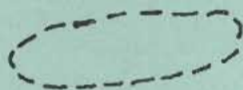


APPENDIX IV

The following site data forms are designated as "prospective site; sampled." The sites described herein are depicted on the county materials map as a "▼".

LEGEND



This symbol on the site data form represents a prospective site.

MATERIAL SURVEY REPORT

Site No. LS+120  
Pf Date June, 1965

Material Limestone County Marshall

Location NE 1/4 Sec. 25 Twp. 4S Range 7E

Owner Erwin L. Bigham Blue Rapids, 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			

CORRELATION DATA

Geological Age Permian

Geological Source Florence Limestone Member

Material Similar to Material reported on SHC form 619, # 58-10

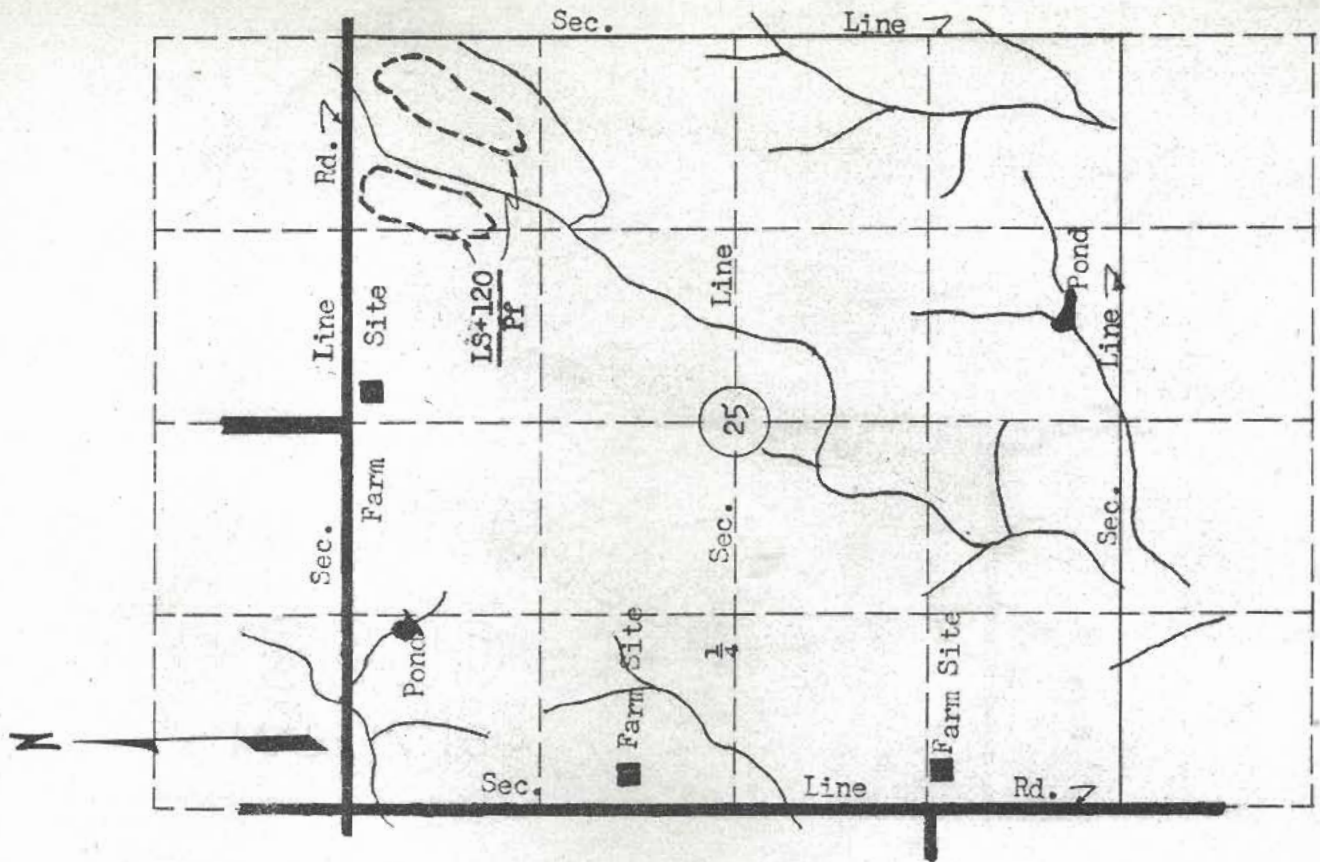
Specific Gravity (Sat.) 2.31, 2.31 (Dry) --- 2.20  
 (A) 36.8 (B) 37.3

Los Angeles Wear 6.34, 6.51 Soundness 0.91, 0.95

Absorption 6.34, 6.51

Wt. Cu.Ft. --- Str. Ratio ---

Remarks ---



Scale: 1" = 1/4 mile

MATERIAL SURVEY REPORT

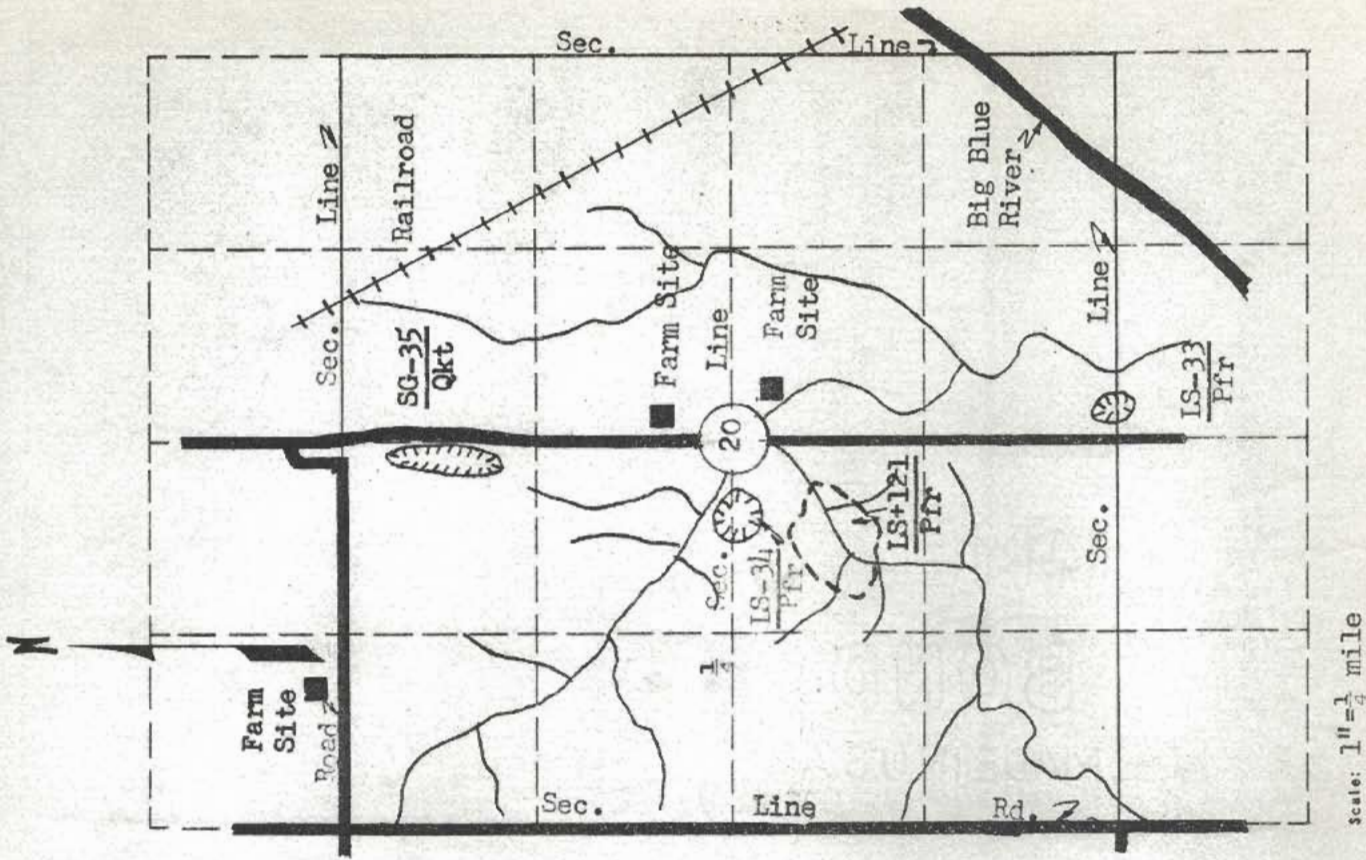
Site No. LS+121  
Pfr  
 Date June, 1965  
 Material Limestone County Marshall  
 Location NE 1/4 SW 1/4 Sec. 20 Twp. 2S Range 7E  
 Owner L. J. and S. J. Bernadt address Marysville, Kansas  
 Nature of Deposit Dry Accessibility Poor  
 Status of Site Prospective site; sampled

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	1/4	1/8				

CORRELATION DATA

Geological Age Permian  
 Geological Source Fort Riley Limestone Member  
 Material Similar To Material reported on SHC form 615, Lab No. 98354, 97699  
 Specific Gravity (Sat.) 2.29, 2.35 (Dry) 2.08, 2.15  
 Los Angeles Wear (B) 58.0 (B) 63.8  
 Absorption 10.32, 9.13 Soundness 0.95  
 Wt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks \_\_\_\_\_



STATE HIGHWAY COMMISSION OF KANSAS

MATERIAL SURVEY REPORT

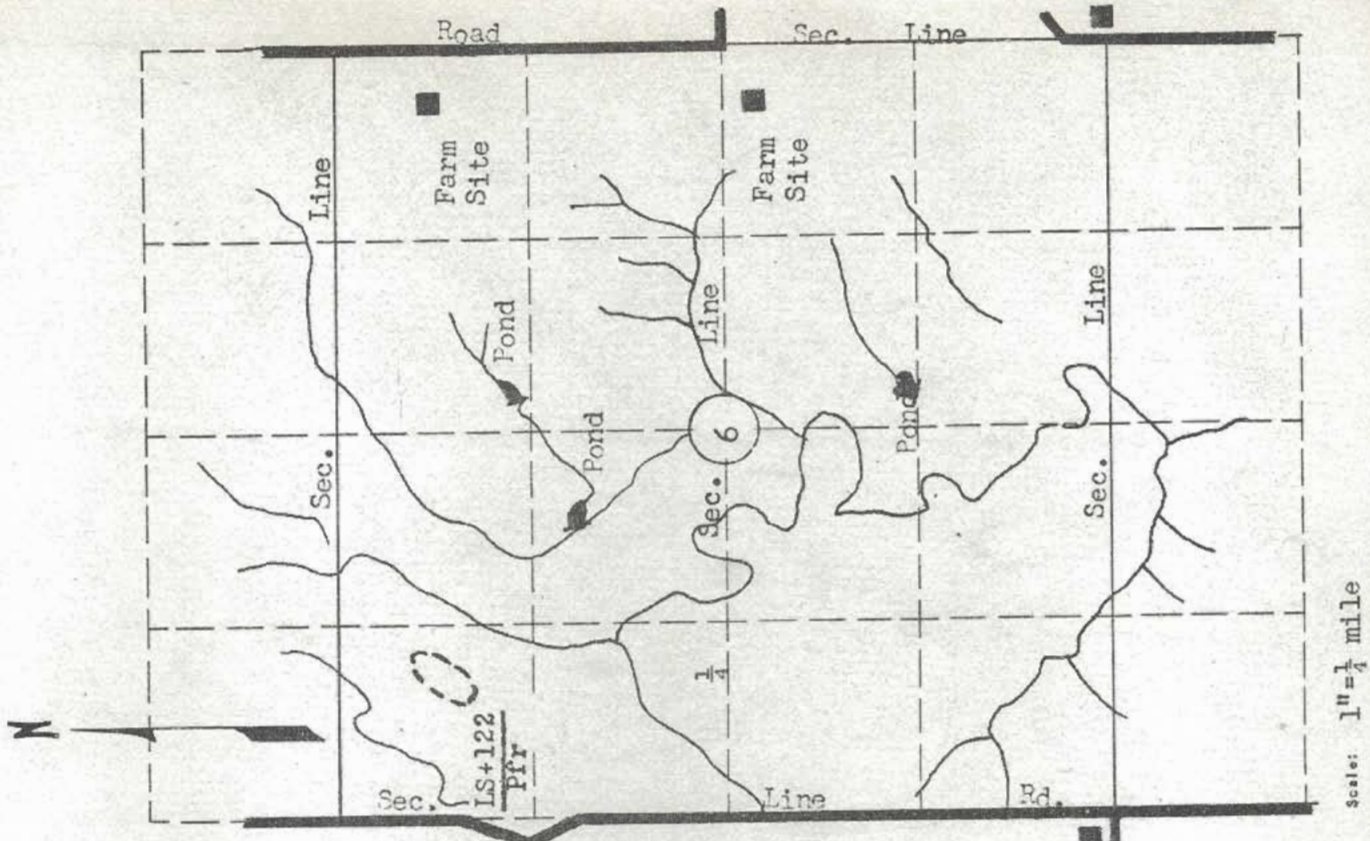
Site No. IS+122  
Pfr  
 Date June, 1965  
 Material Limestone County Marshall  
 Location NW 1/4 Sec. 6 Twp. 3S Range 7E  
 Owner John H. Ronnebaum Marysville, Kansas  
 name address  
 Nature of Deposit Dry Accessibility Poor  
 Status of Site Prospective site; sampled

