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Retrieval Guide

Kentucky Soils Data System

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16. Abstract <p>The Kentucky Soils Data System is an extensive data file of the physical properties and characteristics of soils as determined by field and laboratory testing. Site locations are available for most samples. Since Kentucky has been mapped geologically (scale 1:24,000), the bedrock at each of these sample locations can be determined, providing better opportunities for studying soil-bedrock (parent material) relationships. A complimentary report covers data input. This report is divided into two sections: data availability and data retrieval. The first section is designed to show the quantity and types of data available and how the data are distributed geographically. The second section consists of example problems showing how the data may be retrieved in the form of various lists or tables.</p>					
17. Key Words Soil data file Soil-Bedrock relationships Data availability Data retrieval			18. Distribution Statement		
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Introduction

The Kentucky Soils Data System is a system of information storage intended for use in design and research. It contains information relating to soil and rock (parent material) properties and characteristics. The storage format has been previously presented in a complimentary report (1) covering input procedures. This report covers data retrieval.

The first section of this report, DATA AVAILABILITY, consists of a series of tables showing the quantity and types of data currently available through the Kentucky Soils Data System and how the data are distributed geographically. The second section, DATA RETRIEVAL, consists of examples showing how these data can be retrieved in the form of various lists or tables.

Data Availability

The Kentucky Soils Data System, as of May 1980, contained information on 5,183 samples of soil or mechanically degraded rock (shale) from 3,155 holes. Engineering classification tests were performed on these samples, generally as part of a site investigation program to facilitate construction of various engineering structures. These data have been stored so that information derived from testing can be used on a continuing basis. Since data have been collected from numerous sources, test results for many samples are incomplete; reporting agencies did not always perform all of the tests that can be recorded in this data file. The number of samples containing test results for specific gravity determinations, for example, will be less than the total number of samples stored in the file. The tables (see summary) presented in this section group data into numerous categories as an aid for determining the amounts of various types of data currently available and how the data are distributed geographically.

1. Pfalzer, W. J.; Input Guide; Kentucky Soils Data System, Research Report 550, Division of Research, Kentucky Department of Transportation, August 1980.

Summary of Data Presented in Tables 1-6.

TABLE NUMBER	TABLE NAME	FIRST ORDER OF DIVISION	SECOND ORDER OF DIVISION	ITEMS TABULATED
1	DATA AVAILABILITY BY COUNTY	COUNTY (A/N)		NUMBER OF HOLES NUMBER OF SAMPLES
2	DATA AVAILABILITY BY TYPE OF TEST	COUNTY (A/N)		SAMPLES WITH ATTERBERG LIMITS CALIFORNIA BEARING RATIOS SPECIFIC GRAVITIES PROCTOR DENSITIES SLAKING DURIBILITY INDICIES CLAY MINERALOGIES
3	PHYSIOGRAPHIC REGION	PHYSIOGRAPHIC REGION (A)	COUNTY (A/N)	HOLES SAMPLES
4	GEOLOGIC QUADRANGLE DATA	GEOLOGIC QUAD (N)	COUNTY (A/N)	HOLES SAMPLES
5	PARENT MATERIAL OR BEDROCK	BEDROCK (A) (C)		HOLES SAMPLES
6	SOIL SERIES	SOIL SERIES (A)	BEDROCK (A)	HOLES SAMPLES

(A) Alphabetical order
 (C) Chronological order
 (N) Numerical order
 (A/N) Items are listed alphabetically and then numbered.
 Only the numbers are used in the table.

Table 1. Data Availability by County.

For each county (alpha/numerical), the number of holes and number of samples of available test results are listed. This table is accompanied by a ranking of counties with the most available data and by Kentucky maps showing the counties that illustrate the number of holes and samples of data available for each county (Figure 1), counties with the most available data (Figure 2), and counties with little or no available data (Figure 3).

SODS ACCUMULATIVE TOTALS				SODS ACCUMULATIVE TOTALS			
STATE	COUNTY	NUMBER OF HOLES	NUMBER OF SAMPLES	STATE	COUNTY	NUMBER OF HOLES	NUMBER OF SAMPLES
KENTUCKY	1	138	203		25	16	49
	2	34	57		27	38	47
	5	163	251		29	54	64
	6	20	83		30	8	21
	8	49	97		31	22	27
	9	3	4		34	58	144
	10	9	14		35	5	5
	11	6	12		37	3	7
	14	4	5		38	11	30
	15	35	38		39	1	2
	16	46	46		41	7	9
	17	23	68		42	1	3
	18	86	109		43	117	159
	19	83	136		44	10	21
	20	4	4		45	8	15
	21	64	122		47	57	113
	23	4	5		48	5	6
	24	272	370				

Table 1. Data Availability by County. (Continued)

STATE	SODS ACCUMULATIVE TOTALS			STATE	SODS ACCUMULATIVE TOTALS			
	COUNTY	NUMBER OF HOLES	NUMBER OF SAMPLES		COUNTY	NUMBER OF HOLES	NUMBER OF SAMPLES	
KENTUCKY	50	37	63		88	2	4	
	51	10	42		89	31	38	
	52	28	28		90	121	211	
	53	25	25		92	1	3	
	54	10	24		93	7	11	
	56	299	672		94	2	2	
	57	5	9		97	6	15	
	59	60	92		98	6	8	
	62	9	22		100	205	260	
	63	8	24		102	3	9	
	64	1	2		103	11	16	
	69	14	18		104	106	125	
	70	16	28		105	8	18	
	71	46	72		106	47	117	
	72	54	111		109	44	47	
	73	10	15		110	50	50	
	74	20	56		111	34	67	
	75	7	14		113	8	12	
	76	14	30		114	91	122	
	78	42	51		116	31	34	
	79	51	59		117	48	56	
	82	12	17		118	1	3	
	83	1	2		120	6	12	
	84	41	101		TENNESSEE	66	1	3
	85	64	91		WEST VIRGINIA	50	8	14

COUNTIES HAVING THE MOST DATA
CURRENTLY (7/9/80) AVAILABLE

HOLES	SAMPLES
296 JEFFERSON	672 JEFFERSON
271 CHRISTIAN	370 CHRISTIAN
205 PULASKI	260 PULASKI
163 BARREN	251 BARREN
138 ADAIR	211 NELSON
121 NELSON	203 ADAIR
117 GRAYSON	159 GRAYSON
106 RUSSELL	144 FAYETTE
91 WARREN	135 CAMPBELL
86 CALLOWAY	125 RUSSELL
82 CAMPBELL	122 CARROLL
64 CARROLL	122 WARREN
64 METCALFE	117 SHELBY
58 FAYETTE	113 HARDIN
58 KENTON	111 LYON
57 HARDIN	109 CALLOWAY
54 CUMBERLAND	101 MERCER
54 LYON	97 BOONE
51 MARSHALL	92 KENTON
50 TODD	91 METCALFE
48 WEBSTER	83 BATH
47 BOONE	72 LOGAN
47 SHELBY	68 CALDWELL
46 BUTLER	67 TRIGG
46 LOGAN	64 CUMBERLAND

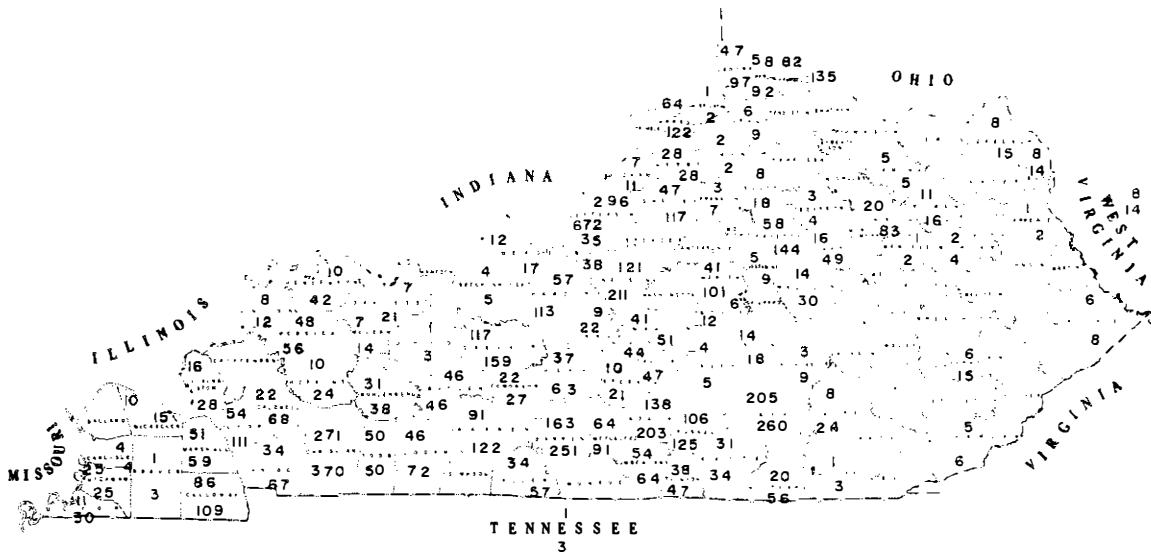


Figure 1. Number of holes (upper number) and samples (lower number) available (7/9/80) for each county.

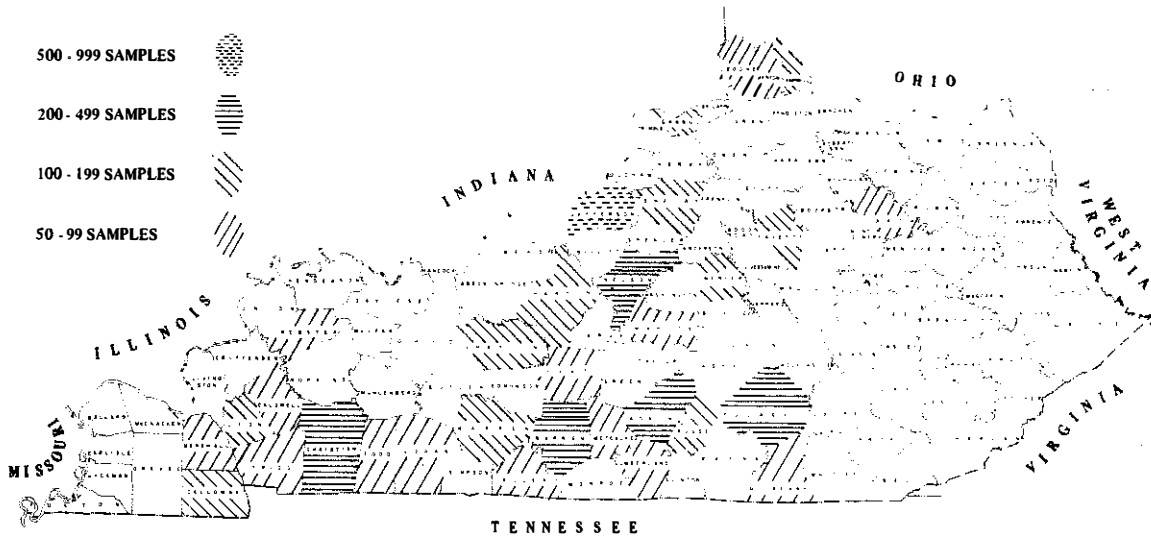


Figure 2. Counties with 50 or more samples of data available (7/9/80).

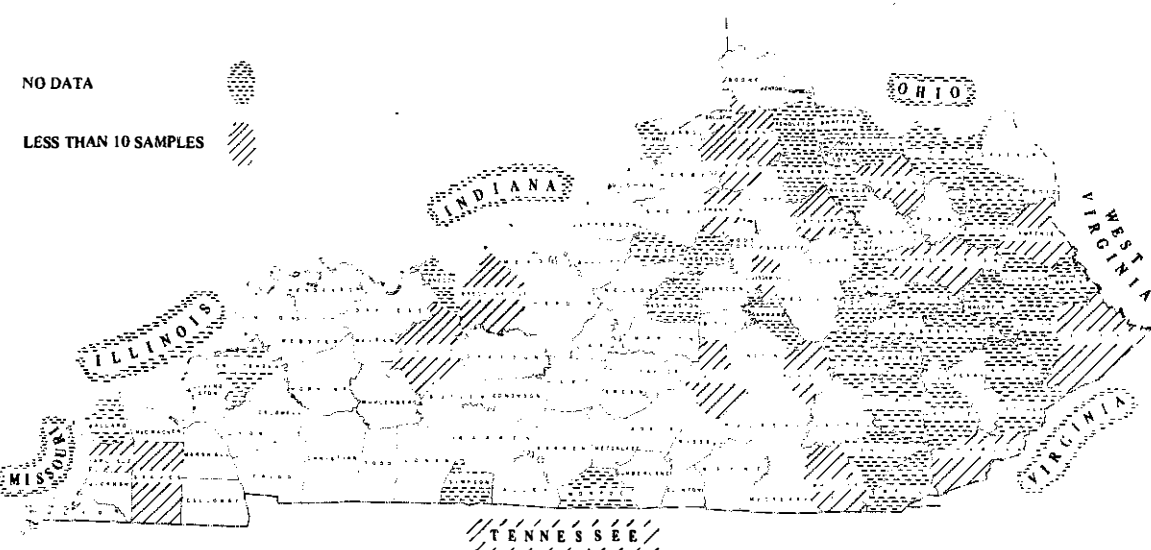


Figure 3. Counties with little or no data available (7/9/80).

Table 2. Data Availability by Type of Test.

For each county (alpha/numerical), the number of samples with Atterberg's limits, California Bearing Ratio, specific gravity, moisture-density data, gradation, slaking durability index, and clay mineralogy data are listed. All data are for Kentucky counties, except for the last two, which are from Tennessee and West Virginia, respectively.

COUNTY	TEST DATA AVAILABILITY						
	LIQUID LIMIT	CBR	SP. GR.	MOISTURE DENSITY	GRADATION	SDI	CLAY MINERALOGY
1	190	51	157	85	203	0	0
2	57	36	54	33	57	0	0
5	244	151	219	189	251	0	18
6	39	0	4	39	82	0	0
8	59	15	15	27	32	0	6
9	4	0	0	1	0	0	0
10	8	0	6	6	7	0	0
11	12	11	11	12	12	0	0
14	5	3	5	3	5	0	0
15	38	14	30	18	35	0	0
16	43	0	28	25	46	0	0
17	68	15	19	64	67	0	0
18	88	30	75	75	108	0	21
19	124	20	43	33	67	0	4
20	4	0	2	3	4	0	0
21	33	12	12	12	26	0	0
23	5	2	5	2	5	0	0
24	357	203	331	252	369	0	0
25	49	0	0	49	49	0	0
27	45	30	47	29	47	0	0
29	62	42	51	43	64	0	0
30	13	17	17	17	20	0	15
31	24	12	23	17	27	0	0
34	138	85	118	118	116	0	91
35	5	0	3	4	5	0	0
37	7	0	2	2	2	0	0
38	21	27	27	27	30	0	7
39	2	2	2	2	2	0	0
41	7	0	0	0	3	0	0
42	3	3	3	3	3	0	0
43	156	47	120	102	151	0	25
44	13	5	14	5	14	0	0
45	15	0	13	13	13	0	0
47	109	43	83	69	87	0	18
48	6	0	0	3	1	0	0
50	57	63	63	63	59	0	0
51	0	0	0	0	42	0	0
52	28	0	20	14	22	0	0
53	22	0	15	14	25	0	0
54	22	24	24	24	24	0	23
56	371	131	268	201	389	0	0
57	9	7	9	9	9	0	2
59	85	4	7	16	25	0	4
62	22	9	22	21	22	0	0
63	19	24	24	24	24	0	0
64	0	0	0	0	2	0	0
69	18	7	18	7	18	0	0
70	25	10	17	11	24	0	6
71	65	43	66	49	71	0	0
72	110	107	111	108	111	0	0
73	15	15	15	15	15	0	15
74	45	55	55	55	54	0	49
75	14	14	14	14	14	0	14
76	30	0	3	4	0	0	0
78	51	41	50	41	51	0	0
79	51	10	58	39	59	0	11
82	17	14	17	15	17	0	0
83	2	2	2	2	2	0	2
84	93	55	69	65	69	0	56
85	88	35	90	35	90	0	0
88	3	4	4	4	4	0	4
89	33	8	24	23	32	0	9
90	207	188	204	200	205	0	41
92	3	0	0	0	0	0	0
93	11	0	0	5	7	0	0
97	14	15	15	15	15	0	0
98	4	0	0	2	6	0	0

Table 2. Data Availability by Type of Test. (Continued)

COUNTY	TEST DATA AVAILABILITY						
	LIQUID LIMIT	CBR	SP. GR.	MOISTURE DENSITY	GRADATION	SDI	CLAY MINERALOGY
100	249	131	246	137	249	0	23
102	9	9	8	9	9	0	9
103	9	15	16	16	16	0	11
104	97	75	111	76	109	0	0
105	18	12	18	17	18	0	18
106	99	18	101	24	100	0	0
109	44	25	47	25	47	0	0
110	46	0	33	23	49	0	0
111	66	41	65	58	66	0	0
113	12	9	11	11	12	0	9
114	118	79	119	96	115	0	0
116	34	19	34	19	34	0	0
117	39	14	28	26	56	0	14
118	3	3	3	3	3	0	3
120	12	5	12	12	10	0	7
66	2	3	3	3	3	0	1
50	6	0	4	0	7	0	0

Table 3. Physiographic Regions.

