 0	3 7	92	90
2	13 3	983.6	5 0	4 8	96	100
3	18 3	978.6	4 8	5 0	104	94
4	23 1	973.8	5 0	5 0	100	82
5	28 1	968.8	4 9	4 9	100	92
6	33 0	963.9	4 9	4 9	100	92
7	37 9	959.0	5 0	5 0	100	96
8	42 9	954.0	5 0	5 0	100	100
9	47 9	949.0	4 9	4 9	100	100
10	52 8	944.1	4 8	4 8	100	81
11	57 6	939.3	5 0	5 0	100	100
12	62 6	934.3	4 5	4 5	100	78
13	67 1	929.8	4 8	4 8	100	100
14	71 9	925.0	5 0	5 0	100	100
TOTAL	76.9	920.0	67.6	67.3	99	



Project 004-089-6252-01
Bridge No. 70-89-19.92(000)
Croco Road over I-70
Sta. 51+42.16
Shawnee County

GENERAL HIGHWAY MAP

SHAWNEE COUNTY

KANSAS

KANSAS DEPARTMENT OF TRANSPORTATION
BUREAU OF TRANSPORTATION PLANNING

IN COOPERATION WITH THE
U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

SCALE IN MILES

SCALE IN KILOMETERS

1994

COMPUTER GENERATED

QC2

Bridge B

Kansas Department of Transportation

BUREAU OF MATERIALS AND RESEARCH

GEOTECHNICAL UNIT
GEOLOGY SECTION
TOPEKA, KANSAS
June 30, 1997

Proj. No. 004-089 K-6252-01
Br. No. 70-89-19.92(~~000~~)(250)
Croco Road over I-70, E.B. K-4, W.B. K-4, & Ramp 4N-470W
Sta. 51+42.16 Sta 412+70.87 ℄ I-70
Shawnee County

MEMORANDUM TO: MR. G. DAVID COMSTOCK, P.E., CHIEF.
BUREAU OF DESIGN

ATTENTION: MR. KEN HURST, P.E., ENGINEERING MANAGER
STATE BRIDGE OFFICE

SUBJECT: BRIDGE FOUNDATION GEOLOGY REPORT

Three copies of the above report are attached to this memorandum. An Engineering Geology Bridge Sheet has been drawn on the Microstation Workstation. This file has been placed on the Design file server witch under the filename 62521992.dgn. Two copies of the drill sounding logs are attached to this report. Enclosed is a floppy diskette of the design file for the consultant.

If questions arise over the contents of this report, please do not hesitate to contact the Geology Section.

LON S. INGRAM, P.E.
CHIEF, MATERIALS AND RESEARCH

G.N. CLARK, P.E.
GEOTECHNICAL ENGINEER

LSI:GNC:GRK:rjc
attachments
c: District 1
Bureau of Construction and Maintenance
Regional Geology Offices
Project File