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			

CORRELATION DATA

Geological Age Permian  
 Geological Source Fort Riley Limestone Member  
 Material similar to Material reported on SHC Form 619, # 58-56, Lab. No. 12842, 12843.  
 Specific Gravity (Sat.) 2.10, 2.36 (Dry) 2.33, 2.27  
 Los Angeles Wear 35.4, 49.5  
 Absorption 2.84, 4.09 Soundness 0.94, 0.95  
 Mt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks \_\_\_\_\_



MATERIAL SURVEY REPORT

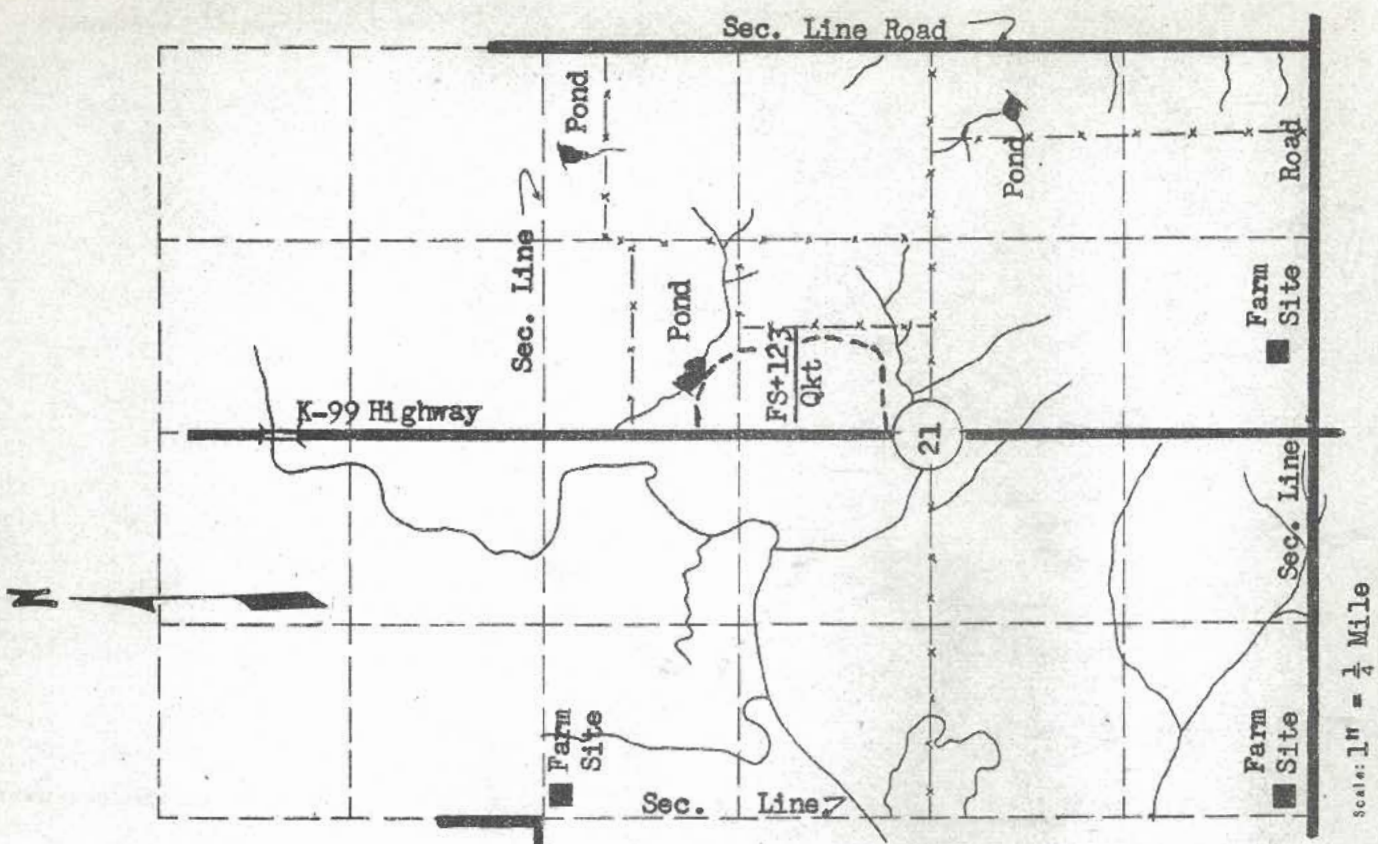
**FS+123**  
**Qkt**  
 Site No. \_\_\_\_\_ Date June, 1965  
 Material Fine Sand County Marshall  
 Location NE 1/4 Sec. 21 Twp. 3S Range 9E  
 Owner Henry J. Stoever address Frankfort, Kansas  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of overburden	Depth of Material	Percent Retained							G.F.	L.L.	P.I.		
				1/2	3/4	3/5	4	8	16	30				50	100
	Sh	2.5	8			0	1	2	5	17	59	31		19	4
	Sh.	4	8			0	1	1	2	24	70	22		16	2
	Sand	5	13					0	1	12	80	11		17	1
	Sh.	10	10.5						0	8	75	17		16	1

CORRELATION DATA

Geological Age Quaternary  
 Geological Source Kansas Till  
 Material Similar To material reported on SHC form 619, # 58-32  
 Specific Gravity (Sat.) \_\_\_\_\_ (Dry)  
 Los Angeles Near \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Wt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks \_\_\_\_\_



MATERIAL SURVEY REPORT

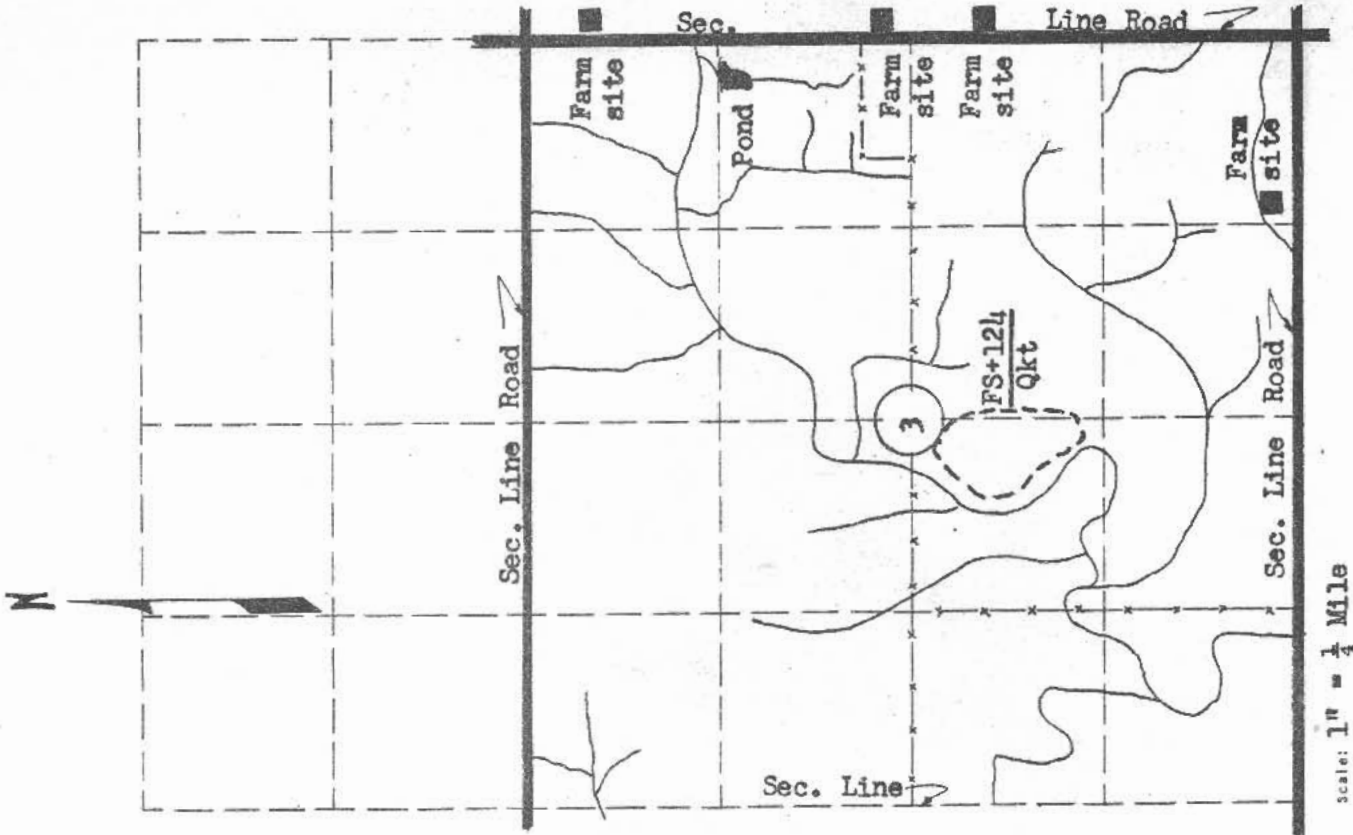
Site No. FS+124  
Qkt  
 Material Fine Sand  
 Location E $\frac{1}{2}$ , SW $\frac{1}{4}$  Sec. 3 Twp. 4S Range 9E  
 County Marshall  
 Owner W. E. McKeon 4808 Oak St. Kansas City 12, Missouri  
 address  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

EXPLORATION DATA

Test Hole	Material 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		
	Sand	0	25								0	5	78		0.83			

CORRELATION DATA

Geological Age Quaternary  
 Geological Source Kansan Till  
 Material Similar To material reported on SHC form 619, No. 58-1  
 Specific Gravity (Sat.) \_\_\_\_\_ (Dry) \_\_\_\_\_  
 Los Angeles Near \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Mt. Cu.ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks \_\_\_\_\_



MATERIAL SURVEY REPORT

Site No. LS+125  
Pmc  
 Date June, 1965  
 Material Limestone County Marshall  
 Location SW 1/4 Sec. 34 Twp. 5S Range 9E  
 Owner J. H. Kennedy Frankfort, Kansas  
 Nature of Deposit Dry Accessibility Fair  
 Status of Site Prospective site; sampled

