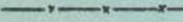

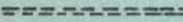



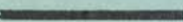

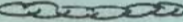



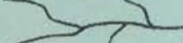





### APPENDIX IV

The following Site Data Forms are designated as Prospective Sites; Sampled. The sites described herein are depicted on the county materials maps as a "▼".

#### LEGEND

	Fence		Farm site
	Trail or lane		Open materials site
	Railroad		Prospective materials site
	Road		Center of section
	Hedge or trees		Cemetery
	Major streams		School
	Intermittent streams		Church
	Pond or lake		Town or city

MATERIAL SURVEY REPORT

Site No. FS-145 Date April, 1963  
Qal  
 Material Fine Sand County Ellis  
 Location SE 1/4 Sec. 28 Twp. 15S Range 18W  
 Owner James P. Dinges Schoenchen, Kansas  
 name address  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled.

EXPLORATION DATA

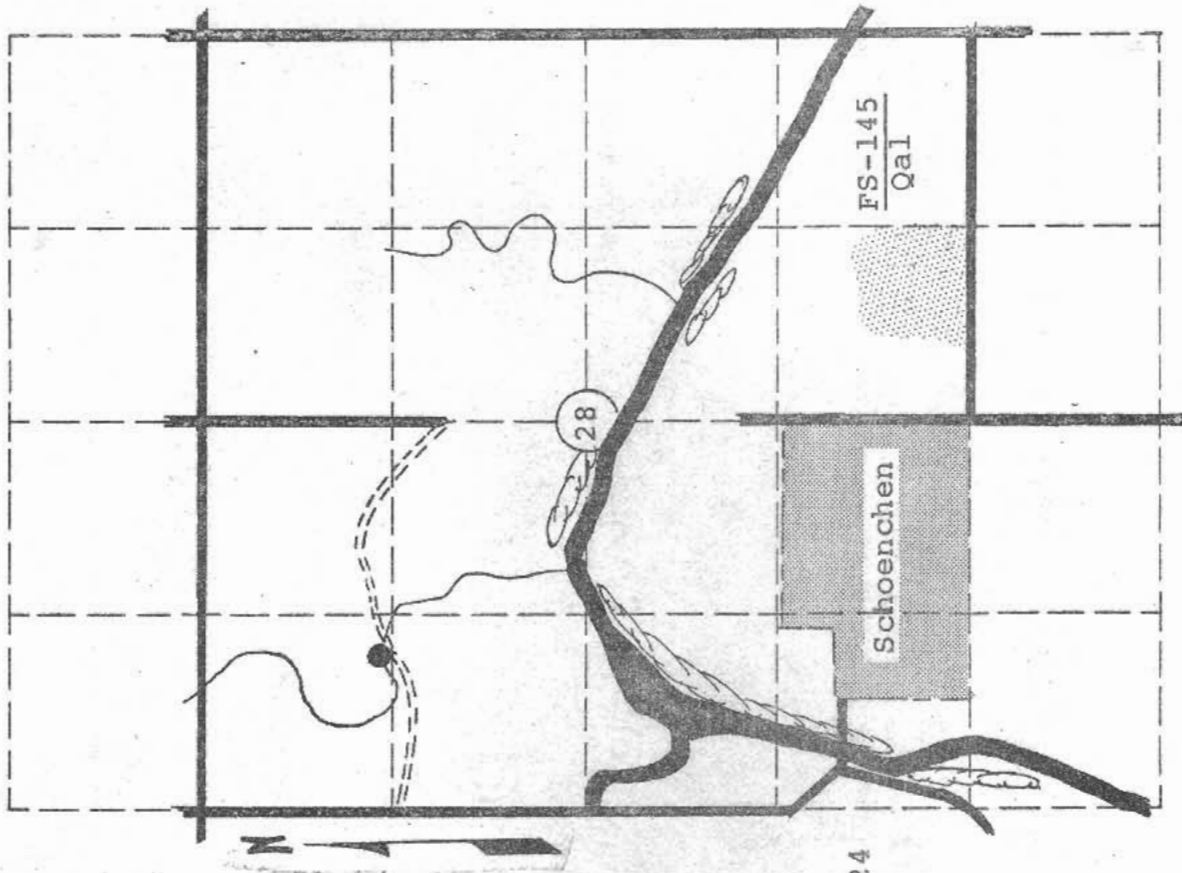
Test Hole	Material at Bottom of Hole	Depth of over-Burden	Depth of Material	Percent Retained							Wash 200	G.F.	L.L.	P.I.			
				1 1/2	3/4	3/8	4	8	16	30					50	100	
USGS		3	5			1	3	17			80	15					
SHC		3	6			1	3	9	21		67	77	18				

- AV. 198

Date Tested: 2-47

CORRELATION DATA

Geological Age Recent  
 Geological Source Alluvium  
 Material Similar To Material reported on SHC Form 619, No. 26-24 and in USGS Ellis County Report Site No. Fa-11  
 Specific Gravity (Sat.) \_\_\_\_\_ (Dry) \_\_\_\_\_  
 Los Angeles Wear \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Wt. Cu.ft. 111 lbs. Str. Ratio \_\_\_\_\_  
 Remarks Estimated quantity - 15,000 cubic yards.



Scale: 1" = 1/4 Mile

MATERIAL SURVEY REPORT

Site No. SG-146  
Qm  
 Date April 1963  
 Material Sand and Gravel County Ellis  
 Location NW 1/4 Sec. 17 Twp. 15S Range 19W  
 Owner Johanna Wahl address LaCrosse, Kansas  
 Nature of Deposit Dry Accessibility Fair  
 Status of Site Pros. site; sampled

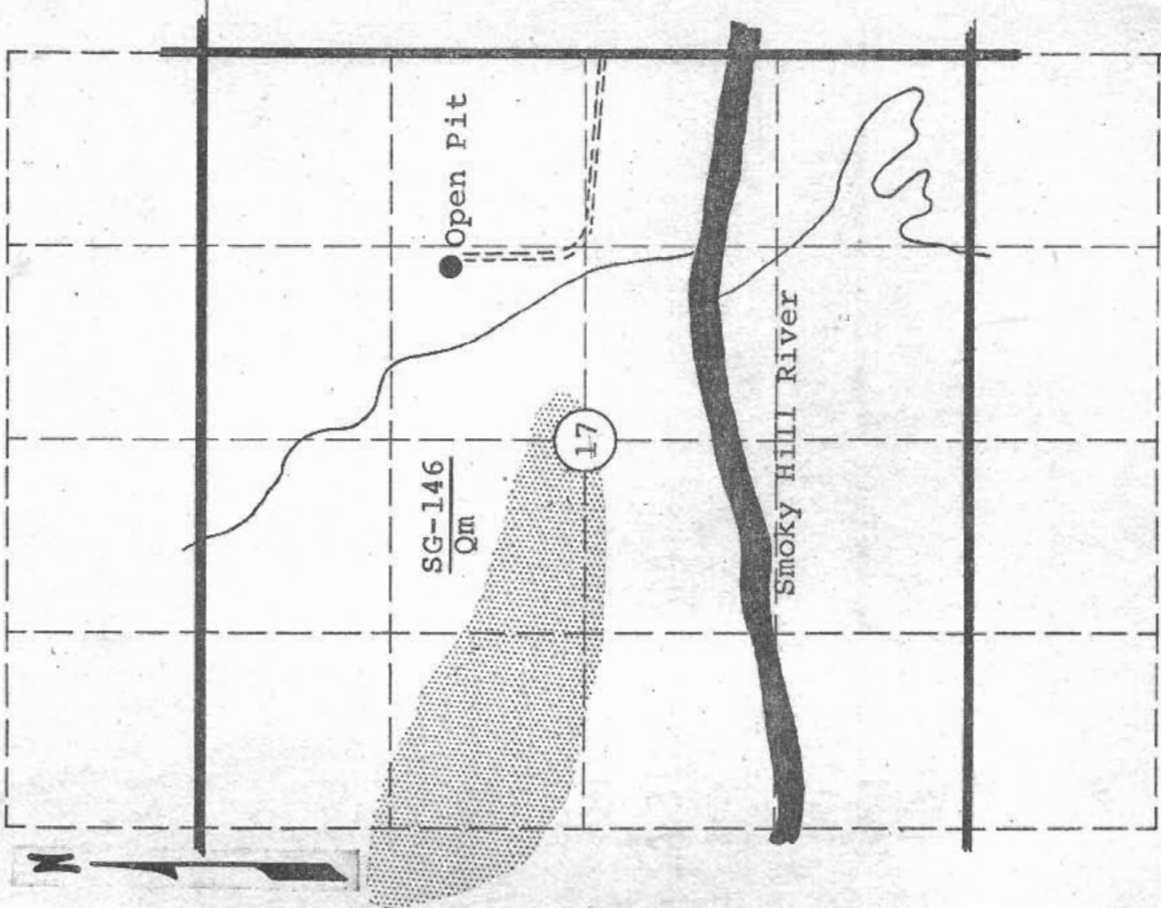
EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-Burden	Depth of Material	Percent Retained								Wash 200	S.F.	L.L.	P.I.	
				1/2	3/4	3/8	4	8	16	30	50					100
USGS		3	7			6	12	50				98	1	3.84		
SHC		3	9			2	5	1229	5982	9699	1					

Date Tested: 1-46

CORRELATION DATA

Geological Age Pleistocene Date Tested: 1-46  
 Geological Source Meade Formation  
 Material Similar To Material reported on SHC Form 216, No. 26-10 and in USGS Ellis Co. Report, Site No. Mal5  
 Specific Gravity (Sat.) 2.62 (Dry)  
 Los Angeles Wear 40.2  
 Absorption 113 lbs Soundness 0.99  
 Mt. Cu.Ft. Estimated quantity 15,000 cu. yds.  
 Remarks



MATERIAL SURVEY REPORT

Site No. LG+147  
Qs  
 Date April 1963  
 Material Limestone Gravel County Ellis  
 Location NE 1/4 sec. 35 Twp. 14S Range 20W  
 Owner Lester V. Irvin Hays, Kansas address  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

EXPLORATION DATA

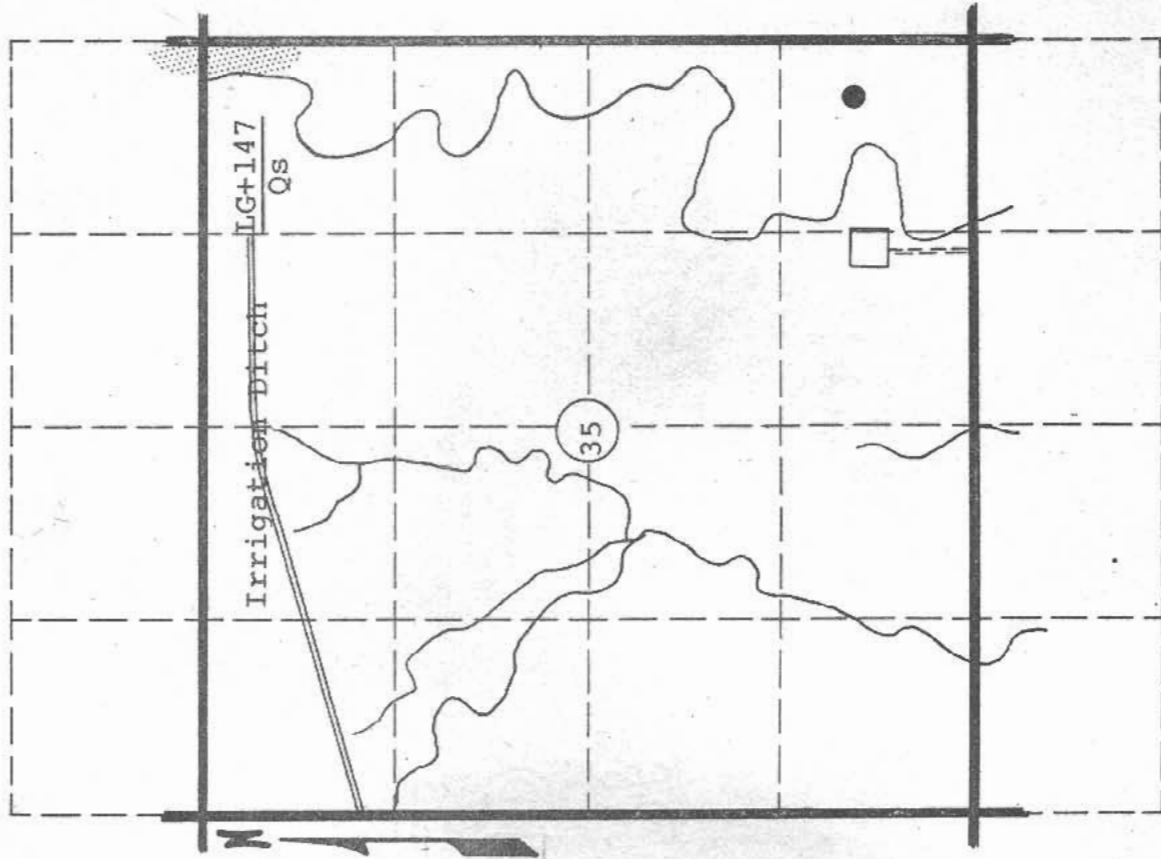
Test Hole	Material at Bottom of Hole	Depth of over-burden	Depth of Material	Percent Retained							Wash 200	G.F.	L.L.	P.I.				
				1/2	3/4	1	2	4	8	16					30	50	100	
USGS		1	7								1026				85	10		
SHC		0	9	3	4	1024									85	13		

AV. 200

Date Tested: 1-46

CORRELATION DATA

Geological Age Pleistocene  
 Geological Source Sanborn Formation  
 Material Similar To Material reported on SHC Form 216, No. 26-21 and in USGS Ellis Co. Report, Site No. Lg4  
 Specific Gravity (Sat.) (Dry)  
 Los Angeles Weir Grading "C" 33.4  
 Absorption Soundness  
 Mt. Cu.Ft. Str. Ratio  
 Remarks Estimated quantity 22,000 cu. yds.



Scale: 1" = 1/4 Mile

MATERIAL SURVEY REPORT

SG-148  
Qs

Site No. \_\_\_\_\_ Date April 1963  
 Material Sand and Gravel County Ellis  
 Location NE 1/4 SE 1/4 Sec. 16 Twp. 11S Range 16W  
 Owner A. A. Matheson address Unknown  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

EXPLORATION DATA

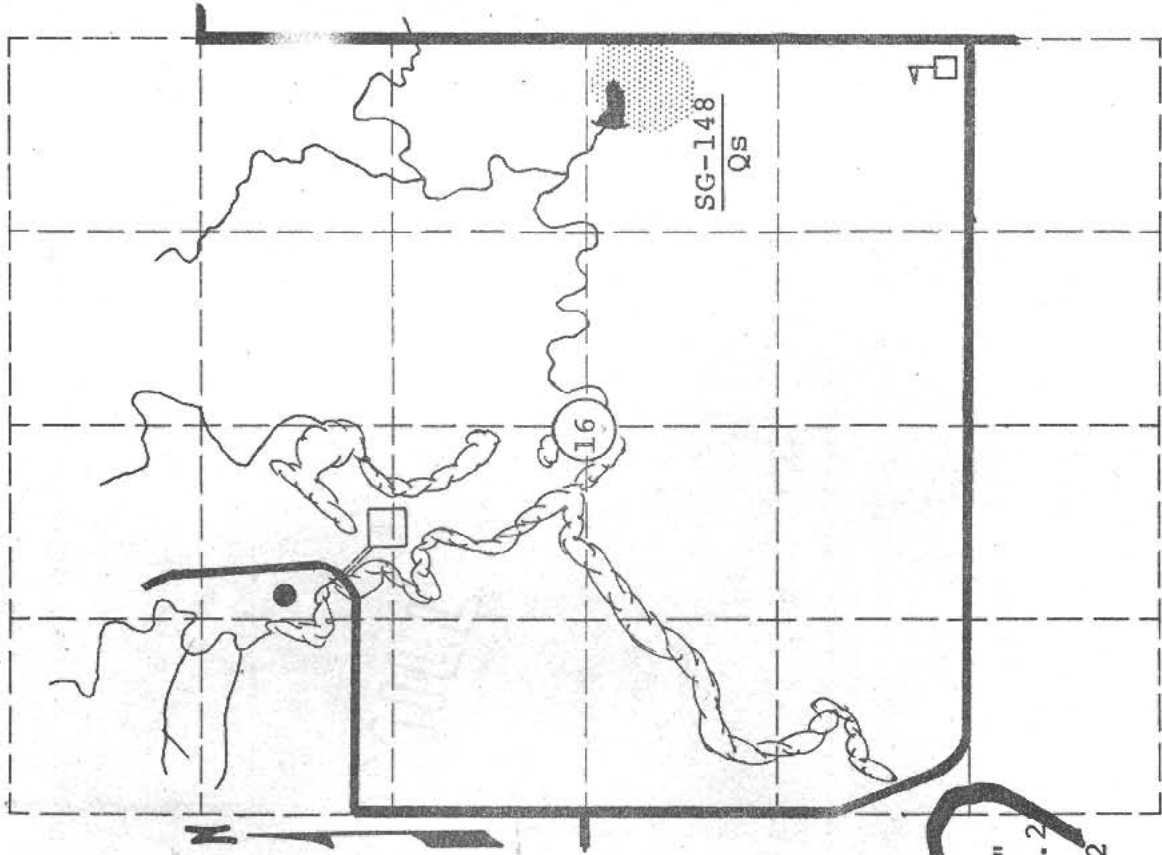
Test hole	Material at bottom of hole	Depth of over-burden	Depth of Material	Percent Retained							Wash 200	G.F.	L.L.	P.L.		
				1/2	3/4	4	8	16	30	50					100	
USGS		2	6			1	12		50		97	3	3.58			
SHC		2	6			1	4	11	2752	7592	96	3				

Av. 201

Date Tested: 1-46

CORRELATION DATA

Geological Age Pleistocene  
 Geological Source Sanborn Formation  
 Material Similar To Material reported on SHC Form 216, No. 26-1 and in USGS Ellis Co. Report, Site No. Mal  
 Specific Gravity (sat.) 2.60 (Dry)  
 Los Angeles Wear Grading "B" 43.4, Grading "C" 40.8, Grading "D" 41.2  
 Absorption \_\_\_\_\_ Soundness 0.91  
 Wt. Cu.ft. 108 lbs. Str. Ratio 1-day 1.12, 3-days 1.12



Scale: 1" = 1/2 Mile

Remarks \_\_\_\_\_

MATERIAL SURVEY REPORT

Site No. SG-149  
Om  
 Date April 1963  
 Material Sand and Gravel County Ellis  
 Location SE 1/4 NW 1/4 Sec. 18 Twp. 11S Range 17W  
 Owner Camilla W. Austin, et al Unknown address  
 Nature of Deposit DRY Accessibility Good  
 Status of Site Prospective site; sampled

EXPLORATION DATA

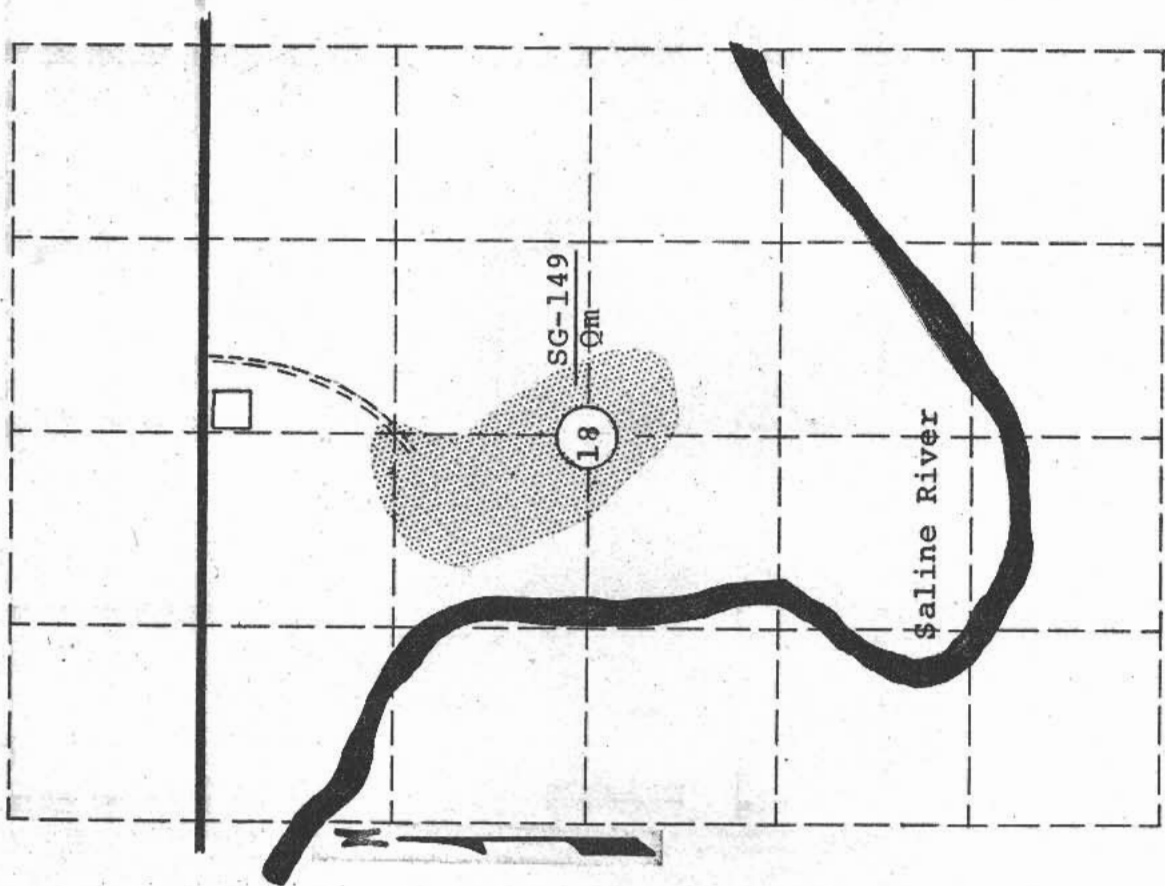
Test Hole	Material at Bottom of Hole	Depth of over-Burden	Depth of Material	Percent Retained						Wash 200	G.F.	L.L.	P.L.				
				1 1/2	3/4	3/8	4	8	16					30	50	100	
USGS		4	8		4	9	33			96	3						
.SHC		4	10	1	4	10	1735	6092	96	3							

- AV. 202

Date Tested: 1-46

CORRELATION DATA

Geological Age Pleistocene  
 Geological Source Meade Formation  
 Material Similar To Material reported on SHC Form 216, No. 26-2 and in USGS Ellis Co. Report, Site No. Ma3  
 Specific Gravity (sat.) 2.56 (Dry)  
 Los Angeles Near 49.6  
 Absorption 0.87 Soundness 0.87  
 Wt. Cu.Ft. 109 lbs. Str. Ratio  
 Remarks Estimated quantity 10,000 cu. yds.