The numbers of holes and samples in each county (alpha/numerical) for each physiographic region (alphabetical) are listed. The physiographic regions are:

- EC Eastern Coalfield
- IB Inner Bluegrass
- K Knobs
- MM Mississippian Plateaus -- Mammoth Cave Plateau
- MP Mississippian Plateaus -- Pennyroyal Plateau
- OB Outer Bluegrass
- P Purchase
- WC Western Coalfield

PHYSIO-GRAPHIC REGION	COUNTY	HOLES	SAMPLES	PHYSIO-GRAPHIC REGION	COUNTY	HOLES	SAMPLES	
EC	10	9	14	K	45	6	13	
	48	5	6		47	8	11	
	63	8	24		56	175	475	
	64	1	2		62	1	2	
	74	16	44		78	19	24	
	83	1	2		90	28	58	
	88	1	2		100	21	25	
	97	6	15		103	4	6	
	98	6	8		MM			
	100	16	31			5	1	2
	103	2	3			14	4	5
	118	1	3			17	10	33
	IB	9	3			4	24	73
25		2	5	31		3	3	
34		43	104	43	6	10		
37		3	7	50	15	26		
57		4	7	62	1	3		
84		32	78	70	2	2		
105		6	14	71	19	33		
120	6	12	74	4	12			
K	6	8	35	82	1	1		
	11	3	7	114	8	10		
	15	12	13	MP				
	29	17	17		1	135	194	
			2		25	42		
				5	154	238		

Table 3. Physiographic Regions. (Continued)

PHYSIO- GRAPHIC REGION	COUNTY	HOLES	SAMPLES	PHYSIO- GRAPHIC REGION	COUNTY	HOLES	SAMPLES	
MF	17	8	18	OB	52	6	6	
	24	84	133		56	118	186	
	27	38	47		57	1	2	
	29	36	46		59	56	85	
	31	5	10		69	14	18	
	44	7	14		76	14	30	
	47	49	102		78	15	16	
	50	22	37		84	9	23	
	62	7	17		90	89	149	
	70	2	6		93	7	11	
	71	16	28		100	3	4	
	72	54	111		105	2	4	
	78	8	11		106	43	108	
	82	11	16		P	18	9	32
	85	64	91			38	10	29
	88	1	2			42	1	3
	100	162	195			70	12	20
	102	3	9			73	10	15
	103	5	7			79	3	11
	104	75	86			66	1	3
	109	44	47			WC	17	2
111	34	67	24	22			24	
114	81	109	30	8			21	
116	31	34	43	28	66			
OB	6	10	38	45	2		2	
	8	49	97	51	4		21	
	11	3	5	54	10		24	
	15	23	25	75	7		14	
	19	81	134	89	8	15		
	21	32	56	92	1	3		
	23	4	5	113	5	9		
	25	13	40	114	2	3		
	34	15	40	117	6	14		
	39	1	2					
41	7	9						

Table 4. Geologic Quadrangle Data.

The numbers of holes and samples for each county (alphanumeric) for each geologic quadrangle (numerical) are listed.

GEO. QUAD	COUNTY	HOLES	SAMPLES	GEO. QUAD	COUNTY	HOLES	SAMPLES
170	103	2	3	193	14	4	5
171	63	2	6	194	114	1	2
	100	1	3	195	63	5	15
173	2	7	13	196	10	7	10
	5	5	6	202	63	1	3
177	27	27	35	203	18	5	20
	29	4	4	219	31	3	3
183	5	46	72	220	29	18	18
	31	5	10	225	114	1	2
184	2	13	23	228	100	17	24
186	1	1	3				
187	98	6	8				

Table 4. Geologic Quadrangle Data. (Continued)

GEO. QUAD	COUNTY	HOLES	SAMPLES	GEO. QUAD	COUNTY	HOLES	SAMPLES
230	79	3	11	349	5	2	7
233	1	34	52	352	2	5	6
234	114	13	15	357	114	2	3
235	114	36	50	361	69	9	12
237	114	26	32	367	1	1	3
249	1	28	43	369	1	16	25
251	5	1	2	372	42	1	3
252	54	3	9	376	24	1	1
255	72	13	29	383	104	40	49
260	74	7	17	385	17	4	7
263	47	7	11		72	7	20
270	38	1	4	389	97	2	5
274	74	2	6	393	100	13	15
275	71	2	4		104	27	28
279	111	9	13	394	103	1	2
280	114	1	2	401	5	1	4
282	100	29	36	402	5	36	48
286	29	5	5	408	10	1	2
290	71	1	2	412	111	2	6
303	120	4	9	413	1	5	8
304	24	23	40		85	37	60
307	24	12	15	415	71	4	10
308	85	23	27	416	5	27	47
309	114	7	9	417	43	1	2
312	45	3	4	423	97	1	2
313	18	3	9	440	120	1	1
316	10	1	2	448	109	24	26
321	24	14	24	450	71	10	15
324	45	4	8	470	34	9	22
325	34	1	3	479	76	14	30
328	70	5	6	491	117	1	2
	72	28	45	498	18	1	3
337	1	50	60	505	90	1	2
	104	6	7	506	90	4	9
339	5	38	56	519	45	1	3
346	54	1	4	520	114	2	4

Table 4. Geologic Quadrangle Data. (Continued)

GEO. QUAD	COUNTY	HOLES	SAMPLES	GEO. QUAD	COUNTY	HOLES	SAMPLES
523	85	4	4	658	24	1	3
531	73	1	2	683	34	13	25
538	34	1	1	684	102	2	6
540	24	7	8	685	102	1	3
549	71	5	9	688	92	1	3
556	24	30	45	707	37	3	7
557	73	9	12		120	1	2
558	5	3	4	709	24	2	5
	50	13	22	710	17	6	18
559	47	22	43		111	16	25
560	62	1	3	714	71	3	5
564	47	7	10	717	25	2	8
	62	1	2		34	6	17
	90	4	12	722	111	3	10
565	24	26	34	731	70	11	22
568	71	4	9	736	114	2	3
569	71	6	7	737	90	35	45
570	30	2	4	740	15	17	17
572	24	3	6	742	17	3	10
573	54	3	5	749	62	3	8
577	73	1	1	751	30	2	5
583	34	2	4	753	111	1	3
600	34	10	25	760	84	8	24
601	38	2	8	764	25	2	5
602	47	2	4		34	2	6
603	15	7	8	765	89	1	2
	90	3	5	767	34	3	7
604	24	4	5		57	1	2
	111	2	6	777	54	1	2
605	105	1	2		117	2	4
608	72	6	17	779	8	14	22
	111	1	4	780	82	4	5
617	118	1	3	785	8	10	14
644	34	6	17		59	8	10
645	47	3	7	792	57	1	2
651	24	21	50	802	100	50	57
653	34	5	14		104	2	2
	105	3	7	803	29	10	14
657	29	16	22	824	15	11	13
					90	7	7
					100	1	1

Table 4. Geologic Quadrangle Data. (Continued)

GEO. QUAD	COUNTY	HOLES	SAMPLES	GEO. QUAD	COUNTY	HOLES	SAMPLES
825	90 100	28 1	49 2	1032	17	6	20
834	44	3	9	1034	90	4	10
839	30	1	3	1038	30	2	6
843	57	1	1	1043	90	14	26
847	57 84	2 8	4 21	1046	75	2	4
862	59	1	2	1055	50	14	24
867	74	2	6	1057	116	9	10
874	38	2	5	1058	74 100	4 3	12 10
889	48	5	6	1072	19 59	79 5	127 5
890	30	1	3	1079	84	1	3
906	56 100	22 1	33 1	1080	41	3	4
907	89	2	3	1087	51	1	4
909	100	45	53	1090	51	1	6
916	23	4	5	1101	90	17	37
926	19	2	7	1102	100	16	16
929	8	6	30	1123	21 39	19 1	33 2
934	89	1	3	1135	84	5	14
944	38	5	12	1136	51	1	6
944	66	1	3	1159	25	3	7
945	84	1	3	1162	9 34	3 1	4 3
947	6 88 103	1 2 4	5 4 6	1181	78 109	13 20	17 21
955	8 59	3 42	3 68	1185	11 94	1 3	2 6
961	56 78	47 3	64 3	1196	100	22	34
962	56	27	41	1202	56	91	312
985	11 84	2 3	3 8	1203	56	27	39
990	82	1	2	1211	56	16	69
999	56	46	81	1212	103	1	1
1000	50 62	10 1	17 2	1215	51	1	5
1020	84	12	22	1223	100 116	3 13	3 14
1025	8	16	28	1225	90	1	2
1031	89	3	6	1235	25	7	22
				1236	6 103	1 1	5 1

Table 4. Geologic Quadrangle Data. (Continued)

GEO. QUAD	COUNTY	HOLES	SAMPLES	GEO. QUAD	COUNTY	HOLES	SAMPLES
1238	117	2	6	1349	106	1	3
1239	75	4	8	1352	44	4	5
1242	6	3	9	1361	24	33	37
1245	25	1	3	1365	24	2	4
1252	78	1	1	1375	43	6	11
1258	106	4	7		47	16	38
1269	113	3	5		82	4	4
1273	113	1	3	1389	106	2	5
1279	90	1	3	1390	83	1	2
1281	21	13	23	1406	6	5	23
1282	56	1	1	1419	6	3	10
1283	17	1	3	1426	105	2	4
1293	117	1	1	1431	52	6	6
1306	54	2	4	1445	89	1	1
	75	1	2	1449	97	2	5
1311	41	4	5	1461	106	36	93
1314	113	1	1	1462	64	1	2
1316	43	4	6	1472	43	15	39
1318	27	11	12	1475	43	7	16
1319	116	9	10	1476	97	1	3
1321	56	16	21	1481	82	3	6
1326	74	1	3	1482	43	1	2
1328	105	2	5	1494	11	3	7
1332	6	3	15	1496	74	4	12
1334	6	2	6	1499	103	2	3
1342	93	7	11	1508	78	6	7
				1509	62	3	7
					78	19	23

Table 5. Parent Material or Bedrock.

The numbers of holes and samples of soils considered to be derived from various bedrock types are listed for various geologic intervals (chronological). An abbreviated listing for relatively large geologic intervals is presented first. Detailed alphabetical and chronological listings follow. In the detailed listings where more than one bedrock type is listed, the bedrock listed first is considered to be the most likely parent material. The second bedrock is regarded as a possible parent material. The abbreviated and detailed listings are for samples located by latitude and longitude. The parent material for samples that have not been precisely located is unknown.

ABBREVIATED LISTING		
SAMPLES	HOLES	BEDROCK
933	409	QUATERNARY
0	0	PEORIA LOESS, ROXANNA SILT
57	20	LOESS, CONTINENTAL DEPOSITS
0	0	JACKSON, CLAIRBOURNE, WILCOX, COASTAL PLAIN DEPOSITS
0	0	PORTERS CREEK
30	12	CLAYTON, MCNAIRY, EUTAW, TUSCALOOSA
10	3	STURGIS
2	1	MONONGAHELA, CONEMAUGH
10	4	CARBONDALE
0	0	ALLEGHENY
116	60	TRADEWATER, CASEYVILLE
130	56	LEE, BREATHITT, HIGNITE, CATRON, MINGO, HANCE
28	15	BANGOR, HARTSELLE, PENNINGTON
65	50	MONTEAGLE, NEWMAN
37	27	KINKAID, DEGONIA, CLORE, PALESTINE, MENARD, WALTERSBURG, VIENNA, TAR SPRINGS
124	76	LEITCHFIELD, BUFFALO WALLOW
58	38	GLEN DEAN, HARDINSBURG, GOLCONDA, CYPRESS, ELWREN, PAINT CREEK, REELSVILLE, SAMPLE, BETHEL, BEAVER BEND, MOORETOWN, PAOLI, GIRKIN

Table 5. Parent Material or Bedrock; Abbreviated Listing. (Continued)

SAMPLES	HOLES	BEDROCK
1295	845	STE GENEVIEVE, ST LOUIS, SALEM, WARSAW, HARRODSBURG
371	255	BORDEN, FORT PAYNE
0	0	SUNBURY, BEDFORD, BERIA
102	60	NEW ALBANY
1	1	SELLERSBURG, JEFFERSONVILLE, BOYLE
195	136	LOUISVILLE, WALDRON, LAUREL, OSGOOD, BISHOP, CRAB ORCHARD
2	2	BRASSFIELD
313	172	DRAKES, ASHLOCK, BULL FORK
363	199	GRANT LAKE, FAIRVIEW, CALLOWAY CREEK, KOPE, GARRARD, CLAYS FERRY, CUMBERLAND, LIEPERS
211	91	LEXINGTON
17	6	TYRONE, OREGON, CAMP NELSON

DETAILED ALPHABETICAL LISTING

BEDROCK	HOLES	SAMPLES	BEDROCK	HOLES	SAMPLES
BEDROCK UNKNOWN	9	17	BRASSFIELD-SALUDA	1	1
ALLUVIUM	161	279	BREATHITT	27	71
ALLUVIUM-ARTIF. FILL	4	8	BREATHITT-ROCKCASTLE	2	6
ALLUVIUM-BREATHITT	4	6	BUFFALO WALLOW	1	2
ALLUVIUM-FT. PAYNE	2	3	BULLFORK	71	108
ALLUVIUM-GLACIAL DRF	3	4	BULLFORK-BELLEVUE	2	3
ALLUVIUM-GRIER	2	5	BULLFORK-GRANT LAKE	1	1
ALLUVIUM-KOPE	2	2	BULLFORK-KOPE	1	1
ALLUVIUM-LACUSTRINE	14	23	CAL. CRK-CLAYS FERRY	1	2
ALLUVIUM-LOESS	1	4	CALLOWAY CR.-GARRARD	5	9
ALLUVIUM-SALEM-WARSW	2	6	CALLOWAY CREEK	14	24
ALLUVIUM-ST. LOUIS	2	3	CALLOWAY CREEK-TATE	1	1
ALLUVIUM-STE. GEN.	1	1	CANE VALLEY	45	62
ALLUVIUM-STRUGIS	2	5	CANE VALLEY-ALLUVIUM	1	1
ALLUVIUM-TUSCALOOSA	1	1	CARBONDALE	3	7
ARTIFICIAL FILL	4	4	CARBONDALE-TRADEWATR	1	3
ARTIFICIAL FILL-CSVL	2	3	CARY-OUTWASH	1	3
ARTIFICIAL FILL-KOPE	3	3	CASEYVILLE	25	43
BARDSTOWN	8	12	CASEYVILLE-TRADEWATR	1	1
BARDSTOWN-ROWLAND	7	10	CHATANOOGA	1	2
BARDSTOWN-SALUDA	2	3	CHATANOOGA-ALLUVIUM	2	2
BEAVER BEND-PAOLI	3	5	CHATANOOGA-FT PAYNE	1	1
BEECH CREEK-REELSVIL	1	2	CLAYS FERRY	31	72
BEECHWOOD-NEW ALBANY	1	1	CLAYS FERRY-MILERSBG	1	3
BELLEVUE TONGUE	7	12	CLAYS FERRY-TNGWOOD	4	12
BELLEVUE-BULLFORK	1	1	CLAYTON-MCNAIRY	2	4
BELLEVUE-FAIRVIEW	9	16	CONEMAUGH	1	2
BETHEL	17	25	CONTINENTAL DEP-LOES	1	3
BETHEL-RENAULT	2	3	CONTINENTAL DEPOSITS	2	6
BIG CLIFTY	9	11	CONWAY CUT-ALLUVIUM	1	3
BIG CLIFTY-CASEYVILL	1	3	CORBIN-LEE	1	3
BIG CLIFTY-CYPRESS	1	2	COWBELL	1	2
BIG CLIFTY-GIRKIN	2	3	COWBELL-ALLUVIUM	1	2
BRANNON	3	5	COWBELL-NADA-REFRO	2	2
BRANNON-TANGLEWOOD	1	3	CRAB ORCHARD	2	6
BRASSFIELD	1	1	CUMBERLAND	7	7

Table 5. Parent Material or Bedrock; Detailed Alphabetical Listing. (Continued)