CORE DESCRIPTION

PROJECT 4-89 K-6252-01
BRIDGE NO. 70-89-19.92 (000)
CROCO ROAD OVER I-70
SHAWNEE COUNTY

5-14-97 CORE DRILL NO 2 TOP HOLE ELEV = 996.86

STATION 53+43, 48' RT & CROCO ROAD

PIER NO 4 - RT WATER LEVEL = 992.8

PUSHED CASING TO 9 2/5

	996.9	0 - 8 5/5	CLAY, DRK BRN
	988.4	3 5/5 - 9 3/5	CLAY, TAN-YELLOW
	987.6	9 3/5 TD	
CORE NO 1	987.6	9 3/5 - 9 4/5	LS, GRY WITH ORANGE STAINING (CURZON)
9 3/5 - 13 3/5	987.5	9 4/5 - 9 7/5	SHALE
CUT 4 0/5	987.2	9 7/5 - 13 0/5	LS, GRY W/ ORANGE ZONES INTERBEDDED, HARD, MASSIVE
REC 3 7/5	983.9	13 0/5 - 13 3/5	LS, LT GRY, FOSSILIFEROUS
RQD = 90%	983.6	13 3/5 TD	S/S
CORE NO 2	983.6	13 3/5 - 14 5/5	LS, LT GRAY, HARD MASSIVE, FOSSILIFEROUS
13 3/5 - 18 3/5	982.4	14 5/5 - 15 0/5	LS, GRAY FOSSILIFEROUS (CURZON)
CUT 5 0/5	981.9	15 0/5 - 15 7/5	SHALE, DRK GRY, VERY FIRM (IOWA PT)
REC 4 8/5	981.2	15 7/5 - 18 3/5	LS, GRAY, FOSSILIFEROUS, MASSIVE, HARD
RQD = 100%	978.6	18 3/5 TD	S/S
CORE NO 3	978.6	18 3/5 - 20 8/5	LS, LT GRY, HARD, MASSIVE (HARTFORD)
18 3/5 - 23 1/5	976.1	20 8/5 - 23 1/5	SHALE, DARK GRY (CALHOUN)
CUT 4 8/5	973.8	23 1/5 TD	S/S
REC 5 0/5			
RQD = 94%			

CORE DESCRIPTION

CD NO 2 CONT:

PROJECT 7-89 K-6252-01
BRIDGE NO 70-89-19.92 (000)
CROCO ROAD OVER I-70
SHAWNEE COUNTY

CORE NO 4	973.8	23'-23'	SHALE, DRK GRY (CALHOUN)
23'-28'	973.7	23'-23'	SHALE, SANDY, DRK-GRY
CUT 5'	973.2	23'-24'	SANDSTONE, SHALEY, GRY
REC 5'	972.6	24'-24'	SHALE, VERY SANDY, GRAY
RQD = 82%	972.0	24'-25'	SANDSTONE, SHALEY GRAY
	971.5	25'-26'	SHALE, VERY SANDY
	970.9	26'-26'	SS, SHALEY, DARK GRY
	970.0	26'-28'	SHALE, VERY SANDY
	968.8	28' TD	S.S
CORE NO 5	968.8	28'-28'	SS, SHALEY, DRK GRY
28'-33'	968.6	28'-29'	SHALE, VERY SANDY
CUT 4'	967.9	29'-32'	SS, GRY
REC 4'	964.5	32'-33'	SS, SHALEY, GRY
RQD = 92%	963.9	33' TD	S/S
CORE NO 6	963.9	33'-33'	SHALE, SANDY, GRY
33'-37'	963.2	33'-35'	SHALE, VERY SANDY, INTERBEDDED, GRAY
CUT 4'	961.4	35'-35'	SS, SHALEY, GRAY
REC 4'	961.0	35'-36'	SHALE, VERY SANDY, GRAY
RQD = 92%	960.3	36'-37'	SS, SHALEY, GRAY
	959.2	37'-37'	SHALE, SANDY, GRAY
	959.0	37' TD	S/S
CORE NO 7	959.0	37'-40'	SHALE, SANDY GRAY TO DRK GRY
37'-42'	956.2	40'-41'	SS, GRAY
CUT 5'	955.8	41'-42'	SHALE, SILTY TO SANDY, DRK GRY
REC 5'	954.2	42'-42'	SS, SHALEY
RQD = 96%	954.1	42'-42'	SHALE, SILTY, GRY
	954.0	42'-40.	S/S

R.D

CORE DESCRIPTION — PROJECT 7-89K-6252-01
BRIDGE 70-89-1992 (000)
CROCO ROAD OVER I-70
SHAWNEE COUNTY

CD NO 2 CONT:

CORE No 8	954.0	42^{9}_{-}-45^{9}_{-} SHALE, SILTY, DRK-GRY, PLATEY
42^{9}_{-}-47^{9}_{-}	951.0	45^{9}_{-}-47^{9}_{-} SHALE, SILTY, FIRMER, LESS PLATEY
CJT 5^{0}_{-}	949.0	47^{6}_{-} TD S/S
REC 5^{0}_{-}		
RQD = 100%		
CORE No 9	949.0	47^{9}_{-}-51^{7}_{-} SHALE, SILTY, VERY FIRM, DARK-GRY
47^{9}_{-}-52^{8}_{-}	945.2	51^{7}_{-}-52^{8}_{-} SANDSTONE
CJT 4^{9}_{-}	944.1	52^{8}_{-} TD S/S
REC 4^{9}_{-}		
RQD = 100%		
CORE No 10	944.1	52^{8}_{-}-54^{4}_{-} SS, SHALEY, GRY
52^{8}_{-}-57^{6}_{-}	942.5	54^{4}_{-}-55^{1}_{-} SHALE, VERY SANDY, DARK GRAY
CJT 4^{8}_{-}	941.8	55^{1}_{-}-56^{3}_{-} SS, WITH SHALE LENSES
REC 4^{8}_{-}	940.6	56^{3}_{-}-56^{5}_{-} LS, LIGHT GRAY, HARD
RQD = 81%	940.4	56^{5}_{-}-56^{6}_{-} SHALE, LENSE, DARK-GRAY, SANDY
	940.3	56^{6}_{-}-57^{1}_{-} SS, HARD GRAY (CALHOUN)
	939.8	57^{1}_{-}-57^{6}_{-} SHALE, DARK GRY, SANDY, SILTY
	939.3	57^{6}_{-} TD S/S
CORE No 11	939.3	57^{6}_{-}-62^{6}_{-} SHALE, SILTY TO CLAYEY DRK GRY V. FIRM
57^{6}_{-}-62^{6}_{-}	934.3	62^{6}_{-} TD S/S
CJT 5^{0}_{-}		
REC 5^{0}_{-}		
RQD = 100%		
CORE No 12	934.3	62^{6}_{-}-66^{1}_{-} SHALE, SILTY TO SLIGHTLY SANDY, V. FIRM, DRK GRY
62^{6}_{-}-67^{1}_{-}	930.8	66^{1}_{-}-66^{7}_{-} SHALE, CLAYEY, SOFTER, PLATEY, DRK GRY
CJT 4^{5}_{-}	930.2	66^{7}_{-}-67^{1}_{-} SHALE, SILTY, DRK GRY, FIRM
REC 4^{5}_{-}	929.8	67^{1}_{-} TD S/S
RQD = 78%		

CORE DESCRIPTION

PROJECT 7-89 K-6252-01
BRIDGE NO 70-89-19.92 (000)
CROCO ROAD OVER I-70
SHAWNEE COUNTY

CD No 2 CONT:

CORE No 13	929.8	67^{1}_{-}-69^{1}_{-}	SHALE, GRY, V. FIRM	(CALHOUN)
67^{1}_{-} - 71^{9}_{-}	927.8	69^{1}_{-}-71^{9}_{-}	LS, UNIT BEDDED, MASSIVE, GRY, FOSSILIFERUS	
CUT 4^{8}_{-}	925.0	71^{9}_{-} TD	SLS	(ERVINE CRK)
REC 4^{8}_{-}				
RQD = 100%				
CORE No 14	925.0	71^{9}_{-}-72^{8}_{-}	LS, UNIT BEDDED, DRK GRY, FOSSILIFERUS	
71^{9}_{-} - 76^{9}_{-}	924.1	72^{8}_{-}-74^{0}_{-}	LS, LT GRY, UNIT BEDDED	
CUT 5^{0}_{-}	922.9	74^{0}_{-}-74^{3}_{-}	LS, DRK GRY	
REC 5^{0}_{-}	922.6	74^{3}_{-}-76^{9}_{-}	LS, LT GRY, MASSIVE SIMILAR @ 75^{5}_{-} & $76^{=}$	
RQD = 100%	920.0	76^{9}_{-} TD	SLS	