Scale: 1" = 1/4 Mile

MATERIAL SURVEY REPORT

LG-150  
QS

Site No. \_\_\_\_\_ Date April 1963  
 Material Limestone Gravel County Ellis  
 Location SW 1/4 Sec. 36 Twp. 12S Range 19W  
 Owner Maria Bittel Hays, Kansas  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

EXPLORATION DATA

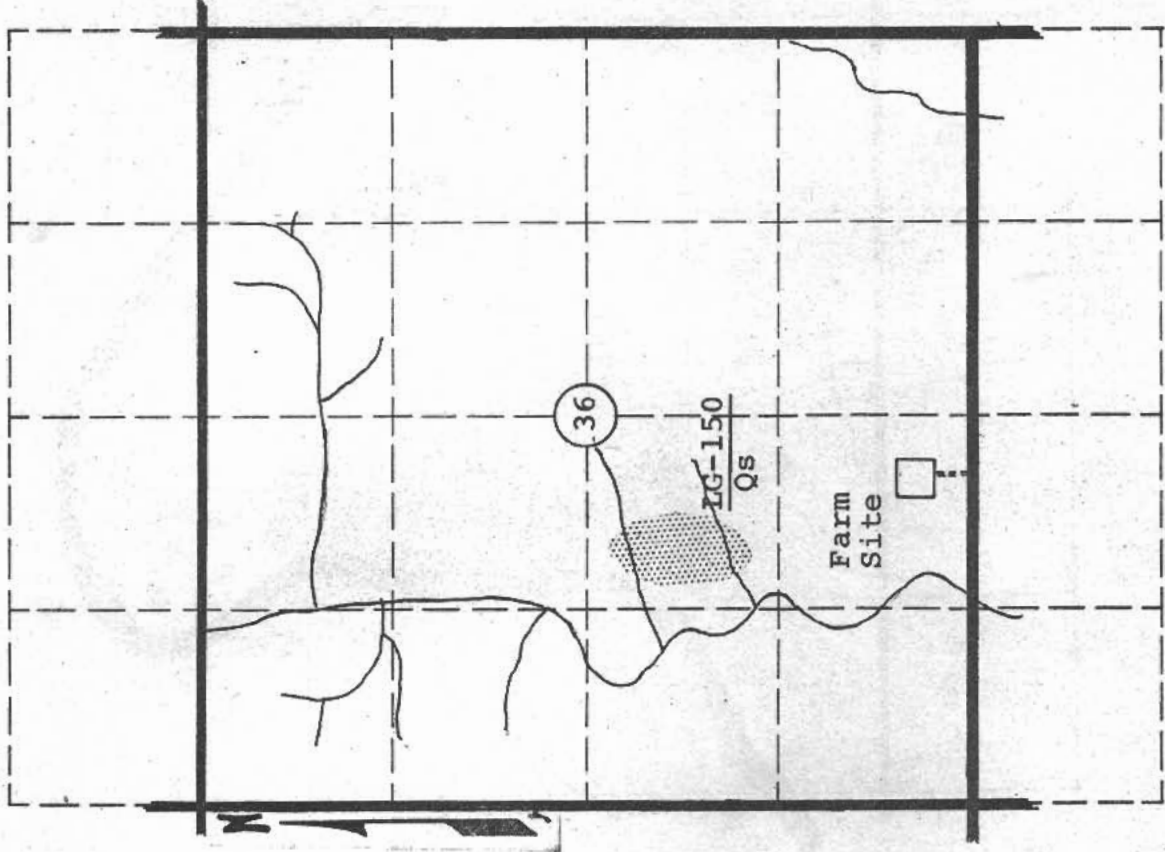
Test Hole	Material at Bottom of Hole	Depth of over-burden	Depth of Material	Percent Retained					Wash 200	G.F.	L.L.	P.I.
				1 1/2	3/4	3/8	1/8	15				
SHC		1	5	2	15	2737	4662	7782		3.48		
USGS		2	4		15	26	40	82	15			

AV.

Date Tested: 1-46

CORRELATION DATA

Geological Age Pleistocene  
 Geological Source Sanborn Formation  
 Material Similar to Material reported on SHC Form 216, No. 26-12 and in USGS Ellis Co. Report Site No. LG-1  
 Specific Gravity (Sat.) \_\_\_\_\_ (Dry)  
 Los Angeles Near \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Wt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks Estimated quantity 12,000 cu. yds.



Scale: 1" = 1/4 Mile

## MATERIAL SURVEY REPORT

Site No. LS+151  
Knf  
 Date April 1963  
 Material Ft. Hays Limestone County Ellis  
 Location SE 1/4 Sec. 3 Twp. 11S Range 18W  
 Owner Lenore Matthews Unknown address  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

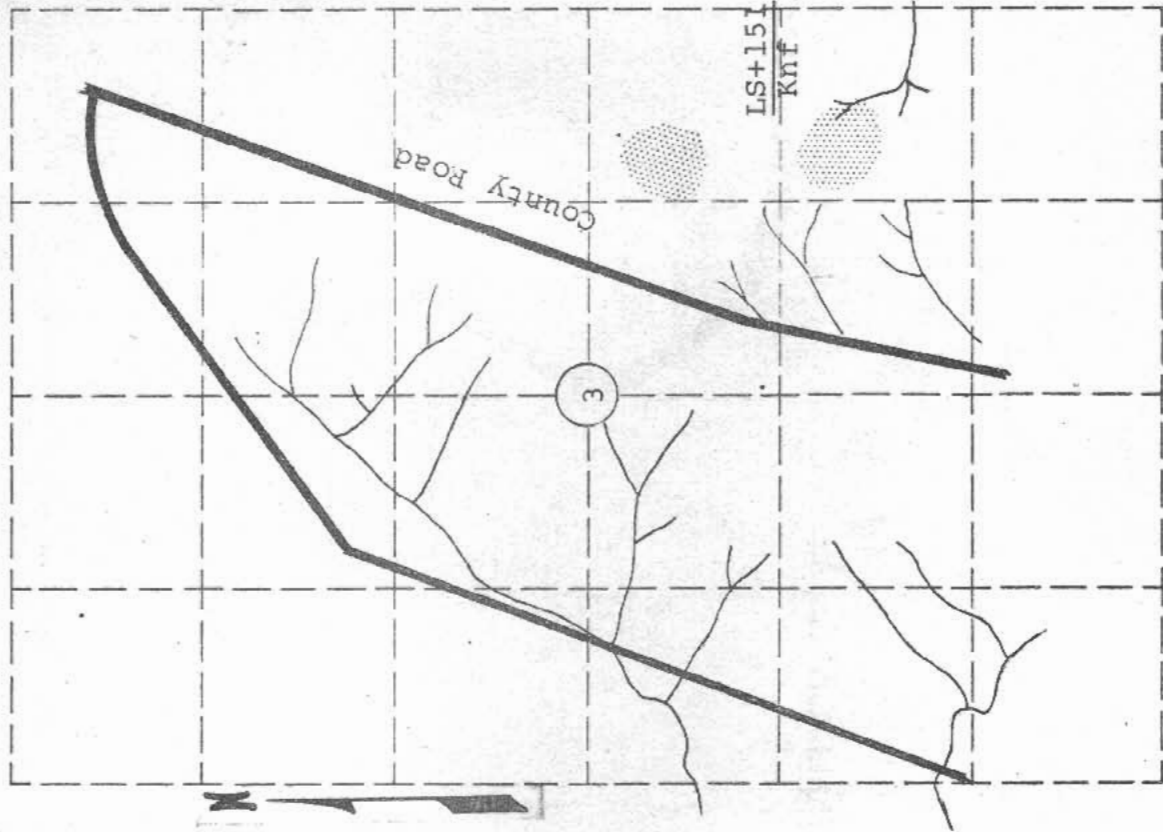
## EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of overburden	Depth of Material	Percent Retained							Mesh 200	G.F.	L.L.	P.I.					
				1	1/2	3/4	1	3/8	4	8					16	30	50	100	
USGS			4																

Date Tested: 1954

## CORRELATION DATA

Geological Age Cretaceous  
 Geological Source Ft. Hays Limestone  
 Material Similar To Material reported on SHC Form 216, No. 26-25 and in USGS Ellis Co. Report Site No. IS-1  
 Specific Gravity (Sat.) 2.09, 2.02, 1.98 (Dry)  
 Los Angeles Near 56.7, 66.8, 75.3  
 Absorption 0.28, 0.75, 0.44  
 Wt. Cu.ft. Str. Ratio  
 Remarks Estimated Quantity 150,000 cu. yds.



Scale: 1" = 1/4 Mile



MATERIAL SURVEY REPORT

Site No. SG-152  
Om  
 Date April 1963  
 Material Sand and Gravel County Ellis  
 Location NW 1/4 SW 1/4 Sec. 32 Twp. 15S Range 17W  
 Owner Henry M. Huser address Victoria, Kansas  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

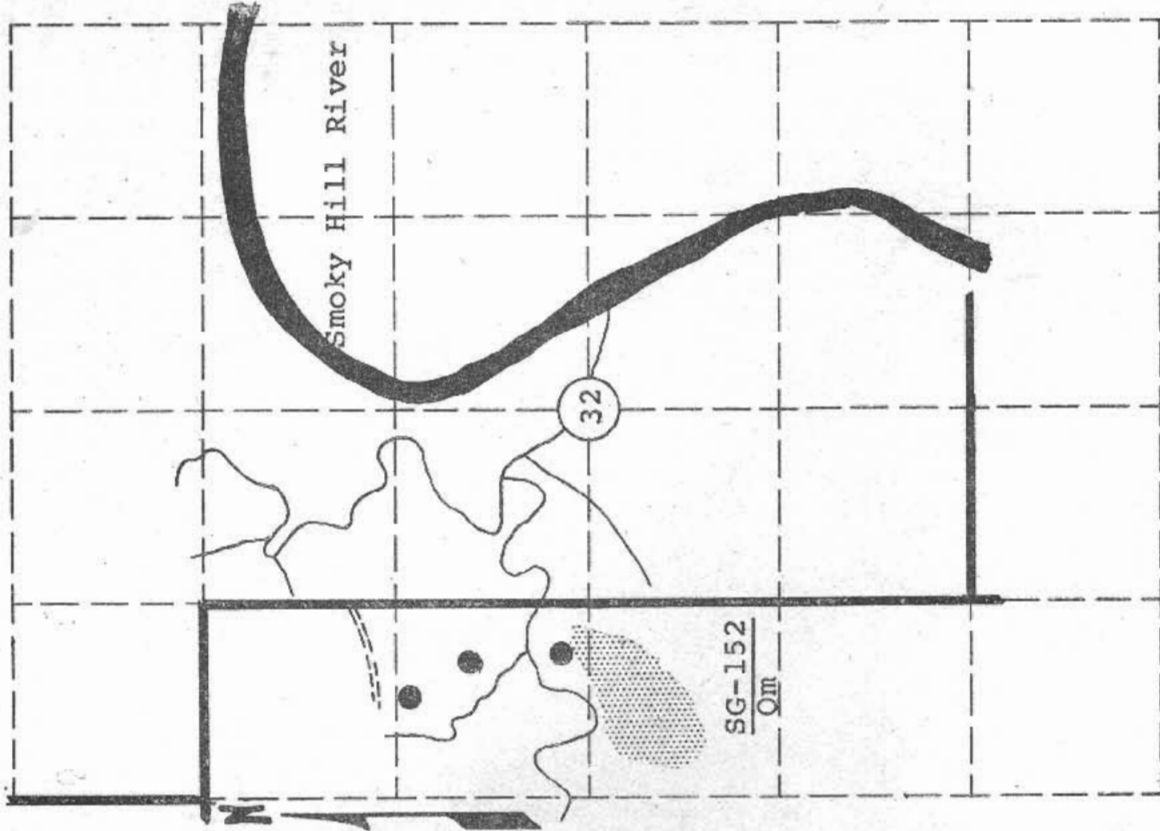
EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-Burden	Depth of Material	Percent Retained							Wash 200	G.F.	L.L.	P. I.				
				1/2	3/4	3/8	3/16	1/8	1/16	1/32								

Date Tested: 2-47

CORRELATION DATA

Geological Age Pleistocene  
 Geological Source Meade Formation  
 Material Similar To Material reported in USGS Ellis Co.  
 Report Site No. Ma-12  
 Specific Gravity (Sat.) \_\_\_\_\_ (Dry) \_\_\_\_\_  
 Los Angeles Near \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Wt. Cu. Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks Estimated quantity 2,000 cu. yds.



Scale: 1" = 1/4 Mile

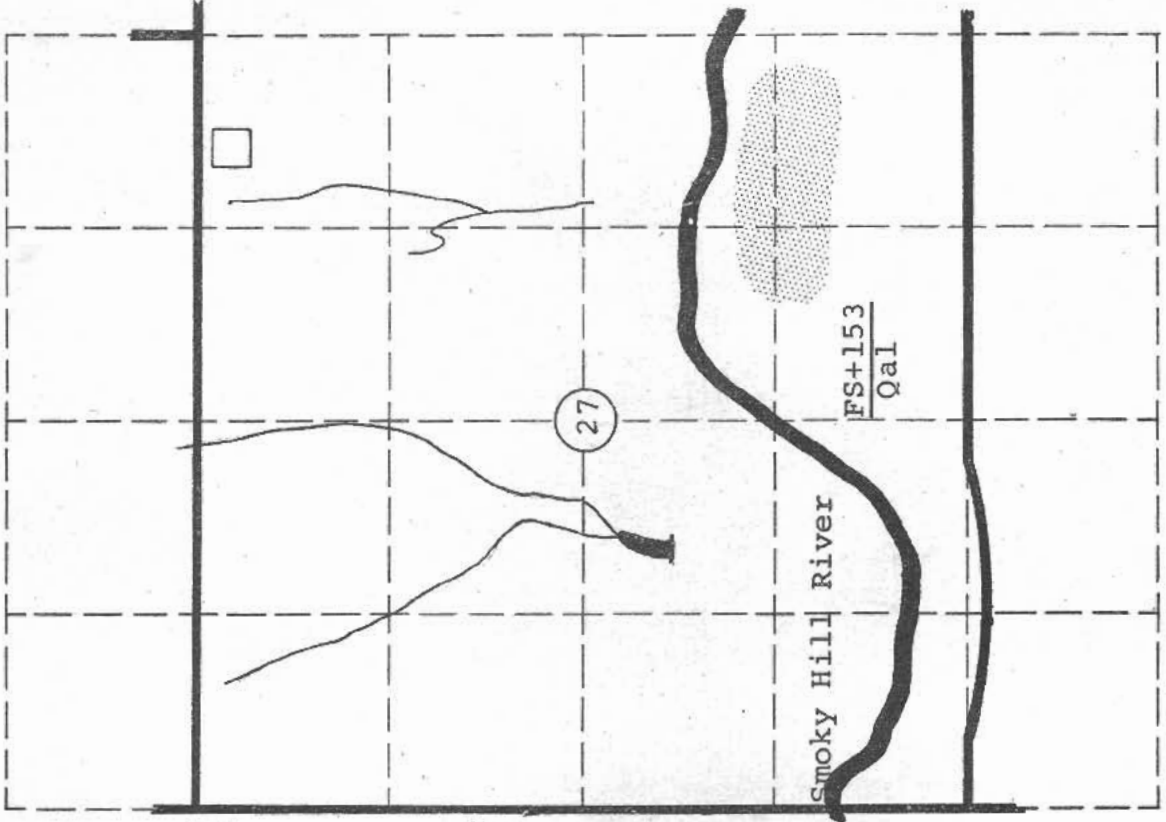
MATERIAL SURVEY REPORT

Site No. FS+153  
Qal  
 Date April 1963  
 Material Fine Sand County Ellis  
 Location N $\frac{1}{2}$  SE $\frac{1}{4}$  Sec. 27 Twp. 15S Range 18W  
 Owner Felix Roth 212 W. 17th Hays, Kansas address  
 Nature of Deposit Dry Accessibility Fair  
 Status of Site Prospective site; sampled

EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of overburden	Depth of Material	Percent Retained						Mash 200	G.F.	L.L.	P.I.
				1/2	3/4	1	16	30	50				
SHC				1	5	11	24	4	7	7			

AV.



Geological Age Recent Date Tested: 8-41  
 Geological Source Alluvium  
 Material Similar to Material reported on SHC Lab. sheet No. 43615  
 Specific Gravity (Sat.) (dry)  
 Los Angeles Wear \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Wt. Cu.Ft. 102 lbs. Str. Ratio \_\_\_\_\_  
 Remarks Estimated quantity 30,000 cu. yds.

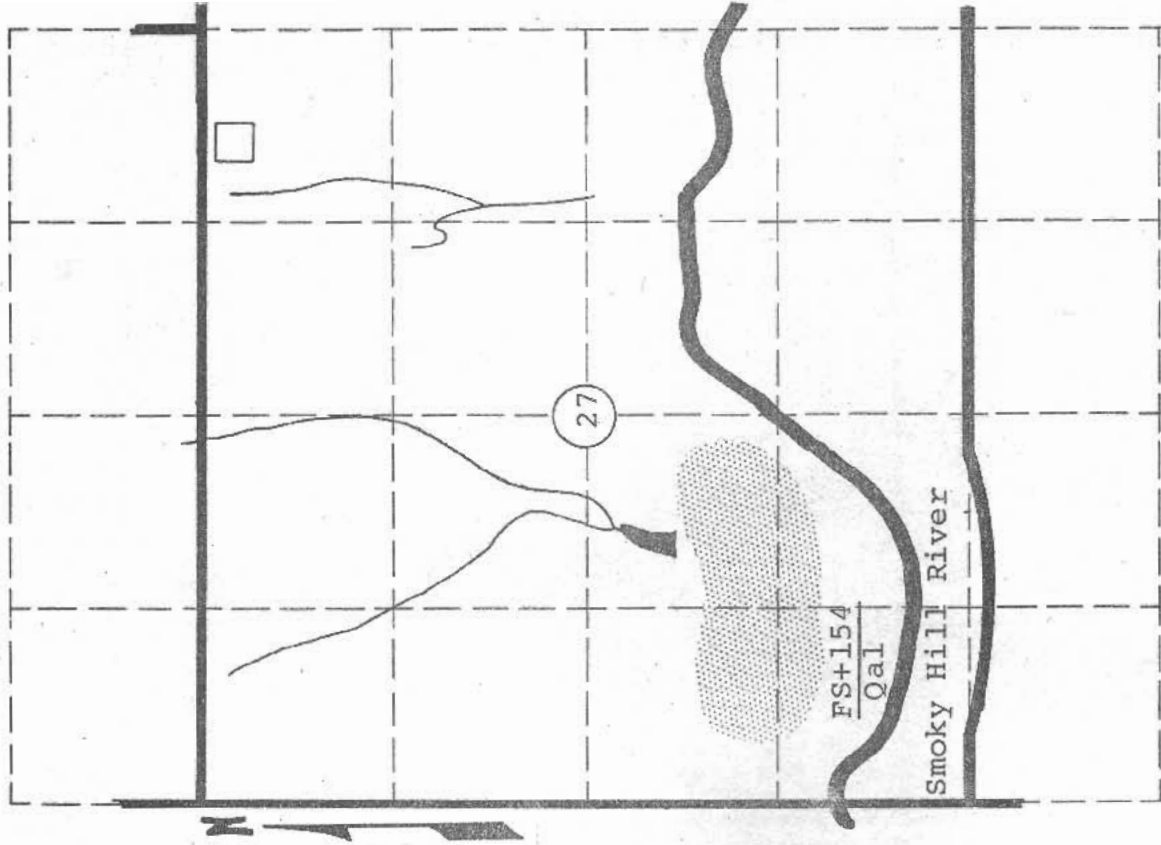
MATERIAL SURVEY REPORT

Site No. FS+154  
Qal  
 Date April 1963  
 Material Fine Sand County Ellis  
 Location SW 1/4 Sec. 27 Twp. 15S Range 18W  
 Owner William H. Gottschalk Schoenchen, Kansas  
 name address  
 Nature of Deposit DRY Accessibility Good  
 Status of Site Prospective site; sampled

EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-burden	Depth of Material	Percent Retained					Wash 200	G.F.	L.L.	P. I.
				1/2	3/4	1	3/8	5/8				
USGS		2	5			1	20		99	9		

Geological Age Recent Date Tested: 1-46  
 Geological Source Alluvium  
 Material Similar To Material reported in USGS Ellis Co.  
 Report Site No. FA-10  
 Specific Gravity (Sat.) \_\_\_\_\_ (Dry) \_\_\_\_\_  
 Los Angeles Wear \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Mt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks Estimated quantity 30,000 cu. yds.