BEDROCK	HOLES	SAMPLES	BEDROCK	HOLES	SAMPLES
CUMBERLAND-CHATTANO	1	1	LOWER ASHLOCK	14	30
CURDSVILLE	3	9	LOWER ST. LOUIS	5	13
CURDSVILLE-LOGANA	1	3	LOWER ST. LOUIS-SALEM	19	38
CURDSVILLE-TYRONE	1	1	MENARD-CASEYVILLE	1	3
CYNTHIANA-PHOS. L.S.	2	6	MILLERSBURG	5	17
ESTILL	1	4	MILLERSBURG-CLAYS FE	3	8
FAIRVIEW	10	19	MILLERSBURG-DEVILS.H	1	2
FAIRVIEW-GRANT LAKE	1	4	MNTEAGLE-ST GEN-STLS	3	4
FAIRVIEW-KOPE	6	9	MNTEAGLE-STE GENEVUE	9	14
FORT PAYNE	115	158	MONONGAHELA CONEMAUG	1	2
FORT PAYNE-ALLUVIUM	5	5	MOORETOWN	1	1
FT PAYNE-CANE VALLEY	7	7	MULDRAUGH	11	13
FT PAYNE-CHATTANOOGA	1	1	MULDRAUGH-HALLS GAP	1	2
FT PAYNE-SALEM-WARSW	5	6	MULDRAUGH-HARRODSBG	1	1
GARRARD	2	7	MULDRAUGH-NANCY	1	1
GARRARD-CLAYS FERRY	3	5	MULDRAUGH-SALEM-WARS	6	8
GARRARD-KOPE	1	3	NADA	1	2
GILBERT	2	5	NANCY	4	16
GIRKIN	26	39	NANCY-CHATANOOGA	2	4
GIRKIN-BIG CLIFTY	2	3	NANCY-COWBELL	1	1
GIRKIN-STE GENEVIEVE	6	9	NANCY-HALLS GAP	1	3
GLACIAL DRIFT	2	6	NANCY-KENWOOD	2	2
GLACIAL OUTWASH	29	73	NANCY-MULDRAUGH	1	1
GLEN DEAN	2	3	NEW ALBANY	47	79
GLEN DEAN-HARDINSBUR	1	1	NEW ALBANY-ALLUVIUM	2	2
GRANT LAKE	35	73	NEW ALBANY-BEECHWOOD	2	6
GRANT LAKE UP MEMB	1	3	NEW ALBANY-LOESS	1	1
GRANT LAKE-ALLUVIUM	2	2	NEW ALBANY-LOUISVILL	2	2
GRANT LAKE-BULLFORK	2	2	NEW PROVIDENCE	20	36
GRANT LAKE-CALLOWAY	1	1	NEW PROVIDENCE-ALLU.	1	1
GRANT LAKE-GILBERT	1	2	NEW PROVIDENCE-LOESS	1	1
GRANT LAKE-ROWLAND	1	1	NEW PROVIDENCE-N.ALB	6	13
GRAVEL-UP ST. LOUIS	1	2	NEWMAN STE GEN-UPMEM	1	1
GRAVL-LOW ST LOU-SAL	1	2	NEWMAN UPMEM-STE GEN	4	4
GRIER	8	22	OHIO	2	7
GRIER-BRANNON	1	2	OSGOOD	6	9
GRIER-CURDSVILLE	8	19	OSGOOD-LAUREL	1	1
GRIER-TANGLEWOOD	2	3	OUTWASH	100	376
GRIER-TYRONE	1	2	OUTWASH-ALLUVIUM	1	1
HANEY	2	4	PAOLI	1	1
HANEY-BIG CLIFTY	1	1	PENNINGTON	9	18
HANEY-HARDINSBURG	1	1	PENNINGTON-NEWMAN	1	3
HARDINSBURG	14	23	FERRYVILLE	1	3
HARDINSBURG-HANEY	2	3	PREACHERSVILLE	1	3
HARRODSBURG	16	20	RENAULT	17	33
HARRODSBURG-MULDRAU.	2	2	RENFRO	3	3
HIGH LEVEL SILT&SAND	1	1	RENFRO-NADA	1	2
HIGH-LEVEL FLUVIAL	2	8	ROWLAND	37	83
KIDDER	8	10	ROWLAND-GRANT LAKE	1	3
KIDDER-STE GENEVIEVE	2	2	ROWLAND-PREACHERSVIL	1	3
KNIFLEY	14	16	SAL-WAR-CANE VALLEY	5	5
KNIFLEY-FT PAYNE	4	7	SAL-WAR-KNIFLEY	7	9
KOPE	23	34	SALEM	2	3
KOPE-ALLUVIUM	3	5	SALEM-SHALE MEMBER	1	1
KOPE-ARTIFICIAL FILL	2	5	SALEM-WARS-MULDRAUGH	1	1
KOPE-CALLOWAY CREEK	3	5	SALEM-WARSAW	159	210
KOPE-CLAYS FERRY	4	5	SALEM-WARSW-FT PAYNE	21	27
KOPE-FAIRVIEW	8	10	SALUDA	8	17
LACUSTRINE DEPOSITS	19	26	SALUDA-ALLUVIUM	1	1
LACUSTRINE-ALLUVIUM	4	13	SALUDA-BARDSTOWN	1	2
LACUSTRINE-FLUVIAL	4	12	SAMPLE	1	1
LAUREL	27	29	SAND	1	1
LAUREL-OSGOOD	6	10	SAND-OUTWASH	16	20
LAUREL-WALDRON	3	5	SELLERSBG-JEFFERSONV	27	49
LEE	14	24	SOMERSET	2	2
LEE (CORBIN SS)	4	12	ST LOUIS-SALEM-WARSW	37	55
LEE S.S. FACIES-BRTT	1	1	ST LOUIS-WARSAW	1	1
LEE SANDSTONE	2	6	ST. LOUIS	286	447
LEE-LEE SANDSTONE	2	5	ST. LOUIS (NEWMAN)	3	3
LEE-SHALE FACIES-SS	1	2	ST. LOUIS-ALLUVIUM	5	7
LEIPERS	2	2	STE GEN-UPPER ST LOU	20	37
LEIPERS-CUMBERLAND	2	2	STE GENEVIEVE-GIRKIN	1	1
LEITCHFIELD	2	3	STE GENEVIEVE-KIDDER	1	2
LEX.LS.-GRAN.PHOS.LS	2	3	STE GENEVIEVE-ST LOU	5	8
LOESS	14	39	STE. GENEVIEVE	199	316
LOESS-CONTINENTALDEP	1	3	STE. GENEVIEVE-ALLUV	1	2
LOESS-NEW ALBANY	2	3	STE. GENEVIEVE-PAOLI	4	6
LOESS-STURGIS	1	3	STE.GENEVIEVE (NEWMAN)	7	10
LOUISVILLE	66	97	STINGY CK.-GILBERT	1	2
LOUISVILLE-BEECHWOOD	3	3	STINGY CREEK-TATE	1	1
LOUISVILLE-LAUREL	1	1	STRODES CR.-MILLERSB	1	3
LOUISVILLE-WALD-LAUR	15	17	STURGIS	3	10
LOUISVILLE-WALDRON	2	2	TANGLEWOOD	31	68

Table 5. Parent Material or Bedrock; Detailed Alphabetical Listing. (Continued)

BEDROCK	HOLES	SAMPLES	BEDROCK	HOLES	SAMPLES
TANGLEWOOD UP TONGUE	1	3	TUSCALOOSA	6	19
TANGLEWOOD-BRANNON	2	5	TUSCALOOSA-LOESS	3	4
TANGLEWOOD-DEVILS.H.	2	5	TYRONE	6	17
TANGLEWOOD-GRIER	1	3	UPPER CRAB ORCHARD	2	8
TANGLEWOOD-MILLERSBG	5	8	UPPER MEMBER(NEWMAN)	4	6
TANGLEWOOD-SALVISA	3	6	UPPER ST, LOUIS	13	33
TARSPRINGS	16	19	WALDRON	5	7
TARSPRINGS-GLEN DEAN	3	5	WALDRON-LAUREL	3	3
TATE	4	5	WALDRON-LOUISVILLE	2	2
TATE-CALLOWAY CREEK	2	3	WALTERSBURG	1	2
TAZWELL-OUTWASH	1	3	WALTERSBURG-VIENNA	4	5
TERRACE DEPOSITS	15	24	WAR-LOW ST LOU-SALEM	1	2
TERRACE-LACUSTRINE	1	1	WARSAW	22	32
TNGWOOD FOSSIL LS&SH	1	3	WARSAW ARGILL DOL	1	3
TRADEWATER	16	27	WARSAW-FORT PAYNE	1	1
TRADEWATER-CASEYVILL	17	44	WARSAW-ST. LOUIS	1	1
TUSC-ST GEN UP STLOU	1	3	YOUNG ALLUVIUM	1	2

DETAILED STRATIGRAPHIC LISTING

BEDROCK	HOLES	SAMPLES	BEDROCK	HOLES	SAMPLES
BEDROCK UNKNOWN	9	17	TRADEWATER	16	27
ALLUVIUM	161	279	TRADEWATER-CASEYVILL	17	44
ALLUVIUM-ARTIF. FILL	4	8	CASEYVILLE	25	43
ALLUVIUM-BREATHITT	4	6	CASEYVILLE-TRADEWATR	1	1
ALLUVIUM-FT. PAYNE	2	3	BREATHITT	27	71
ALLUVIUM-GLACIAL DRF	3	4	BREATHITT-ROCKCASTLE	2	6
ALLUVIUM-GRIER	2	5	CORBIN-LEE	1	3
ALLUVIUM-KOFE	2	2	LEE	14	24
ALLUVIUM-LACUSTRINE	14	23	LEE (CORBIN SS)	4	12
ALLUVIUM-LOESS	1	4	LEE S.S. FACIES-BRTT	1	1
ALLUVIUM-SALEM-WARSW	2	6	LEE SANDSTONE	2	6
ALLUVIUM-ST. LOUIS	2	3	LEE-LEE SANDSTONE	2	5
ALLUVIUM-STURGIS	2	5	LEE-SHALE FACIES-SS	1	2
ALLUVIUM-TUSCALOOSA	1	1	PENNINGTON	9	18
ARTIFICIAL FILL	4	4	PENNINGTON-NEWMAN	1	3
ARTIFICIAL FILL-CSVL	2	3	KIDDER	8	10
CARY-OUTWASH	1	3	KIDDER-STE GENEVIEVE	2	2
GLACIAL DRIFT	2	6	MNTEAGLE-ST GEN-STLS	3	3
GLACIA OUTWASH	29	73	MNTEAGLE-STE GENEVUE	9	14
GRAVEL-UP ST, LOUIS	1	2	MNTEAGLE-ST GEN-STLS	1	1
GRAVL-LOW ST LOU-SAL	1	2	ST. LOUIS(NEWMAN)	3	3
HIGH LEVEL SILT&SAND	1	1	NEWMAN STE GEN-UPMEM	1	1
HIGH-LEVEL FLUVIAL	2	8	NEWMAN UPMEM-STE GEN	4	4
LACUSTRINE DEPOSITS	19	26	UPPER MEMBER(NEWMAN)	4	6
LACUSTRINE-ALLUVIUM	4	13	STE,GENVIEVE(NEWMAN)	7	10
LACUSTRINE-FLUVIAL	4	12	MENARD-CASEYVILLE	1	3
OUTWASH	100	376	WALTERSBURG	1	2
OUTWASH-ALLUVIUM	1	1	WALTERSBURG-VIENNA	4	5
SAND	1	1	TARSPRINGS	16	19
SAND-OUTWASH	16	20	TARSPRINGS-GLEN DEAN	3	5
TAZWELL-OUTWASH	1	3	LEITCHFIELD	2	3
TERRACE DEPOSITS	15	24	GLEN DEAN	2	3
TERRACE-LACUSTRINE	1	1	GLEN DEAN-HARDINSBUR	1	1
YOUNG ALLUVIUM	1	2	HARDINSBURG	13	22
ALLUVIUM-STE. GEN.	1	1	HARDINSBURG-HANEY	2	3
CONTINENTAL DEP-LOES	1	3	HANEY	2	4
CONTINENTAL DEPOSITS	2	6	HANEY-BIG CLIFTY	1	1
LOESS	14	39	HANEY-HARDINSBURG	1	1
LOESS-CONTINENTALDEP	1	3	BIG CLIFTY	9	11
LOESS-NEW ALBANY	2	3	BIG CLIFTY-CASEYVILL	1	3
LOESS-STURGIS	1	3	BIG CLIFTY-CYFPRESS	1	2
CLAYTON-MCNAIRY	2	4	BIG CLIFTY-GIRKIN	2	3
TUSC-ST GEN-UP STLOU	1	3	BEECH CREEK-REELSVIL	1	2
TUSCALOOSA	6	19	SAMPLE	1	1
TUSCALOOSA-LOESS	3	4	BEAVER BEND-PAOLI	3	5
STURGIS	3	10	BETHEL	17	25
CONEMAUGH	1	2	BETHEL-RENAULT	2	3
MONONGAHELA CONEMAUG	1	2	MOORETOWN	1	1
CARBONDALE	3	7	RENAULT	17	33
CARBONDALE-TRADEWATR	1	3	PAOLI	1	1

Table 5. Parent Material or Bedrock; Detailed Stratigraphic Listing. (Continued)