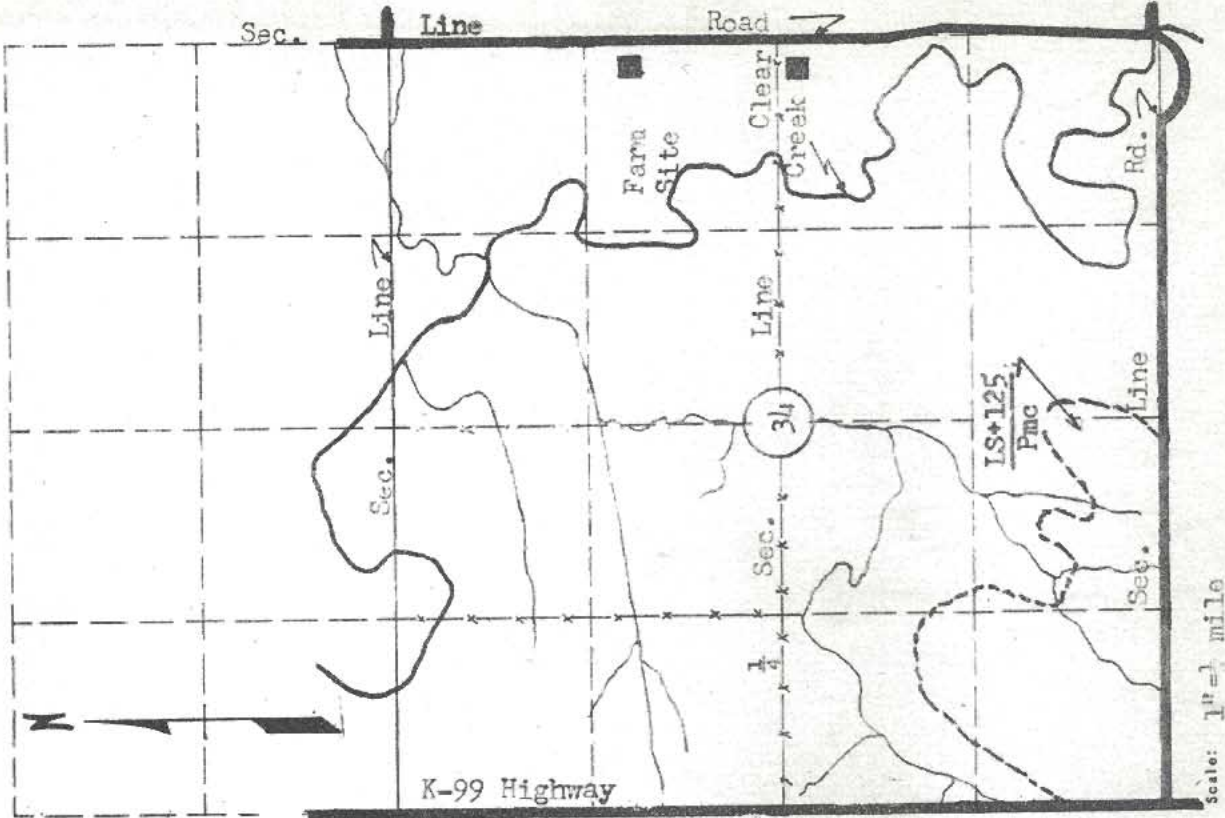
EXPLORATION DATA

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

CORRELATION DATA

Geological Age Permian  
 Geological Source Cottonwood Limestone Member  
 Material Similar to Material reported on SHC form 619, # 58-26.  
 Specific Gravity (Sat.) 2.32, 2.38, 2.31 (Dry) 2.17  
 Los Angeles Near (A) 35.6, (A) 35.0, (E) 43.0  
 Absorption 6.04, 4.52, 6.56 Soundness 0.73, 0.84, 0.93

Wt. Co. Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks A prominent westerly dip of the beds is indicated on the photographs, thus a rapid increase in overburden can be anticipated in this direction from the exposure.



MATERIAL SURVEY REPORT

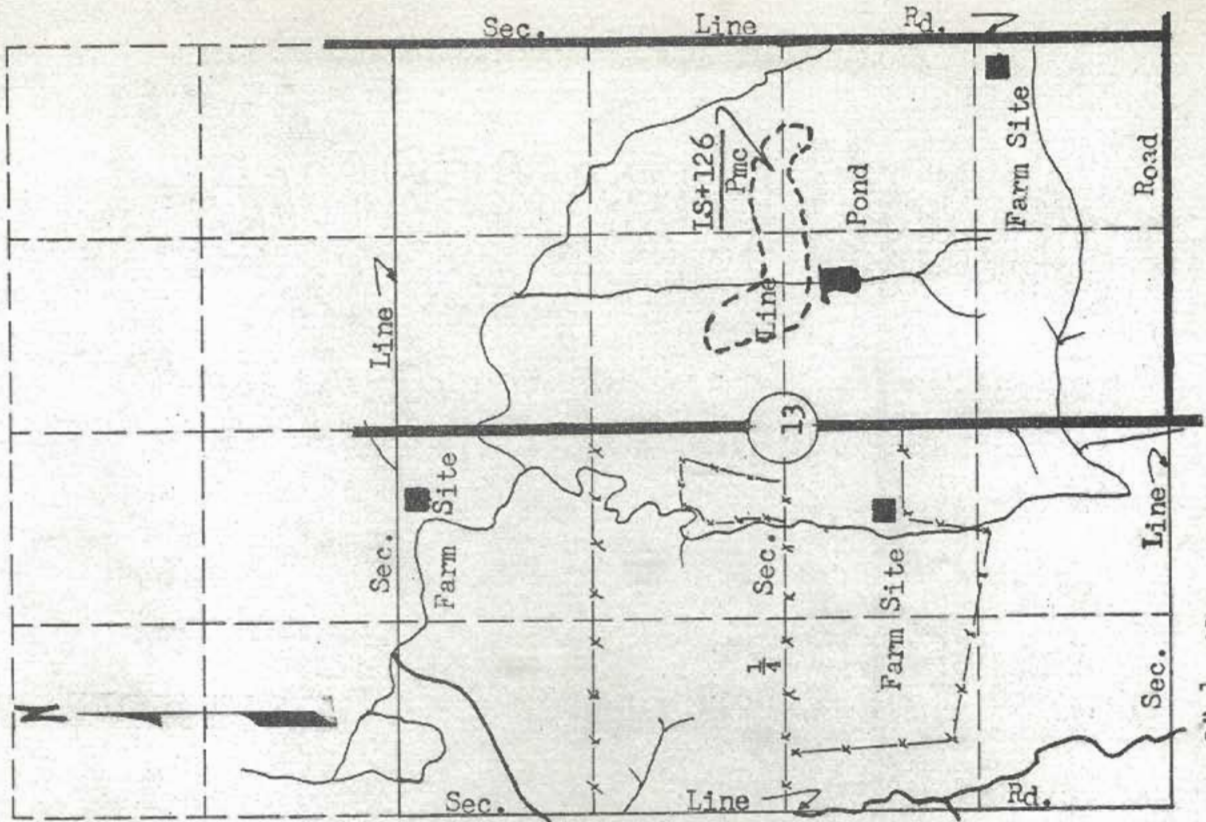
Site No. IS+126 Date June, 1965  
Pmc  
 Material Limestone County Marshall  
 Location E $\frac{1}{2}$  Sec. 13 Twp. 5S Range 8E  
 Owner Donald W. Sedlacek Frankfort, Kansas  
name address  
 Nature of Deposit Dry Accessibility Fair  
 Status of Site Propsective site; sampled

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.					
				1/2	3/4	3/8	4	8	16					30	50	100		

CORRELATION DATA

Geological Age Permian  
 Geological Source Cottonwood Limestone Members  
 Material Similar To Material reported on SHC form 619, # 58-15  
 Specific Gravity (Sat.) 2.48, 2.46 (Dry)  
 Los Angeles Near (A) 31.2, (A) 33.3  
 Absorption 3.72, 3.72 Soundness 0.72, 0.86  
 Wt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks \_\_\_\_\_



Scale: 1" = 1/4 mile



MATERIAL SURVEY REPORT

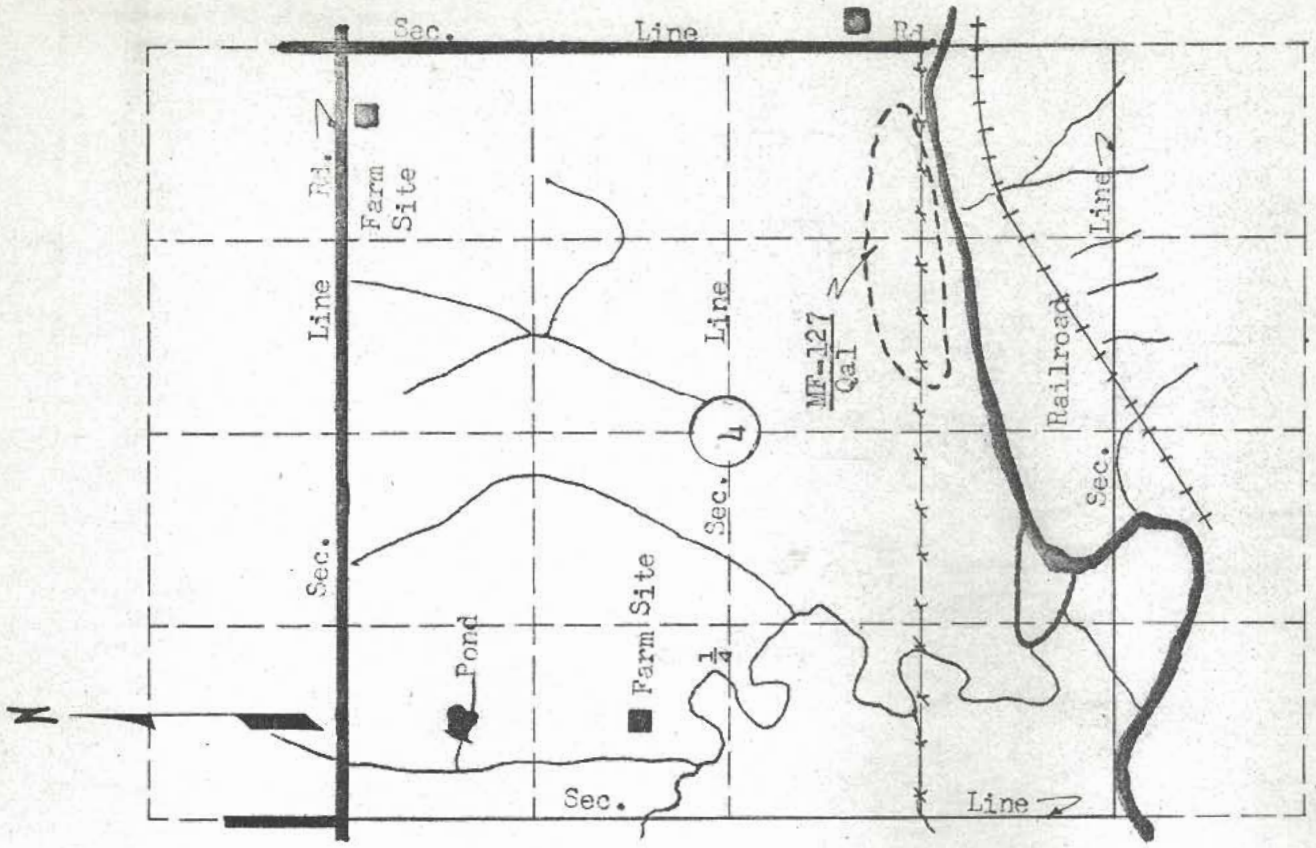
MF-127  
 Site No. Qal Date June, 1965  
 Material Mineral Filler County Marshall  
 Location SE 1/4 Sec. 4 Twp. 2S Range 7E  
 Owner Werner Seematter Marysville, Kansas  
 Nature of Deposit Dry Accessibility Fair  
 Status of Site Prospective site; sampled

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
30		0	61							0	5	92		26	4

CORRELATION DATA

Geological Age Quaternary  
 Geological Source Alluvium  
 Material Similar To Material reported on SHC form 619, # 58-30  
 Specific Gravity (Sat.) (Dry)  
 Los Angeles Wear \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Mt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks \_\_\_\_\_