MATERIAL SURVEY REPORT

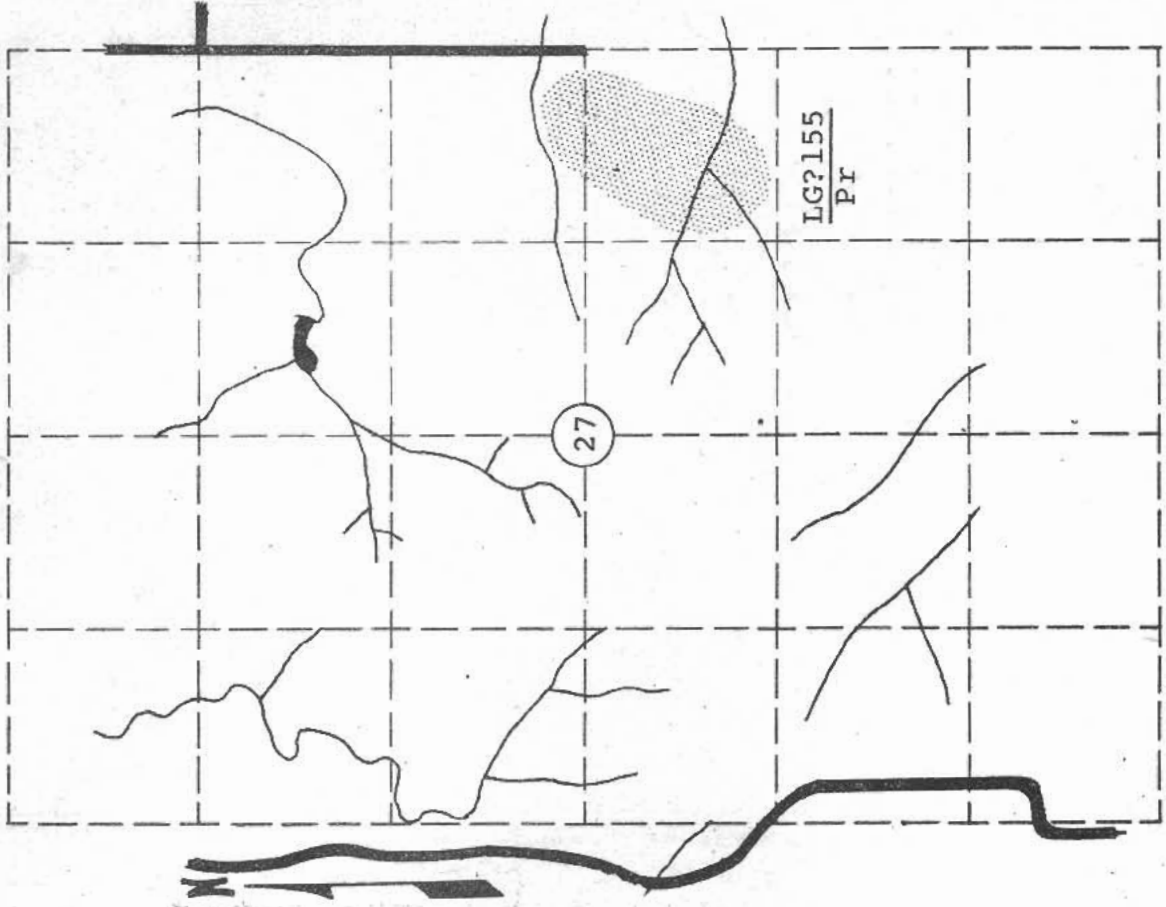
Site No. LG?155  
Pr  
 Material Limestone Gravel  
 Location SE $\frac{1}{4}$  Sec. 27 Twp. 13S Range 19W  
 County Ellis  
 Owner Leo & Lawrence Sack Rte. 1 Hays, Kansas  
 address  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-burden	Depth of Material	Percent Retained							Mash 200	B.F.	L.L.	P.I.			
				1 1/2	3/4	3/8	4	8	16	30					50	100	
USGS				4	21	58					77	23					

CORRELATION DATA

Geological Age Pleistocene-Recent  
 Geological Source Undifferentiated  
 Material Similar To Material reported in USGS Ellis Co.  
 Report Site No. LG2  
 Specific Gravity (Sat.) \_\_\_\_\_ (Dry)  
 Los Angeles Near \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Wt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks \_\_\_\_\_



MATERIAL SURVEY REPORT

LG-156

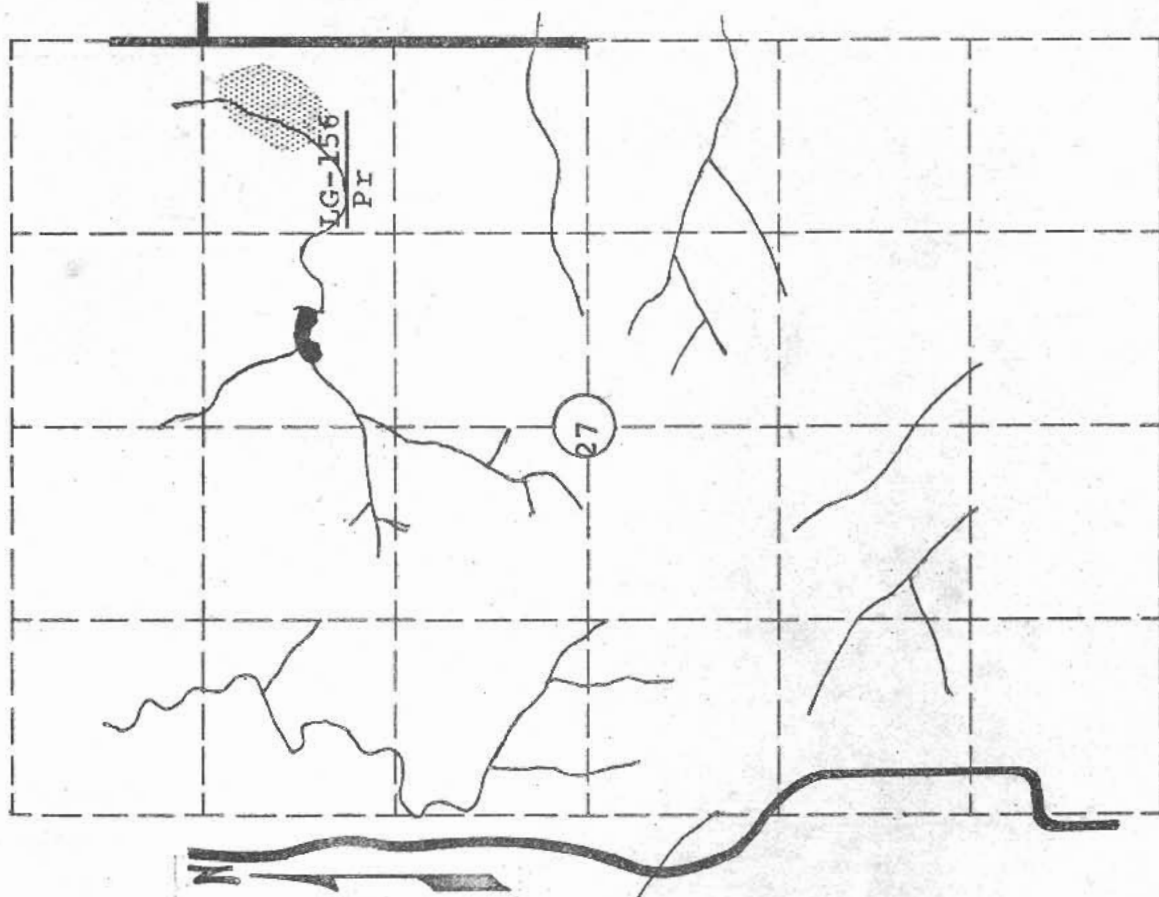
Site No. Pr Date April 1963  
 Material Limestone Gravel County Ellis  
 Location NE 1/4 Sec. 27 Twp. 13S Range 19W  
 Owner A. A. Wiesner Hays, Kansas address  
 Nature of Deposit Dry Accessibility Fair  
 Status of Site Prospective site; sampled

EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-Burden	Depth of Material	Percent Retained					Wash 200	G.F.	L.L.	P.L.
				1/2	3/4	3/8	4	8				
	No Data Available											

CORRELATION DATA

Geological Age Pleistocene-Recent  
 Geological Source Undifferentiated  
 Material Similar To Material reported on SHC Lab. Sheet No. 33935  
 Specific Gravity (Sat.) \_\_\_\_\_ (Dry) \_\_\_\_\_  
 Los Angeles Wear \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Wt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks \_\_\_\_\_



STATE HIGHWAY COMMISSION OF KANSAS

MATERIAL SURVEY REPORT

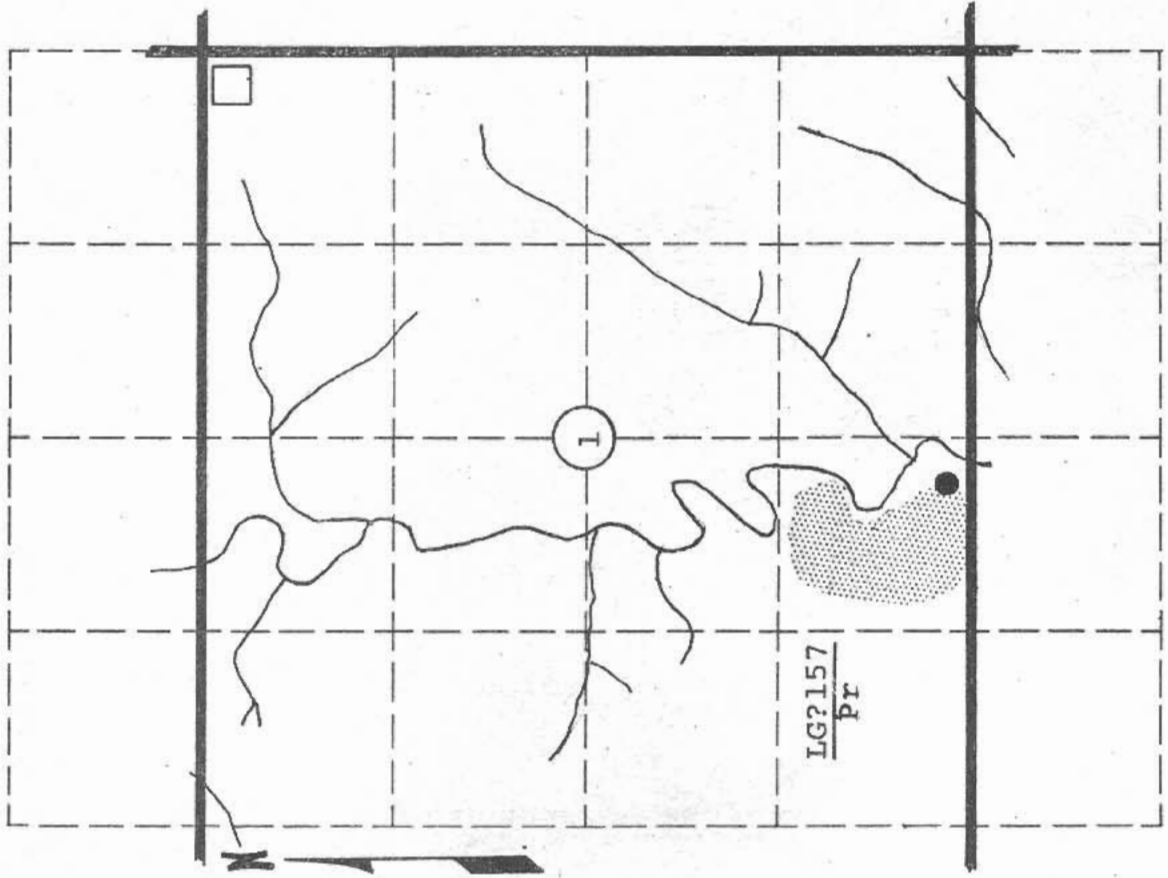
Site No. LG?157  
Pr  
 Material Limestone Gravel County Ellis  
 Location SE 1/4 SW 1/4 Sec. 1 Twp. 13S Range 20W  
 Owner Mary Armbuster 304 E. 14th Ellis, Kansas  
 name address  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-burden	Depth of Material	Percent Retained							Wash 200	G.F.	L.L.	P.I.			
				1/2	3/4	3/8	4	8	16	30					50	100	
USGS				6	16	34					84	16					

CORRELATION DATA

Geological Age Pleistocene-Recent  
 Geological Source Undifferentiated  
 Material Similar To Material reported in USGS Ellis Co.  
Report Site No. LG3  
 Specific Gravity (Sat.) \_\_\_\_\_ (Dry) \_\_\_\_\_  
 Los Angeles Wear \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Wt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks \_\_\_\_\_



MATERIAL SURVEY REPORT

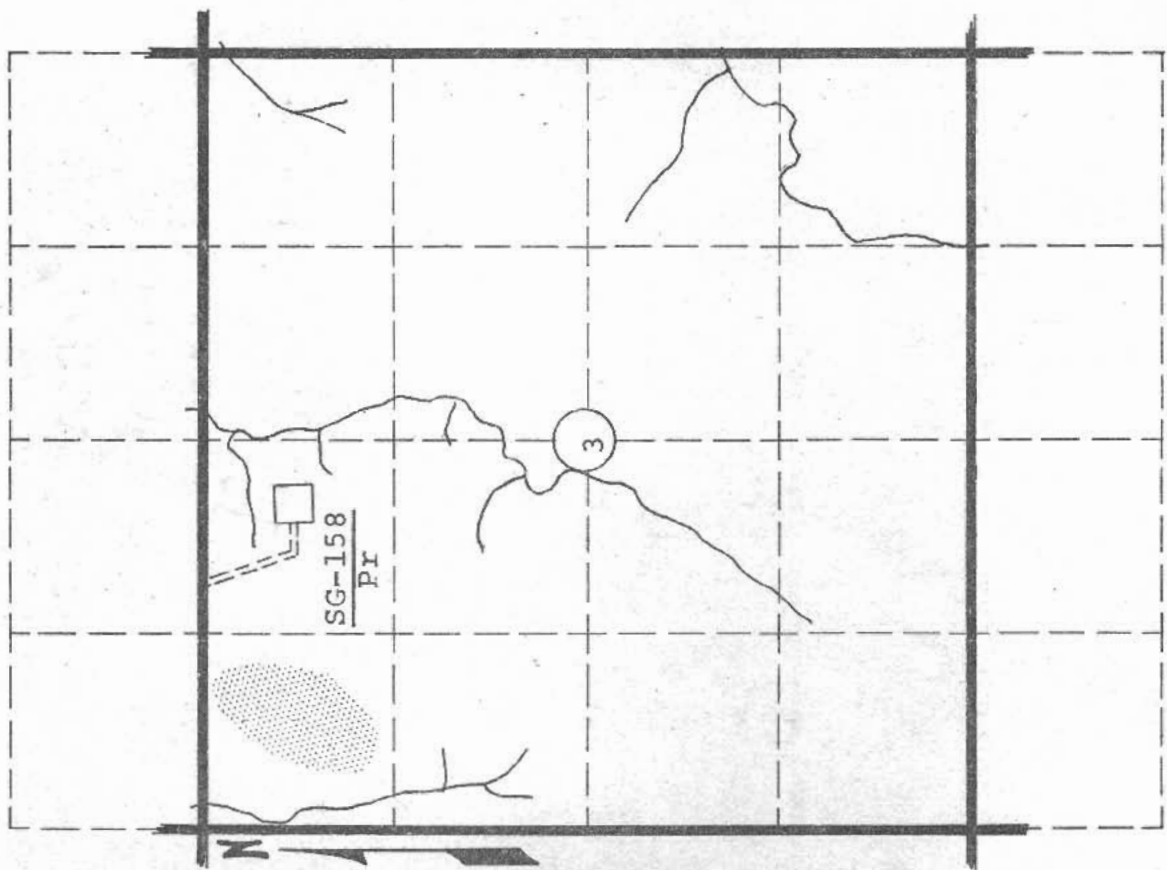
Site No. SG-158  
Pr  
 Date April 1963  
 Material Sand and Gravel County Ellis  
 Location NW 1/4 NW 1/4 Sec. 3 Twp. 14S Range 17W  
 Owner Don E. Pratt Hays, Kansas  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-Burden	Depth of Material	Percent Retained					Wash 200	G.F.	L.L.	P.I.	
				1/2	3/4	1	16	30					50
USGS		2-4	3			13	30			98			

Geological Age Pleistocene-Recent Date Tested: 2-47  
 Geological Source Undifferentiated  
 Material Similar To Material reported in USGS Ellis Co.  
 Report Site No. Ma8

Specific Gravity (Sat.) \_\_\_\_\_ (Dry) \_\_\_\_\_  
 Los Angeles Wear \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Wt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks Estimated quantity 1,000 cu. yds.



Scale: 1" = 1/4 Mile

MATERIAL SURVEY REPORT

Site No. SG-159  
Pr  
 Date April 1963  
 Material Sand and Gravel County Ellis  
 Location SW 1/4 SW 1/4 Sec. 10 Twp. 13S Range 17W  
 Owner Leo Dorgweiler Catherine, Kansas  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

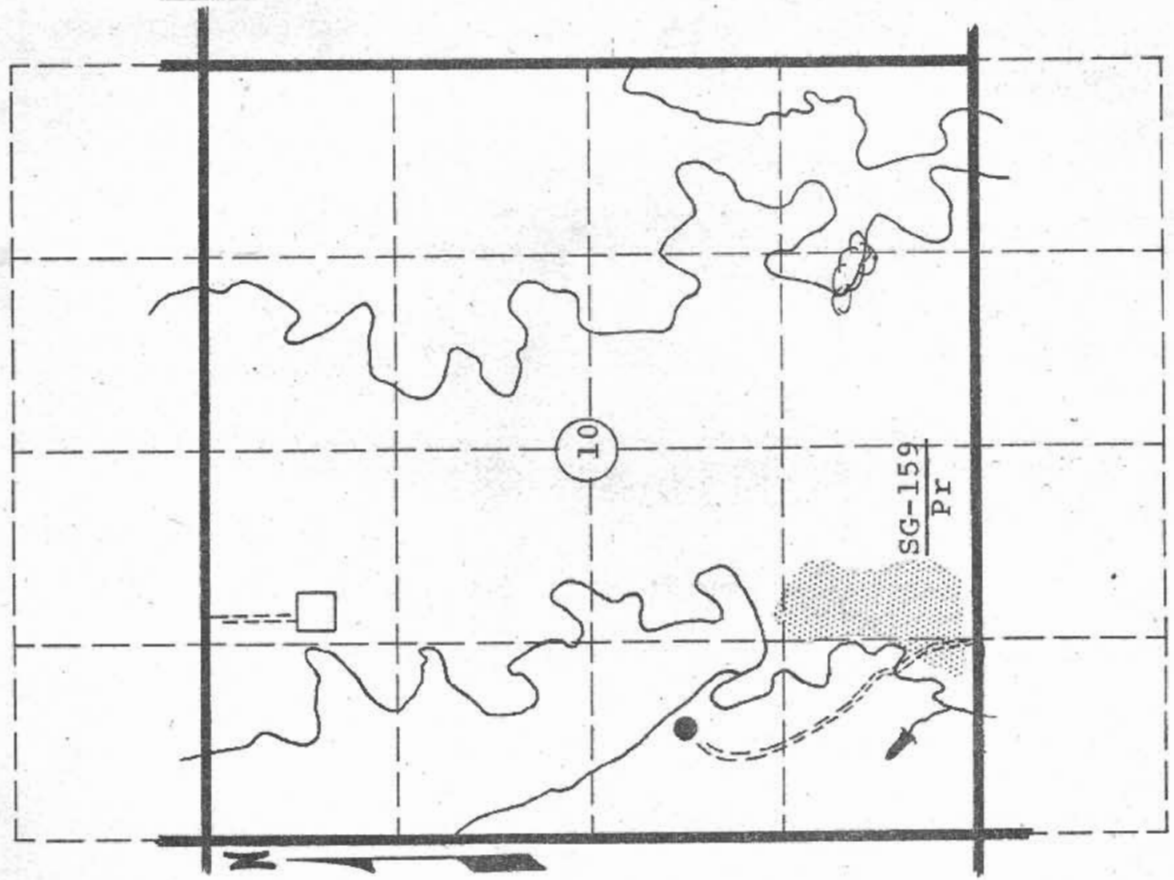
EXPLORATION DATA

Test hole	Material at bottom of hole	Depth of over-burden	Depth of Material	Percent Retained					Wash 200	G.F.	L.L.	P.I.							
				1/2	3/4	3/8	4	8					16	30	50	100			
USGS		4-5	8				10			30		99							

Date Tested: 1-46

CORRELATION DATA

Geological Age Pleistocene-Recent  
 Geological Source Undifferentiated  
 Material Similar To Material reported in USGS Ellis County  
 Report Site No. Ma6  
 Specific Gravity (Sat.) (dry)  
 Los Angeles Wear \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Wt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks Estimated quantity 2,000 cu. yds.