TD = 76^{9}_{-} = 920.0

DATE 6/2/97

PROJECT 1-89K-6252-01
BRIDGE NO. 70-89-19.92(000)
CROCO ROAD OVER I-70
SHAWNEE COUNTY

CORE SAMPLE DEPTHS & ELEVATIONS LAB NO 97-1793

CD NO 2 STA 53+43, 48' RT E CROCO ROAD

TOP HOLE ELEV: 996.86

SAMPLE NO.	ELEVATIONS	DEPTH	QU T.S.F.
S# 1	986.3 - 985.7	10 6/12 - 11 2/12	341.010
S# 2	983.0 - 982.4	13 9/12 - 14 5/12	154.800
S# 3	981.7 - 981.3	15 2/12 - 15 6/12	3.221
S# 4	981.2 - 980.6	15 7/12 - 16 3/12	171.000
S# 5	978.3 - 977.6	18 6/12 - 19 3/12	448.785
S# 6	975.7 - 974.9	21 2/12 - 22 0/12	3.776
S# 7	972.6 - 972.0	24 3/12 - 24 9/12	32.377
S# 8	969.3 - 968.9	27 6/12 - 28 0/12	45.987
S# 9	966.9 - 966.3	30 0/12 - 30 6/12	86.893
S# 10	963.8 - 963.4	33 1/12 - 33 5/12	38.247
S# 11	961.1 - 960.6	35 5/12 - 36 3/12	34.466
S# 12	955.9 - 955.3	41 0/12 - 41 6/12	48.163
S# 13	953.4 - 952.8	43 5/12 - 44 1/12	27.491
S# 14	950.7 - 950.2	46 2/12 - 46 7/12	52.838
S# 15	946.7 - 946.1	50 2/12 - 50 8/12	37.421
S# 16	945.0 - 944.5	51 9/12 - 52 4/12	207.029
S# 17	942.3 - 941.8	54 6/12 - 55 1/12	29.680
S# 18	941.1 - 940.6	55 8/12 - 56 3/12	21.390
S# 19	936.7 - 936.2	60 2/12 - 60 7/12	56.034
S# 20	932.9 - 932.3	64 0/12 - 64 6/12	42.058
S# 21	928.9 - 928.4	68 0/12 - 68 5/12	20.840
S# 22	927.8 - 927.2	69 1/12 - 69 7/12	331.505
S# 23	925.0 - 924.5	71 2/12 - 72 4/12	188.885
S# 24	922.3 - 921.5	74 6/12 - 75 4/12	816.839