Scale: 1" = 1/4 mile

MATERIAL SURVEY REPORT

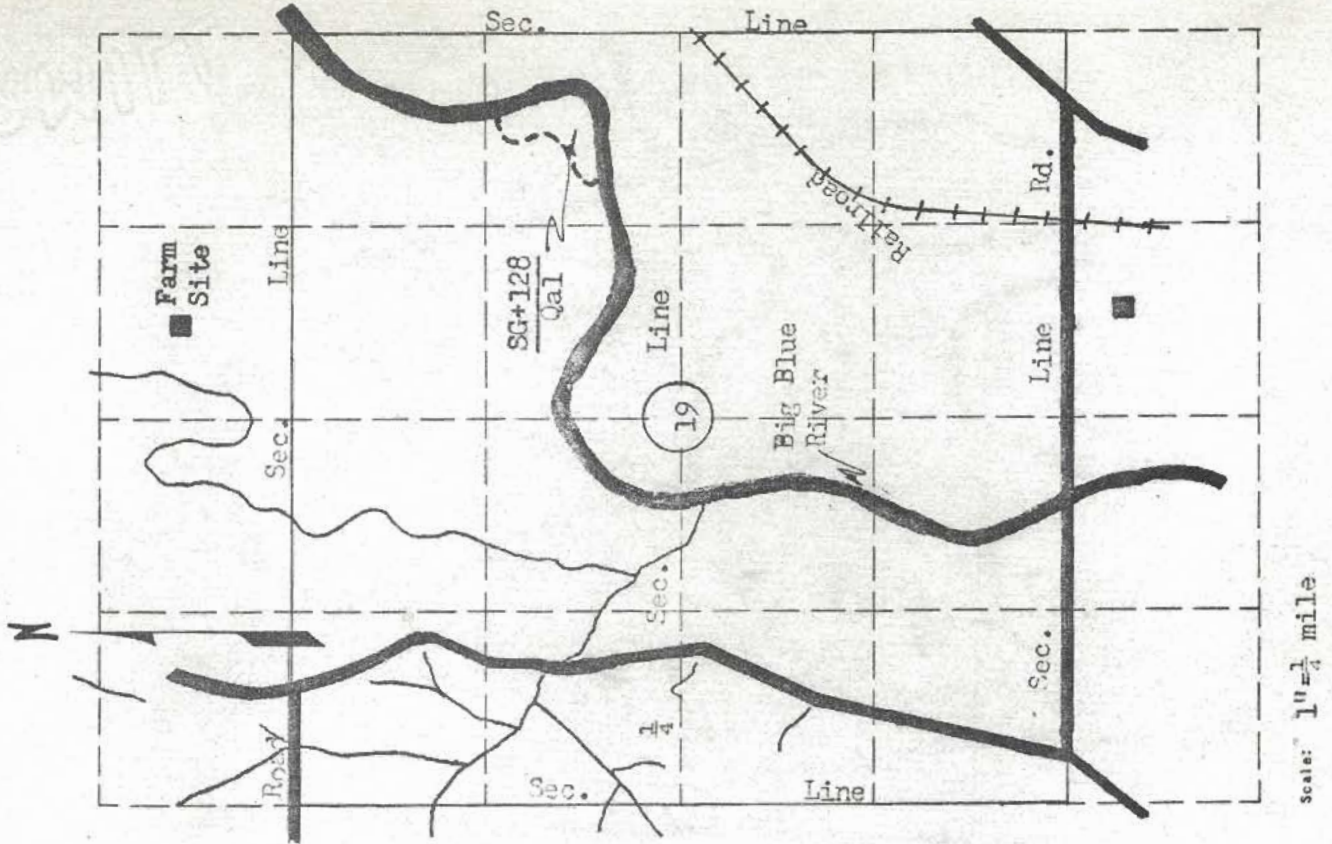
Site No. SG+128 Date June, 1965  
Qal  
 Material Sand and Gravel County Marshall  
 Location NE 1/4 Sec. 19 Twp. 3S Range 7E  
 Owner Emil Peeks Marysville, Kansas  
 name address  
 Nature of Deposit Wet Accessibility Poor  
 Status of Site Prospective site; sampled

EXPLORATION DATA

Test Hole	Material at Bottom of Hole	Depth of over-Burden	Depth of Material	Percent Retained								Weigh 200	S.F.	L.L.	P.I.	
				1 1/2	3/4	3/8	4	8	16	30	50					100
				0	4	8	17	69	89	98	100	.12	4.19			

CORRELATION DATA

Geological Age Quaternary  
 Geological Source Alluvium  
 Material similar to Material reported on SHC form 638, Lab. No. 29389  
 Specific Gravity (Sat.) 2.60 (dry)  
 Los Angeles Near (D) 38.4  
 Absorption 0.70 Soundness 0.99  
 Wt. Co.Ft. 113.27 Str. Ratio 1 day 1.38, 3 day 1.36  
 Remarks \_\_\_\_\_



MATERIAL SURVEY REPORT

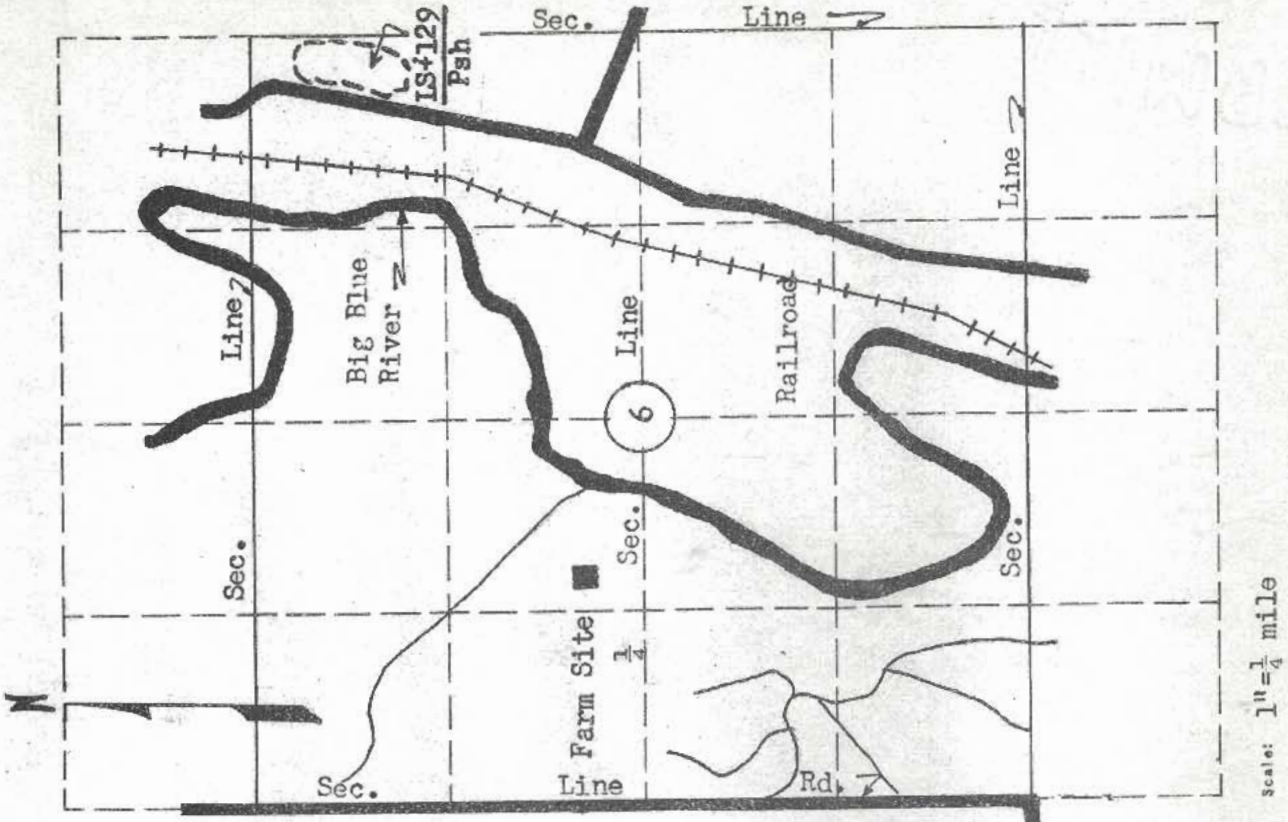
Site No. IS+129 Date June, 1965  
Psh  
 Material Limestone County Marshall  
 Location NE 1/4 Sec. 6 Twp. 4S Range 7E  
 Owner Kenneth M. Hill Blue Rapids, Kansas  
 name address  
 Nature of Deposit Dry Accessibility Fair  
 Status of Site Prospective site; not sampled

EXPLORATION DATA

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

CORRELATION DATA

Geological Age Permian  
 Geological Source "Havensville Reef" and Schroyer Limestone Member  
 Material Similar To \_\_\_\_\_  
 Specific Gravity (Set.) \_\_\_\_\_ (Dry)  
 Los Angeles Wear \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Wt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks \_\_\_\_\_



MATERIAL SURVEY REPORT

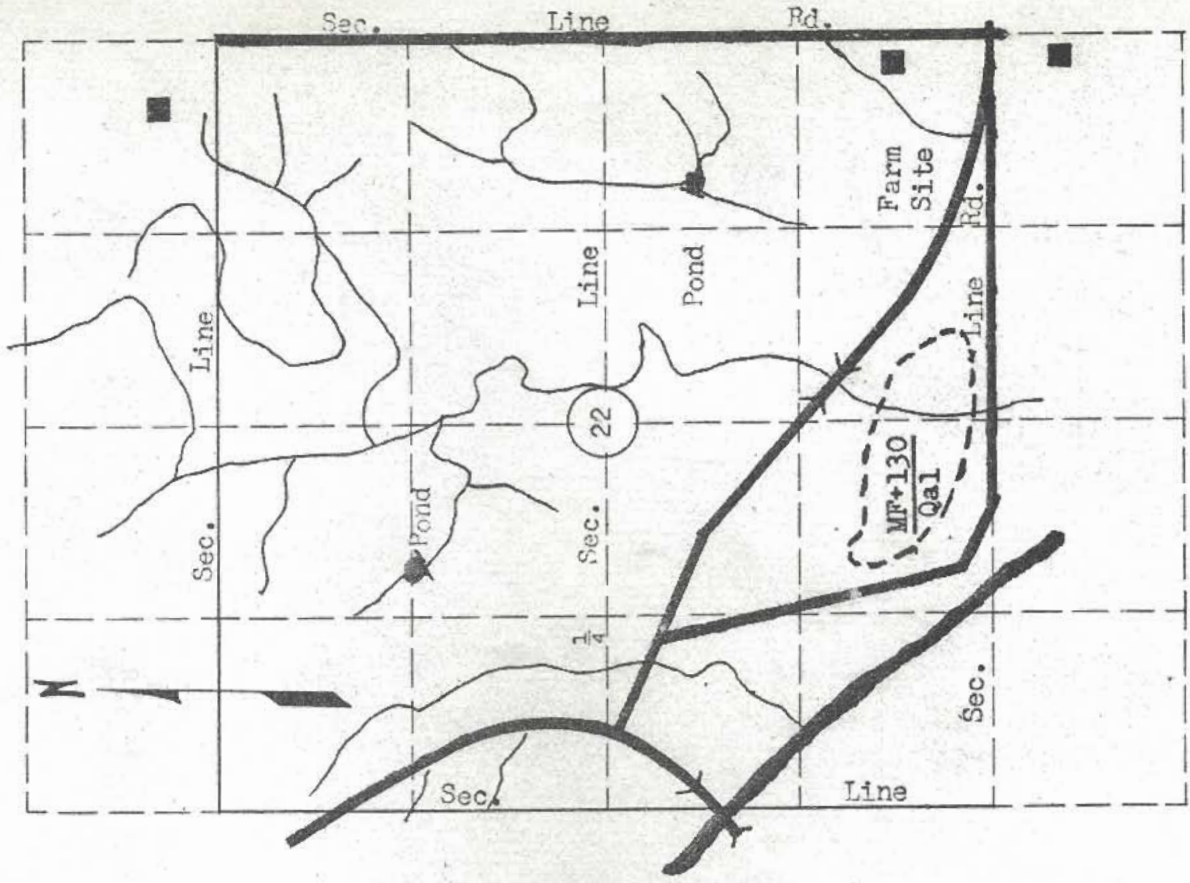
Site No. MF+130  
Qal  
 Material Mineral Filler  
 Location S 1/2 Sec. 22 Twp. 4S Range 7E  
 Owner John L. Berry Et. Al. Rt. 3 Blue Rapids, Kansas  
 Nature of Deposit Dry Accessibility Good  
 Status of Site Prospective site; sampled

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	3/4	16	30					50
1		0	3						2	21	53	15	2
1X		0	3						0	4	78	23	3
2		0	3						0	2	84	24	3
3		0	3						0	1	94	26	3
4		0	3						1	2	88	25	2