Scale: 1" = 1/4 Mile



MATERIAL SURVEY REPORT

Site No. SG-160 Date April 1963  
Qal  
 Material Sand and Gravel County Ellis  
 Location NE 1/4 NW 1/4 Sec. 15 Twp. 11S Range 18W  
 Owner S. J. Peavey Rte. 2 Ft. Morgan, Colorado  
name address  
 Nature of Deposit Wet Accessibility Fair  
 Status of Site Prospective site; sampled

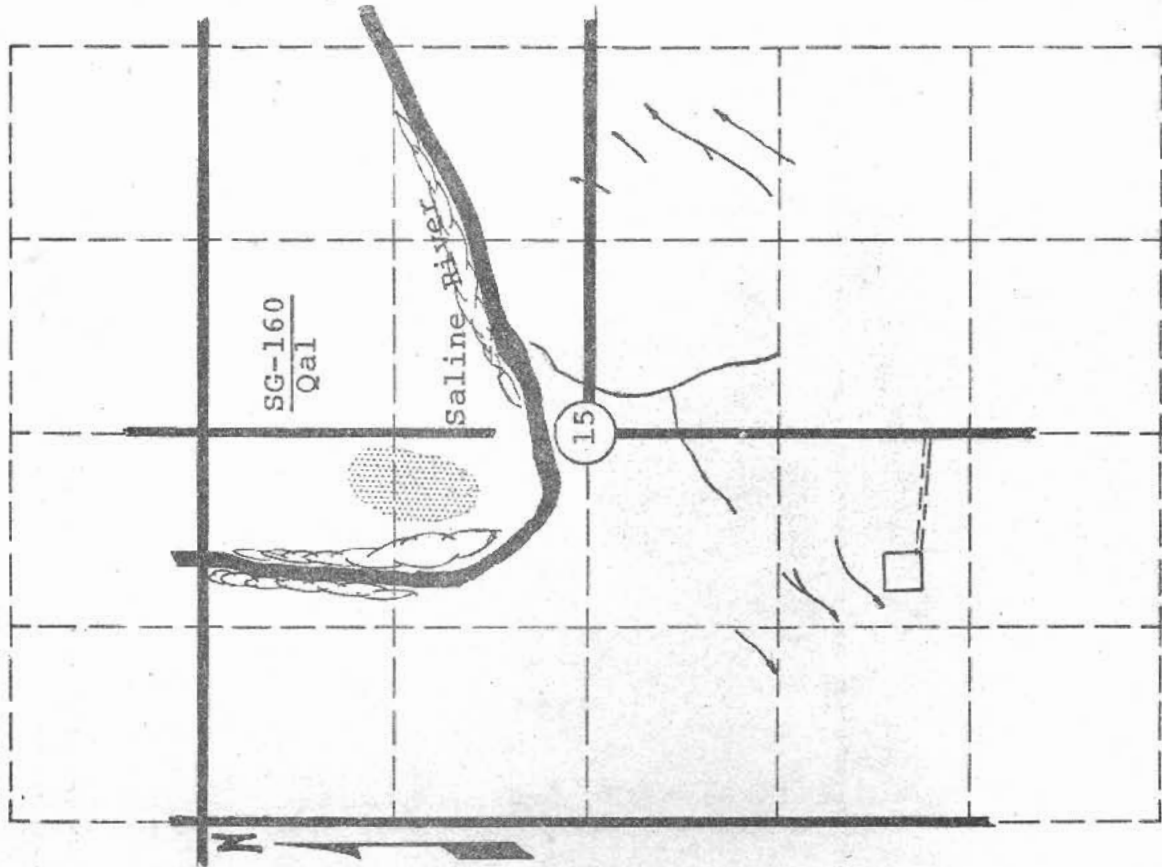
EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-burden	Depth of Material	Percent Retained					Wash 200	G.F.	L.L.	P.I.
				1 1/2	3/4	3/8	1/8	1/16				
USGS		2	9	4	8	35	92	5				

Date Tested: 1-46

CORRELATION DATA

Geological Age Recent  
 Geological Source Alluvium  
 Material Similar To Material reported in USGS Ellis Co.  
 Report Site No. Ma4  
 Specific Gravity (sat.) 2.60 (dry)  
 Los Angeles Wear 42.1  
 Absorption \_\_\_\_\_ Soundness 0.87  
 Wt. Co.Ft. 113 lbs. Str. Ratio \_\_\_\_\_  
 Remarks Estimated quantity 4,000 cu. yds.



Scale: 1" = 1/4 Mile

STATE HIGHWAY COMMISSION OF KANSAS

MATERIAL SURVEY REPORT

Site No. FS-161  
Qm  
 Date April 1963  
 Material Fine Sand County Ellis  
 Location SE 1/4 SE 1/4 Sec. 7 Twp. 11S Range 20W  
 Owner Mary Wolz address Ellis, Kansas  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

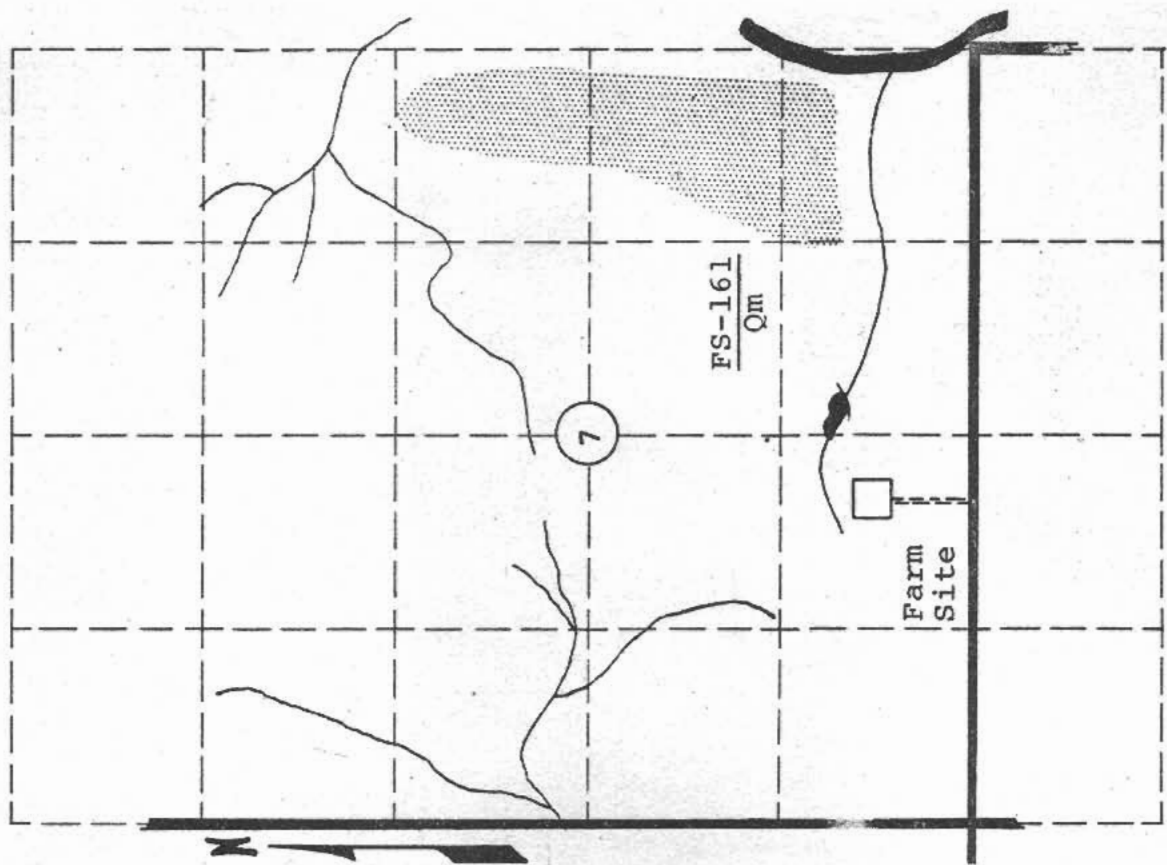
EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-Burden	Depth of Material	Percent Retained								Mash 200	G.F.	L.L.	P.I.										
				1/2	3/4	1	1 1/2	2	3	4	6					8	16	30	50	100					
USGS		1-5	4							3								95							

Date Tested: 2-47

CORRELATION DATA

Geological Age Pleistocene  
 Geological Source Meade Formation  
 Material similar to Material reported in USGS Ellis Co.  
 Report Site No. Fa3  
 Specific Gravity (Sat.) \_\_\_\_\_ (Dry) \_\_\_\_\_  
 Los Angeles Wear \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Wt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks Estimated quantity 3,000 cu. yds.



Scale: 1" = 1/2 Mile

MATERIAL SURVEY REPORT

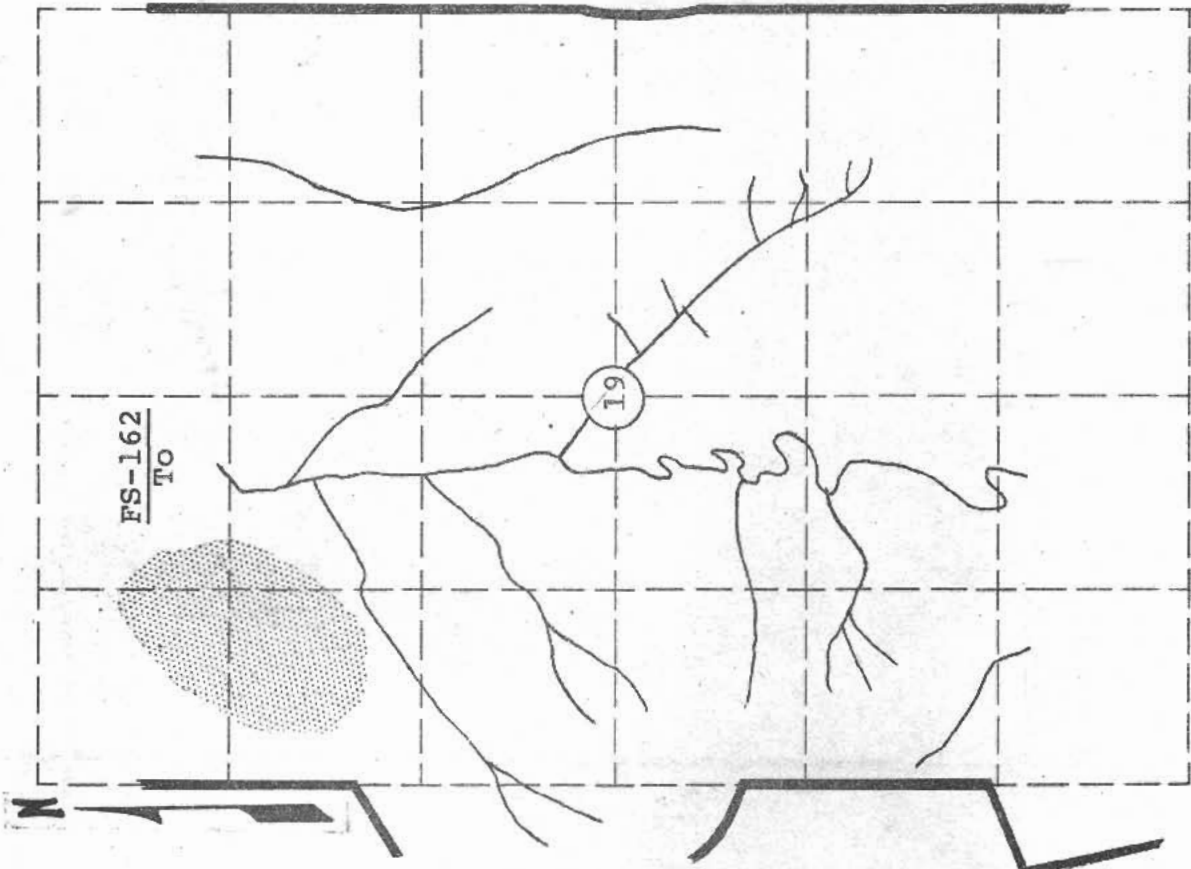
Site No. FS-162 TO FS-162 Date April 1963  
 Material Fine Sand County Ellis  
 Location NW 1/4 NW 1/4 Sec. 19 Twp. 11S Range 20W  
 Owner Martin B. Vance, et al Box 221, Macon, Mo.  
 Nature of Deposit Dry name Dry Accessibility Good  
 Status of Site Prospective site; sampled

EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-Burden	Depth of Material	Percent Retained						Wash 200	G.F.	L.L.	P.I.
				1/2	3/4	3/8	4	8	16				
USGS										88			

CORRELATION DATA

Geological Age Pliocene Date Tested: 2-47  
 Geological Source Ogallala Formation  
 Material Similar To Material reported in USGS Ellis Co.  
 Report Site No. Fa4  
 Specific Gravity (Set.) (Dry)  
 Los Angeles Wear \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Mt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks Estimated quantity 3,000 cu. yds.



Scale: 1" = 1/4 Mile

MATERIAL SURVEY REPORT

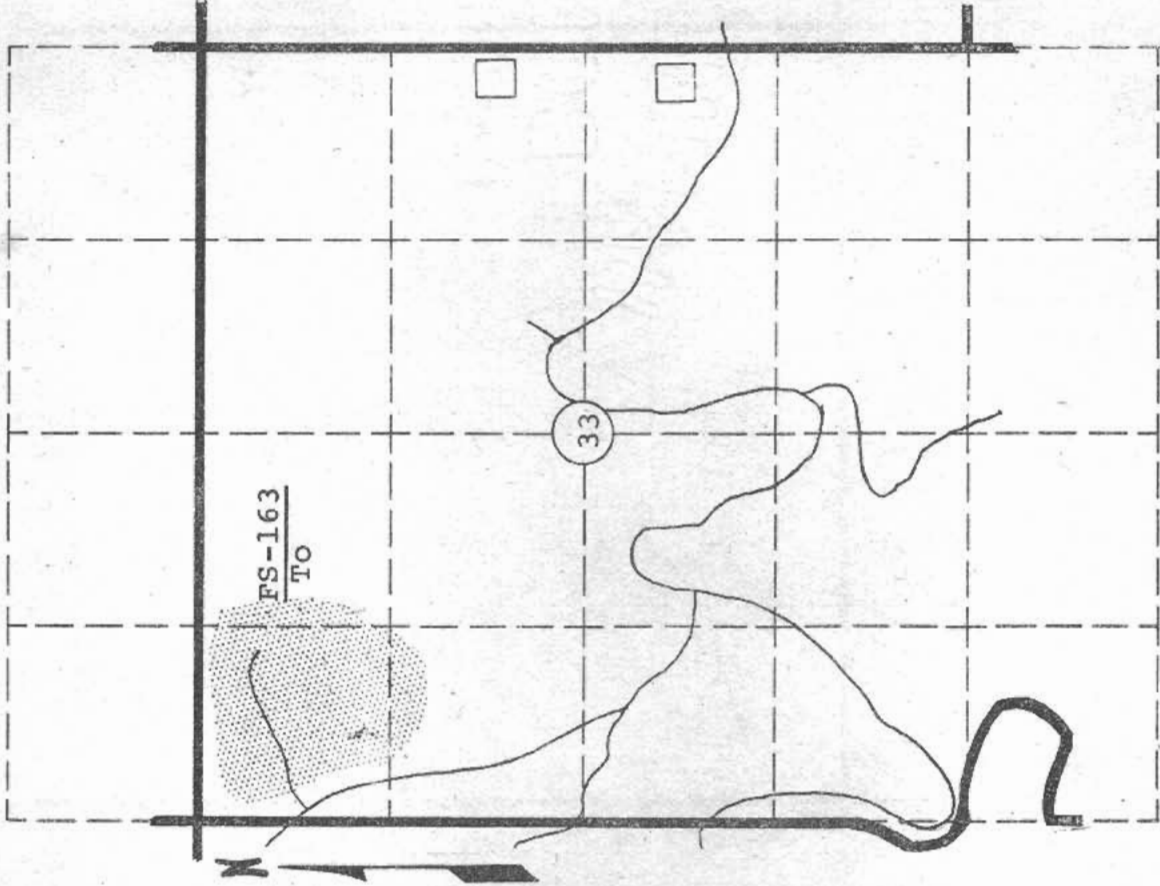
Site No. FS-163  
 TO TO  
 Material Fine Sand  
 Location NW 1/4 NW 1/4 Sec. 33 Twp. 11S Range 20W  
 Owner Gerhard E. Keller Ellis, Kansas  
 name address  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-Burden	Depth of Material	Percent Retained						Wash 200	G.F.	L.L.	P.I.				
				1 1/2	3/4	3/8	4	8	16					30	50	100	
USGS		1-5	4						22			97					

CORRELATION DATA Date Tested: 2-47

Geological Age Pliocene  
 Geological Source Ogallala Formation  
 Material Similar To Material reported in USGS Ellis Co. Report, Site No. Fa6  
 Specific Gravity (sat.) \_\_\_\_\_ (Dry) \_\_\_\_\_  
 Los Angeles Wear \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Wt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks Estimated quantity 2,000 cu. yds.