KANSAS DEPARTMENT OF TRANSPORTATION

Report of sample of Geology Cores

Laboratory No. 97-1783

Date Rep'td. May 28, 1997

Date Rec'd. May 21, 1997

Specification No. - - Quantity - - -

Source of material Project

Sample from Project

Submitted by Delmar Thompson, Lawrence Geology Office

Identification marks Tags with samples

Project or POV 004-089 K-6252-01, Shawnee County, District 1

Type of construction Bridge #19.92, Croco Rd. over I-70 at Pier #4, Core Hole #2

TEST RESULTS

Sample No.	Station	Dist.ft. CL	Depth ft.	Description	Qu. t.s.f.	Sample p.c.f. by Dry Wt.	Moisture (% of Dry Wt.)
1	53+43	48 Rt.	10^{6}-11^{2}	Limestone	341.010	158.9	2.3
2	"	"	13^{9}-14^{5}	Limestone, gry	154.800	146.9	4.7
3	"	"	15^{15}-15^{55}	Shale, Dark gray	3.221	120.4	14.5
4	"	"	15^{7}-16^{3}	Limestone, gray	171.000	140.2	8.5
5	"	"	18^{55}-19^{3}	LS, Light gray	448.785	155.7	4.4
6	"	"	21^{2}-22^{0}	Shale, Dark gray	3.776	121.7	15.1
7	"	"	24^{3}-24^{9}	Shale, very sandy	32.377	130.7	10.0
8	"	"	27^{55}-28^{0}	Sandy Sh/Shaly SS	45.987	134.1	9.2
9	"	"	30^{0}-30^{6}	Sandstone, Gray	86.893	121.3	13.0
10	"	"	33^{1}-33^{5}	Shale, Sandy, gray	38.247	135.0	9.2
11	"	"	35^{8}-36^{3}	Shaly SS/Sandy Sh	34.466	131.4	9.9
12	"	"	41^{0}-41^{55}	Shale, Silty/Sandy	48.163	133.2	9.4
13	"	"	43^{5}-44^{1}	Shale, Silty	27.491	134.9	9.6
14	"	"	46^{2}-46^{7}	Shale, Silty	52.838	137.2	8.4
15	"	"	50^{15}-50^{75}	Shale, Silty	37.421	137.1	8.5

Sample No.	Station	Dist.ft. CL	Depth ft.	Description	Qu. t.s.f.	Sample p.c.f. by Dry Wt.	Moisture (% of Dry Wt.)
16	53+43	48 Rt	51^{9}-52^{4}	Sandstone	207.029	149.0	8.3
17	"	"	54^{6}-55^{1}	Shale, very sandy	29.680	132.2	9.9
18	"	"	55^{8}-56^{3}	SS/w shale lenses	21.390	122.6	12.4
19	"	"	60^{2}-60^{7}	Shale, Dark gray	56.034	134.4	9.7
20	"	"	64^{0}-64^{6}	Shale, Silty	42.058	133.8	10.0
21	"	"	68^{0}-68^{5}	Shale	20.840	128.4	12.7
22	"	"	69^{1}-69^{7}	LS, gray	331.505	153.4	4.8
23	"	"	71^{9}-72^{4}	LS. impure	188.885	143.9	7.0
24	"	"	74^{6}-75^{35}	LS, light gray	816.839	163.5	1.1

cc: L.S. Ingram
G.R. Koontzs
D. Thompson
J.J. Brennan
Soil Section
File

Reported by Mavis Hewett for

Title James J. Brennan, Soils Engineer

KANSAS DEPARTMENT OF TRANSPORTATION

01/02

INFORMATION SHEET FOR SOIL SAMPLES

Submitted by Delmar Thompson Address Lawrence Geology Date 5-20-97

Engineer in Charge N Clark Sampled by Randy Billinger

Project No. 004-089 K-6252-01 County Shawnee

Type of Constr. Bridge Check whether: Active X Prelim. _____ Research _____

SAMPLE NUMBER	STATION	DIST. ℄	DEPTH	TESTS REQUIRED	REMARKS
1	53+43	48 Rt	$10^{6}-11^{2}$	Unconfined	Limestone
2			$13^{9}-14^{5}$		Limestone, gray
3			$15^{15}-15^{55}$		Shale, dark gray
4			$15^{7}-16^{3}$		LS, gray
5			$18^{55}-19^{3}$		LS. Light gray
6			$21^{2}-22^{0}$		Shale, dark gray
7			$24^{3}-24^{9}$		Shale, very sandy
8			$27^{55}-28^{0}$		sandy shale/shaly SS.
9			$30^{0}-30^{6}$		Sandstone, gray
10			$33^{1}-33^{5}$		Shale, Sandy, gray
11			$35^{8}-36^{3}$		Shaly Sandstone/sandy shale
12			$41^{0}-41^{5.5}$		Shale, silty/sandy
13			$43^{5}-44^{1}$		Shale, silty
14			$46^{2}-46^{7}$		Shale, silty
15			$50^{15}-50^{75}$		Shale silty
16			$51^{9}-52^{4}$		Sandstone
17			$54^{6}-55^{1}$		Shale, very sandy

LABORATORY RECORD

Date received _____ Laboratory No. _____

Remarks: Croco Rd over I-70 Bridge #19.92 Core Hole #2 at Pier #4

NOTE - One copy of this form completely filled out must accompany each sample or group of samples submitted to the Materials & Research Center, 2300 Van Buren, Topeka, Kansas 66611.