CORRELATION DATA

Geological Age Quaternary  
 Geological Source Alluvium  
 Material Similar to material reported on SHC form No. 58-29  
 Specific Gravity (Sat.) (dry)  
 Los Angeles Near \_\_\_\_\_  
 Absorption \_\_\_\_\_ Soundness \_\_\_\_\_  
 Wt. Cu.Ft. \_\_\_\_\_ Str. Ratio \_\_\_\_\_  
 Remarks \_\_\_\_\_



Scale: 1 1/4 mile

MATERIAL SURVEY REPORT

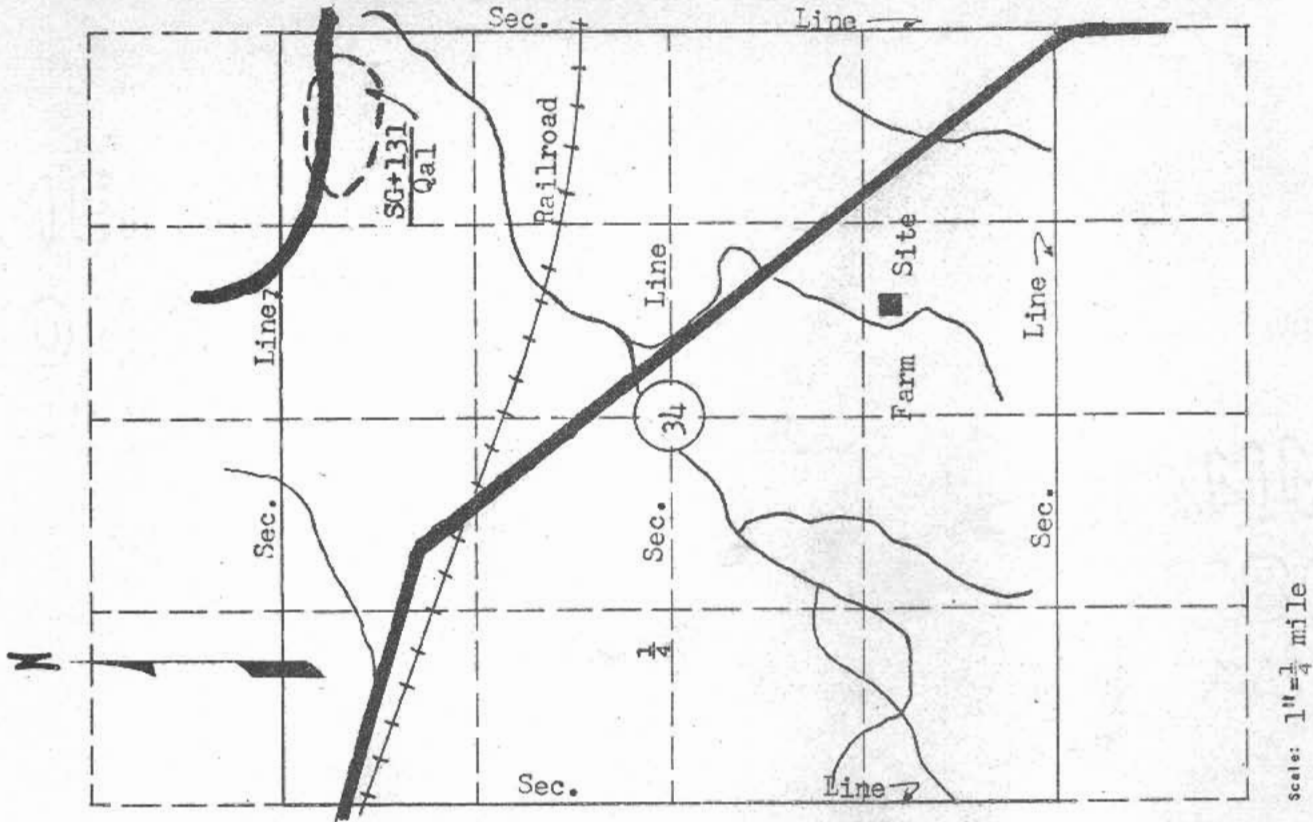
Site No. SG+131  
Qal Date June, 1965  
 Material Sand and Gravel County Marshall  
 Location NE 1/4 NE 1/4 Sec. 34 Twp. 4S Range 7E  
 Owner Kester H. Hammett Blue Rapids, Kansas  
 Nature of Deposit Wet Accessibility Poor  
 Status of Site Prospective site; sampled

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
			0	5	12	23	45	67	81	95	98	1.07	4.26			

CORRELATION DATA

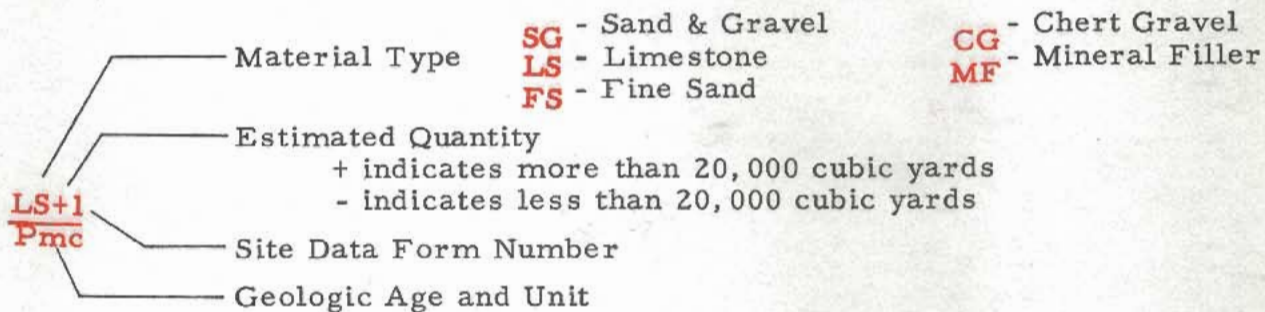
Geological Age Quaternary  
 Geological Source Alluvium  
 Material Similar to Material reported on SHC form 633, Lab No. 96881  
 Specific Gravity (sat.) 2.60 (dry) \_\_\_\_\_  
 Los Angeles Wear (C) 39.4  
 Absorption 0.60 Soundness 0.97  
 Wt. Cu.Ft. 110.4 Str. Ratio 1 day 1.59, 3 day 1.48  
 Remarks \_\_\_\_\_



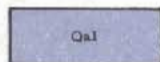
# MARSHALL COUNTY MATERIALS MAP LEGEND

## EXPLANATION OF MATERIALS SITE DESIGNATIONS

- Open site; not sampled (Appendix I)
- Open site; sampled (Appendix II)
- Prospective site; not sampled (Appendix III)
- ▼ Prospective site; sampled (Appendix IV)



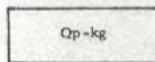
## EXPLANATION OF MAP SYMBOLS



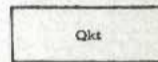
Alluvium



Grand Island Formation



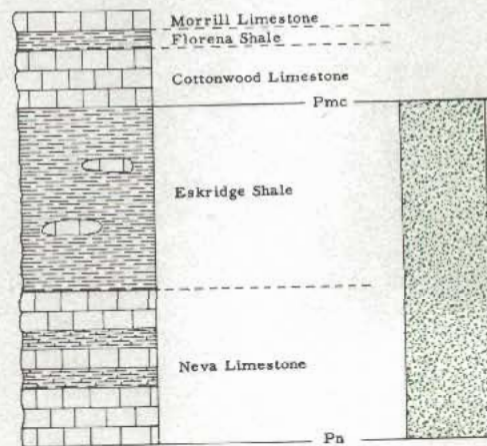
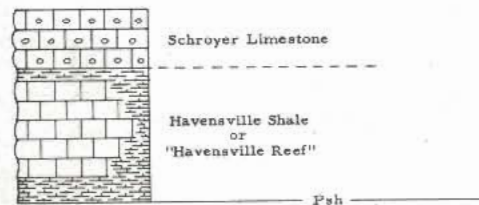
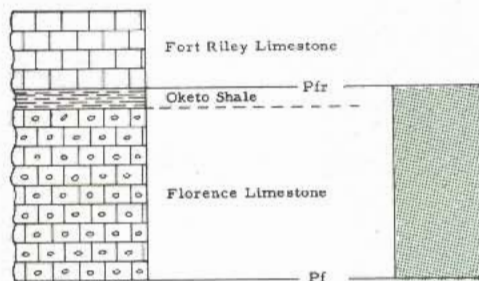
Pre-Kansan Gravel  
(not mapped)



Kansan Till  
(not mapped)



dry lake subject to flood



NEBRASKA

GAGE

COUNTY

COUNTY

WASHINGTON

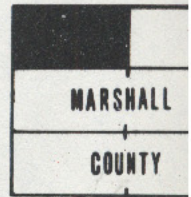
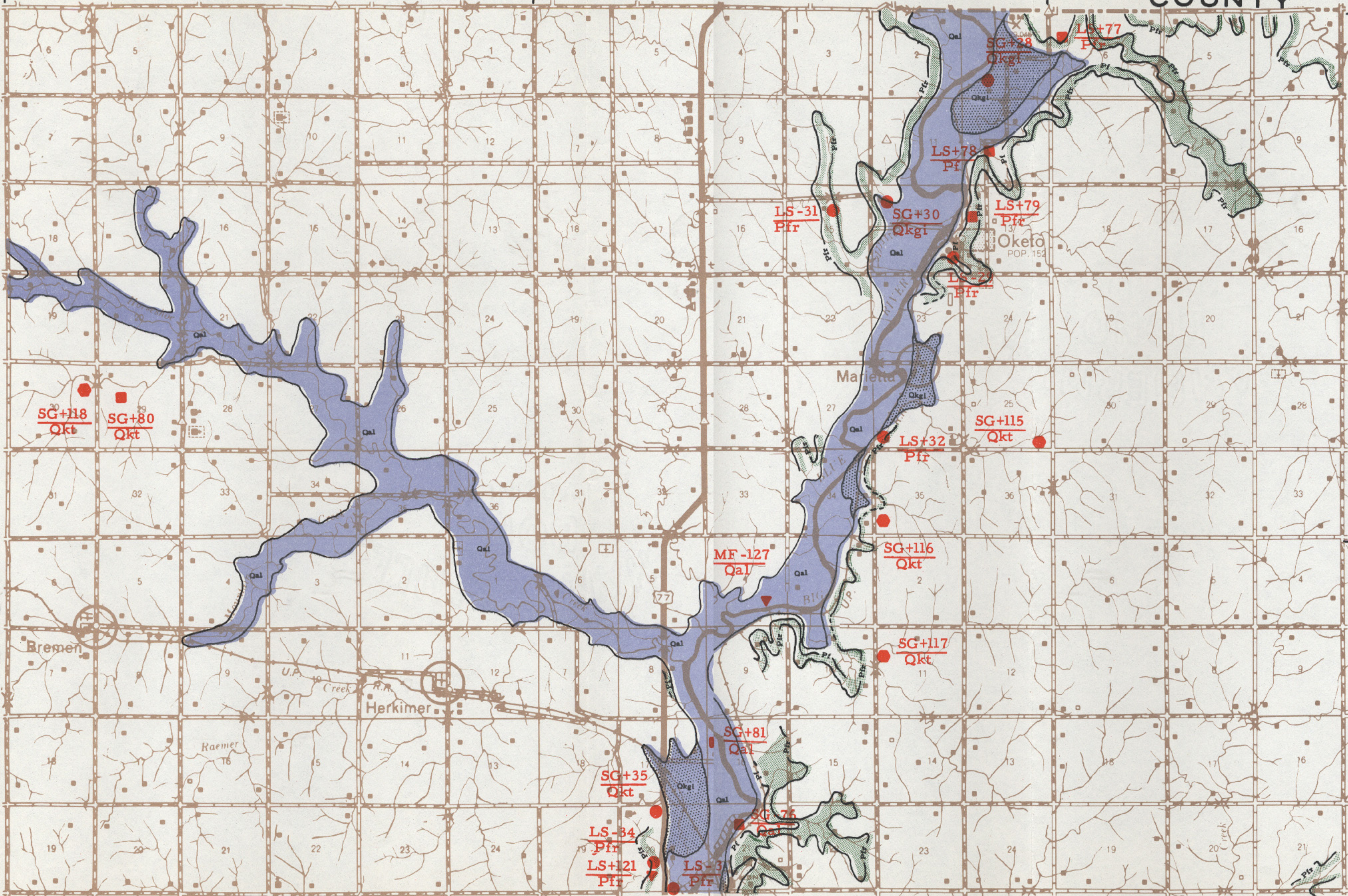
R 6 E