Scale: 1" = 1/4 Mile

MATERIAL SURVEY REPORT

Site No. FS-164  
 TO  
 Material Fine Sand County Ellis  
 Location NW 1/4 SW 1/4 Sec. 31 Twp. 11S Range 20W  
 Owner John Huck 501 E. 12th Ellis, Kansas  
 name address  
 Nature of Deposit DRY Accessibility Good  
 Status of Site Prospective site; sampled

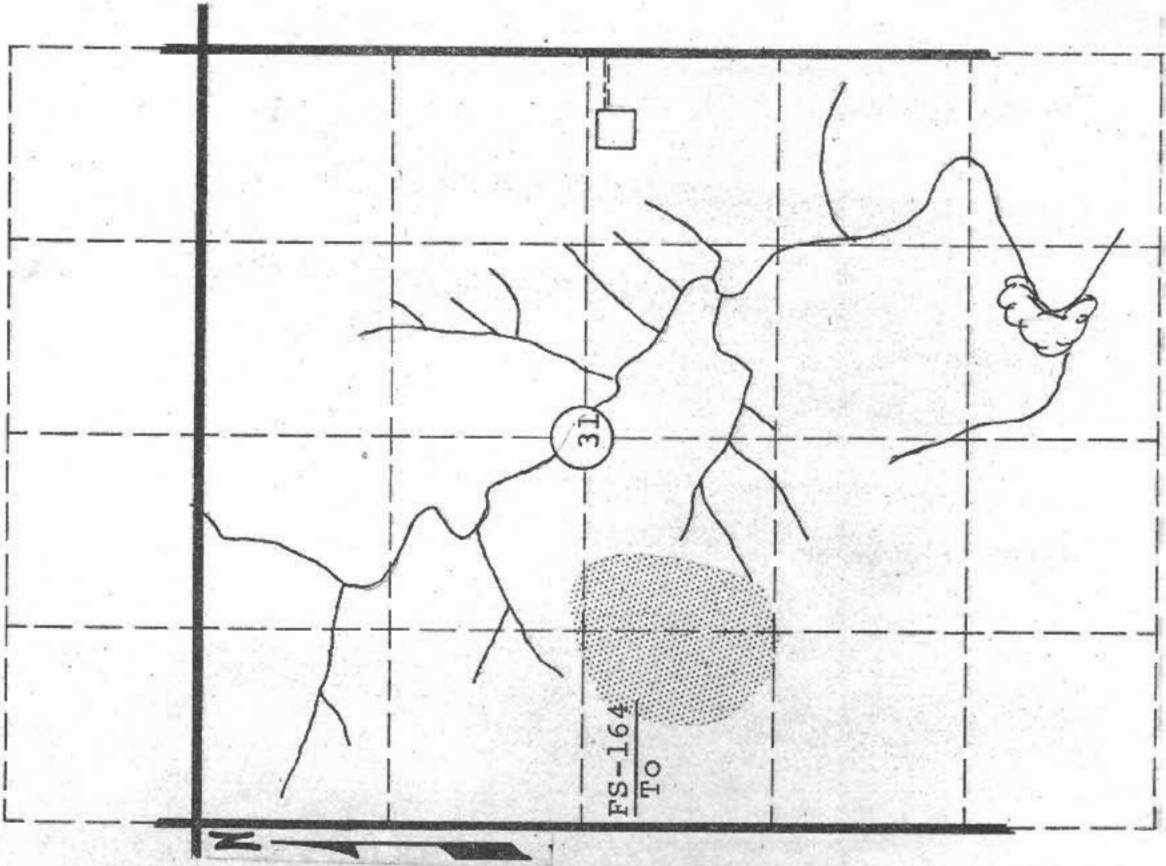
EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-burden	Depth of Material	Percent Retained					Wash 200	G.F.	L.L. P.I.
				1 1/2	3/4	3/8	1/8	16			
USGS		6	6						95		

Date Tested 2-47

CORRELATION DATA

Geological Age Pliocene  
 Geological Source Ogallala Formation  
 Material Similar To Material reported in USGS Ellis Co.  
 Report Site No. Fa5  
 Specific Gravity (Sat.) \_\_\_\_\_ (Dry)  
 Los Angeles Near \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Wt. Co.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks \_\_\_\_\_



STATE HIGHWAY COMMISSION OF KANSAS

MATERIAL SURVEY REPORT

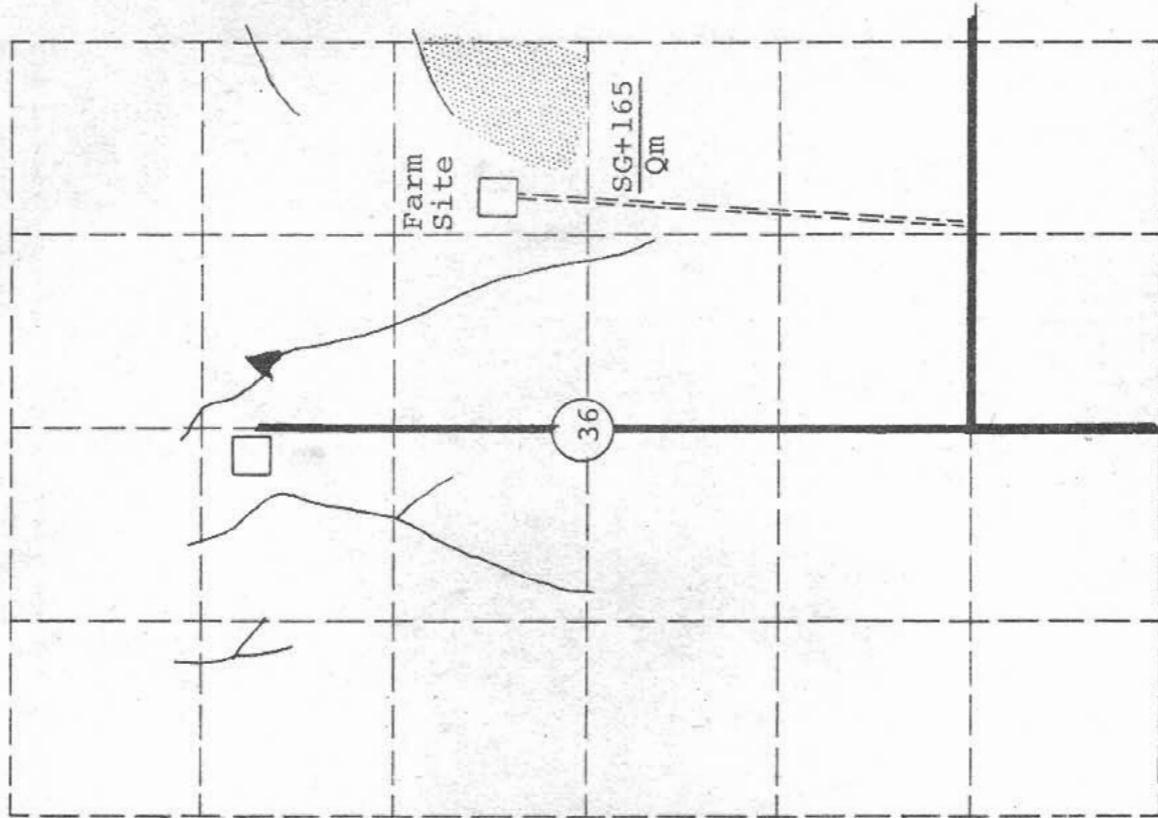
Site No. SG+165  
Qm Date April 1963  
 Material Sand and Gravel County Ellis  
 Location SE 1/4 NE 1/4 Sec. 36 Twp. 15S Range 16W  
 Owner Edward Boxberger Rte. 1 Otis, Kansas  
 name address  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

EXPLORATION DATA

Test Hole	Material at bottom of hole	Depth of overburden	Depth of Material	Percent Retained							Mesh 200	G.F.	L.L.	P.I.	
				1/2	3/4	3/8	4	8	16	30					50
AV, SHC			2	3	9	18	34	56	78	92	97	3.87			

CORRELATION DATA

Geological Age Pleistocene  
 Geological Source Meade Formation  
 Material similar to Reported on SHC Lab. sheet No. 18091  
 Specific Gravity (Sat.) 2.60 (dry)  
 Los Angeles Wear 32.0  
 Absorption 0.96  
 Wt. Cu.ft. 114.4 lbs. Str. Ratio  
 Remarks



Scale: 1" = 1/4 Mile

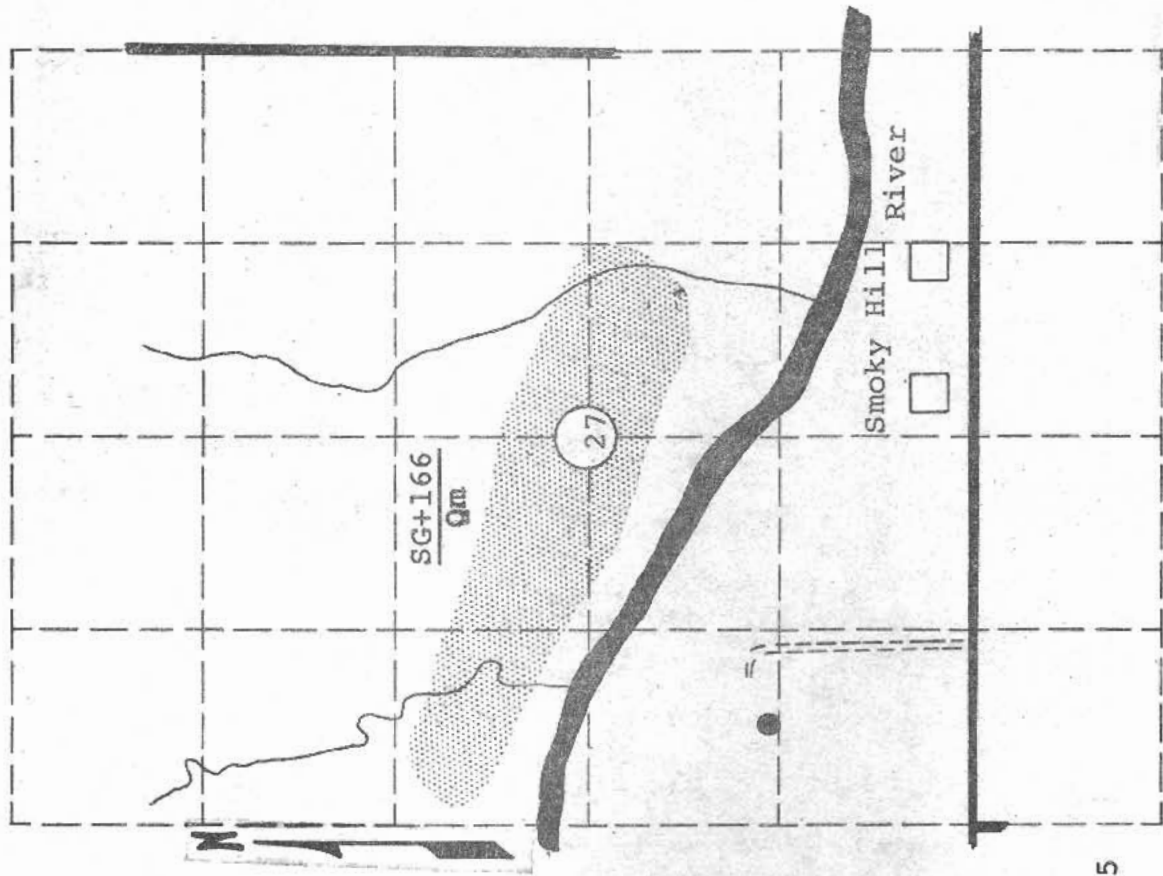
MATERIAL SURVEY REPORT

Site No. SG+166  
Qm Date April 1963  
 Material Sand and Gravel County Ellis  
 Location NW 1/4 SE 1/4 Sec. 27 Twp. 15S Range 17W  
 Owner Peter Breit 221 E. 12th Hays, Kansas  
 name address  
 Nature of Deposit: Dry Accessibility Fair  
 Status of Site Prospective site; sampled

EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-Burden	Depth of Material	Percent Retained					Wash 200	G. F.	L. L.	P. I.
				1 1/2	3/4	3/8	3/16	3/32				
SHC			4	11	1826	3956	7693	98				

AV.



Scale: 1" = 1/4 Mile

Date Tested: 2-62

CORRELATION DATA

Geological Age Pleistocene  
 Geological Source Meade Formation  
 Material Similar to Material reported on SHC Lab. Sheet No. 22481

Specific Gravity (Sat.) 2.65 (Dry)  
 Los Angeles Near Grading "D" 31.8  
 Absorption 0.98 Soundness  
 Wt. Cu. Ft. 120.90 lbs. Str. Ratio 1-day 1.34, 3-days 1.35  
 Remarks

STATE HIGHWAY COMMISSION OF KANSAS

MATERIAL SURVEY REPORT

SG-167

Site No. Qm Date April 1963  
 Material Sand and Gravel County Ellis  
 Location NW 1/4 Sec. 27 Twp. 15S Range 19W  
 Owner Clarence Dinkel McCracken, Kansas  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

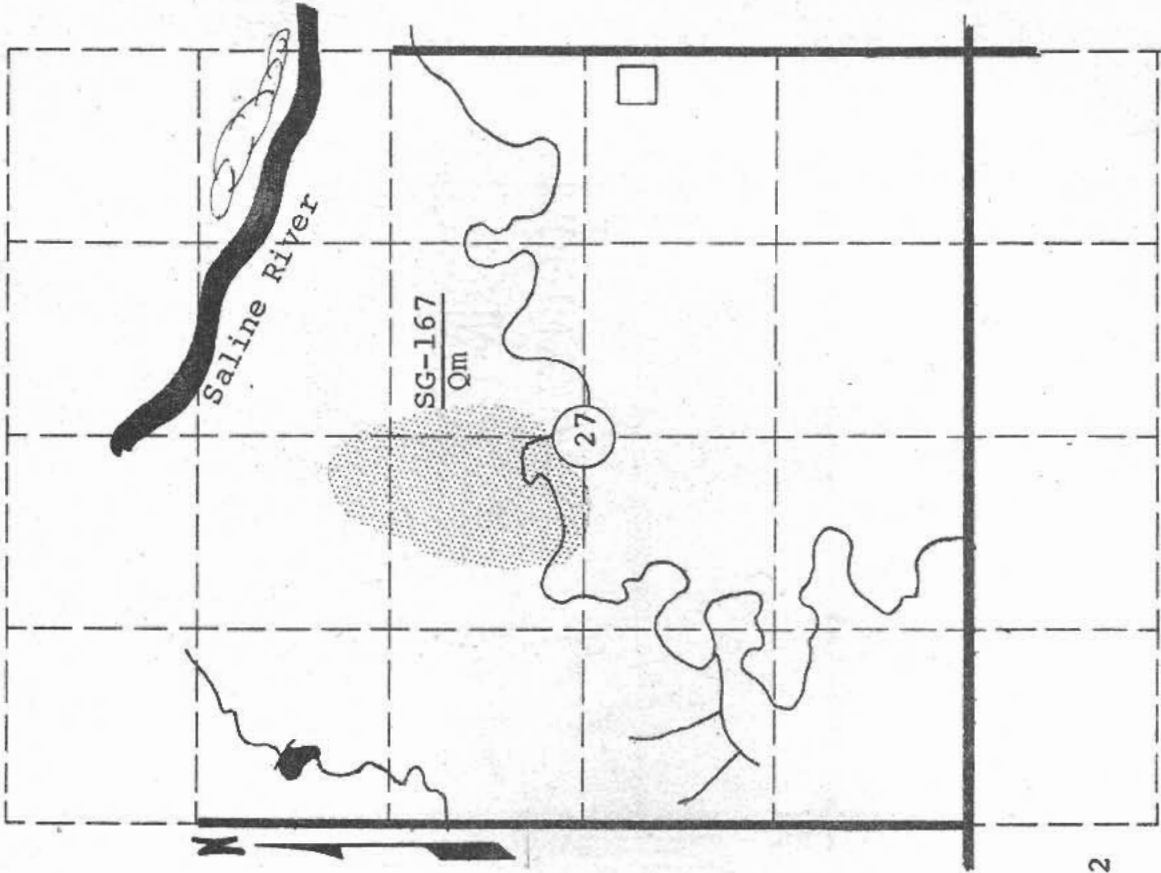
EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-burden	Depth of Material	Percent Retained							Wash 200	G.F.	L.L.	P.I.
				1/2	3/4	5/8	4	8	16	30				
SHC				5	13	32	58	83	95	97		3.83		

AV.

CORRELATION DATA

Geological Age Pleistocene Date Tested; 8-62  
 Geological Source Meade Formation  
 Material Similar to Material reported on SHC Lab. Sheet No. 24250  
 Specific Gravity (sat.) 2.62 (dry)  
 Los Angeles Wear Grading "D" 32.2  
 Absorption 0.98  
 Wt. Cu.Ft. 114.16 lbs. Str. Ratio 1-day 1.32, 3-days 1.42  
 Remarks \_\_\_\_\_



Scale: 1" = 1/4 Mile



MATERIAL SURVEY REPORT

SG-168

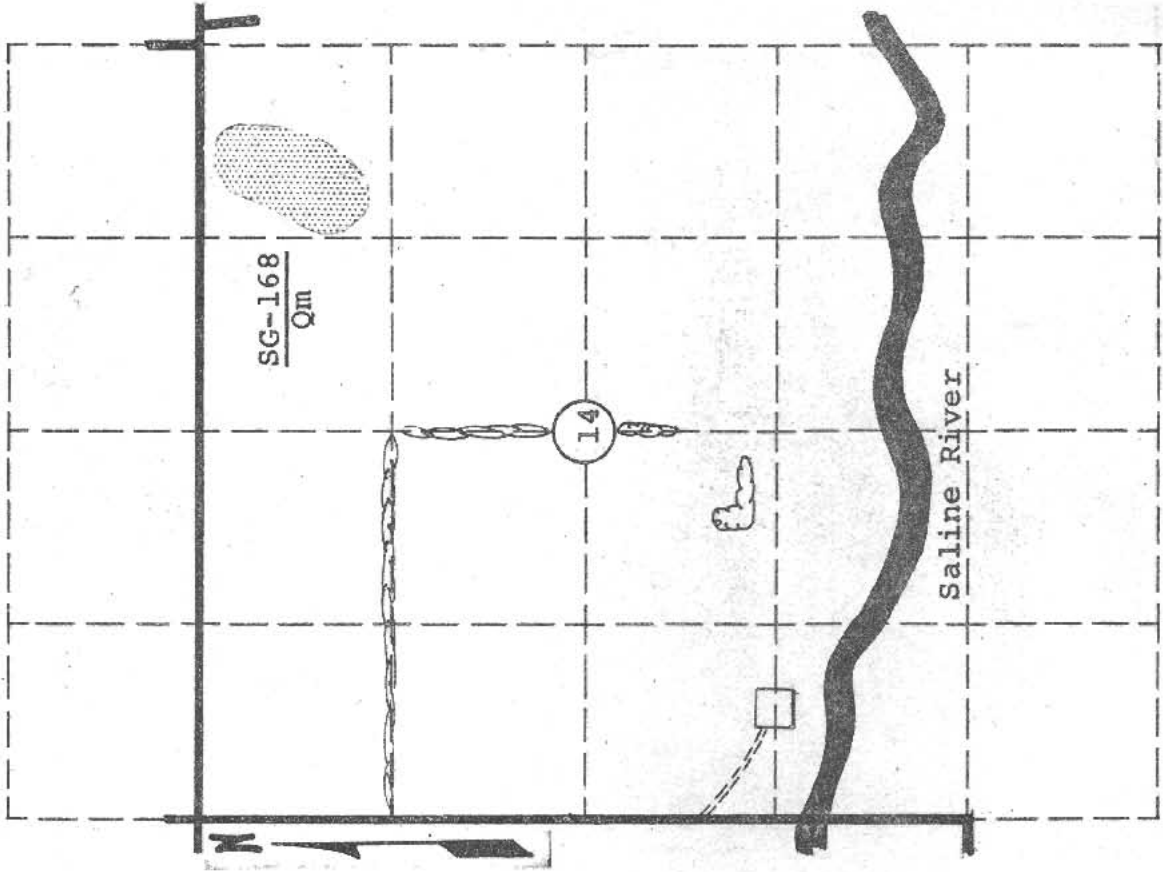
Site No. Qm Date April 1963  
 Material Sand and Gravel County Ellis  
 Location NE 1/4 NE 1/4 Sec. 14 Twp. 11S Range 19W  
 Owner Nellie G. Devine Unknown address  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-Burden	Depth of Material	Percent Retained					Wash 200	S.F.	P.L.									
				1/2	3/4	3/8	4	8				16	30	50	100					
USGS		1	6				7	28		98										

CORRELATION DATA Date Tested: 2-47

Geological Age Pleistocene  
 Geological Source Meade Formation  
 Material Similar To Material reported in USGS Ellis Co.  
 Report Site No. Ma5  
 Specific Gravity (Sat.) \_\_\_\_\_ (Dry) \_\_\_\_\_  
 Los Angeles Wear \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Wt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks Estimated quantity 1,000 cu. yds.