BEDROCK	HOLES	SAMPLES	BEDROCK	HOLES	SAMPLES
GIRKIN	26	39	LOUISVILLE-WALDRON	2	2
GIRKIN-BIG CLIFTY	2	3	WALDRON	5	7
GIRKIN-STE GENEVIEVE	6	9	WALDRON-LAUREL	3	3
STE GEN-UPPER ST LOU	20	37	WALDRON-LOUISVILLE	2	2
STE GENEVIEVE-GIRKIN	1	1	LAUREL	27	29
STE GENEVIEVE-KIDDER	1	2	LAUREL-OSGOOD	6	10
JTE. GENEVIEVE	199	316	LAUREL-WALDRON	3	5
STE. GENEVIEVE-ALLUV	1	2	OSGOOD	6	9
STE. GENEVIEVE-PAOLI	4	6	OSGOOD-LAUREL	1	1
STE GENEVIEVE-ST LOU	5	8	CRAB ORCHARD	2	6
ST LOUIS-WARSAW	1	1	ESTILL	1	4
ST. LOUIS	286	447	UPFER CRAB ORCHARD	2	8
ST. LOUIS-ALLUVIUM	5	7	BRASSFIELD	1	1
UPFER ST. LOUIS	13	33	BRASSFIELD-SALUDA	1	1
BUFFALO WALLOW	1	2	SALUDA	8	17
ST LOUIS-SALEM-WARSW	37	55	SALUDA-ALLUVIUM	1	1
LOWER ST. LOUIS	5	13	SALUDA-BARDSTOWN	1	2
LOWER ST. LOUIS-SALEM	19	38	BARDSTOWN	8	12
HARDINSBURG	1	1	BARDSTOWN-ROWLAND	7	10
SALEM	2	3	BARDSTOWN-SALUDA	2	3
SALEM-SHALE MEMBER	1	1	ROWLAND	37	83
SOMERSET	2	2	ROWLAND-GRANT LAKE	1	3
KNIFLEY	14	16	ROWLAND-PREACHERSVIL	1	3
SAL-WAR-CANE VALLEY	5	5	PREACHERSVILLE	1	3
SAL-WAR-KNIFLEY	7	9	BULLFORK	71	108
SALEM-WARS-MULDRAUGH	1	1	BULLFORK-BELLEVUE	2	3
SALEM-WARSAW	160	211	BULLFORK-GRANT LAKE	1	1
SALEM-WARSW-FT PAYNE	21	27	BULLFORK-KOPE	1	1
WAR-LOW ST LOU-SALEM	1	2	LOWER ASHLOCK	14	30
WARSAW	22	32	STINGY CREEK-TATE	1	1
WARSAW-ST. LOUIS	1	1	STINGY CK.-GILBERT	1	2
HARRODSBURG	16	20	GILBERT	2	5
HARRODSBURG-MULDRAU.	2	2	TATE	4	5
WARSAW ARGILL DOL	1	3	TATE-CALLOWAY CREEK	2	3
SELLERSBG-JEFFERSONV	27	49	GRANT LAKE	35	73
WARSAW-FT PAYNE	1	1	GRANT LAKE UP MEMB	1	3
FORT PAYNE	115	158	GRANT LAKE-ALLUVIUM	2	2
FORT PAYNE-ALLUVIUM	5	5	GRANT LAKE-BULLFORK	2	2
FT PAYNE-CANE VALLEY	6	6	GRANT LAKE-CALLOWAY	1	1
FT PAYNE-CHATTANOOGA	1	1	GRANT LAKE-GILBERT	1	2
FT PAYNE-SALEM-WARSW	5	6	GRANT LAKE-ROWLAND	1	1
KNIFLEY-FORT PAYNE	4	7	BELLEVUE TONGUE	7	12
CANE VALLEY	45	62	BELLEVUE-BULLFORK	1	1
CANE VALLEY-ALLUVIUM	1	1	BELLEVUE-FAIRVIEW	9	16
FT PAYNE-CANE VALLEY	1	1	FAIRVIEW	10	19
RENFRO	3	3	FAIRVIEW-GRANT LAKE	1	4
RENFRO-NADA	1	2	FAIRVIEW-KOPE	6	9
MULDRAUGH	11	13	CAL. CRK-CLAYS FERRY	1	2
MULDRAUGH-HALLS GAP	1	2	CALLOWAY CR.-GARRARD	5	9
MULDRAUGH-HARRODSBG	1	1	CALLOWAY CREEK	14	24
MULDRAUGH-NANCY	1	1	CALLOWAY CREEK-TATE	1	1
MULDRAUGH-SALEM-WARS	6	8	ARTIFICIAL FILL-KOPE	3	3
NADA	1	2	KOPE	23	34
COWBELL	1	2	KOPE-ALLUVIUM	3	5
COWBELL-ALLUVIUM	1	2	KOPE-ARTIFICIAL FILL	2	5
COWBELL-NADA-RENFRO	2	2	KOPE-CALLOWAY CREEK	3	5
CONWAY CUT-ALLUVIUM	1	3	KOPE-CLAYS FERRY	4	5
NANCY	4	16	KOPE-FAIRVIEW	8	10
NANCY-CHATTANOOGA	2	4	GARRARD	2	7
NANCY-COWBELL	1	1	GARRARD-CLAYS FERRY	3	5
NANCY-HALLS GAP	1	3	GARRARD-KOPE	1	3
NANCY-KENWOOD	2	2	CLAYS FERRY	31	72
NANCY-MULDRAUGH	1	1	CLAYS FERRY-MILERSBG	1	3
NEW PROVIDENCE	20	36	CLAYS FERRY-INGWOOD	4	12
NEW PROVIDENCE-ALLU.	1	1	CUMBERLAND	7	7
NEW PROVIDENCE-LOESS	1	1	CUMBERLAND-CHATTANO	1	1
NEW PROVIDENCE-N.ALB	6	13	LEIPERS	2	2
CHATTANOOGA-FT PAYNE	1	1	LEIPERS-CUMBERLAND	2	2
NEW ALBANY	47	79	CYNTHIANA-PHOS. L.S.	2	6
NEW ALBANY-ALLUVIUM	2	2	LEX.LS.-GRAN.PHOS.LS	2	3
NEW ALBANY-BEECHWOOD	2	6	CURDSVILLE	3	9
NEW ALBANY-LOESS	1	1	CURDSVILLE-LOGANA	1	3
NEW ALBANY-LOUISVILL	2	2	CURDSVILLE-TYRONE	1	1
OHIO	2	7	GRIER	8	22
CHATTANOOGA	1	2	GRIER-BRANNON	1	2
CHATTANOOGA-ALLUVIUM	2	2	GRIER-CURDSVILLE	8	19
BEECHWOOD-NEW ALBANY	1	1	GRIER-TANGLEWOOD	2	3
LOUISVILLE	66	97	GRIER-TYRONE	1	2
LOUISVILLE-BEECHWOOD	3	3	FERRYVILLE	1	3
LOUISVILLE-LAUREL	1	1	TANGLEWOOD	31	68
LOUISVILLE-WALD-LAUR	15	17	TANGLEWOOD UP TONGUE	1	3

Table 5. Parent Material or Bedrock; Detailed Stratigraphic Listing. (Continued)

BEDROCK	HOLES	SAMPLES	BEDROCK	HOLES	SAMPLES
TANGLEWOOD-BRANNON	2	5	BRANNON-TANGLEWOOD	1	3
TANGLEWOOD-DEVILS.H.	2	5	MILLERSBURG	5	17
TANGLEWOOD-GRIER	1	3	MILLERSBURG-CLAYS FE	3	8
TANGLEWOOD-MILLERSBG	5	8	MILLERSBURG-DEVILS.H	1	2
TANGLEWOOD-SALVISA	3	6	STRODES CR.-MILLERSB	1	3
TNGWOOD FOSSIL LS&SH	1	3	TYRONE	6	17
BRANNON	3	5			

Table 6. Soil Series.

The number of holes and samples for each bedrock type (alphabetical) for each soil series (alphabetical) are listed. If there is data for a soil series where the underlying bedrock is unknown (i.e. the samples cannot be precisely located by latitude and longitude) they are totaled on the first line preceding any of the bedrock types.

SOIL SERIES	BEDROCK	HOLES	SAMPLES	SOIL SERIES	BEDROCK	HOLES	SAMPLES
ALBERTVILLE		5	5	BURGIN	ALLUVIUM-GRIER	1	3
	BREATHITT	2	6		BRANNON	2	3
ALLEGHENY	ALLUVIUM	1	5		GRIER	1	4
	CRAB ORCHARD	2	6		TANGLEWOOD	1	3
	HIGH-LEVEL FLUVIAL	1	6	BYINGTON		1	4
	UPPER CRAB ORCHARD	1	5		NEW ALBANY	1	4
ALLEGHENY VARIANT	LEE	1	3	CALEST	CLAYS FERRY	1	2
ALLEN	BREATHITT	1	2	CALLOWAY		3	3
ALLIGATOR	ALLUVIUM-LACUSTRINE	2	4		ALLUVIUM-LOESS	1	4
ASHBURN	ST. LOUIS	1	3		LISHAN	2	7
	STE. GENEVIEVE	1	3	CANEYVILLE		6	6
ASHTON	GRIER	1	3		BEECH CREEK-REELSVIL	1	2
ASHTON VARIANT	ALLUVIUM	1	3		BUFFALO WALLOW	1	2
ATKINS		6	6		HARRISBURG-HANEY	1	1
BAXTER	SALEM-WARSAW	2	6	CAPTINA	ALLUVIUM	3	3
	ST. LOUIS	3	7			2	5
	STE. GENEVIEVE	1	3	CHRISTIAN		6	10
	UPPER ST. LOUIS	1	3		FORT PAYNE	1	3
BEASLEY	BARDSTOWN-ROWLAND	1	4		GIRKIN	1	2
	ROWLAND	6	18		ST. LOUIS	1	3
	ROWLAND-GRANT LAKE	1	3	CINCINNATI	BULLFORK	1	3
BEDFORD	ST. LOUIS	1	3		GLACIAL DRIFT	1	4
BELKNAP	ALLUVIUM-LACUSTRINE	2	4	CLYMER	BREATHITT	1	3
BERKS	COWBELL-NADA-RENFRO	1	1	COLBERT		2	2
	NADA	1	2		WALTERSBURG	1	2
	NANCY-COWBELL	1	1	COLLINS		32	32
BEULAH	ALLUVIUM	3	7	COLYER	NEW ALBANY	2	6
BEWLEYVILLE	ST. LOUIS	1	3	CRANSTON	BREATHITT	1	2
	STE GENEVIEVE-ST LOU	1	4	CRIDER	GIRKIN	1	2
BODINE	ALLUVIUM	1	3		STE. GENEVIEVE	5	13
	FORT PAYNE	1	3	CUBA	CLAYTON-MCNAIRY	1	1
BONNIE	ALLUVIUM	1	2	CULLEOKA	BELLVUE TONGUE	1	2
BRANDON		9	9		CLAYS FERRY	1	3
	FORT PAYNE	1	3		GARRARD-CLAYS FERRY	2	3
	LUSS-CONTINENTALDEF	1	3	CUMBERLAND	CURDSVILLE	1	3
	TUSCALOOSA	1	3		GRIER	1	3
BRAXTON	CLAYS FERRY	1	3		HIGH-LEVEL FLUVIAL	1	2
	CURDSVILLE	1	3		ST. LOUIS	2	4
	TANGLEWOOD	1	3		STE. GENEVIEVE	1	2
	TANGLEWOOD-GRIER	1	3		TYRONE	1	3
BROOKE	PENNINGTON	2	6	DEALB		1	1
BUCKHORN	BREATHITT	1	2		BREATHITT-ROCKCASTLE	1	3
					LEE-LEE SANDSTONE	1	3
					TRADEWATER	2	2

Table 6. Soil Series. (Continued)

SOIL SERIES	BEDROCK	HOLES	SAMPLES	SOIL SERIES	BEDROCK	HOLES	SAMPLES
DICKSON	FORT PAYNE	1	4	HUNTINGTON		65	65
	ST. LOUIS	1	4		ALLUVIUM	3	3
DONERAIL	TANGLEWOOD-BRANNON	1	2		ALLUVIUM-GRIER	1	2
JUBBS	LACUSTRINE DEPOSITS	1	2		CLAYS FERRY	2	5
	LACUSTRINE-FLUVIAL	1	2		GRANT LAKE	6	15
DUNDEE	ALLUVIUM	3	5		GRIER	1	3
	CONTINENTAL DEPOSITS	1	3		NEW ALBANY	1	2
DUNNING		1	1	IUKA		3	3
	GRIER-CURDSVILLE	1	1	JEFFERSON		4	4
EDEN		1	3		BREATHITT	1	3
	BULLFORK	7	16		LEE (CORBIN SS)	1	3
	CLAYS FERRY-TNGWOOD	3	9	JOHNSBURG		3	3
	FAIRVIEW-KOPE	1	2		ESTILL	1	4
	GRIER-CURDSVILLE	1	2		FAIRVIEW	1	3
	KOPE	1	3		GRANT LAKE UP MEMB	1	3
EGAN		2	2		OHIO	1	4
	ALLUVIUM	2	6	KARNAK	ALLUVIUM-LACUSTRINE	2	4
ELK		16	16		TRADEWATER	1	3
	ALLUVIUM	2	5	LARIN	GLACIAL OUTWASH	1	1
	CLAYS FERRY	2	5		OUTWASH	1	3
	CURDSVILLE-LOGANA	1	3		TERRACE DEPOSITS	1	4
	STE. GENEVIEVE	1	2	LATHAN	BREATHITT	1	2
ELKINS		4	4	LAWRENCE	STE. GENEVIEVE	1	2
ENDERS	BREATHITT	1	3	LAX		4	4
	TRADEWATER-CASEYVILL	2	5		TUSCALOOSA	1	4
ETOWAH		4	4	LEALVALE	NANCY	2	10
FAIRMONT	BULLFORK	1	1	LENBERG	NEW PROVIDENCE-NALB	1	2
	FAIRVIEW	1	1	LICKING	ALLUVIUM	1	2
	GRIER	1	1	LINDSIRE		30	30
FALAYA		31	31	LITZ		1	1
	ALLUVIUM	2	5	LORADALE	BRANNON	1	2
	ALLUVIUM-LACUSTRINE	2	3		MILLERSBURG	2	6
FAYWOOD	BULLFORK	1	1		TANGLEWOOD	1	1
	GARRARD-CLAYS FERRY	1	2		TANGLEWOOD-BRANNON	1	3
FREDERICK	ST. LOUIS	2	5		TANGLEWOOD-MILLERSBURG	1	3
FREDONIA	GIRKIN-STE GENEVIEVE	1	2	LORING		11	11
FREELAND		2	2		LOESS-STURGIS	1	3
FRONDORF	CARBONDALE	1	1	LOWELL		7	7
	CASEYVILLE	1	1		BULLFORK	2	4
	LOESS	1	2		ALLOWAY CR.-GARRARD	1	3
	TARSPRINGS	1	1		ALLOWAY CREEK	1	3
	TRADEWATER-CASEYVILL	1	2		CLAYS FERRY	2	5
GILPIN		10	10		CYNTHIANA-PHOS. L.S.	1	2
					FAIRVIEW	1	3
GINAT	ALLUVIUM	1	3		GARRARD-KOPE	1	3
GRENADIA	CONTINENTAL DEP-LOES	1	3		GRANT LAKE	1	3
	LISMAN	1	3		GRIER-BRANNON	1	2
	LOESS	2	8		MILLERSBURG-CLAYS FE	1	2
GUIN		1	1		ROWLAND	19	43
	CLAYTON-MCNAIRY	1	3		SALUDA	1	2
	CONTINENTAL DEPOSITS	1	3		TANGLEWOOD	1	2
HAGERSTOWN	MILLERSBURG	1	3	MANTACHIE		1	1
	PREMONROSVILLE	1	3		LACUSTRINE FLUVIAL	2	7
	ROWLAND-FRENCHERSVIL	1	3	MAURY	CURDSVILLE	1	3
	TANGLEWOOD	2	7		CYNTHIANA-PHOS. L.S.	1	4
HAMPSHIRE	CLAYS FERRY	3	9		GRIER	2	6
	MILLERSBURG-CLAYS FE	1	3		GRIER-CURDSVILLE	2	5
	STROUES CR.-MILLERSB	1	3		TANGLEWOOD	12	33
	TANGLEWOOD UP TONGUE	1	3		TNGWOOD FOSSIL LS&SH	1	3
HARKEY	ALLUVIUM	2	4		TYRONE	1	3
HARTSELLS	BREATHITT	1	3	MCFAEE	GRIER	1	1
	BREATHITT-ROCKCASTLE	1	3		TANGLEWOOD	1	1
HAYMOND		6	6	MCBARY		1	4
HAYTER		3	3		ALLUVIUM	2	7
	BREATHITT	1	2		ALLUVIUM-LACUSTRINE	2	4
HENRY	LOESS	4	16		LACUSTRINE-ALLUVIUM	1	3
HENSHAW		1	6		NEW PROVIDENCE	1	3
	ALLUVIUM	1	6	MELVIN		11	11
HOLSTON		1	1		ALLUVIUM	1	1
HUNPHREYS	NEW ALBANY	2	6		ROWLAND	4	10
				MEMPHIS		6	6
					LOESS	2	4
				MENCER	CLAYS FERRY-MILLERSBURG	1	3
					MILLERSBURG	2	8
					TANGLEWOOD	1	2
				MOUNDINGHELA		11	13

Table 6. Soil Series. (Continued)