R 6 E  
R 7 E

R 7 E  
R 8 E

T 1 S

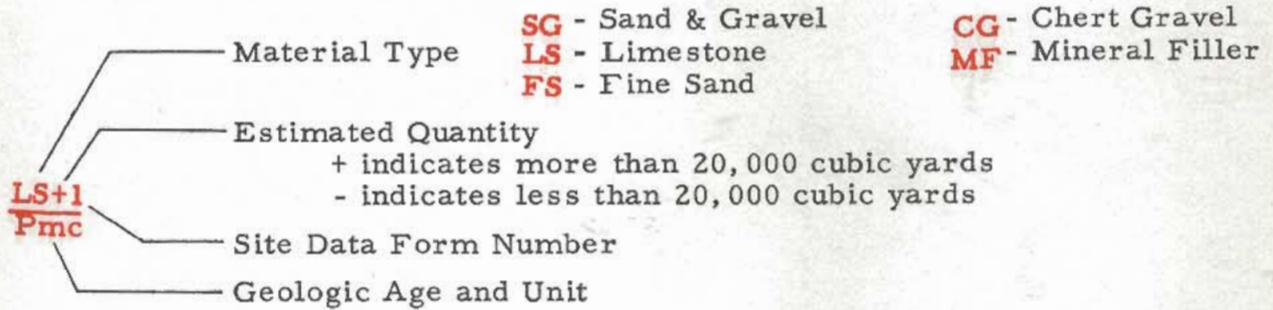
T 1 S  
T 2 S



# MARSHALL COUNTY MATERIALS MAP LEGEND

## EXPLANATION OF MATERIALS SITE DESIGNATIONS

- Open site; not sampled (Appendix I)
- Open site; sampled (Appendix II)
- Prospective site; not sampled (Appendix III)
- ▼ Prospective site; sampled (Appendix IV)



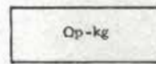
## EXPLANATION OF MAP SYMBOLS



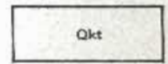
Alluvium



Grand Island Formation



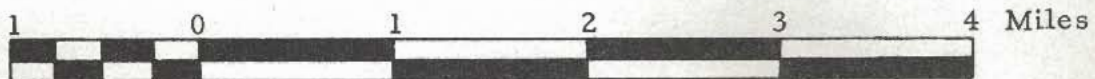
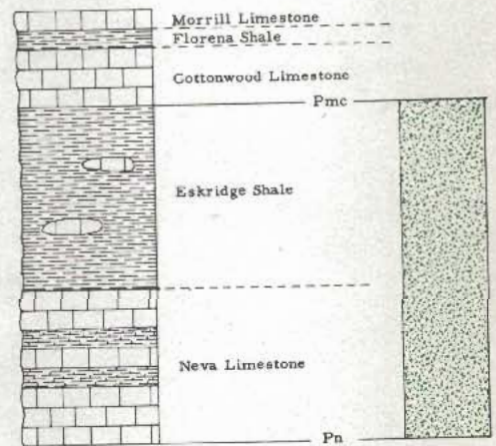
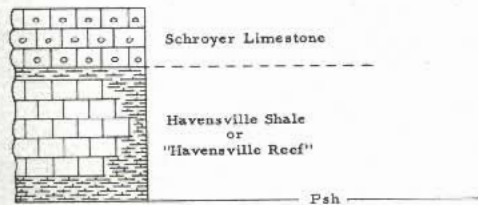
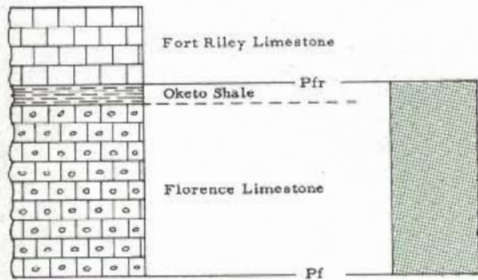
Pre-Kansan Gravel  
(not mapped)



Kansan Till  
(not mapped)

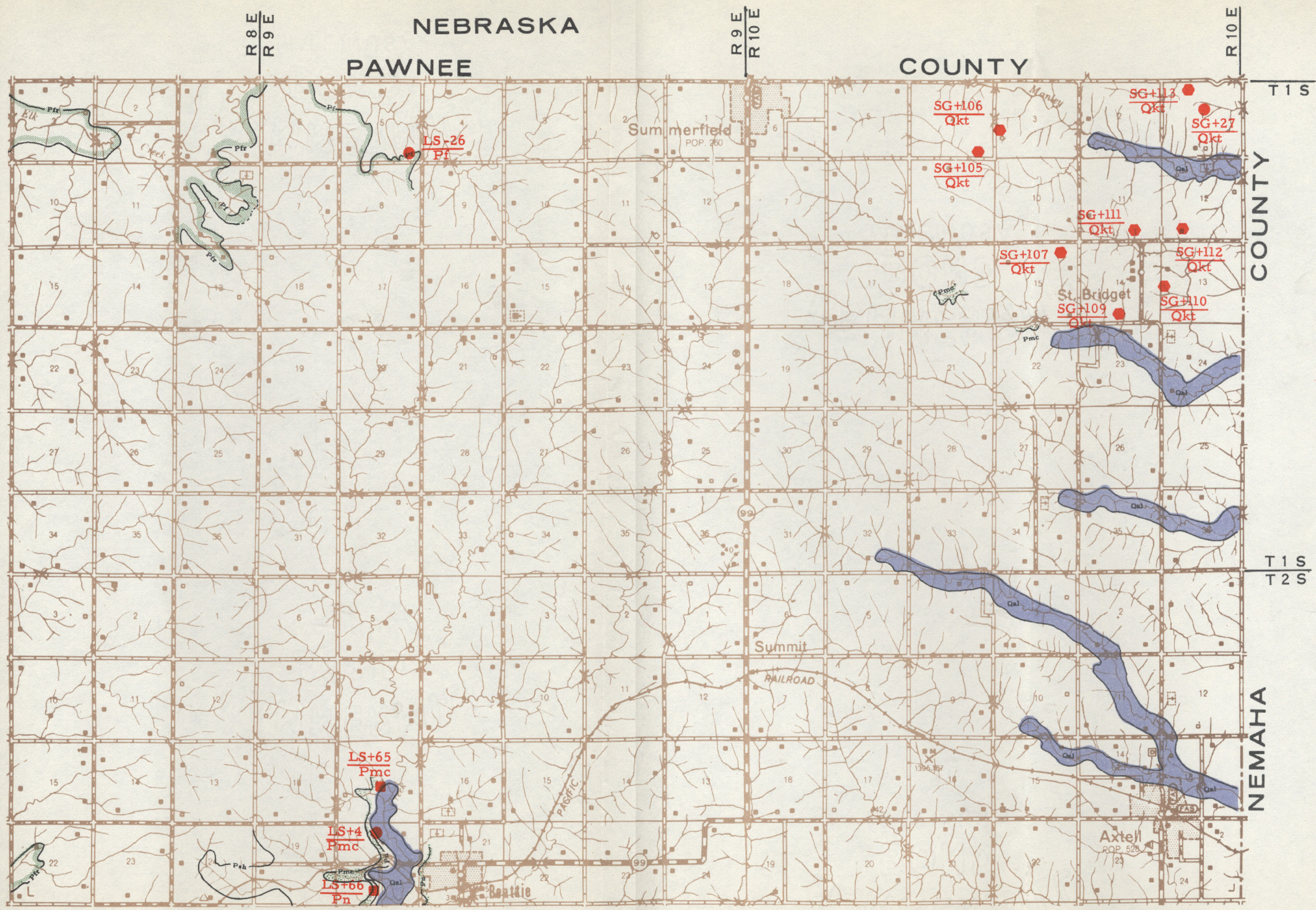


dry lake subject to flood





NEBRASKA  
PAWNEE COUNTY



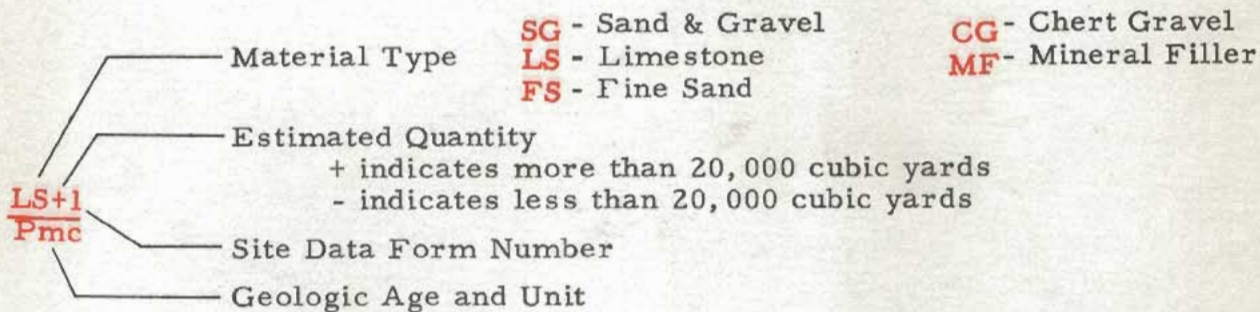
T 1 S  
T 1 S  
T 2 S  
COUNTY  
NEMAHA

WARS
CO

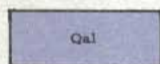
# MARSHALL COUNTY MATERIALS MAP LEGEND

## EXPLANATION OF MATERIALS SITE DESIGNATIONS

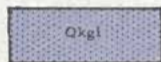
- Open site; not sampled (Appendix I)
- Open site; sampled (Appendix II)
- Prospective site; not sampled (Appendix III)
- ▼ Prospective site; sampled (Appendix IV)



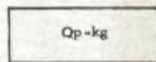
## EXPLANATION OF MAP SYMBOLS



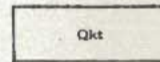
Alluvium



Grand Island Formation



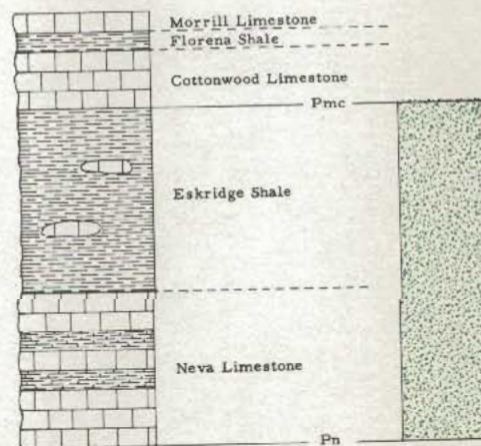
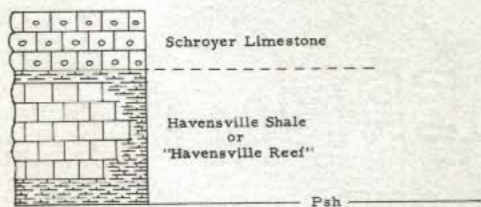
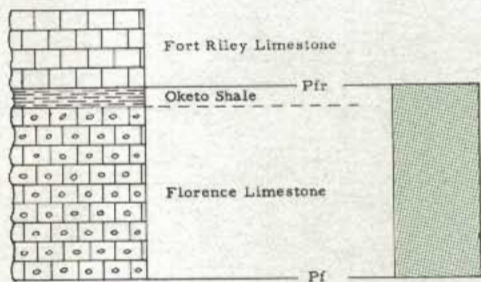
Pre-Kansan Gravel  
(not mapped)