Scale: 1" = 1/4 Mile

MATERIAL SURVEY REPORT

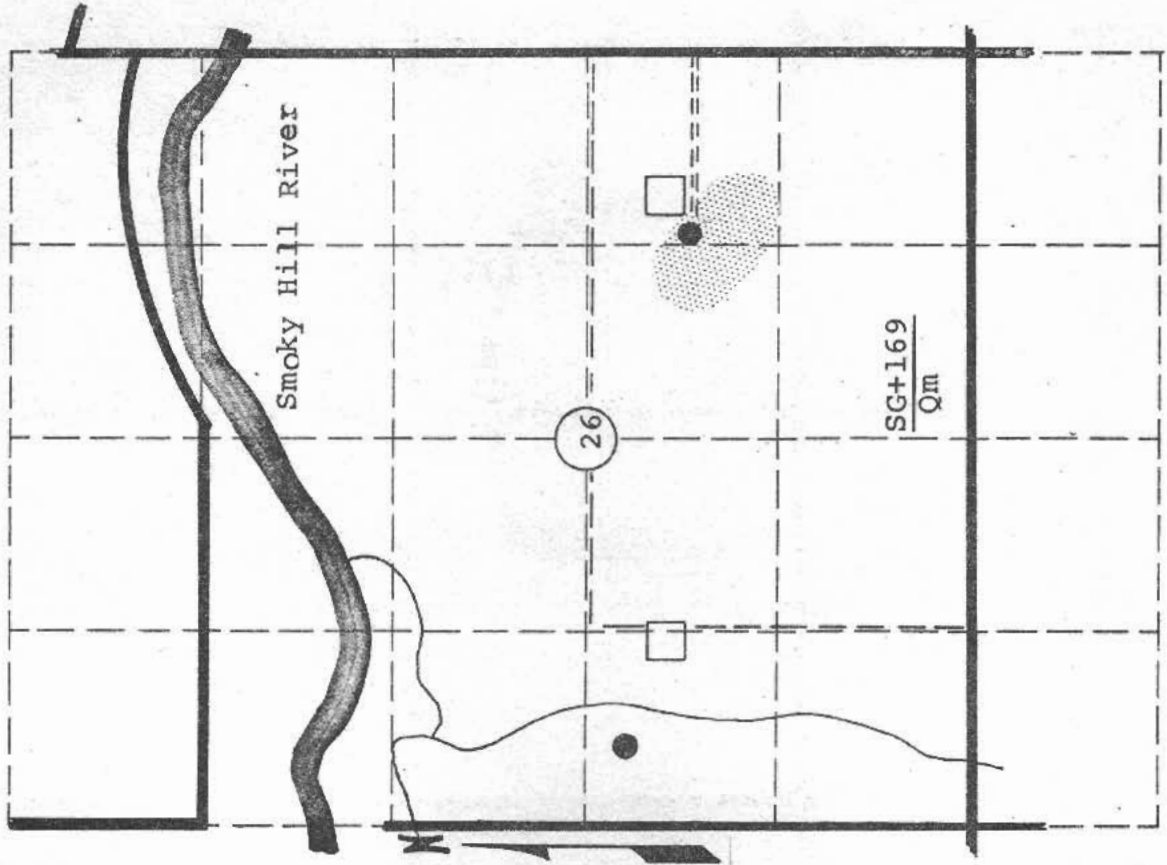
Site No. SG+169  
Qm  
 Date April 1963  
 Material Sand and Gravel County Ellis  
 Location N½ SE¼ Sec. 26 Twp. 15S Range 19W  
 Owner Paul Werth name McCracken, Kansas address  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of overburden	Depth of Material	Percent Retained							Wash 200	G.F.	L.L.	P.I.			
				1 1/2	3/4	3/5	4	8	16	30					50	100	
AV. SHC				1	1022	4067	98	99				4.26					

CORRELATION DATA

Geological Age Pleistocene  
 Geological Source Meade Formation  
 Material Similar To Material reported on SHC Lab. Sheet No. 16358  
 Specific Gravity (Sat.) 2.60 (Dry)  
 Los Angeles Wear Grading "D" 38.5  
 Absorption 0.94  
 Mt. Cu.ft. 114.38 lbs.  
 Remarks



Scale: 1" = ¼ Mile

MATERIAL SURVEY REPORT

Site No. SG+170  
Qm Date April 1963  
 Material Sand and Gravel County Ellis  
 Location N 1/2 SW 1/4 Sec. 15 Twp. 11S Range 18W  
 Owner S. J. Peavy Rte. 2 Ft. Morgan, Colorado  
 address  
 Nature of Deposit Dry Accessibility GOOD  
 Status of Site Prospective site; sampled

EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-burden	Depth of Material	Percent Retained								Wash 200	G.F.	L.L.	P.I.
				1/2	3/4	1	2	4	8	16	30				
SHC				2	5	12	25	45	74	91	95		3.49		

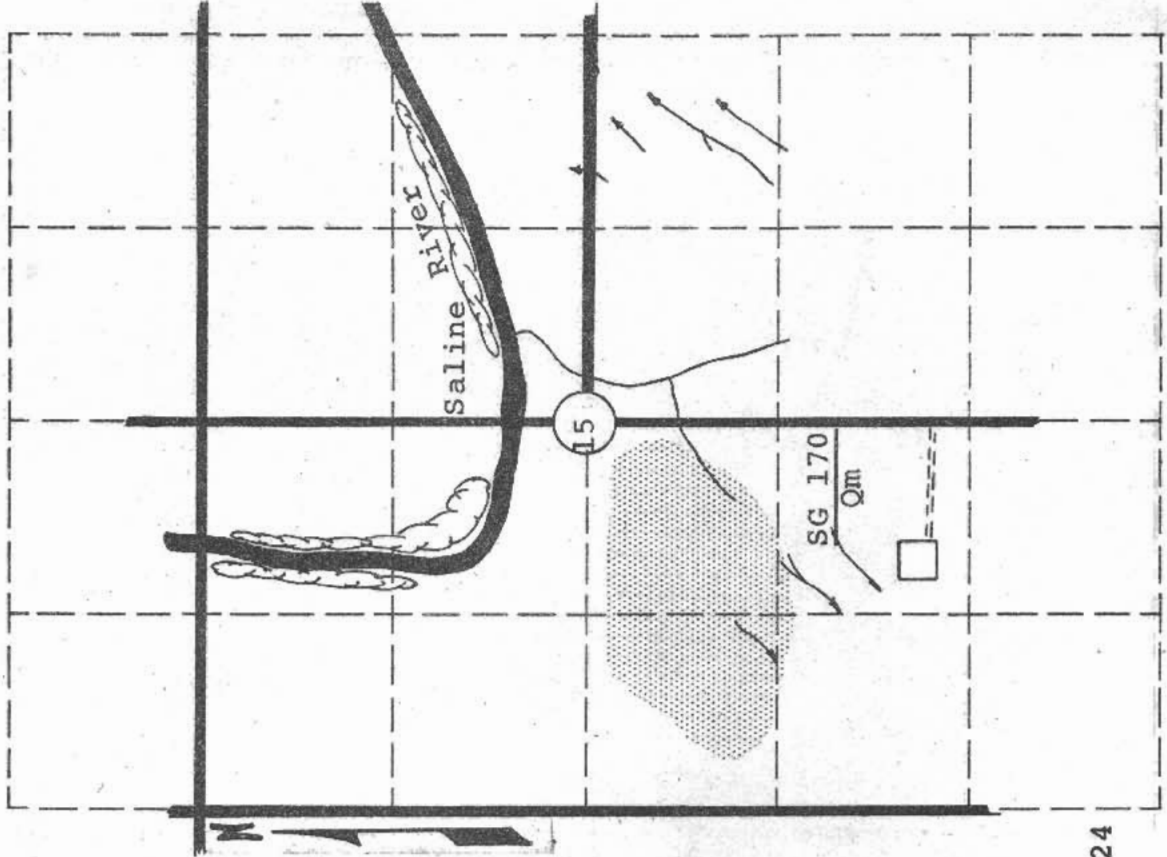
AV.

R23

Date Tested: 4-62

CORRELATION DATA

Geological Age Pleistocene  
 Geological Source Meade Formation  
 Material Similar To Material reported on SHC Lab. Sheet No. 21970  
 Specific Gravity (Sat.) 2.60 (dry)  
 Los Angeles Near 32.8  
 Absorption 0.93 Soundness  
 Mt. Cu.Ft. 189.92 lbs. Str. Ratio 1-day 1.02, 3-days 1.24  
 Remarks



Scale: 1" = 1/4 Mile

MATERIAL SURVEY REPORT

Site No. LG-171  
Pr  
 Date April 1963  
 Material Limestone Gravel County Ellis  
 Location SE 1/4 Sec. 10 Twp. 13S Range 20W  
 Owner Hilarius F. Dinkel R.R., Ellis, Kansas  
 name address  
 Nature of Deposit DRY Accessibility Fair  
 Status of Site Prospective site; sampled

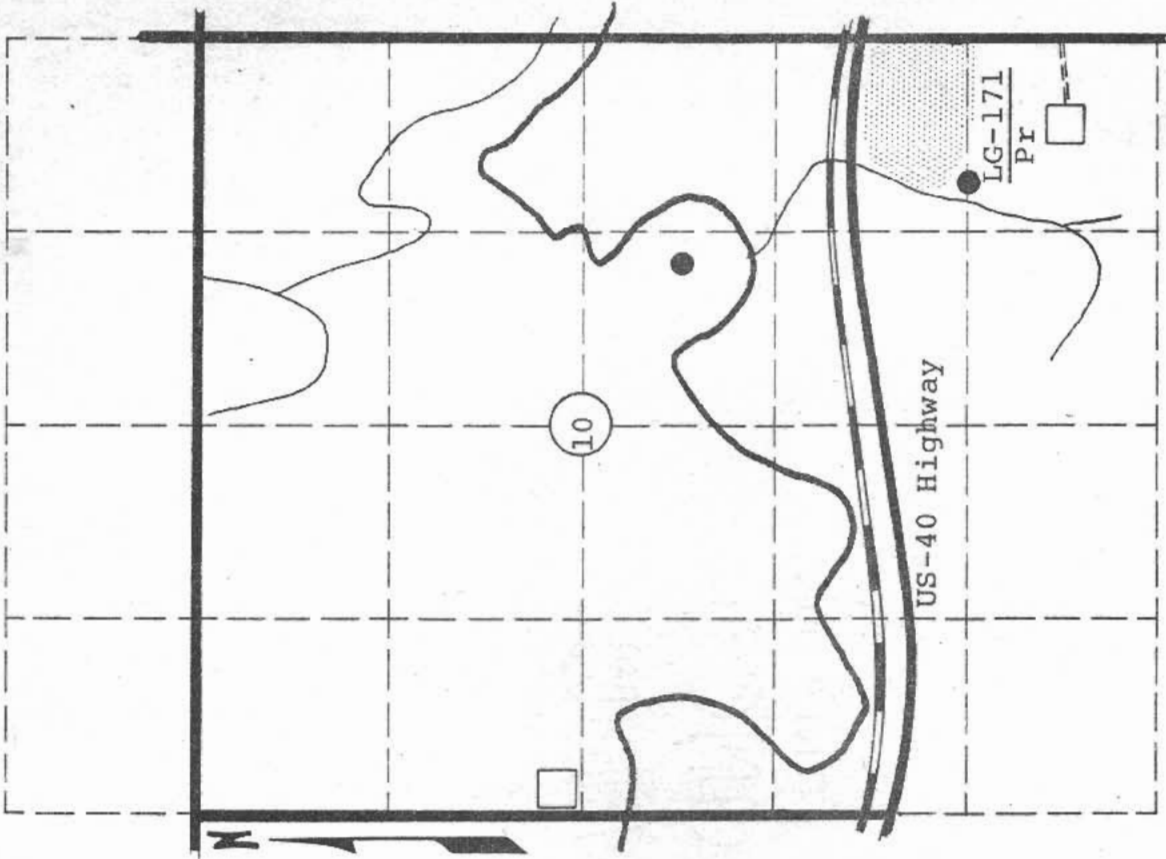
EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-Burden	Depth of Material	Percent Retained							Wash 200	G.F.	L.L.	P. I.			
				1 1/2	3/4	3/8	4	8	16	30					50	100	
USGS		1	5		7	17	45				96	3					

Date Tested: 1-46

CORRELATION DATA

Geological Age Pleistocene-Recent  
 Geological Source Undifferentiated  
 Material Similar To Material reported in USGS Ellis County  
 Report Site No. Ma7  
 Specific Gravity (Sat.) 2.5 (Dry)  
 Los Angeles Wear 46  
 Absorption \_\_\_\_\_ Soundness 0.72  
 Wt. Cu.Ft. 109 lbs. Str. Ratio \_\_\_\_\_  
 Remarks Estimated quantity 6,000 cu. yds.



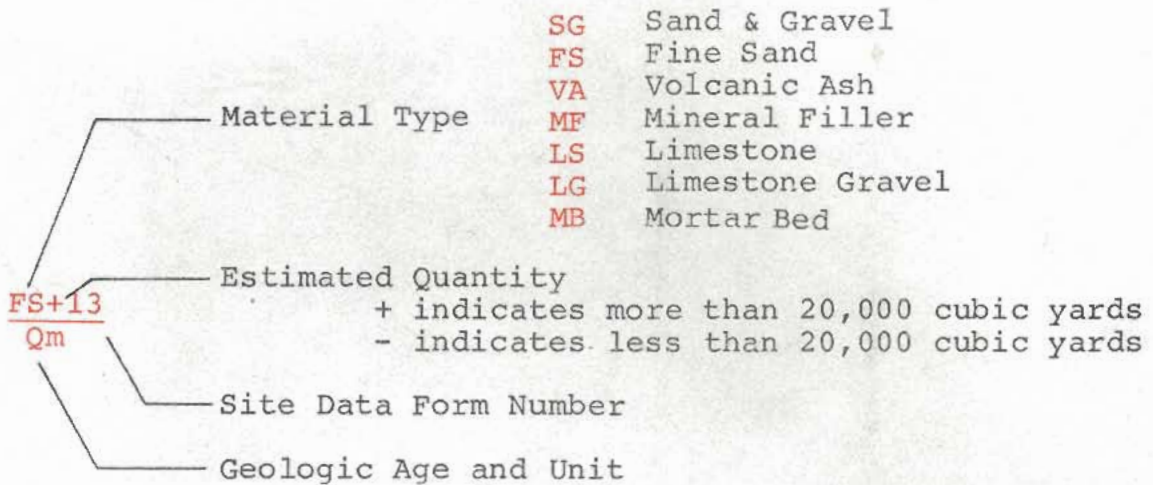
Scale: 1" = 1/4 mile

# ELLIS COUNTY MATERIALS MAP

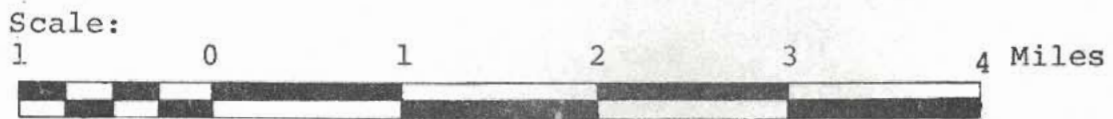
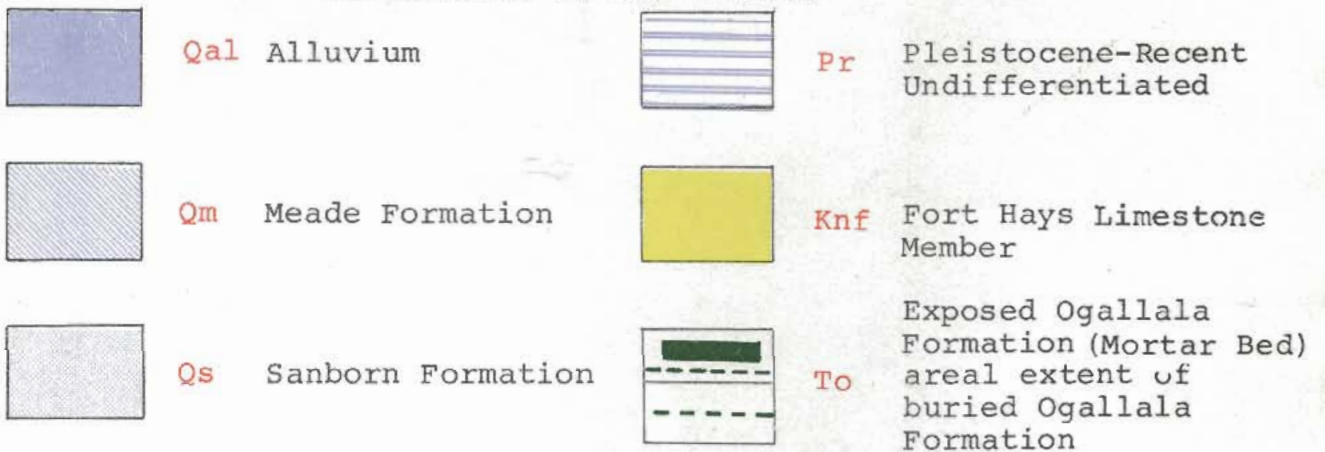
## LEGEND

### EXPLANATION OF MATERIALS SITE DESIGNATIONS

- Open site; not sampled (See Appendix I)
- Prospective Site; not sampled (See Appendix II)
- Open Site; sampled (See Appendix III)
- ▲ Prospective Site; sampled (See Appendix IV)



### EXPLANATION OF MAP SYMBOLS



prepared by the

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U. S. DEPARTMENT OF COMMERCE  
BUREAU OF PUBLIC ROADS

R 20 W

R 20 W  
R 19 W

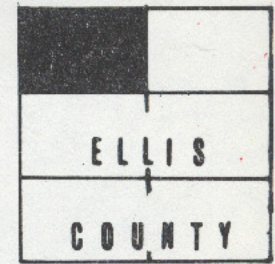
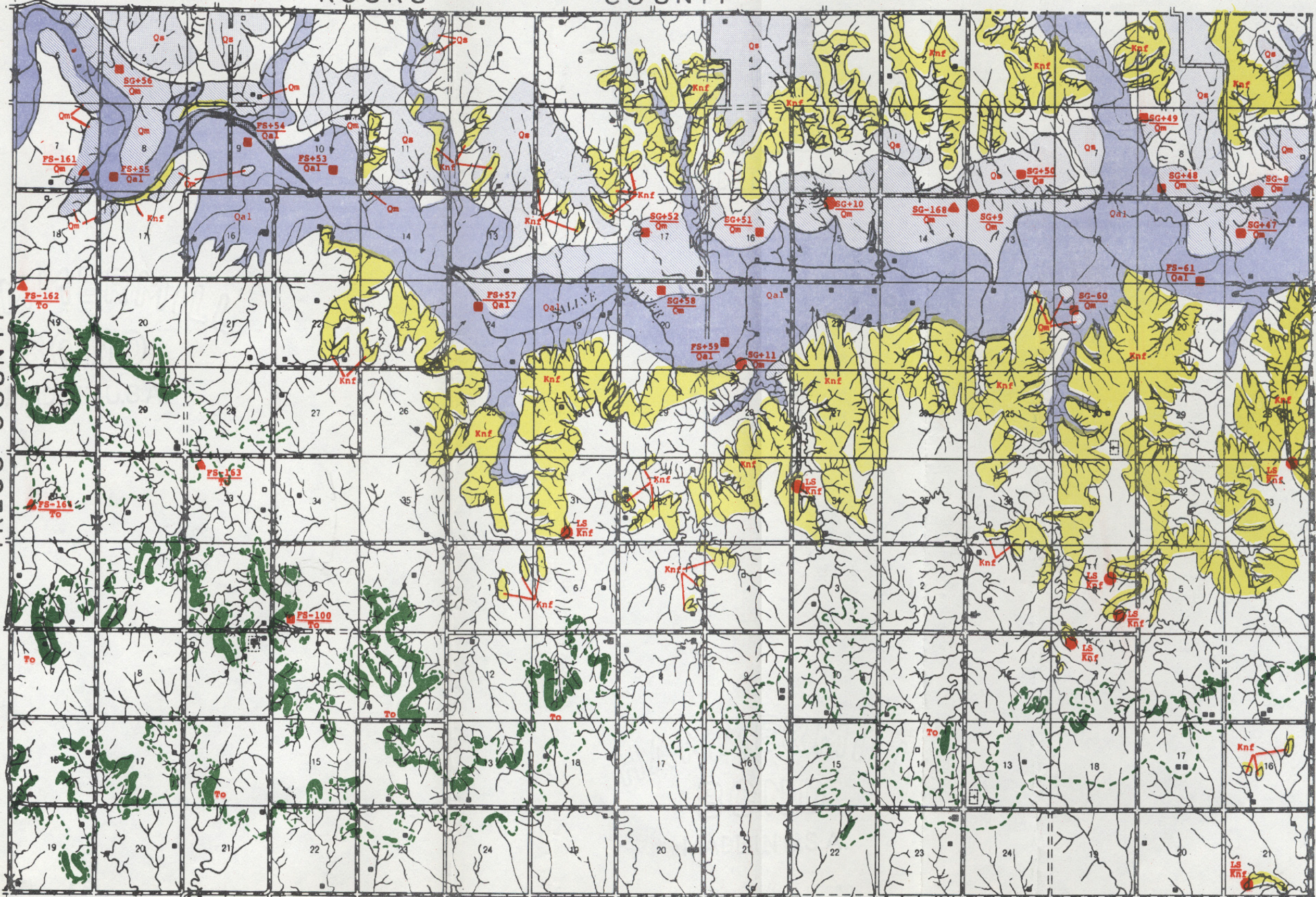
R 19 W  
R 18 W