SOIL SERIES	BEDROCK	HOLES	SAMPLES	SOIL SERIES	BEDROCK	HOLES	SAMPLES	
MOUNTVIEW	ST. LOUIS	1	6	SHELOCTA	BREATHITT	4	9	
	STE. GENEVIEVE	1	3		CUMWELL	1	2	
	UPPER ST. LOUIS	1	3		LEE	2	6	
			LEE LEE SANDSTONE		1	2		
MUSE	BREATHITT	2	6	NEW PROVIDENCE	1	4		
	LEE	1	3	SHELOCTA VARIANT	BREATHITT	1	2	
	PENNINGTON-NEWMAN	1	3	STASER		5	5	
				STENDAL		17	17	
MUSKINGUM		11	11	SHAWN		3	3	
	CASEYVILLE	1	3		CONWAY CUT-ALLOVIUM	1	3	
	STE. GENEVIEVE	1	2		CONNELL-ALLOVIUM	1	2	
NEEDMORE	FORT PAYNE	2	5	NANCY-HALLS GAP	1	3		
	SALEM-WARSAW	1	3	REFKO-NADA	1	2		
NEWARK		29	30	TAFT		2	2	
	ALLOVIUM	2	4		LACUSTRINE-ALLOVIUM	2	8	
	GRANT LAKE	4	12	TALBUTT		1	1	
	ROWLAND	2	6		CUMWELL-NADA-KENFRU	1	1	
	YOUNG ALLOVIUM	1	2		GIRKIN	1	2	
			UPPER MEMBER-NEWMAN		1	3		
			TATE		CORKIN-LEE	1	3	
NICHOLSON	BULLFORK	2	4	NIDDER	1	2		
	CALLOWAY CR.-GARRARD	1	2	LEE	1	3		
	GARRARD	2	7	LEE (CORBIN SS)	3	9		
	GRIER-TYRONE	1	2	LEE SHALE FAMILIES-SS	1	2		
	LOWER ST. LOUIS-SALEM	1	4	TILSIT		3	6	
	HILLERSBURG-CLAYS FE	1	3		BREATHITT	1	3	
	SALUDA	1	3		LEE S.S. FACIES EXT	1	1	
	ST. LOUIS	1	3		NANCY	1	2	
	STE. GENEVIEVE	1	3		NEW ALBANY-BEECHWOOD	1	3	
	TANGLEWOOD	1	3	NEW PROVIDENCE	1	4		
NOLICHUCKY	STE. GENEVIEVE	1	2	STE. GENEVIEVE	1	4		
				TRADEWATER-CASEYVILL	2	6		
NOLIN	ALLOVIUM	1	1	TRAPPESS	BREATHITT	1	3	
	ALLOVIUM-LACUSTRINE	1	1		LEE SANDSTONE	1	3	
OCHLOCKNEE		20	20		NANCY	2	2	
					NEW ALBANY	2	6	
					NEW ALBANY-BEECHWOOD	1	3	
OTWAY		2	6	NEW PROVIDENCE-N. ALB	1	3		
	SALUDA	1	2	TUPELO		4	4	
	SALUDA-BARDS TOWN	1	2		TYGART	ALLOVIUM	1	2
			LACUSTRINE-ALLOVIUM		1	2		
			TYLER UNIONTOWN			1	1	
					ALLOVIUM	1	6	
PADEN	ST. LOUIS	2	6	LUSS	1	2		
				USHUR	MONONGAHELA CONEMAUGH	1	2	
PATTON	ALLOVIUM	1	3		PENNINGTON	2	6	
	LACUSTRINE-FLUVIAL	1	3		VANDALIA	CONEMAUGH	1	2
	LOESS	1	4	VICKSBURG			17	17
	TAZWELL-OUTWASH	1	3	WAKELAND		ALLOVIUM-LACUSTRINE	1	1
	PEMBROKE		1	1	WAVERLY		6	6
ALLOVIUM		1	3	WEINERT		TRADEWATER	1	2
GRANT LAKE		1	3	WELLSTON		13	13	
LAUREL-OSGOOD		1	3		BIG CLIFFY	1	2	
STE. GENEVIEVE		4	10		BREATHITT	4	13	
			HARDINSBURG		1	2		
			LEE SANDSTONE		1	3		
PHILO		46	46	TRADEWATER	2	4		
				TRADEWATER-CASEYVILL	2	6		
				WESTMORELAND	FORT PAYNE	1	2	
PICKNICK	ST. LOUIS	3	5		SALEM-WARSAW	1	3	
	STE. GENEVIEVE	1	2		WHEELING		3	8
POPE		17	17	ALLOVIUM		1	5	
	POPE VARIANT	ALLUVIUM-BREATHITT	1	CARY-OUTWASH		1	3	
	PROVIDENCE		1	OUTWASH		1	3	
RARDEN	UHIO	1	3	WHITLEY	ALLOVIUM	2	5	
	UPPER CRAB ORCHARD	1	3		WHITWELL	1	1	
					WOOLPER		2	2
RUCKCASTLE		1	3	NOPE	1	2		
	MULLIKRAUGH	1	3	WYNDJSE	ALLOVIUM	2	7	
	NEW ALBANY	1	2		ZALESKI	1	1	
	NEW PROVIDENCE-N. ALB	1	2		ZANESVILLE		9	9
RUSSHOYNE	BULLFORK	2	8	CARBONDALE		2	6	
				CASEYVILLE		1	4	
				STE. GENEVIEVE		1	4	
RUWAN		2	2	IARSPRINGS		1	2	
				TRADEWATER	2	6		
RUSSELVILLE		1	4	TRADEWATER-CASEYVILL	2	5		
	STE. GENEVIEVE	1	4					
SADLER	HANEY	1	3					
	HARDINSBURG	1	2					
	IARSPRINGS	1	2					
SAFFELL	IUSCALOUSA	1	3					
SALVISA	BRANNON-TANGLEWOOD	1	3					
	CLAYS FERRY	1	3					
	GRIER-CUMBERVILLE	4	11					
	FERRYVILLE	1	3					
SANDO	SALEM-WARSAW	1	3					
	ST. LOUIS	1	4					
SEES		1	1					
SEQUATCHIE		1	1					
SHELBYVILLE	CALLOWAY CREEK	1	2					
	FAIRVIEW	1	3					
	FAIRVIEW-GRANT LAKE	1	4					
	GRANT LAKE	2	7					

Data Retrieval

Examples showing how data in the Kentucky Soils Data System can be retrieved are presented in this section. In these examples, the form of the desired printout is presented first. An annotated program to produce the printout is then presented, followed by the printout thus produced. Comments shown in shaded blocks explain various parts of the program but are not essential and could be removed without altering the printout. Each example demonstrates a different procedure as follows:

Example	Name	Demonstrates
1	SCS tables	Printing tables from a complete data set (which will later be added to the Kentucky Soils Data System). Multiple Requests -- Multiple reports from a single request. Printing a single line of data per hole or a line for each sample.
2	Depth to rock-Table 1	Pulling data by site (or any individual field)
3	Depth to rock-Table 2	Pulling data using multiple criterion (site, refusal, depth to rock in this case)
4	Depth to rock-Table 3	Pulling data in an area defined by latitudes and longitudes
5	Soil-Bedrock relationships-Table 1	Computing maximum, minimum, and average values
6	Soil-Bedrock relationships-Table 2	Setting up temporary field names

Explanations of the coding procedures used here, as well as additional MARK IV coding details, are discussed in Student Class Reference Manual, Informatics, Inc, May 1976.

EXAMPLE 1

In a cooperative program with the Soil Conservation Service (SCS), the Kentucky Transportation Research Program performs engineering classification tests on samples submitted by SCS. After testing is completed, and the data have been coded in the Kentucky Soils Data System format (see input guide), the following Tables 1, 2, and 3 of tests results are prepared to transmit to the Soil Conservation Service. Using this format, all items in Table 1 are constants for any hole. In contrast, items in Tables 2 and 3 may vary for each sample. Thus, Table 1 requires one line of printout per hole; Tables 2 and 3 require one line per sample. In the first request (to print Table 1), there is a requirement that SAMPLE = 1. This ensures that only one line of data per hole will be printed. In the second request (to print Tables 2 and 3), this requirement is eliminated so that a line of data for each sample will be printed. The second request produces two different reports; that is, Table 2 and Table 3.

Table 1.

HOLE NUMBER	LATITUDE	LONGITUDE	SOIL SERIES NAME	SLOPE OF SURFACE	LANDSCAPE POSITION	MODE OF TRANSPORT	DEPTH TO BEDROCK	REFUSAL
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Table 2.

HOLE NUMBER	HORIZON	HORIZON TEXTURE	DEPTH TO TOP OF HORIZON	DEPTH TO BOTTOM OF HORIZON	STANDARD MAX DRY DENSITY	OPTIMUM MOISTURE CONTENT	UNSOAKED CBR	SOAKED CBR	LIQUID LIMIT	PLASTICITY INDEX	SPECIFIC GRAVITY
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Table 3.

HOLE NUMBER	HORIZON	1.5 INCH	1 INCH	.75 INCH	.375 INCH	NO. 4	NO. 10	NO. 40	NO. 60	NO. 200	.05 MM	.02 MM	.005 MM	.002 MM	AASHTO CLASS	UNIFIED CLASS
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RUN AA THE RC CARD SELECTS THE FILE DEFINITION DTRSDS TO BE USED
RUN AA WITH MARK IV REQUESTS, THE S IN COLUMN 19 MEANS THE OLD MASTER
RUN AA FILE TO BE READ HAS STANDARD LABELS; THE S IN COLUMN 20 MEANS THE
RUN AA NEW MASTER FILE TO BE OUTPUT WILL HAVE STANDARD LABELS. THE S
RUN AA IN COLUMN 25 MEANS THE REPORT FILE WILL HAVE STANDARD LABELS.
RUN AA THE # IN COLUMN 29 IS THE DELIMITER FOR THIS RUN. THE R01 IN
RUN AA COLUMNS 1-3 IS THE REQUEST NAME, WHICH IDENTIFIES A GROUP
RUN AA OF STATEMENTS AS CONSTITUTING A SINGLE REQUEST.
RUN AA COLUMNS 9 AND 10 ARE FOR FORM CODE, WHICH IDENTIFIES
RUN AA WHAT TYPE OF FORM THIS IS.
RUN RCDTRSDS SS S #
R01 AA THE ER CARD MEANS RECORDS WILL BE PROCESSED WITH TODAY'S DATE
R01 AA ON THE REPORT. THE 50 IN COLUMNS 47 AND 48 MEANS A MAXIMUM
R01 AA OF 50 RECORDS WILL BE PROCESSED.
R01 ERTODAY 50
R01 AA THE PR CARD REQUIRES THAT SAMPLE EQUAL 1 IN ORDER FOR DATA
R01 AA FROM ANY RECORD TO BE PRINTED.
R01 PR SAMPLE EQD1
R01 AA THE E1 CARD CONNECTS THIS OUTPUT FORMAT STATEMENT TO A PARTICULAR
R01 AA REQUESTED OUTPUT (THE R1 CARDS). THE X IN COLUMN 40
R01 AA SUPPRESSES SUMMARY LABELS; COLUMNS WILL BE LEFT-JUSTIFIED AND
R01 AA SUMMARIES WILL PRINT WITHOUT IDENTIFICATION.
R01 E1 X
R01 AA THE R1 CARDS ARE PRINTING OUT DIFFERENT FIELDS IN A SINGLE
R01 AA REPORT FOR REQUEST R01.
R01 AA THE 1 IN COLUMN 29 MEANS THERE WILL BE A CONTROL BREAK
R01 AA BY COUNTY. THE P IN COLUMN 30 MEANS COUNTY WILL BE PRINTED
R01 AA AT THE TOP OF THE PAGE.
R01 R1 CO 1P
R01 R1 HOLE
R01 R1 LAT
R01 R1 LONG
R01 R1 SERIES
R01 R1 SLOPE
R01 R1 LNDPOS
R01 R1 TRNSPT
R01 R1 DPHBRK ###
R01 R1 RFUSAL
R01 AA THE T1 AND T2 CARDS ARE TITLE CARDS.
R01 T1001SCS TABLE 1
R02 ERTODAY 50
R02 AA THE R1 AND R2 CARDS ALLOW TWO SEPARATE REPORTS TO BE
R02 AA PRINTED IN REQUEST R02.
R02 R1 CO 1P
R02 R1 HOLE
R02 R1 HORIZN
R02 R1 TEXTUR
R02 R1 DTHOR
R02 R1 DBHOR
R02 R1 SMXDEN
R02 R1 SOPTMC
R02 R1 CBRU ###
R02 R1 CBRS ###
R02 R1 LL
R02 R1 PI
R02 R1 SG1 *.##
R02 T1001SCS TABLE 2
R02 R2 CO 1P
R02 R2 HOLE
R02 R2 HORIZN
R02 R2 IN1.5
R02 R2 IN1
R02 R2 IN.75
R02 R2 IN.375
R02 R2 N04
R02 R2 N010
R02 R2 N040
R02 R2 N060
R02 R2 N0200
R02 R2 MM.05
R02 R2 MM.02
R02 R2 MM.005
R02 R2 MM.002
R02 R2 AASHTO
R02 R2 UNIFIED
R02 T2002SCS TABLE 3

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SCS TABLE 1

PAGE 1

1

HOLE NUMBER	LATITUDE	LONGITUDE	SOIL SERIES NAME	SLOPE OF SURFACE (PERCENT)	LANDSCAPE POSITION	MODE OF TRANSPORT	DEPTH TO BEDROCK (METERS)	REFUSAL
2	365746	851608	CHRISTIAN	3		R	1.0	N
3	370541	853041	CHRISTIAN	6		R	1.4	N
4			CHRISTIAN	7		R	1.0	N
5	370744	851735	WESTMORELAND	9		R	.6	Y
6	370003	851238	WESTMORELAND	14		R	.5	N
7	370532	851215	NEEDMORE	3		R	.7	N
8	370059	851348	NEEDMORE	7			.7	N
9			CHRISTIAN	10			1.1	N
10	371427	850411	ROCKCASTLE	10		R	.4	N

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SCS TABLE 2

PAGE 1

1

HOLE NUMBER	HORIZON	SOIL TYPE TEXTURE	DEPTH TO TOP OF HORIZON (CM)	DEPTH TO BOTTOM HORIZON (CM)	STANDARD MAX. DRY DENSITY (KG/M ³)	OPTIMUM MOISTURE CONTENT (PERCENT)	UNSOAKED CBR	SOAKED CBR	LIQUID LIMIT (PERCENT)	PLASTICITY INDEX (PERCENT)	SPECIFIC GRAVITY
2	AP	SIL			1,762	15.0	.	.	26	6	.
2	B2	SIL			1,570	22.0	.	.	66	37	.
2	C3	SIL			1,522	25.0	.	.	75	39	.
3	AP	CHSIL			1,826	12.0	.	.			.
3	B22	CHSIL			1,730	18.0	.	.	47	27	.
3	C	CHSIL			1,634	19.0	.	.	56	30	.
4	AP	CHSIL			1,810	12.0	.	.	21	2	.
4	B2	CHSIL			1,618	21.0	.	.	57	33	.
4	C	CHSIL			1,714	18.0	.	.	50	28	.
5	A2	SHSIL			1,602	18.0	.	.	28	3	.
5	C	SHSIL			1,602	19.0	.	.	29	3	.
6	A2	SHSIL			1,634	19.0	.	.	28	4	.
6	C	SHSIL			1,586	21.0	.	.	38	12	.
6	DR	SHSIL			1,586	22.0	.	.	43	16	.
7	A2	SIL			1,698	17.0	.	.	27	4	.
7	B2	SIL			1,634	21.0	.	.	44	18	.
7	C	SIL			1,570	23.0	.	.	53	25	.
8	A1	SIL				.0	.	.			.
8	A2	SIL				.0	.	.			.
9	AP	FSL			1,842	11.0	.	.	18		.
9	B2	FSL			1,906	13.0	.	.	23	7	.
9	C	FSL			1,442	28.0	.	.	86	49	.
10	A2	SIL			1,698	18.0	.	.	38	12	.
10	C	SIL			1,682	20.0	.	.	47	21	.
10	DR	SIL			1,778	17.0	.	.	39	15	.

04/17/80

SCS TABLE 3

PAGE 1

HOLE NUMBER	HORIZON	PERCENT FINER													AASHTO CLASS	UNIFID CLASS	
		1.5 INCH	1 INCH	.75 INCH	.375 INCH	NO. 4	NO. 10	NO. 40	NO. 60	NO. 200	.05 MM	.02 MM	.005 MM	.002 MM			
2	AF	100	100	100	100	100	99	95	90	66	60	46	27	20	A-4	(6)	ML-CL
2	B2	100	100	100	100	100	100	99	98	78	74	70	61	53	A-7-6	(20)	MH-CH
2	C3	100	100	100	100	100	100	99	99	97	93	82	64	52	A-7-5	(20)	MH-CH
3	AF	100	97	92	84	76	71	69	67	42	30	20	11	7	A-4	(1)	SM
3	B22	98	98	96	94	92	90	88	86	53	48	42	37	34	A-7-6	(11)	CL
3	C	100	97	94	86	81	77	75	74	62	61	57	44	38	A-7-6	(16)	CH
4	AF	100	99	92	83	75	68	66	63	45	45	35	16	11	A-4	(3)	SM
4	B2	100	100	99	98	98	97	96	94	83	81	74	60	52	A-7-6	(19)	CH
4	C	100	100	100	100	100	100	99	94	73	69	59	47	41	A-7-6	(17)	CL-CH
5	A2	100	98	96	93	91	84	77	75	69	66	54	31	18	A-4	(7)	ML
5	C	87	84	81	73	62	53	49	47	43	41	34	21	14	A-4	(2)	GM
6	A2	100	100	100	100	98	92	86	84	79	76	61	39	26	A-4	(8)	CL
6	C	99	97	97	96	96	96	91	89	84	80	70	52	41	A-6	(9)	ML-CL
6	IR	81	75	70	63	51	39	37	35	32	31	26	19	15	A-2-7	(1)	GM-GC
7	A2	100	100	100	100	100	99	96	95	93	92	74	32	22	A-4	(8)	ML-CL
7	B2	100	100	100	100	100	100	99	99	98	97	84	55	42	A-7-6	(12)	ML-CL
7	C	100	100	100	100	100	100	99	99	98	98	86	62	50	A-7-6	(17)	MH-CH
8	A1	100	100	100	100	100	94	90	86	84	82	61	28	13			
8	A2	100	100	100	100	100	94	90	89	87	86	66	28	15			
9	AF	100	99	99	98	97	95	93	92	50	44	32	17	10	A-4	(3)	SM
9	B2	100	100	100	100	100	100	99	98	54	47	38	26	20	A-4	(4)	ML-CL
9	C	100	100	100	100	100	100	99	98	89	87	78	70	63	A-7-5	(20)	MH-CH
10	A2	100	100	100	99	99	98	95	94	91	90	77	40	29	A-6	(9)	ML-CL
10	C	100	100	100	100	100	100	99	99	98	98	89	53	41	A-7-6	(14)	ML-CL
10	Df:	100	100	100	100	100	100	99	99	98	98	85	46	36	A-6	(10)	ML-CL

EXAMPLE 2

A geotechnical engineer is contracted to design the foundations for a new building to be constructed on the Northern Kentucky University campus. Using the list of sites presented in the input guide, he could find the data bank already contains a considerable amount of data for the campus area. If, prior to conducting his own preliminary site investigation, he wanted to obtain some information on the depth to rock in this area, he could construct the following table.