D.O.T. Form No. 667

KANSAS DEPARTMENT OF TRANSPORTATION

02/02

INFORMATION SHEET FOR SOIL SAMPLES

Submitted by Delmar Thompson Address Lawrence Geology Date 5-20-97

Engineer in Charge N Clark Sampled by Randy Billinger

Project No. 004-089 K-6252-01 County Shawnee

Type of Constr. Bridge Check whether: Active X Prelim. _____ Research _____

SAMPLE NUMBER	STATION	DIST. ℄	DEPTH	TESTS REQUIRED	REMARKS
18	53+43	48 Rt	$55^{8}-56^{3}$	unconfined	sandstone with shale lenses
19			$60^{2}-60^{7}$		shale, dark gray
20			$64^{0}-64^{6}$		shale silty
21			$68^{0}-68^{5}$		shale
22			$69^{1}-69^{7}$		LS, gray
23			$71^{9}-72^{4}$		LS impure
24			$74^{6}-75^{35}$		LS, light gray

LABORATORY RECORD

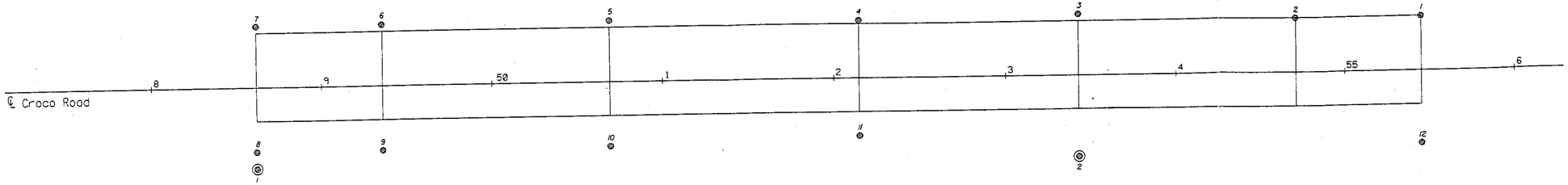
Date received _____ Laboratory No. _____

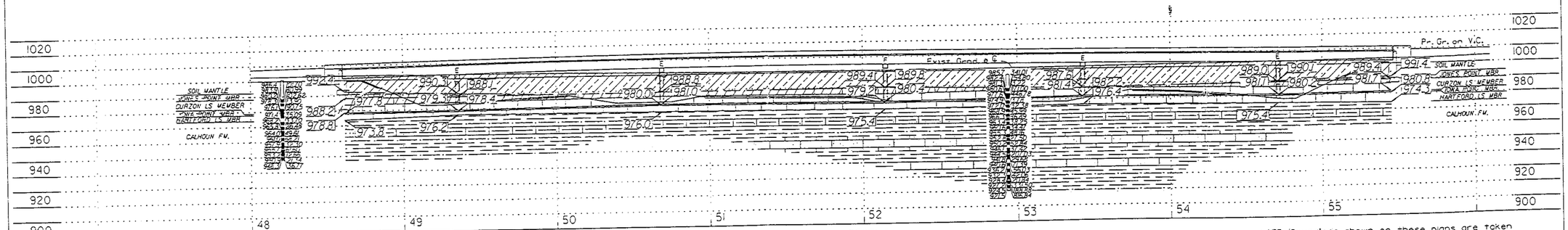
Remarks: Croco Rd over I-70 Bridge #19.92 Core hole 2 at Pier #4

NOTE - One copy of this form completely filled out must accompany each sample or group of samples submitted to the Materials & Research Center, 2300 Van Buren, Topeka, Kansas 66611.

FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	70-89 K-6252-01	19		

DIVE. TRAN. BLDG.	PROJ.	CO. CHECK
DESIGN	DATE	DATE
DETAIL	DATE	DATE
QUANTITIES	DATE	DATE
TRACING	DATE	DATE
CHECKED	DATE	DATE





STANDARD GEOLOGIC SYMBOLS

- Clay
- Silty Clay
- Silt
- Sand
- Gravel
- Boulders
- Caliche
- Silty Clayey Shale
- Limy Shale
- Black or Fissile Shale
- Sandy Shale
- Gypsiferous Shale
- Weathered Shale
- Sandstone
- Shaly Sandstone
- Siltstone
- Gypsum
- Coal
- Limestone
- Cherty Limestone
- Shaly Limestone
- Sandy Limestone
- Weathered or Broken Limestone

SOUNDINGS

- Core drill
- Power auger
- Hand tools
- Air hammer
- Dutch cone penetrometer
- Water level 05/97

1000.0 Elevation interpolated or from adjacent soundings

1000.0 Actual sounding elevation

1000.0 Drive started

1000.0 Refusal

CASING DRIVE TEST

GEOLOGIC PROFILE

Elevation / Tons/sq. ft.
000.0 | 00
000.0 | 00
UNCONFINED COMPRESSION TEST

Elevation / Blows/ft.
000.0 | 00
000.0 | 00
STANDARD PENETRATION TEST

Graphic representation of Drive Test in seconds per foot penetration
0 100 200 300
AIR HAMMER DRIVE TEST
Scales: 1"= 100 Seconds Horiz. 1"= 10' Vert.

Graphic representation of Static Cone Penetration Test in tons per foot penetration
0 100 200 300 400
DUTCH CONE PENETROMETER TEST
Scales: 1"= 100 Tons/sq.ft. Horiz. 1"= 10' Vert.

NOTE: Soundings shown on these plans are taken from notes obtained in the field and represent the best information available. Logs of these soundings are in the files of the Kansas Department of Transportation and are available at their offices at Topeka, Kansas for inspection by interested and qualified bidders.

SCALE: 1"= 30 Horiz. 1"= 30' Vert.

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION
BR. NO. 70-89-19.92(000) STA. 439+56.70 ℄ I-70
STA. 51+42.16 ℄ Croco Road