# ROOKS COUNTY

T 11 S

TREGO COUNTY

T 11 S  
T 12 S

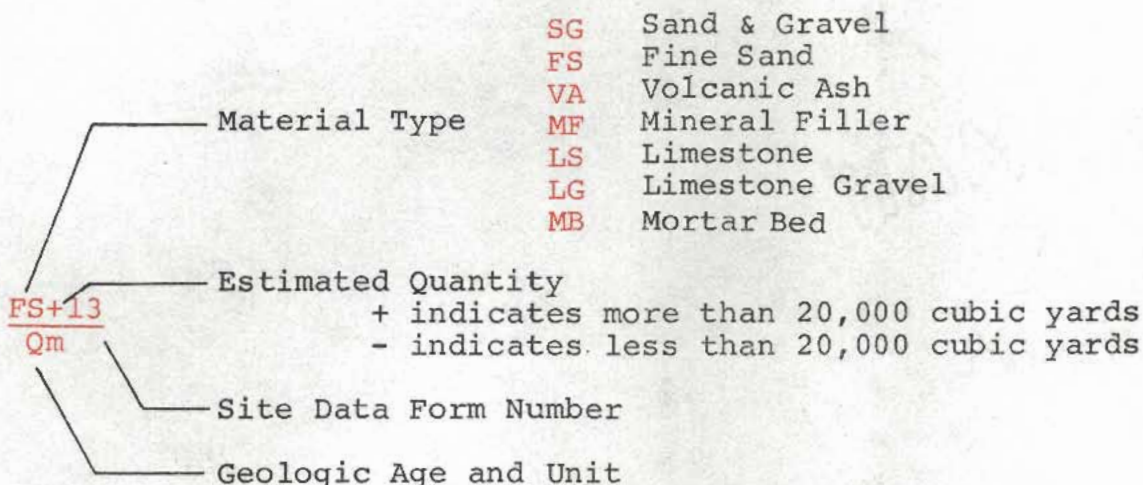


# ELLIS COUNTY MATERIALS MAP

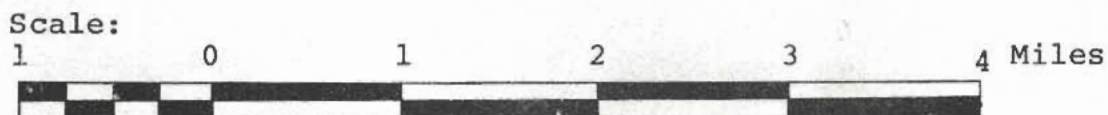
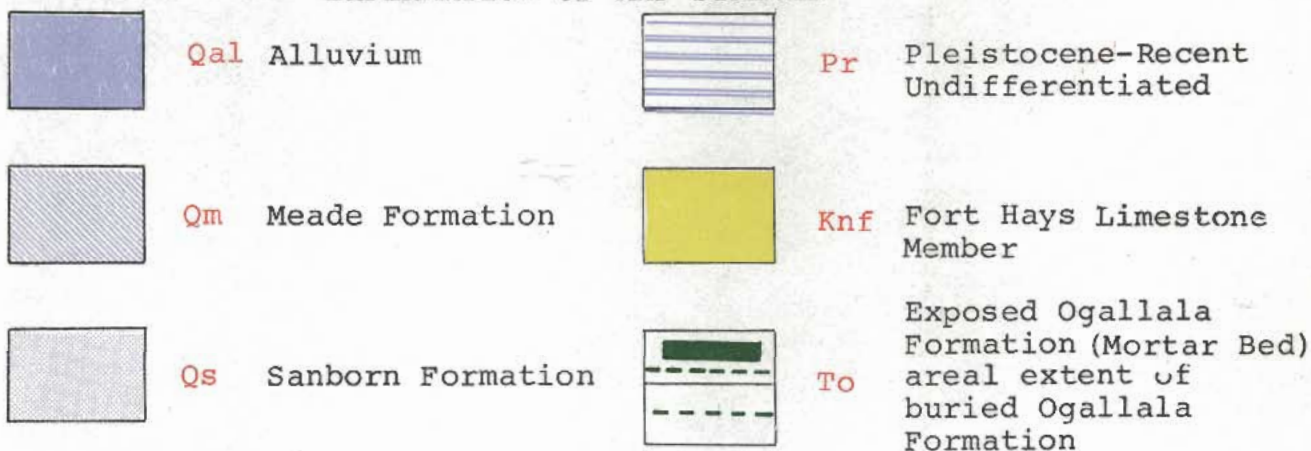
## LEGEND

### EXPLANATION OF MATERIALS SITE DESIGNATIONS

- Open site; not sampled (See Appendix I)
- Prospective Site; not sampled (See Appendix II)
- Open Site; sampled (See Appendix III)
- ▲ Prospective Site; sampled (See Appendix IV)



### EXPLANATION OF MAP SYMBOLS



prepared by the

STATE HIGHWAY COMMISSION OF KANSAS

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U. S. DEPARTMENT OF COMMERCE  
BUREAU OF PUBLIC ROADS

R 18 W  
R 17 W

R 17 W  
R 16 W

R 16 W

ROOKS

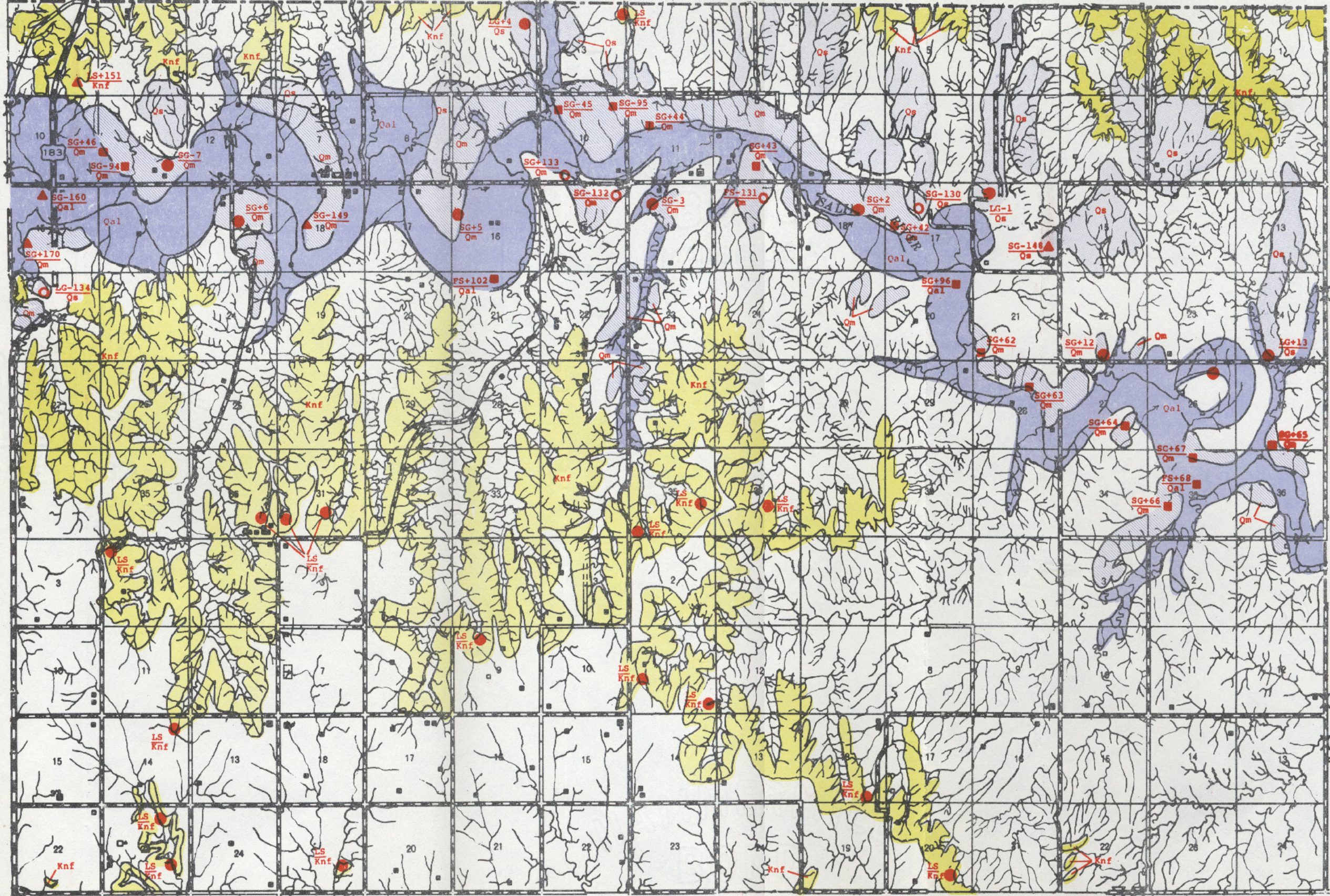
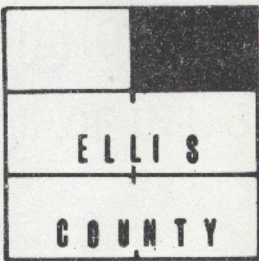
COUNTY

T 11 S

RUSSELL COUNTY

T 11 S

T 12 S



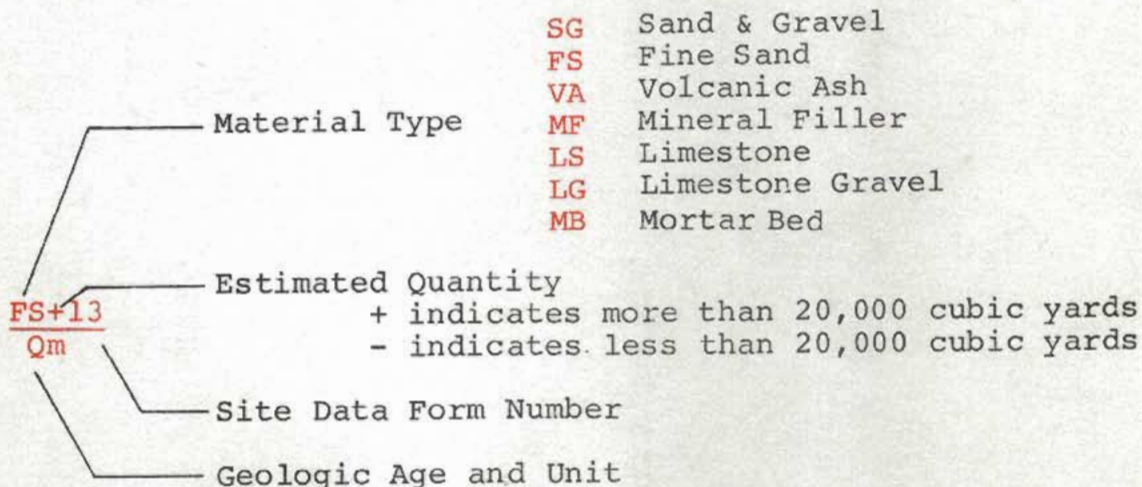


# ELLIS COUNTY MATERIALS MAP

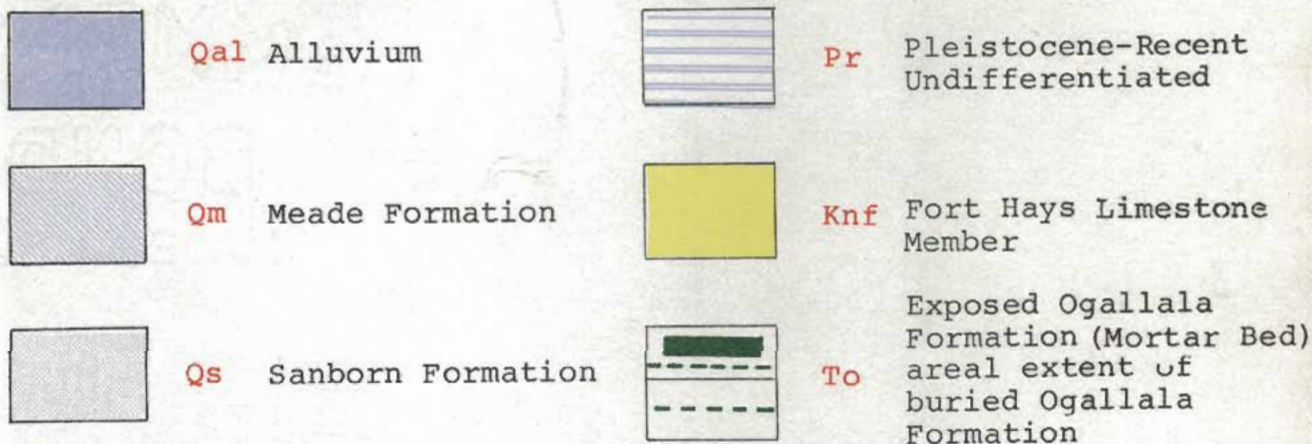
## LEGEND

### EXPLANATION OF MATERIALS SITE DESIGNATIONS

- Open site; not sampled (See Appendix I)
- Prospective Site; not sampled (See Appendix II)
- Open Site; sampled (See Appendix III)
- ▲ Prospective Site; sampled (See Appendix IV)



### EXPLANATION OF MAP SYMBOLS



Scale: 1 0 1 2 3 4 Miles



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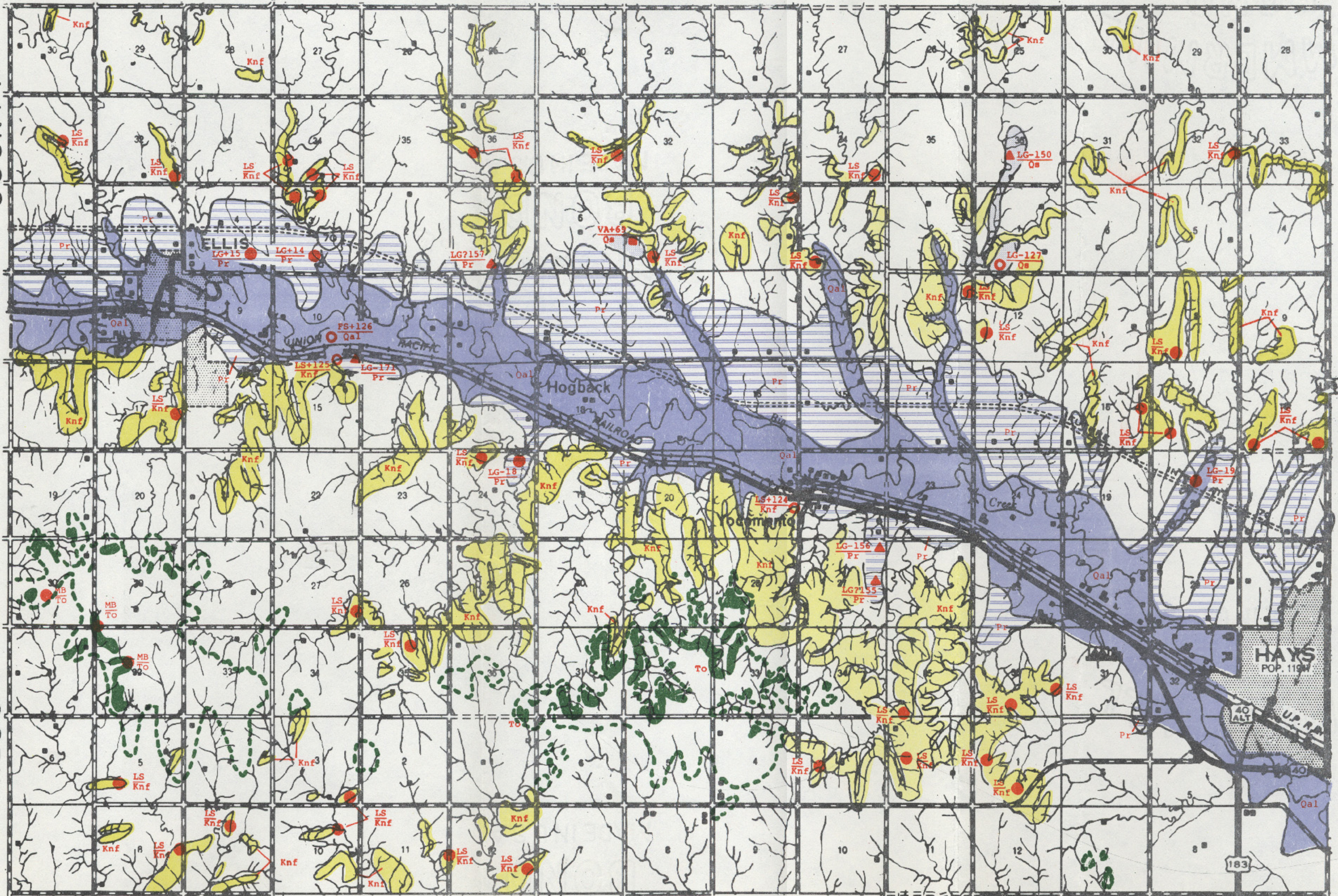
R 20 W

R 20 W  
R 19 W

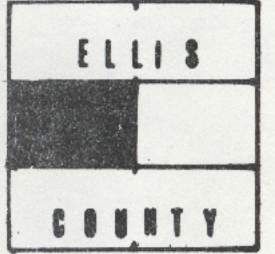
R 19 W  
R 18 W

COUNTY

TREGO



T 12 S  
T 13 S



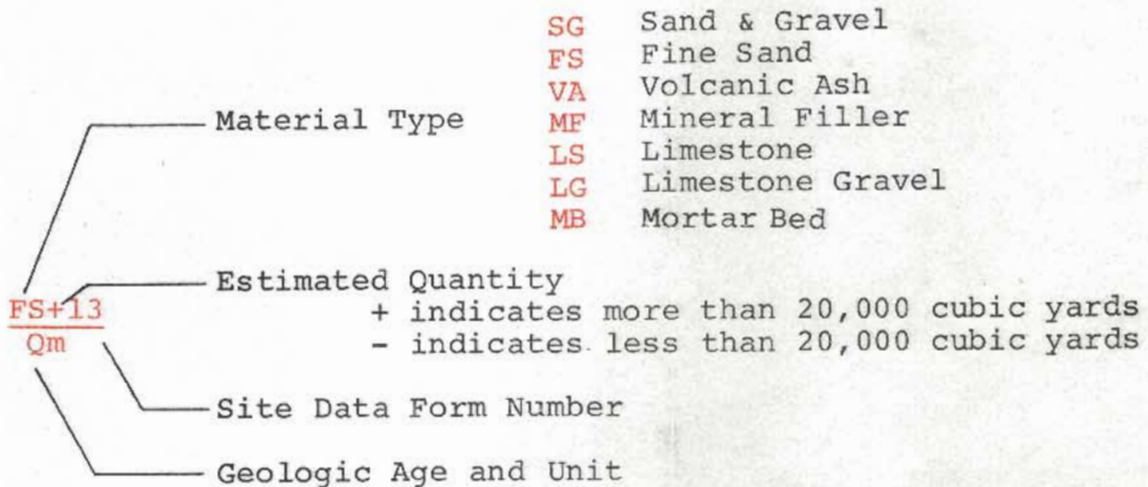
T 13 S  
T 14 S

# ELLIS COUNTY MATERIALS MAP

## LEGEND

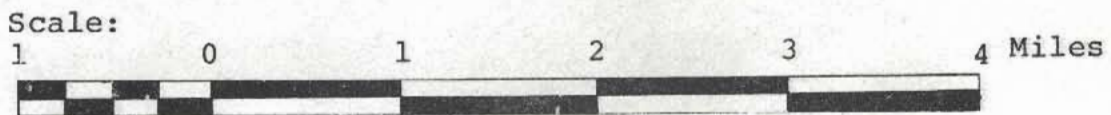
### EXPLANATION OF MATERIALS SITE DESIGNATIONS

- Open site; not sampled (See Appendix I)
- Prospective Site; not sampled (See Appendix II)
- Open Site; sampled (See Appendix III)
- ▲ Prospective Site; sampled (See Appendix IV)



### EXPLANATION OF MAP SYMBOLS

	<p><b>Qal</b> Alluvium</p>		<p><b>Pr</b> Pleistocene-Recent Undifferentiated</p>
	<p><b>Qm</b> Meade Formation</p>		<p><b>Knf</b> Fort Hays Limestone Member</p>
	<p><b>Qs</b> Sanborn Formation</p>		<p><b>To</b> Exposed Ogallala Formation (Mortar Bed) areal extent of buried Ogallala Formation</p>