CAMPBELL COUNTY, NORTHERN KENTUCKY UNIVERSITY AREA

SITE	HOLE	LATITUDE	LONGITUDE	SURFACE ELEVATION	DEPTH TO ROCK	REFUSAL	BEDROCK
-----	-----	-----	-----	-----	-----	-----	-----

The "Refusal" column is coded with a "Y" (yes) or an "N" (no). A "Y" indicates that bedrock was encountered at the depth shown in the "Depth to Rock" column. An "N" indicates that sampling was not carried to bedrock and that rock is, therefore, at an undetermined depth greater than the depth shown in the "Depth to Rock" column.

Since all desired information is contained in Campbell County, Sites 3 through 7, site number is a convenient method of accessing the data. Since each item in this table is constant for a given hole, only one line of print for each hole is required.

```

LATLO AA THE RC CARD USES THE FILE DEFINITION DIRSQDS
RUN   RCOTRSQDS SS S #
LATLO AA THE ER CARD PUTS TODAY'S DATE ON THE REPORT.
LATLO ERTODAY
LATLO AA THE PR CARDS CHOOSE RECORDS WHERE COUNTY EQUALS 19,
LATLO AA SAMPLE EQUALS 1, AND SITE EQUALS 3 THROUGH 7.
LATLO AA THE EQ IN COLUMN 25 AND 26 MEANS EQUAL, THE C IN COLUMN 27
LATLO AA MEANS CHARACTER STRING CONSTANT.
LATLO PR CO EQC19
LATLO AA THE A IN COLUMN 15 IS A CONNECTOR TO INDICATE AN AND
LATLO AA LOGICAL RELATIONSHIP BETWEEN FIELDS.
LATLO AA THE 1 IN COLUMN 14 IS A LOGIC LEVEL WHICH SPECIFIES
LATLO AA THE SEQUENCES FOR PROCESSING MULTIPLE AND/OR CONDITIONS.
LATLO PR 1A SAMPLE EQD1
LATLO PR 0A SITE EQC3
LATLO AA THE D IN COLUMN 15 IS AN OR CONNECTOR.
LATLO PR 10 SITE EQC4
LATLO PR 10 SITE EQC5
LATLO PR 10 SITE EQC6
LATLO PR 10 SITE EQC7
LATLO AA THE E1 CARD CONNECTS THIS OUTPUT FORMAT STATEMENT TO A
LATLO AA PARTICULAR REQUESTED OUTPUT.
LATLO E1
LATLO AA THE R1 CARDS ARE OUTPUT CONTENT STATEMENTS.
LATLO AA THE 1 IN COLUMN 29 MEANS THERE WILL BE A CONTROL BREAK
LATLO AA BY SITE, THE 2 MEANS A SECOND CONTROL BREAK BY HOLE.
LATLO R1 SITE 1
LATLO R1 HOLE 2
LATLO R1 LAT
LATLO R1 LONG
LATLO R1 SURELV
LATLO R1 DPHBRK
LATLO R1 RFUSAL
LATLO R1 BEDROCK
LATLO AA THE T1 CARD SPECIFIES A TITLE ON A REPORT.
LATLO T1005 CAMPBELL COUNTY, NORTHERN KY, UNIV. AREA
  
```

SITE	HOLE NUMBER	LATITUDE	LONGITUDE	SURFACE ELEVATION (METERS)	DEPTH TO BEDROCK (METERS)	REFUSAL	BEDROCK
3	1	390155	842754	263.3	7.6	N	BELLEVUE-FAIRVIEW
	2	390155	842754	264.3	7.9	N	BELLEVUE-FAIRVIEW
	3	390152	842752	262.4	7.6	N	BELLEVUE-FAIRVIEW
	4	390153	842755	261.5	4.9	Y	BELLEVUE-FAIRVIEW
	5	390157	842756	257.9	5.5	Y	KOPE-FAIRVIEW
4	1	390151	842751	263.3	9.1	N	BELLEVUE TONGUE
	2	390152	842749	257.3	6.1	N	BELLEVUE-BULLFORK
5	1	390206	842758	255.1	4.6	N	BELLEVUE-FAIRVIEW
	2	390206	842758	.0	4.6	N	BELLEVUE-FAIRVIEW
	3	390206	842758	.0	.0		BELLEVUE-FAIRVIEW
6	1	390157	842757	264.3	3.0	Y	BELLEVUE-FAIRVIEW
	2	390158	842758	259.7	4.0	Y	BELLEVUE-FAIRVIEW
7	1	390153	842752	258.5	4.6	Y	BULLFORK-BELLEVUE
	2	390553	842751	261.8	4.9	Y	BULLFORK-BELLEVUE

EXAMPLE 3

Looking at the table prepared in Example 2, it should be noted that some lines of data are more useful than others. For example, all data coded "Y" in the refusal column is of value since the depth to rock is indicated. On the other hand, holes carried only to very shallow depths and that did not encounter rock (coded "N" in "Refusal" field) are of little value. Deep holes not encountering rock may still be important. Additionally, there is one sample for which no depth to rock data is available. Because the data in the previous example was pulled only by site number, however, it is not possible to eliminate unwanted entries. In this example, all borings carried to rock (Refusal=Y) are printed. Borings not encountering rock are listed only if the depth to rock is greater than 5 meters. Borings where the refusal field is blank would also have a blank "Depth to Rock" field and are not printed.

```

RUN      RCDTRSDS SS      S      #
LATLON  ERTODAY
LATLON  AA      THESE PR CARDS SELECT RECORDS WHERE COUNTY EQUALS 19,
LATLON  AA      SAMPLE EQUALS ONE, SITE EQUALS THREE THROUGH SEVEN, AND
LATLON  AA      REFUSAL EQUALS YES, OR IF NO, DEPTH TO BEDROCK IS GREATER
LATLON  /A      THAN OR EQUAL TO 5 METERS.
LATLON  PR      CD      ERC19
LATLON  PR      1A SAMPLE EQD1
LATLON  PR      0A SITE   EQC3
LATLON  PR      10 SITE  EQC4
LATLON  PR      10 SITE  EQC5
LATLON  PR      10 SITE  EQC6
LATLON  PR      10 SITE  EQC7
LATLON  PR      0A RFUSAL EQCY
LATLON  PR      10 RFUSAL EQCN
LATLON  PR      2A IPHBRK GED5
LATLON  E1
LATLON  R1      SITE      1
LATLON  R1      HOLE      2
LATLON  R1      LAT
LATLON  R1      LONG
LATLON  R1      SURELV
LATLON  R1      IPHBRK
LATLON  R1      RFUSAL
LATLON  R1      BEDROCK
LATLON  T1005 CAMPBELL COUNTY, NORTHERN KY. UNIV. AREA

```

SITE	HOLE NUMBER	LATITUDE	LONGITUDE	SURFACE ELEVATION (METERS)	DEPTH TO BEDROCK (METERS)	REFUSAL	BEDROCK
3	1	390155	842754	263.3	7.6	N	BELLEVUE-FAIRVIEW
	2	390155	842754	264.3	7.9	N	BELLEVUE-FAIRVIEW
	3	390152	842752	262.4	7.6	N	BELLEVUE-FAIRVIEW
	4	390153	842755	261.5	4.9	Y	BELLEVUE-FAIRVIEW
	5	390157	842756	257.9	5.5	Y	KOPE-FAIRVIEW
4	1	390151	842751	263.3	9.1	N	BELLEVUE TONGUE
	2	390152	842749	257.3	6.1	N	BELLEVUE-BULLFORK
6	1	390157	842757	264.3	3.0	Y	BELLEVUE-FAIRVIEW
	2	390258	842758	259.7	4.0	Y	BELLEVUE-FAIRVIEW
7	1	390153	842752	258.5	4.6	Y	BULLFORK-BELLEVUE
	2	390553	842751	261.8	4.9	Y	BULLFORK-BELLEVUE

EXAMPLE 4

An alternative method of accessing the data from the Northern Kentucky University area discussed in Examples 2 and 3 is to pull all the data within a rectangle defined by maximum and minimum latitude and maximum and minimum longitude. For this application, latitudes 39 00' 00" and 39 05' 00" and longitudes 84 26' 00" and 84 29' 00" have been selected. Using this method, data within the rectangle not included in Sites 3 through 7 are also retrieved, but this data may be close enough to the construction site to be of value in evaluating site conditions.

In this example, samples coded "N" in the "Refusal" field have been printed for each hole where depth to rock is greater than 2 meters.

```

RUN      RCDTRSDS SS      S      #
LATLONG ERTODAY
LATLONG AA      PR CARDS SELECT ONLY RECORDS WHERE THE COUNTY EQUALS 19
LATLONG AA      OR CAMPBELL, THE SAMPLE EQUALS ONE, THE LATITUDE AND
LATLONG AA      LONGITUDE ARE WITHIN CERTAIN RANGES, AND THE REFUSAL
LATLONG AA      IS YES, OR IF NO, THE DEPTH TO BEDROCK IS GREATER THAN
LATLONG AA      2 METERS. THE GE OR LE IN COLUMNS 25 AND 26 BEING GREATER
LATLONG AA      THAN OR EQUAL TO, AND LESS THAN OR EQUAL TO.
LATLONG PR      CD      EQC19
LATLONG PR      0A SAMPLE EQD1
LATLONG PR      2A LAT      GEI1390000
LATLONG PR      2A LAT      LED390500
LATLONG PR      2A LONG     GED842600
LATLONG PR      2A LONG     LED842900
LATLONG PR      2A RFUSAL  ERCY
LATLONG PR      10 LAT      GED390000
LATLONG PR      2A LAT      LEI1390500
LATLONG PR      2A LONG     GED842600
LATLONG PR      2A LONG     LED842900
LATLONG PR      2A RFUSAL  EQCN
LATLONG PR      2A DFHBRK  GTD2
LATLONG E1
LATLONG R1      SITE      1
LATLONG R1      HOLE      2
LATLONG R1      LAT
LATLONG R1      LONG
LATLONG R1      SURELV
LATLONG R1      DFHBRK
LATLONG R1      RFUSAL
LATLONG R1      BEDROCK
LATLONG T1005 CAMPBELL COUNTY, NORTHERN KY. UNIV. AREA

```

02/27/80

CAMPBELL COUNTY, NORTHERN KY. UNIV. AREA

SITE	HOLE NUMBER	LATITUDE	LONGITUDE	SURFACE ELEVATION (METERS)	DEPTH TO BEDROCK (METERS)	REFUSAL	BEDROCK
3	1	390155	842754	263.3	7.6	N	BELLEVUE-FAIRVIEW
	2	390155	842754	264.3	7.9	N	BELLEVUE-FAIRVIEW
	3	390152	842752	262.4	7.6	N	BELLEVUE-FAIRVIEW
	4	390153	842755	261.5	4.9	Y	BELLEVUE-FAIRVIEW
	5	390157	842756	257.9	5.5	Y	KOPE-FAIRVIEW
4	1	390151	842751	263.3	9.1	N	BELLEVUE TONGUE
	2	390152	842749	257.3	6.1	N	BELLEVUE-BULLFORK
5	1	390206	842758	255.1	4.6	N	BELLEVUE-FAIRVIEW
	2	390206	842758	.0	4.6	N	BELLEVUE-FAIRVIEW
6	1	390157	842757	264.3	3.0	Y	BELLEVUE-FAIRVIEW
	2	390158	842758	259.7	4.0	Y	BELLEVUE-FAIRVIEW
7	1	390153	842752	258.5	4.6	Y	BULLFORK-BELLEVUE
8	2	390428	842801	246.3	7.9	Y	BELLEVUE TONGUE
15	1	390327	842812	183.2	3.4	Y	KOPE
	2	390336	842813	211.8	5.5	N	KOPE
	4	390341	842812	197.5	2.1	N	KOPE
	6	390356	842800	203.9	2.7	N	KOPE
	10	390422	842758	238.0	4.3	N	BELLEVUE TONGUE
	13	390456	842822	208.5	3.7	Y	KOPE-FAIRVIEW
	14	390458	842823	209.4	5.2	N	FAIRVIEW
	15	390459	842826	224.6	15.2	N	FAIRVIEW-KOPE
16	1	390314	842611	150.9	1.8	Y	KOPE-ALLUVIUM
	2	390316	842609	152.7	3.0	Y	KOPE-ALLUVIUM
	3	390317	842609	159.7	15.5	Y	KOPE
	4	390315	842608	149.4	8.5	N	ALLUVIUM
	5	390316	842608	150.9	4.3	Y	ALLUVIUM-KOPE
	6	390316	842606	168.2	6.7	N	ALLUVIUM-KOPE
	7	390319	842605	162.2	5.2	N	KOPE
	8	390317	842604	151.8	6.7	Y	KOPE-ALLUVIUM
17	1	390322	842619	173.1	15.5	Y	KOPE
	2	390323	842617	164.0	18.6	Y	KOPE
	3	390322	842612	178.6	15.5	Y	KOPE
	4	390323	842607	192.3	6.4	Y	KOPE

EXAMPLE 5

A researcher would like to study correlations between the physical characteristics of soils and the bedrock "parent materials" from which the soils were derived. A soil's liquid and plastic limits, specific gravities, and particle-size distribution are among the many soil characteristics that might be expected to show a reasonably good correlation with the lithology of the parent material. The following table, using the New Albany-Borden-Fort Payne interval as a specific example, could aid in the preliminary investigation of such correlations.

The New Albany, Borden, and Fort Payne are Upper Devonian and Lower Mississippian age rocks that outcrop over large areas in Kentucky. This rock interval includes diverse lithologic types including limestones, sandstones, siltstones, dolomitic siltstones, firmly indurated black shales, and poorly indurated green and gray shales and mudstones. For a preliminary indication of how liquid limit, plastic limit, and plasticity index vary with lithologic type, a listing of LL, PL, and PI for each lithologic type could be prepared. For each lithology, the sample size and maximum, minimum, and average values of LL, PL, and PI could also be printed.

The following list presents the nomenclature and primary lithologies of the principal geologic units in this interval:

UNIT	PRIMARY LITHOLOGIES
Muldraugh	dolomitic siltstone and limestone
Fort Payne (unspecified)	dolomitic siltstone
Knifley	sandstone
Cane Valley (and reef limestone)	limestone
Jabez	sandstone
Beaver Creek	limestone
Borden (unspecified)	shale and sandstone
Wildie	siltstone and shale
Halls Gap	siltstone
Nada	poorly indurated red, green and gray shale
Cowbell	siltstone and shale
Holtsclaw	siltstone
Nancy	shale
Kenwood	siltstone and shale
New Providence	poorly indurated green and gray shale
Farmers	siltstone and shale
New Albany(Ohio,Chattanooga) Sunburg	firmly indurated black shale