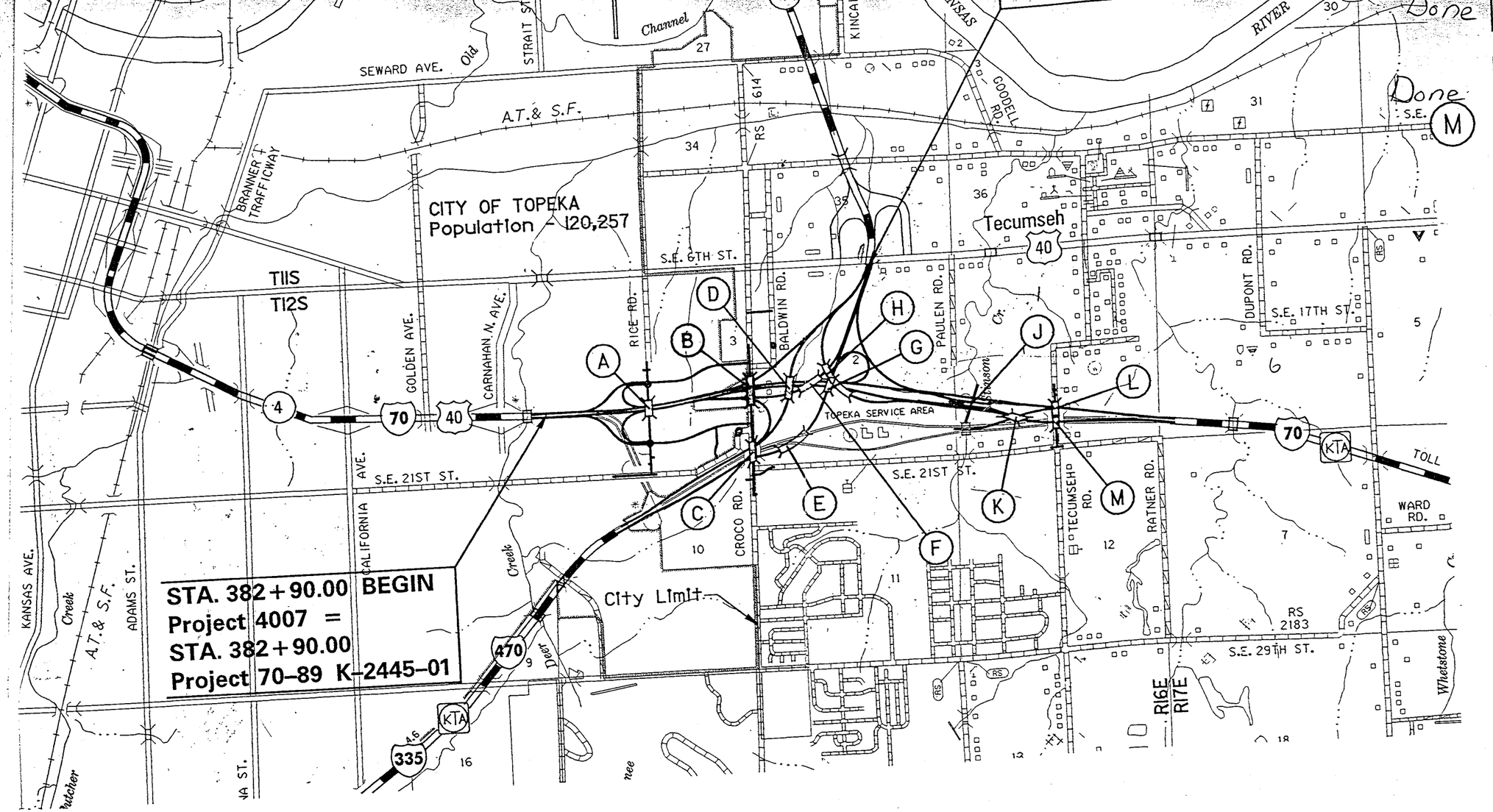
ENGINEERING GEOLOGY
Croco Road over I-70
PROJ. NO. 70-89 K-6252-01 SHAWNEE COUNTY

SHEET NO. OF	SCALES	APP'D	TRACED
OF SHEETS	DETAILS	QUANTITIES	TRACE CK.
DESIGN CK.	DETAIL CK.	QUAN.CK.	

Plotted By : $$USERNAME$$
Plot File : $$$$$$$$$$$$$$$$DGN$PTCC$$$$$$$$$$$$$$$$
Plot Date : $$$$$SYTIME$$$$$$
Std. Dgn File : RJ Crow MNC 291-3861
Server File : /ost1/geotech/62521992.dgn
Server : wilch
View: PLOT1

1020

D.O.T. Form No. 623



STA. 521+16.57
Tecumseh Road
Br. No. 70-89-2
70'-125'-70' Cor
32'-0" Roadway

Note: (I) not u

Sheets see Sheet No. 2
out See Sheet No.

GROSS LENGTH OF PROJECT	10,936.33 FT.	2.071 MILES	
EXCEPTIONS	FT.	MILES	
ADDITIONS	FT.	MILES	

RECOM. FOR APPROVAL-DATE

CHIEF, BUREAU OF DESIGN
KANSAS DEPARTMENT OF TRANSPORTATION

APPROVED - DATE