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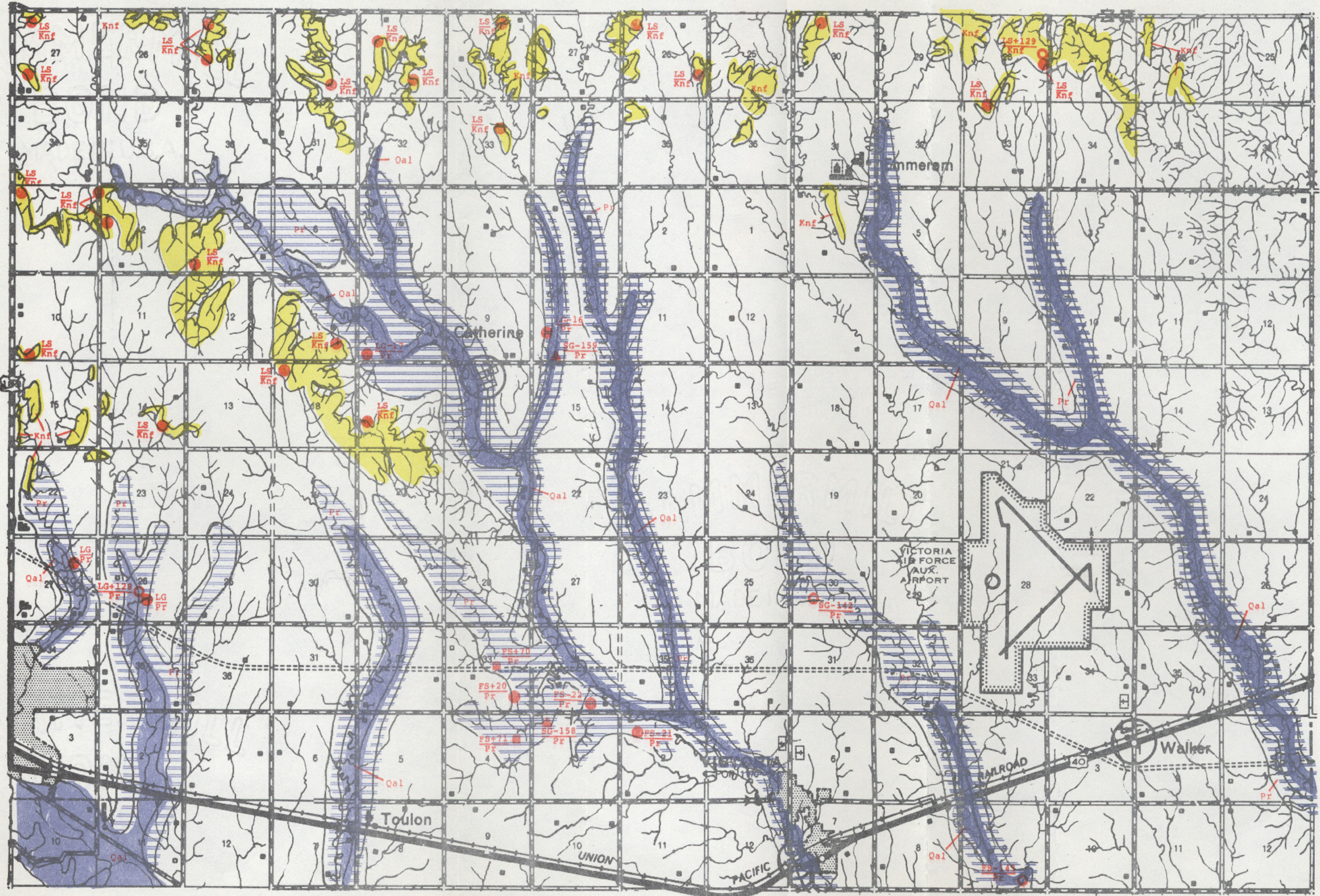
in cooperation with the

U. S. DEPARTMENT OF COMMERCE  
BUREAU OF PUBLIC ROADS

R 18 W  
R 17 W

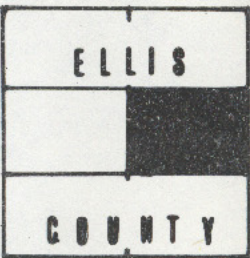
R 17 W  
R 16 W

R 16 W



T 12 S  
T 13 S

RUSSELL COUNTY



T 13 S  
T 14 S

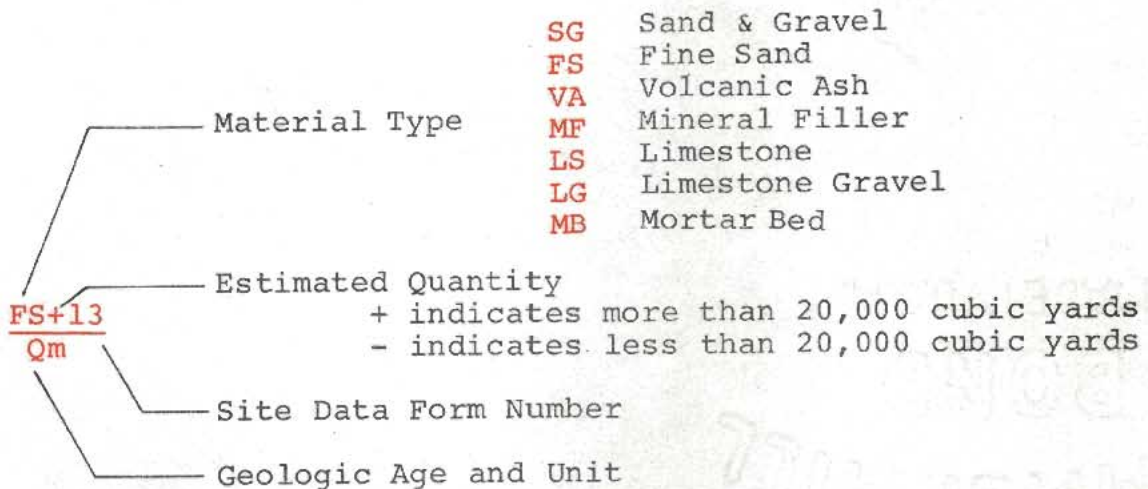
PLATE IV

# ELLIS COUNTY MATERIALS MAP

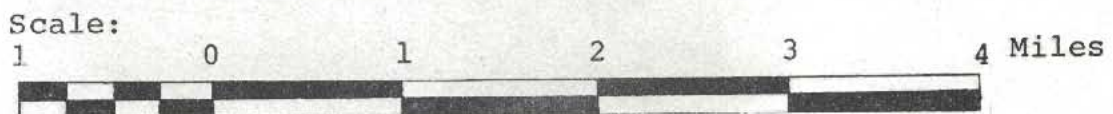
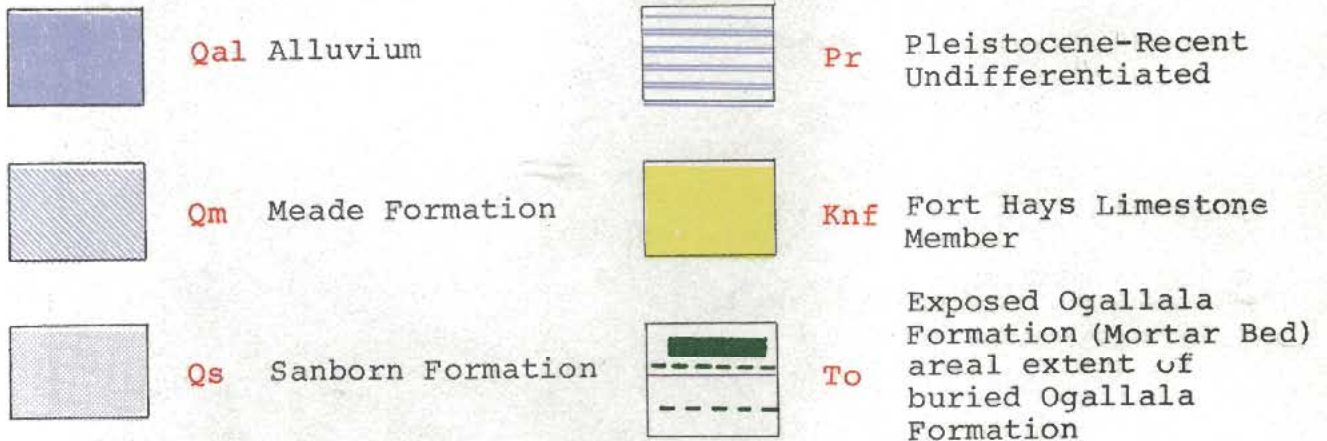
## LEGEND

### EXPLANATION OF MATERIALS SITE DESIGNATIONS

- Open site; not sampled (See Appendix I)
- Prospective Site; not sampled (See Appendix II)
- Open Site; sampled (See Appendix III)
- ▲ Prospective Site; sampled (See Appendix IV)



### EXPLANATION OF MAP SYMBOLS



prepared by the

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BUREAU OF PUBLIC ROADS

R 20 W

R 20 W  
R 19 W

R 19 W  
R 18 W

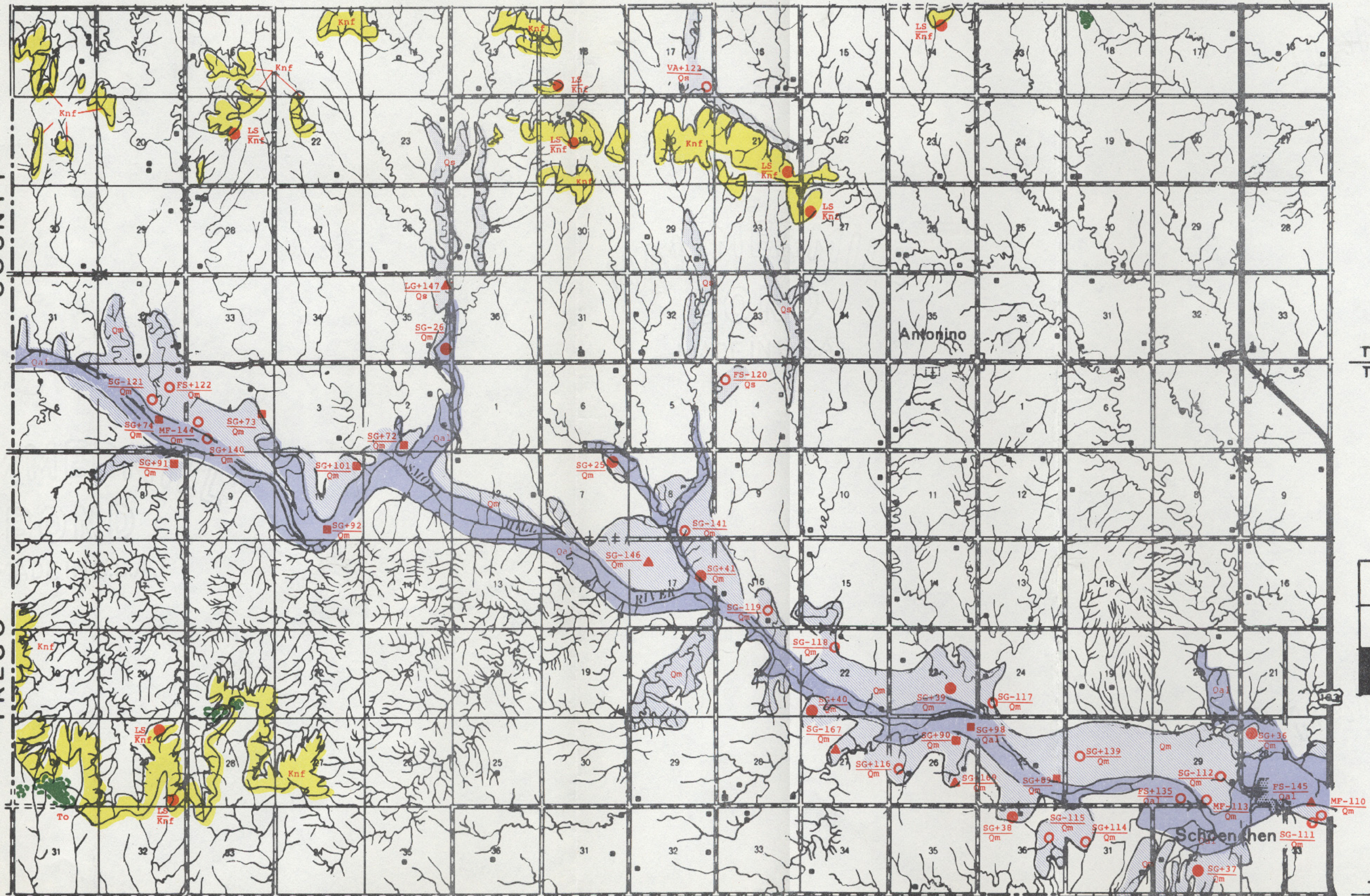
COUNTY

TREGO

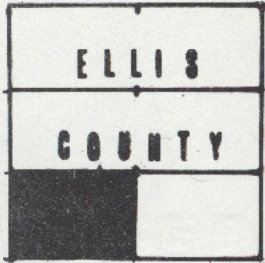
RUSH

COUNTY

PLATE V



T 14 S  
T 15 S



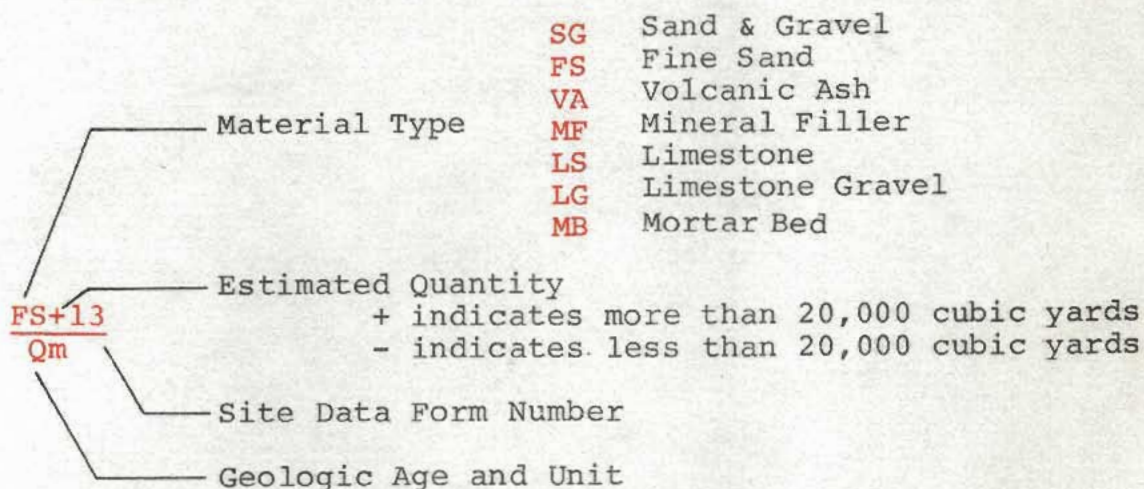
T 15 S

# ELLIS COUNTY MATERIALS MAP

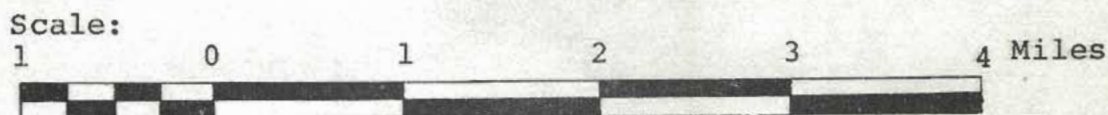
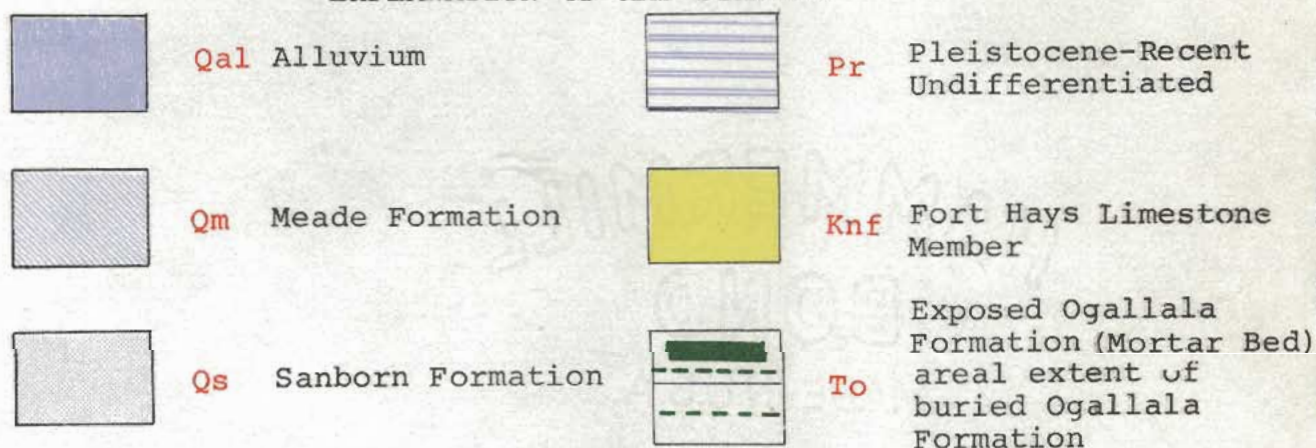
## LEGEND

### EXPLANATION OF MATERIALS SITE DESIGNATIONS

- Open site; not sampled (See Appendix I)
- Prospective Site; not sampled (See Appendix II)
- Open Site; sampled (See Appendix III)
- ▲ Prospective Site; sampled (See Appendix IV)



### EXPLANATION OF MAP SYMBOLS



prepared by the

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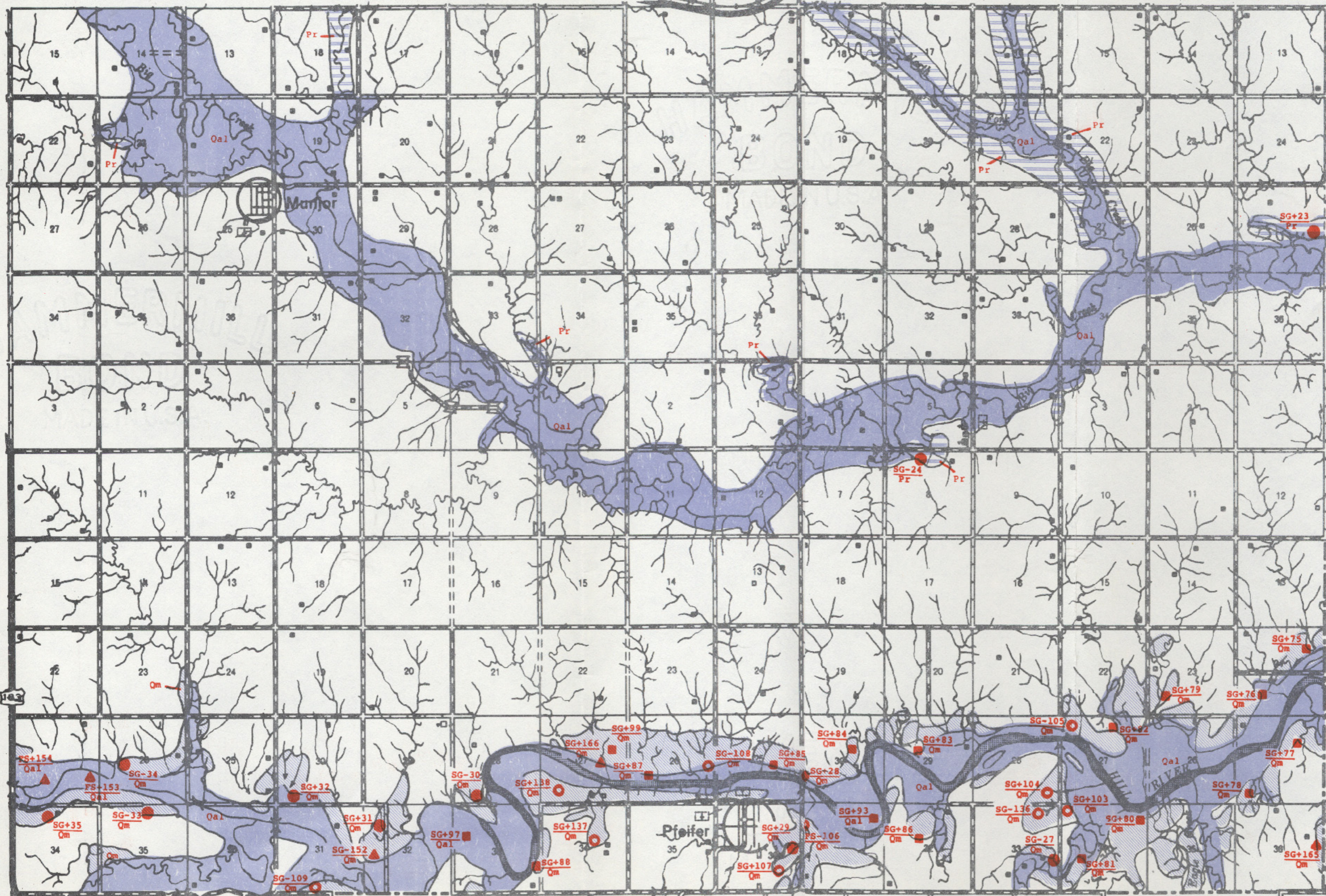
in cooperation with the

U. S. DEPARTMENT OF COMMERCE  
BUREAU OF PUBLIC ROADS

R 18 W  
R 17 W

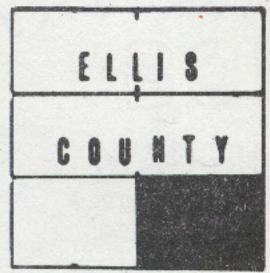
R 17 W  
R 16 W

R 16 W



RUSSELL COUNTY

T 14 S  
T 15 S



T 15 S

RUSH

COUNTY

PLATE VI