As illustrated in the input guide, each of these bedrock types has a unique name and geoseq/sequence number, and they have been used in the following program to access the data. The program constitutes a single request:

but two reports are printed. The first report gives the count, maximum, minimum, and average values of LL, PL, and PI for each individual rock type (each geoseq/ sequence number). The second report gives the grand count, maximum, minimum, and average for all data retrieved. The individual data points (that is the LL, PL, and PI for individual samples) can be printed but are not required. In this example, the individual data points have been printed in the first report (summaries for each bedrock type) but have been suppressed in the second report (grand summary).

```

RUN      RCDTRSDS SS   S   #
BEDROC  ERTODAY
BEDROC  AA      THE PR CARDS 010 THROUGH 100 SELECT RECORDS THAT HAVE
BEDROC  AA      PLASTIC LIMIT AND A CERTAIN GEONAM.
BEDROC  AA      THE NE IN COLUMNS 25 AND 26 MEANS NOT EQUAL TO. BECAUSE
BEDROC  AA      COLUMNS 28 THROUGH 58 ARE BLANK, RECORDS CAN BE USED
BEDROC  AA      WHENEVER PL DOES NOT EQUAL ZERO.
BEDROC  PR010  PL      NED
BEDROC  PR0200A GEONAM EQCKNFL
BEDROC  PR03010 GEONAM EQCJBEZ
BEDROC  PR04010 GEONAM EQCCNVL
BEDROC  PR05010 GEONAM EQCMLDG
BEDROC  PR06010 GEONAM EQCBVCE
BEDROC  PR06510 GEONAM EQICFRPN
BEDROC  PR09010 GEONAM EQCREEF
BEDROC  PR09510 GEONAM EQCLMSN
BEDROC  PR10010 GEONAM EQCCNCT
BEDROC  PR10510 GEONAM EQCRNDS
BEDROC  PR11010 GEONAM EQCHNLY
BEDROC  PR11510 GEONAM EQCNALB
BEDROC  PR12010 GEONAM EQCSNBR
BEDROC  PR12510 GEONAM EQCNCHC
BEDROC  PR13010 GEONAM EQCNPVK
BEDROC  PR13510 GEONAM EQCHLCL
BEDROC  PR14010 GEONAM EQCNPVC
BEDROC  PR14510 GEONAM EQCFRMR
BEDROC  PR15010 GEONAM EQCBRDN
BEDROC  PR15510 GEONAM EQCWILD
BEDROC  PR16010 GEONAM EQICHLGP
BEDROC  PR16510 GEONAM EQCNADA
BEDROC  PR17010 GEONAM EQCCBLL
BEDROC  PR17510 GEONAM EQCNNCY
BEDROC  PR19010 GEONAM EQCKNOD
BEDROC  AA      THE X IN COLUMN 40 IS USED TO SUPPRESS PRINTING GEONAM AND
BEDROC  AA      SUMMARY LABELS.
BEDROC  E1                                X
BEDROC  AA      THE ONE IN COLUMN 27 MEANS A SORT BY GEONAM;THE 1 IN
BEDROC  AA      COLUMN 29 MEANS A CONTROL BREAK BY GEONAM;THERE IS THEN
BEDROC  AA      A SORT AND BREAK BY BEDROCK AND THEN A SORT BY GESEQ.
BEDROC  R1      GEONAM  Y1 1
BEDROC  R1      BEDROCK  2 2
BEDROC  AA      MAXIMUMS, MINIMUMS, AND AVERAGES (COLUMNS 34 THROUGH 36,
BEDROC  AA      RESPECTIVELY) OF THESE FIELDS WILL BE LISTED FOR EACH
BEDROC  AA      GEONAM.
BEDROC  R1      PL              111
BEDROC  R1      LL              111
BEDROC  R1      PI              111
BEDROC  AA      COUNT OF THE SAMPLES FOR EACH GEONAM
BEDROC  R1      SAMPLE          1
BEDROC  AA      THE Y IN COLUMN 24 MEANS GESEQ WILL NOT BE PRINTED.
BEDROC  R1      GESEQ          Y3
BEDROC  T1003SOIL-BEDROCK RELATIONSHIPS
BEDROC  AA      THE E2 AND R2 CARDS PRODUCE A SECOND REPORT.
BEDROC  AA      THE Y IN COLUMN 11 ALLOWS THE USER TO OBTAIN SUMMARIES
BEDROC  AA      WITHOUT DETAIL PRINTING.
BEDROC  E2Y                                X
BEDROC  AA      GRAND MAXIMUM, MINIMUM, AND AVERAGE OF THESE FIELDS
BEDROC  R2      PL              GGG
BEDROC  R2      LL              GGG
BEDROC  R2      PI              GGG
BEDROC  AA      GRAND COUNT OF SAMPLES
BEDROC  R2      SAMPLE          G
BEDROC  T2104GRAND SUMMARY TOTALS,
BEDROC  T2105SOIL-BEDROCK RELATIONSHIPS

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SOIL-BEDROCK RELATIONSHIPS

BEDROCK	FLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBR	
COWBELL-ALLUVIUM	25	45	20	1	
	20	39	19	2	
COWBELL-NADA-REFRO	32	60	27	1	
				3	COUNT
	32	60	27		MAXIMUM
	20	39	19		MINIMUM
	25	48	22		AVERAGE
CONWAY CUT-ALLUVIUM	23	35	12	1	
	26	51	25	2	
	25	33	8	3	
				3	COUNT
	26	51	25		MAXIMUM
	23	33	8		MINIMUM
	24	39	15		AVERAGE
CANE VALLEY	20	39	19	1	
	28	38	10	1	
	35	73	38	1	
	19	32	13	1	
	29	57	28	1	
	39	67	28	1	
	28	57	29	1	
	27	60	33	2	
	24	39	15	1	
	20	31	11	1	
	21	37	16	2	
	21	41	20	3	
	23	38	15	1	
	23	37	14	1	
	24	44	20	2	
	35	73	38	3	
	23	35	12	1	
	39	65	26	2	
	22	37	15	1	
	36	64	28	2	
	24	33	9	1	
	33	57	24	2	
	24	35	11	1	
	30	52	22	1	
	42	68	26	2	
	23	34	11	1	
	34	53	19	1	
	30	48	18	2	
	27	43	16	1	
	30	70	40	1	
	29	56	27	1	
	24	44	20	1	
	32	53	21	1	
	33	60	27	2	
	25	31	6	1	
	36	58	22	1	
	19	23	4	1	
	24	41	17	1	
	29	45	16	1	
	28	35	7	1	
26	43	17	1		
24	42	18	1		
19	23	4	1		
22	37	15	1		
25	34	9	1		
30	39	9	2		
21	34	13	1		
25	63	38	2		
21	33	12	1		
20	37	17	1		
49	87	38	2		
22	37	15	1		

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SOIL-BEDROCK RELATIONSHIPS

BEDROCK	PLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBER		
CANE VALLEY	32	69	37	2		
	19	24	5	1		
	24	38	14	1		
	22	46	24	1		
	20	29	9	1		
	20	26	6	2		
	19	29	10	3		
	28	53	25	1		
	22	35	13	1		
	CANE VALLEY-ALLUVIUM	20	31	11	1	
					62	COUNT
		49	87	40		MAXIMUM
		19	23	4		MINIMUM
	26	45	18		AVERAGE	
FORT PAYNE	20	26	6	1		
	29	66	37	2		
	36	75	39	3		
	25	28	3	1		
	26	29	3	2		
	22	33	11	1		
	34	69	35	2		
	29	62	33	3		
	19	30	11	1		
	22	38	16	1		
	20	31	11	1		
	19	39	20	2		
	19	30	11	1		
	23	42	19	1		
	20	32	12	2		
	23	40	17	3		
	18	28	10	1		
	18	24	6	1		
	37	62	25	2		
	28	46	18	1		
	9	37	28	1		
	31	55	24	2		
	27	51	24	3		
	22	37	15	1		
	14	24	10	2		
	18	28	10	3		
	33	60	27	1		
	31	57	26	1		
	21	35	14	1		
	28	53	25	1		
	21	25	4	1		
	24	29	5	1		
	21	32	11	1		
	22	36	14	1		
	25	43	18	1		
	27	46	19	1		
	7	25	18	1		
	27	54	27	2		
	20	47	27	1		
	24	39	15	1		
20	29	9	1			
21	34	13	2			
20	30	10	3			
21	30	9	1			
21	30	9	2			
21	34	13	1			
24	37	13	2			
19	27	8	1			
19	26	7	1			
24	28	4	1			
21	27	6	1			
26	38	12	1			
26	35	9	2			
21	29	8	1			

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SOIL-BEDROCK RELATIONSHIPS

BEDROCK	PLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBER
FORT PAYNE	19	23	4	1
	26	43	17	1
	19	28	9	1
	21	27	6	1
	17	24	7	1
	20	28	8	1
	17	20	3	1
	20	24	4	1
	23	42	19	1
	33	37	4	2
	25	39	14	1
	17	25	8	1
	24	42	18	1
	24	31	7	1
	31	44	13	1
	23	53	30	1
	23	46	23	2
	27	50	23	3
	19	42	23	1
	23	60	37	2
	27	76	49	3
	24	68	44	1
	20	31	11	1
	22	30	8	2
	21	53	32	1
	20	33	13	1
	21	50	29	2
	22	56	34	1
	25	64	39	2
	22	56	34	3
	21	29	8	1
	20	49	29	1
	18	50	32	2
	23	52	29	1
	23	29	6	1
	22	34	12	2
	24	38	14	1
	20	34	14	1
	22	32	10	1
	21	31	10	1
	19	41	22	2
	21	34	13	1
	25	36	11	2
	21	37	16	1
	24	33	9	1
	25	39	14	2
	25	43	18	3
	26	33	7	1
	22	32	10	2
	26	33	7	3
	25	30	5	1
	24	41	17	2
	26	45	19	3
	31	47	16	4
	21	42	21	1
	15	42	27	2
	25	53	28	1
	20	29	9	1
	20	35	15	1
	23	33	10	1
	29	75	46	1
	32	37	5	2
	19	28	9	3
	25	35	10	1
	20	36	16	1
	19	24	5	1
	19	35	16	2
	19	28	9	1
	18	28	10	1
	22	35	13	1

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SOIL-BEDROCK RELATIONSHIPS

BEDROCK	PLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBER	
FORT PAYNE	21	37	16	2	
	18	38	20	1	
	18	29	11	1	
	20	38	18	1	
	24	61	37	1	
	16	31	15	1	
	18	42	24	1	
	18	39	21	1	
	23	53	30	1	
	22	35	13	1	
	24	43	19	2	
	21	34	13	1	
	17	26	9	1	
	18	29	11	2	
	17	27	10	1	
	31	43	12	2	
	16	26	10	1	
	23	33	10	1	
	19	28	9	1	
	19	40	21	1	
	23	36	13	1	
	29	39	10	1	
	20	22	2	1	
	22	23	1	1	
	29	45	16	1	
	30	40	10	1	
	16	21	5	1	
	30	40	10	1	
	21	26	5	1	
	29	58	29	1	
	30	58	28	1	
	25	37	12	1	
FORT PAYNE-ALLUVIUM	20	36	16	1	
	25	37	12	1	
	13	18	5	1	
	18	28	10	1	
	21	36	15	1	
FORT PAYNE-CANE VALLEY	26	42	16	1	
	24	35	11	1	
	24	36	12	1	
	28	53	25	1	
	29	45	16	1	
	35	47	12	1	
	27	45	18	1	
FT PAYNE-CHATTANOOGA	19	24	5	1	
FT PAYNE-SALEM-WARSW	26	46	20	1	
	29	50	21	1	
	27	41	14	2	
	26	34	8	1	
	18	31	13	1	
	22	30	8	1	
				175	COUNT
	37	76	49		MAXIMUM
	7	18	1		MINIMUM
	22	38	15		AVERAGE
KNIFLEY-FORT PAYNE	25	33	8	1	
	23	30	7	1	
	24	28	4	2	
	22	30	8	1	
	21	30	9	2	
	20	25	5	1	
				6	COUNT
	25	33	9		MAXIMUM
	20	25	4		MINIMUM
	22	29	6		AVERAGE

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SOIL-BEDROCK RELATIONSHIPS

BEDROCK	PLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBER		
MULDRAUGH	26	38	12	1		
	26	47	21	2		
	24	39	15	3		
	27	42	15	1		
	22	38	16	1		
	18	30	12	1		
	25	47	22	1		
	17	24	7	1		
	28	56	28	1		
	20	43	23	1		
	21	36	15	1		
	27	59	32	1		
	MULDRAUGH-HALLS GAP	22	34	12	1	
		28	67	39	2	
	MULDRAUGH-HARRODSBG	19	25	6	1	
	MULDRAUGH-NANCY	24	28	4	1	
	MULDRAUGH-SALEM-WARS	15	17	2	1	
19		36	17	1		
20		35	15	1		
11		65	54	2		
19		29	10	1		
23		36	13	1		
27		59	32	2		
16		21	5	1		
		28	67	54	24	COUNT
		11	17	2		MAXIMUM
	21	39	17		MINIMUM	
					AVERAGE	
NADA	16	18	2	1		
	22	23	1	2		
	22	23	2	2	COUNT	
	16	18	1		MAXIMUM	
	19	20	1		MINIMUM	
					AVERAGE	
CHATANOOGA	24	32	8	1		
	25	32	7	2		
CHATTANOOGA-ALLUVIUM	17	29	12	1		
	27	42	15	1		
CHATTANOOGA-FT FAYNE NEW ALBANY	22	34	12	1		
	30	39	9	1		
	31	42	11	2		
	32	52	20	3		
	31	40	9	1		
	30	43	13	2		
	30	45	15	3		
	20	40	20	1		
	20	38	18	1		
	20	45	25	1		
	22	55	33	1		
	29	40	11	1		
	22	35	13	1		
	25	33	8	1		
	23	30	7	2		
NEW ALBANY	24	40	16	3		
	27	44	17	4		
	30	40	10	1		
	27	44	17	2		
	28	44	16	3		
	31	43	12	1		
	27	47	20	2		
	30	50	20	3		
	19	36	17	1		
	32	61	29	1		
	27	55	28	2		

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SOIL-BEDROCK RELATIONSHIPS

BEDROCK	PLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBER
NEW ALBANY	25	43	18	1
	28	54	26	2
	11	37	26	1
	20	33	13	1
	23	51	28	2
	20	33	13	1
	22	37	15	1
	27	58	31	2
	20	39	19	1
	28	57	29	2
	21	32	11	1
	21	40	19	1
	26	61	35	2
	23	45	22	1
	28	61	33	2
	21	47	26	1
	23	37	14	1
	32	44	12	1
	23	40	17	1
	23	38	15	1
	25	43	18	2
	23	44	20	3
	24	29	5	1
	27	32	5	2
	20	28	8	1
	22	36	13	2
	25	41	16	3
	21	30	8	2
	27	52	25	1
	25	35	10	1
	23	49	26	2
	16	42	26	1
	24	43	19	2
	21	32	11	1
	29	47	18	1
	25	42	17	1
	25	40	15	1
	21	37	16	1
	21	35	14	2
	37	38	1	1
	33	73	40	1
	26	52	26	1
	20	35	15	2
	27	40	13	1
	21	33	12	1
	26	33	7	2
	24	39	15	1
	26	39	13	2
	24	38	14	1
	26	34	8	1
	25	36	11	2
	26	41	15	3
NEW ALBANY-ALLUVIUM	26	56	30	1
	30	45	15	1
NEW ALBANY-BEECHWOOD	22	28	6	1
	22	38	15	2
	23	38	15	3
	23	28	5	1
	20	37	16	2
	27	32	4	3
NEW ALBANY-LOESS	24	35	22	2
NEW ALBANY-LOUISVILL	27	51	24	1
	22	47	25	1
OHIO	28	36	8	1
	22	31	9	2
	25	39	14	3
	25	40	15	4
	27	33	6	1
	26	45	19	2
	25	45	20	3

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SOIL-BEDROCK RELATIONSHIPS

BEDROCK	PLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBER	
OHIO	37	73	40	100	COUNT
	11	28	1		MAXIMUM
	24	41	16		MINIMUM
					AVERAGE
NANCY	19	32	12	1	
	24	43	18	1	
NANCY-CHATANOOGA	24	35	11	1	
	23	32	9	1	
	24	35	11	2	
	24	35	11	3	
NANCY-HALLS GAP	19	30	11	1	
	17	29	12	2	
	19	32	13	3	
NANCY--KENWOOD	29	38	9	1	
	21	34	13	1	
NANCY-MULDRAUGH	27	32	5	1	
	29	43	18	12	COUNT
	17	29	5		MAXIMUM
	22	33	11		MINIMUM
					AVERAGE
NEW PROVIDENCE	21	33	11	1	
	31	45	14	2	
	25	55	30	3	
	33	55	22	4	
	18	34	16	1	
	30	41	11	1	
	22	34	12	2	
	23	38	15	1	
	27	49	22	2	
	23	42	19	1	
	24	39	15	1	
	24	47	23	2	
	32	65	33	1	
	24	38	14	1	
	25	50	25	2	
	23	51	28	3	
	22	29	7	1	
	18	37	19	2	
	24	50	26	3	
	23	47	24	4	
	23	33	10	1	
	20	31	11	1	
	23	35	12	1	
	32	52	20	1	
	24	31	7	1	
	24	36	12	1	
	22	33	11	2	
	23	36	13	1	
	21	30	9	1	
	23	24	1	1	
	21	34	13	2	
	21	32	10	3	
	20	26	5	4	
NEW PROVIDENCE-ALLU.	21	33	12	1	
NEW PROVIDENCE-LOESS	24	31	7	1	
NEW PROVIDENCE-N,ALB	28	47	19	1	
	30	53	23	2	
	24	37	13	1	
	21	35	14	2	
	21	33	12	1	
	23	39	16	2	
	18	37	19	1	
	20	47	27	2	
	25	39	13	1	

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SOIL-BEDROCK RELATIONSHIPS

BEDROCK	PLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBER	
NEW PROVIDENCE-N.ALB	28	53	25	2	
	18	24	5	1	
	23	37	14	2	
	27	44	17	3	
				48	COUNT
	33	65	33		MAXIMUM
	18	24	1		MINIMUM
	23	39	15		AVERAGE

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GRAND SUMMARY TOTALS,
SOIL-BEDROCK RELATIONSHIPS

PLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBER	
			435	GRAND COUNT
49	87	54		MAXIMUM
7	17	1		MINIMUM
23	39	16		AVERAGE

EXAMPLE 6

The list of primary lithologies of the geologic units discussed in Example 5 shows that several of these units have equivalent lithologies. Since the Knifley and Jabez, for example, are both sandstones, one might expect the soils derived from these two units to have similar physical characteristics. To simplify the output, therefore, soils thought to be derived from the Knifley and Jabez could be combined as "soils derived from sandstones". The Muldraugh and Fort Payne, both dolomitic siltstone units, have also been combined here as have the Beaver Creek and Cane Valley, which are both limestone units. Currently, there is no data in the data bank with a Jabez or Beaver Creek parent material. The program shown here would work, however, had such data been available. Data for both the Muldraugh and Fort Payne are available and a combination of these rock types was successfully made, as can be seen in the following printout.