Kansan Till  
(not mapped)



dry lake subject to flood



COUNTY

WASHINGTON

R 6 E

R 6 E  
R 7 E

R 7 E  
R 8 E

T 2 S  
T 3 S

T 3 S  
T 4 S

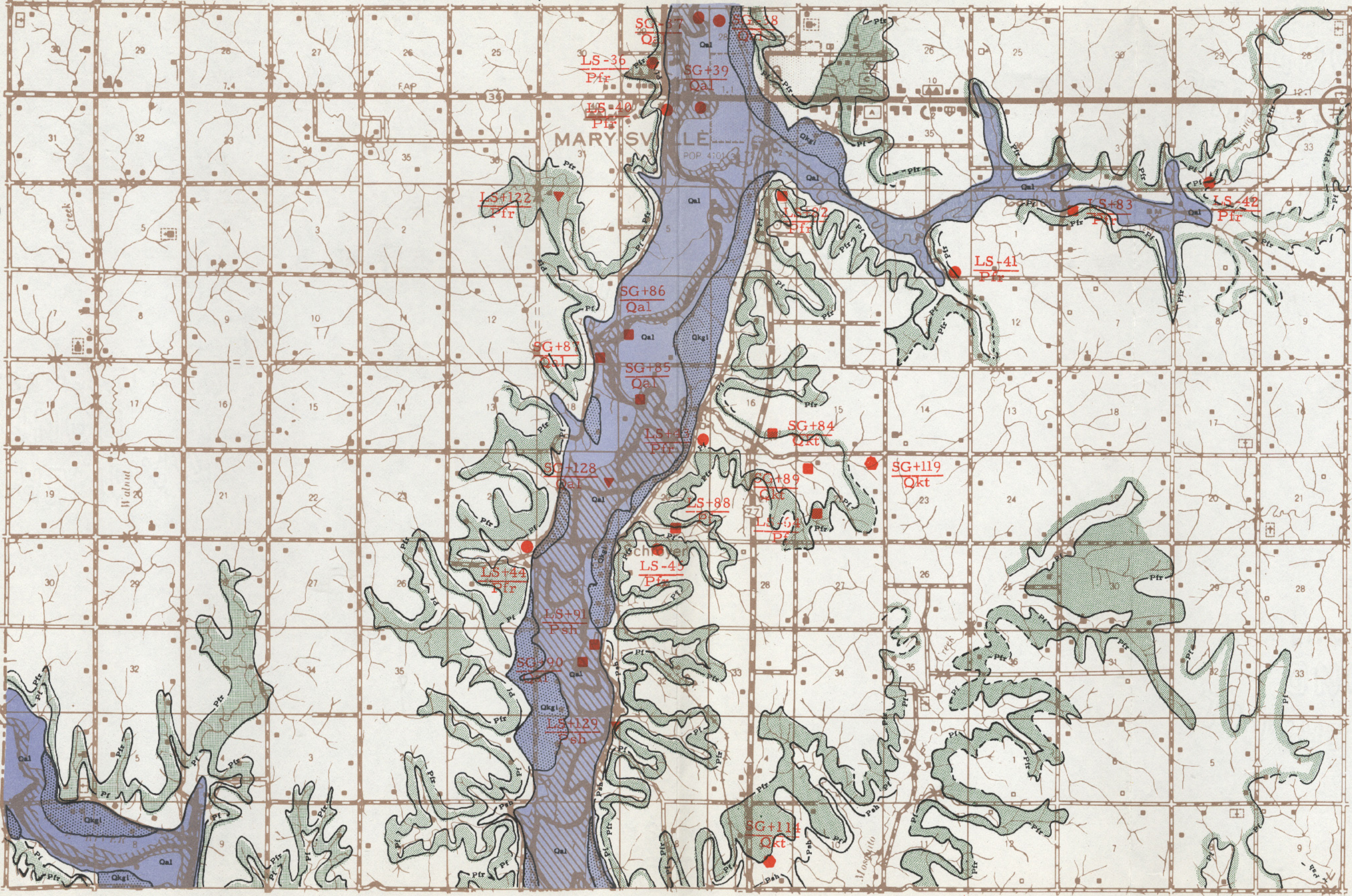
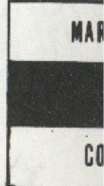
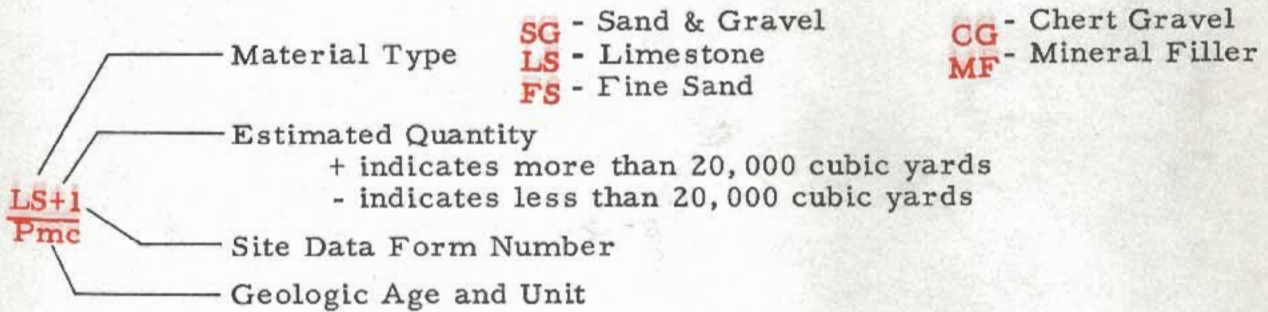


PLATE III

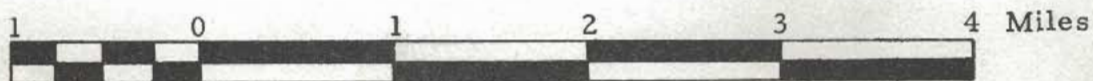
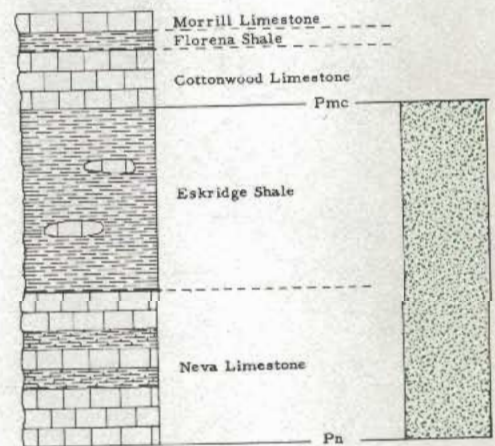
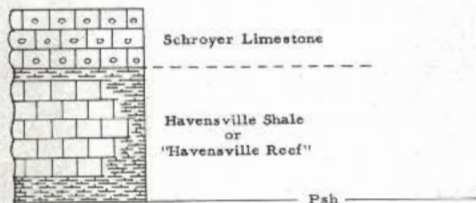
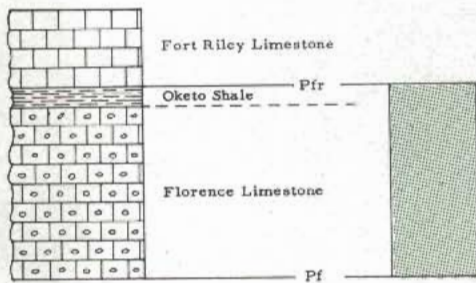
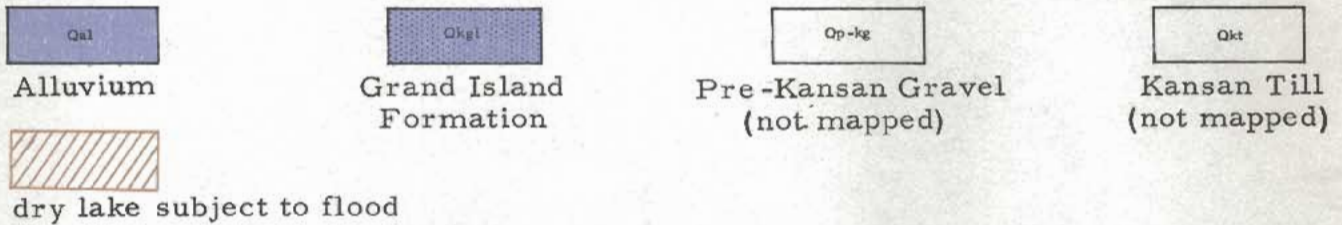
# MARSHALL COUNTY MATERIALS MAP LEGEND

## EXPLANATION OF MATERIALS SITE DESIGNATIONS

- Open site; not sampled (Appendix I)
- Open site; sampled (Appendix II)
- Prospective site; not sampled (Appendix III)
- ▼ Prospective site; sampled (Appendix IV)



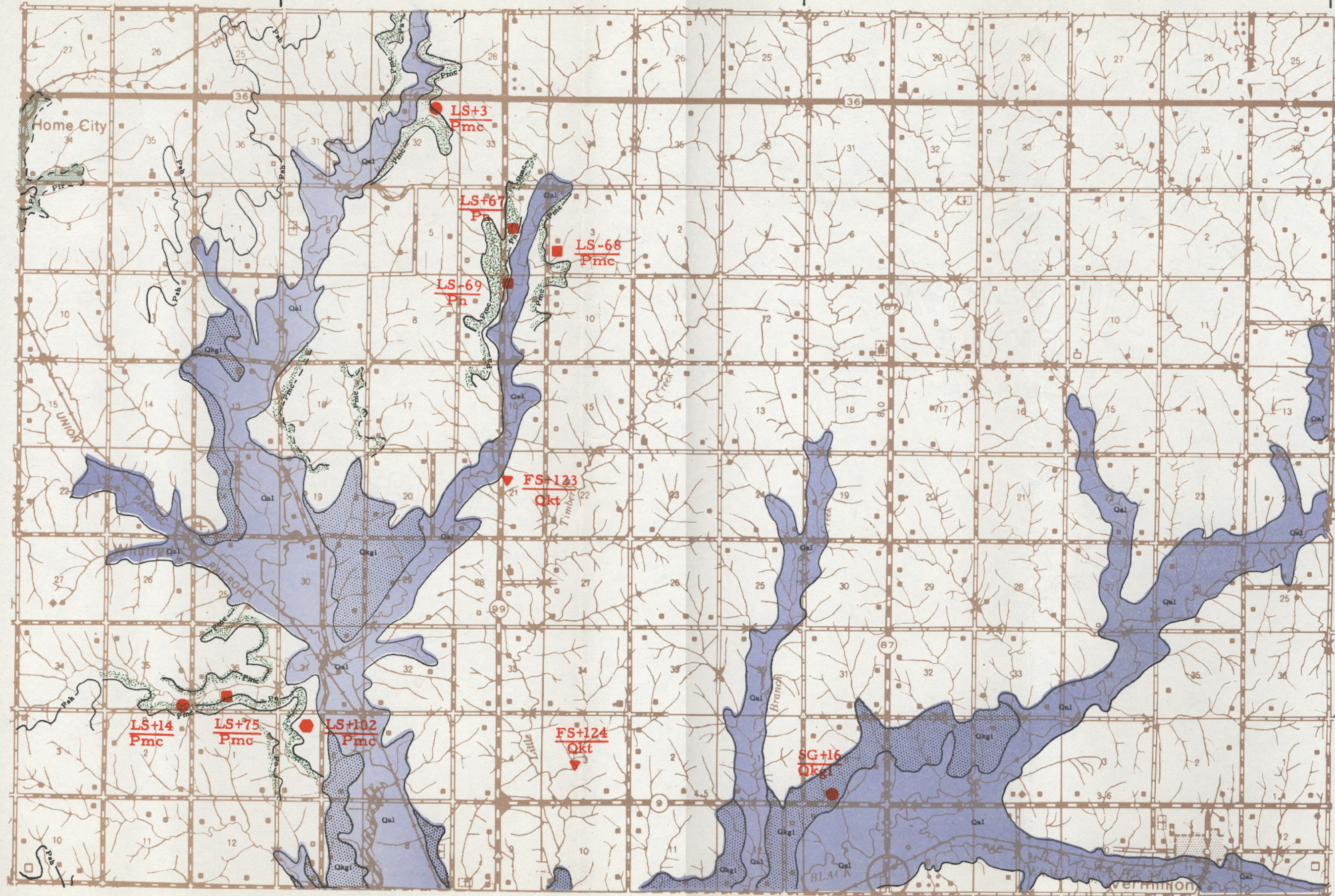
## EXPLANATION OF MAP SYMBOLS



R 8 E  
R 9 E

R 9 E  
R 10 E

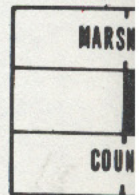
R 10 E



T 2 S  
T 3 S

NEMAHA COUNTY

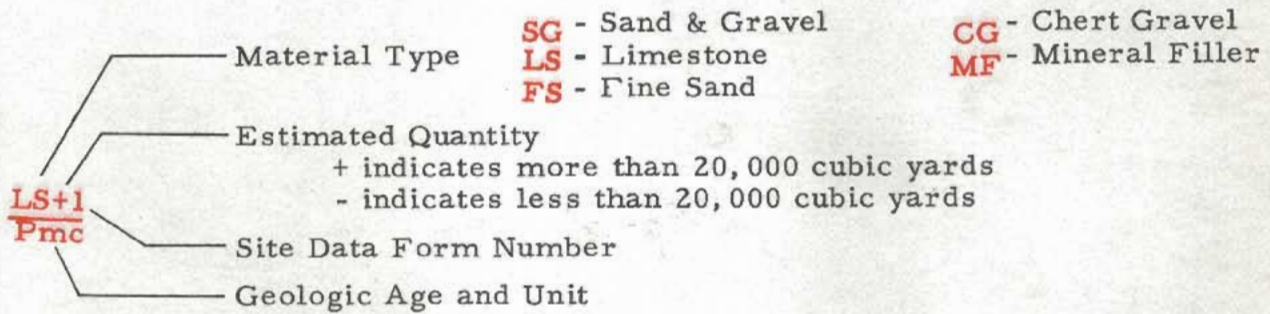
T 3 S  
T 4 S



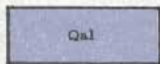
# MARSHALL COUNTY MATERIALS MAP LEGEND

## EXPLANATION OF MATERIALS SITE DESIGNATIONS

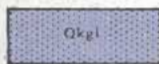
- Open site; not sampled (Appendix I)
- Open site; sampled (Appendix II)
- Prospective site; not sampled (Appendix III)
- ▼ Prospective site; sampled (Appendix IV)



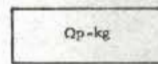
## EXPLANATION OF MAP SYMBOLS



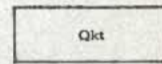
Alluvium



Grand Island Formation



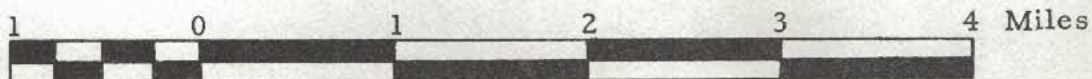
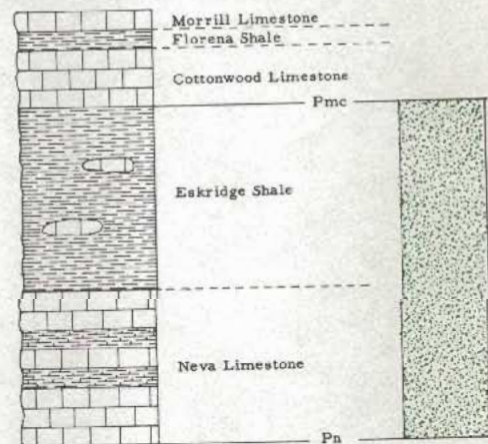
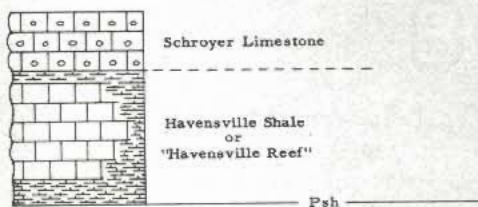
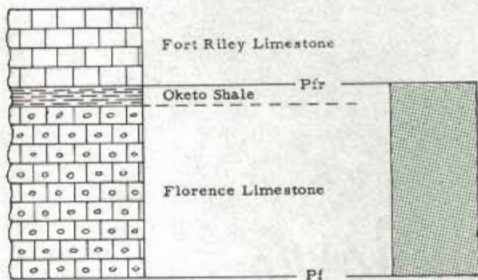
Pre-Kansan Gravel  
(not mapped)

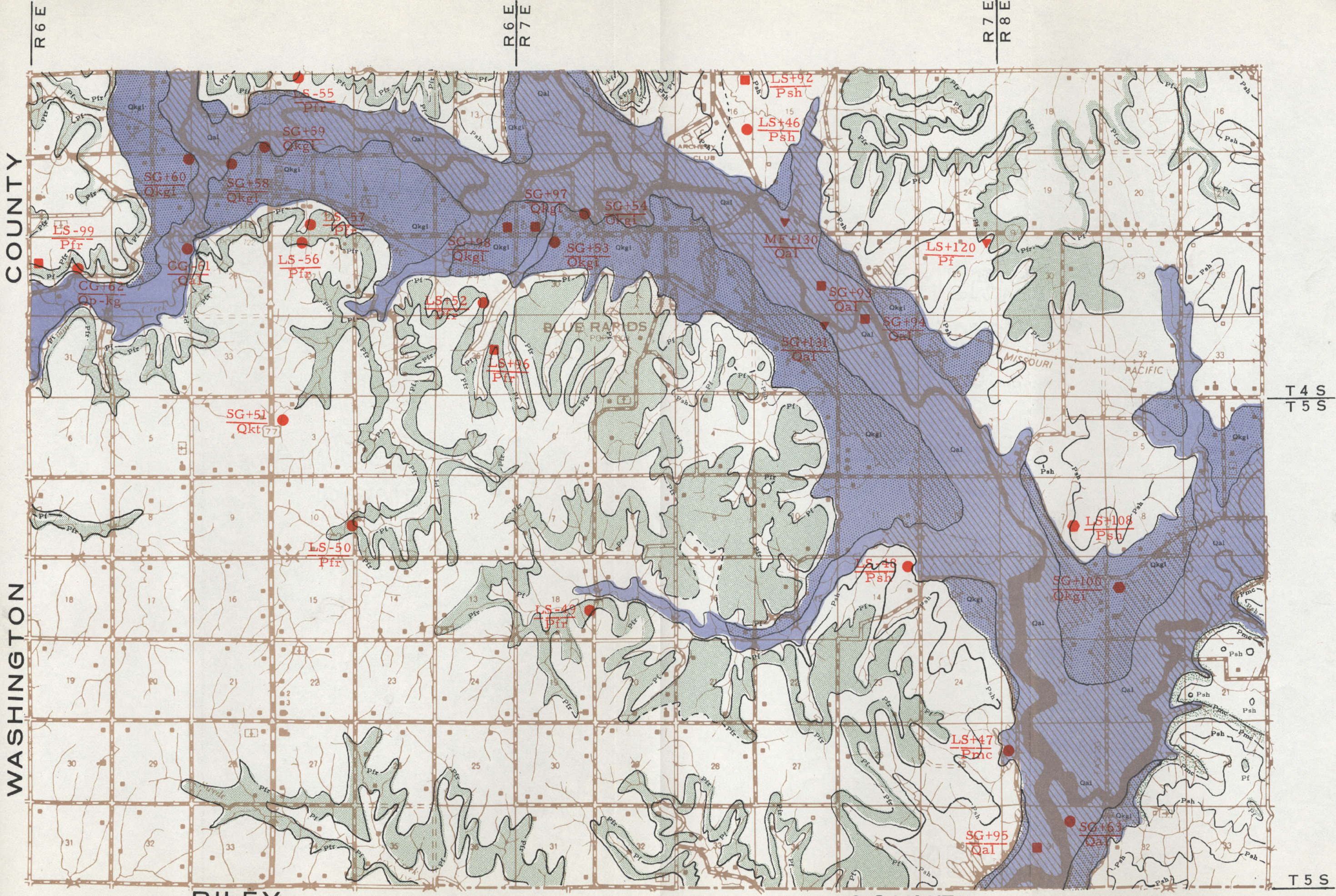


Kansan Till  
(not mapped)



dry lake subject to flood





COUNTY

WASHINGTON

RILEY

COUNTY

PLATE V

R 6 E

R 7 E

R 8 E

T 4 S  
T 5 S

T 5 S

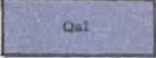
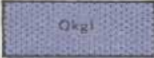
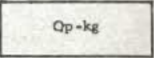
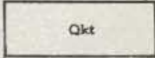

MARS  
COU

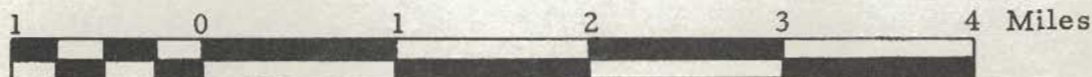
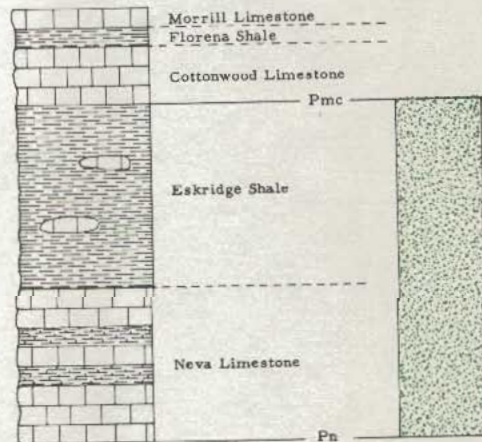
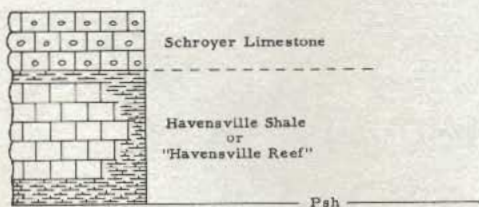
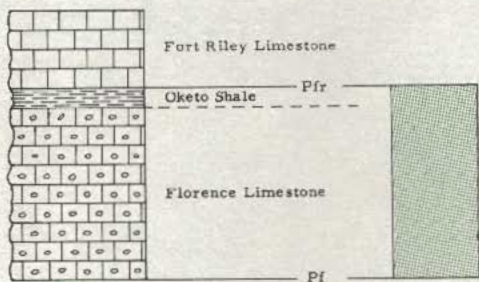
# MARSHALL COUNTY MATERIALS MAP LEGEND

## EXPLANATION OF MATERIALS SITE DESIGNATIONS

- Open site; not sampled (Appendix I)
  - Open site; sampled (Appendix II)
  - Prospective site; not sampled (Appendix III)
  - ▼ Prospective site; sampled (Appendix IV)
- 
- |                                   |                       |                           |                            |
|-----------------------------------|-----------------------|---------------------------|----------------------------|
| <p><b>LS+1</b><br/><b>Pmc</b></p> | Material Type         | <b>SG</b> - Sand & Gravel | <b>CG</b> - Chert Gravel   |
|                                   | Estimated Quantity    | <b>LS</b> - Limestone     | <b>MF</b> - Mineral Filler |
|                                   |                       | <b>FS</b> - Fine Sand     |                            |
|                                   | Site Data Form Number |                           |                            |
| Geologic Age and Unit             |                       |                           |                            |
- + indicates more than 20,000 cubic yards  
- indicates less than 20,000 cubic yards

## EXPLANATION OF MAP SYMBOLS

- |  |  |  |   |
|--|--|--|---|
| <br><b>Qal</b><br>Alluvium     | <br><b>Qkg</b><br>Grand Island Formation | <br><b>Qp-kg</b><br>Pre-Kansan Gravel<br>(not mapped) | <br><b>Qkt</b><br>Kansan Till<br>(not mapped) |
| <br>dry lake subject to flood |  |  |   |





R 8 E  
R 9 E

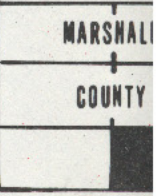
R 9 E  
R 10 E

R 10 E

COUNTY

T 4 S  
T 5 S

NEMAHA



T 5 S

POTTAWATOMIE

COUNTY

PLATE VI