```

RUN      RCDTRSDS SS   S   #
BEDROCK ERTODAY
BEDROCK AA   THE PR CARDS 020 THROUGH 050 REPLACE THE GEONAMS JBEZ,
BEDROCK AA   CNVL, AND MLDG WITH KNFL,BVCE, AND FRPN RESPECTIVELY.
BEDROCK PR020  GEONAM  EQCJBEZ
BEDROCK PR021          NS 035
BEDROCK PR022          R  CKNFL          GEONAM
BEDROCK PR035  GEONAM  EQCCNVL
BEDROCK PR036          NS 040
BEDROCK PR037          R  CBVCE          GEONAM
BEDROCK PR040  GEONAM  EQCHLDG
BEDROCK PR045          NS 055
BEDROCK PR050          R  CFRPN          GEONAM
BEDROCK AA   THE PR CARDS 055 THROUGH 100 SELECT RECORDS THAT HAVE
BEDROCK AA   PLASTIC LIMIT AND A CERTAIN GEONAM.

```

```

BEDROCK FRO55   PL      NED
BEDROCK FRO560A GEONAM EQCKNFL
BEDROCK FRO6010 GEONAM EQCBUCE
BEDROCK PRO6510 GEONAM EQCFRPN
BEDROCK PRO7010 GEONAM EQCREEF
BEDROCK PRO9510 GEONAM EQCLMSN
BEDROCK PR10010 GEONAM EQCCNCT
BEDROCK PR10510 GEONAM EQCRNDS
BEDROCK PR11010 GEONAM EQCHNLY
BEDROCK PR11510 GEONAM EQCNALB
BEDROCK PR12010 GEONAM EQCSNBR
BEDROCK PR12510 GEONAM EQCNCHC
BEDROCK PR13010 GEONAM EQCNPUK
BEDROCK PR13510 GEONAM EQCHLCL
BEDROCK PR14010 GEONAM EQCNPUJ
BEDROCK PR14510 GEONAM EQCFRMR
BEDROCK PR15010 GEONAM EQCBRDN
BEDROCK PR15510 GEONAM EQCWILD
BEDROCK PR16010 GEONAM EQCHLGP
BEDROCK PR16510 GEONAM EQCNADA
BEDROCK PR17010 GEONAM EQCCBLL
BEDROCK PR17510 GEONAM EQCNNCY
BEDROCK PR18010 GEONAM EQCKNOD
BEDROCK E1
BEDROCK R1      GEONAM   Y1 1
BEDROCK R1      BEDROCK  2 2
BEDROCK R1      PL              111
BEDROCK R1      LL              111
BEDROCK R1      PI              111
BEDROCK R1      SAMPLE          1
BEDROCK R1      GEOSQ      Y3
BEDROCK T1003SODS TABLE
BEDROCK E2Y
BEDROCK R2      PL              GGG
BEDROCK R2      LL              GGG
BEDROCK R2      PI              GGG
BEDROCK R2      SAMPLE          G
BEDROCK T2104SODS TABLE

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SODS TABLE

BEDROCK	PLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBER
CANE VALLEY	20	39	19	1
	28	38	10	1
	35	73	38	1
	19	32	13	1
	29	57	28	1
	39	67	28	1
	28	57	29	1
	27	60	33	2
	24	39	15	1
	20	31	11	1
	21	37	16	2
	21	41	20	3
	23	38	15	1
	23	37	14	1
	24	44	20	2
	35	73	38	3
	23	35	12	1
	39	65	26	2
	22	37	15	1
	36	64	28	2
	24	33	9	1
	33	57	24	2
	24	35	11	1
	30	52	22	1
	42	68	26	2
	23	34	11	1
	34	53	19	1
	30	48	18	2
	27	43	16	1

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SODS TABLE

BEDROCK	PLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBER	
CANE VALLEY	30	70	40	1	
	29	56	27	1	
	24	44	20	1	
	32	53	21	1	
	33	60	27	2	
	25	31	6	1	
	36	58	22	1	
	19	23	4	1	
	24	41	17	1	
	29	45	16	1	
	28	35	7	1	
	26	43	17	1	
	24	42	18	1	
	19	23	4	1	
	22	37	15	1	
	25	34	9	1	
	30	39	9	2	
	21	34	13	1	
	25	63	38	2	
	21	33	12	1	
	20	37	17	1	
	49	87	38	2	
	22	37	15	1	
	32	69	37	2	
	19	24	5	1	
	24	38	14	1	
	22	46	24	1	
	20	29	9	1	
	20	26	6	2	
	19	29	10	3	
	28	53	25	1	
	22	35	13	1	
CANE VALLEY-ALLUVIUM	20	31	11	1	
				62	COUNT
	49	87	40		MAXIMUM
	19	23	4		MINIMUM
	26	45	18		AVERAGE
COWBELL-ALLUVIUM	25	45	20	1	
	20	39	19	2	
COWBELL-NADA-RENFRO	32	60	27	1	
				3	COUNT
	32	60	27		MAXIMUM
	20	39	19		MINIMUM
	25	48	22		AVERAGE
CONWAY CUT-ALLUVIUM	23	35	12	1	
	26	51	25	2	
	25	33	8	3	
				3	COUNT
	26	51	25		MAXIMUM
	23	33	8		MINIMUM
	24	39	15		AVERAGE
FORT PAYNE	20	26	6	1	
	29	66	37	2	
	36	75	39	3	
	25	28	3	1	
	26	29	3	2	
	22	33	11	1	
	34	69	35	2	
	29	62	33	3	
	19	30	11	1	
	22	38	16	1	
	20	31	11	1	
	19	39	20	2	

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SODS TABLE

BEDROCK	PLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBER
FORT FAYNE	19	30	11	1
	23	42	19	1
	20	32	12	2
	23	40	17	3
	18	28	10	1
	18	24	6	1
	37	62	25	2
	28	46	18	1
	9	37	28	1
	31	55	24	2
	27	51	24	3
	22	37	15	1
	14	24	10	2
	18	28	10	3
	33	60	27	1
	31	57	26	1
	21	35	14	1
	28	53	25	1
	21	25	4	1
	24	29	5	1
	21	32	11	1
	22	36	14	1
	25	43	18	1
	27	46	19	1
	7	25	18	1
	27	54	27	2
	20	47	27	1
	24	39	15	1
	20	29	9	1
	21	34	13	2
	20	30	10	3
	21	30	9	1
	21	30	9	2
	21	34	13	1
	24	37	13	2
	19	27	8	1
	19	26	7	1
	24	28	4	1
	21	27	6	1
	26	38	12	1
	26	35	9	2
	21	29	8	1
	19	23	4	1
	26	43	17	1
	19	28	9	1
	21	27	6	1
	17	24	7	1
	20	28	8	1
	17	20	3	1
	20	24	4	1
	23	42	19	1
	33	37	4	2
	25	39	14	1
	17	25	8	1
	24	42	18	1
	24	31	7	1
	31	44	13	1
	23	53	30	1
	23	46	23	2
	27	50	23	3
	19	42	23	1
	23	60	37	2
	27	76	49	3
	24	68	44	1
	20	31	11	1
	22	30	8	2
	21	53	32	1
	20	33	13	1
	21	50	29	2
	22	56	34	1

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SOIS TABLE

BEDROCK	PLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBER
FORT PAYNE	25	64	39	2
	22	56	34	3
	21	29	8	1
	20	49	29	1
	18	50	32	2
	23	52	29	1
	23	29	6	1
	22	34	12	2
	24	38	14	1
	20	34	14	1
	22	32	10	1
	21	31	10	1
	19	41	22	2
	21	34	13	1
	25	36	11	2
	21	37	16	1
	24	33	9	1
	25	39	14	2
	25	43	18	3
	26	33	7	1
	22	32	10	2
	26	33	7	3
	25	30	5	1
	24	41	17	2
	26	45	19	3
	31	47	16	4
	21	42	21	1
	15	42	27	2
	25	53	28	1
	20	29	9	1
	20	35	15	1
	23	33	10	1
	29	75	46	1
	32	37	5	2
	19	28	9	3
	25	35	10	1
	20	36	16	1
	19	24	5	1
	19	35	16	1
	19	28	9	1
	18	28	10	1
	22	35	13	1
	21	37	16	2
	18	38	20	1
	18	29	11	1
	20	38	18	1
	24	61	37	1
	16	31	15	1
	18	42	24	1
	18	39	21	1
	23	53	30	1
	22	35	13	1
	24	43	19	2
	21	34	13	1
	17	26	9	1
	18	29	11	2
	17	27	10	1
	31	43	12	2
	16	26	10	1
	23	33	10	1
	19	28	9	1
	19	40	21	1
	23	36	13	1
	29	39	10	1
	20	22	2	1
	22	23	1	1
	29	45	16	1
	30	40	10	1
	16	21	5	1
	30	40	10	1

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SODS TABLE

BEDROCK	PLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBER	
FORT PAYNE	21	26	5	1	
	29	58	29	1	
	30	58	28	1	
	25	37	12	1	
	20	36	16	1	
FORT PAYNE-ALLUVIUM	25	37	12	1	
	13	18	5	1	
	18	28	10	1	
	21	36	15	1	
	26	42	16	1	
FT PAYNE-CANE VALLEY	24	35	11	1	
	24	36	12	1	
	28	53	25	1	
	29	45	16	1	
	35	47	12	1	
	27	45	18	1	
	19	24	5	1	
FT PAYNE-CHATTANOOGA	26	46	20	1	
FT PAYNE-SALEM-WARSW	29	50	21	1	
	27	41	14	2	
	26	34	8	1	
	18	31	13	1	
	22	30	8	1	
MULDRAUGH	26	38	12	1	
	26	47	21	2	
	24	39	15	3	
	27	42	15	1	
	22	38	16	1	
	18	30	12	1	
	25	47	22	1	
	17	24	7	1	
	28	56	28	1	
	20	43	23	1	
	21	36	15	1	
	27	59	32	1	
MULDRAUGH-HALLS GAP	22	34	12	1	
	28	67	39	2	
MULDRAUGH-HARRODSBG	19	25	6	1	
MULDRAUGH-NANCY	24	28	4	1	
MULDRAUGH-SALEM-WARS	15	17	2	1	
	19	36	17	1	
	20	35	15	1	
	11	65	54	2	
	19	29	10	1	
	23	36	13	1	
	27	59	32	2	
	16	21	5	1	
				199	COUNT
	37	76	54		MAXIMUM
	7	17	1		MINIMUM
	22	38	15		AVERAGE
KNIFLEY-FORT PAYNE	25	33	8	1	
	23	30	7	1	
	24	28	4	2	
	22	30	8	1	
	21	30	9	2	
	20	25	5	1	
				6	COUNT
	25	33	9		MAXIMUM
	20	25	4		MINIMUM
	22	29	6		AVERAGE
NADA	16	18	2	1	
	22	23	1	2	
				2	COUNT

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SOILS TABLE

BEDROCK	PLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBER	
NADA	22	23	2		MAXIMUM
	16	18	1		MINIMUM
	19	20	1		AVERAGE
CHATANNOGA	24	32	8	1	
	25	32	7	2	
CHATTANOOGA-ALLUVIUM	17	29	12	1	
	27	42	15	1	
CHATTANOOGA-FT PAYNE	22	34	12	1	
NEW ALBANY	30	39	9	1	
	31	42	11	2	
	32	52	20	3	
	31	40	9	1	
	30	43	13	2	
	30	45	15	3	
	20	40	20	1	
	20	38	18	1	
	20	45	25	1	
	22	55	33	1	
	29	40	11	1	
	22	35	13	1	
	25	33	8	1	
	23	30	7	2	
	24	40	16	3	
	27	44	17	4	
	30	40	10	1	
	27	44	17	2	
	28	44	16	3	
	31	43	12	1	
	27	47	20	2	
	30	50	20	3	
	19	36	17	1	
	32	61	29	1	
	27	55	28	2	
	25	43	18	1	
	28	54	26	2	
	11	37	26	1	
	20	33	13	1	
	23	51	28	2	
	20	33	13	1	
	22	37	15	1	
	27	58	31	2	
	20	39	19	1	
	28	57	29	2	
	21	32	11	1	
	21	40	19	1	
	26	61	35	2	
	23	45	22	1	
	28	61	33	2	
	21	47	26	1	
	23	37	14	1	
	32	44	12	1	
	23	40	17	1	
	23	38	15	1	
	25	43	18	2	
	23	44	20	3	
	24	29	5	1	
	27	32	5	2	
	20	28	8	1	
	22	36	13	2	
	25	41	16	3	
	21	30	8	2	
	27	52	25	1	
	25	35	10	1	
	23	49	26	2	
	16	42	26	1	
	24	43	19	2	
	21	32	11	1	
	29	47	18	1	
	25	42	17	1	

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SODS TABLE

BEDROCK	PLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBER	
NEW ALBANY	25	40	15	1	
	21	37	16	1	
	21	35	14	2	
	37	33	1	1	
	33	73	40	1	
	26	52	26	1	
	20	35	15	2	
	27	40	13	1	
	21	33	12	1	
	26	33	7	2	
	24	39	15	1	
	26	39	13	2	
	24	38	14	1	
	26	34	8	1	
	25	36	11	2	
	26	41	15	3	
	NEW ALBANY-ALLUVIUM	26	56	30	1
	30	45	15	1	
NEW ALBANY-BEECHWOOD	22	28	6	1	
	22	38	15	2	
	23	38	15	3	
	23	28	5	1	
	20	37	16	2	
	27	32	4	3	
NEW ALBANY-LOESS	24	35	11	1	
NEW ALBANY-LOUISVILL	27	51	24	1	
	22	47	25	1	
OHIO	28	36	8	1	
	22	31	9	2	
	25	39	14	3	
	25	40	15	4	
	27	33	6	1	
	26	45	19	2	
	25	45	20	3	
	37	73	40	100	COUNT
	11	28	1		MAXIMUM
	24	41	16		MINIMUM
					AVERAGE
NANCY	19	32	12	1	
	24	43	18	1	
NANCY-CHATANOOGA	24	35	11	1	
	23	32	9	1	
	24	35	11	2	
	24	35	11	3	
NANCY-HALLS GAP	19	30	11	1	
	17	29	12	2	
	19	32	13	3	
NANCY-KENWOOD	29	38	9	1	
	21	34	13	1	
NANCY-MULDRAUGH	27	32	5	1	
	29	43	18	12	COUNT
	17	29	5		MAXIMUM
	22	33	11		MINIMUM
					AVERAGE
NEW PROVIDENCE	21	33	11	1	
	31	45	14	2	
	25	55	30	3	
	33	55	22	4	
	18	34	16	1	
	30	41	11	1	
	22	34	12	2	
	23	38	15	1	
	27	49	22	2	
	23	42	19	1	
	24	39	15	1	

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SODS TABLE

BEDROCK	PLASTIC LIMIT	LIQUID LIMIT	PLASTICITY INDEX	SAMPLE NUMBER	
NEW PROVIDENCE	24	47	23	2	
	32	65	33	1	
	24	38	14	1	
	25	50	25	2	
	23	51	28	3	
	22	29	7	1	
	18	37	19	2	
	24	50	26	3	
	23	47	24	4	
	23	33	10	1	
	20	31	11	1	
	23	35	12	1	
	32	52	20	1	
	24	31	7	1	
	24	36	12	1	
	22	33	11	2	
	23	36	13	1	
	21	30	9	1	
	23	24	1	1	
	21	34	13	2	
	21	32	10	3	
	20	26	5	4	
NEW PROVIDENCE-ALLU.	21	33	12	1	
NEW PROVIDENCE-LOESS	24	31	7	1	
NEW PROVIDENCE-N.ALB	28	47	19	1	
	30	53	23	2	
	24	37	13	1	
	21	35	14	2	
	21	33	12	1	
	23	39	16	2	
	18	37	19	1	
	20	47	27	2	
	25	39	13	1	
	28	53	25	2	
	18	24	5	1	
	23	37	14	2	
	27	44	17	3	
				48	COUNT
	33	65	33		MAXIMUM
	18	24	1		MINIMUM
	23	39	15		AVERAGE