Engineering Interpretations

Engineering Index Properties

This table gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey areas. Most soils have layers of contrasting properties within the upper 5 to 6 feet. Information in this table includes depth, USDA texture, Unified and AASHTO Classification, rock fragments larger than 3 inches, percentage passing designated sieves, liquid limit, and plasticity index.

Properties

DEPTH to the upper and lower boundaries of each layer is indicated.

TEXTURE is given in the standard terms used by the USDA. The terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. (Textural terms are defined in Chapter 4, Soil Survey Manual or in the glossary of most soil survey reports) If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

UNIFIED CLASSIFICATION SYSTEM classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content.

AASHTO CLASSIFICATION is the system adopted by the American Association of State Highway and Transportation Officials. It classifies soils according to those properties that affect roadway construction.

ROCK FRAGMENTS, 3 to 10 inches and greater than 10 inches in diameter, are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

PERCENTAGE (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven dry weight. The sieves, numbers 4, 10, 40, and 200, have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

LIQUID LIMIT AND PLASTICITY INDEX (Atterbery limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area, or from nearby areas, and on field examination.

This subsection includes:

- **(a) Engineering Index Properties**

Engineering Index Properties

(The symbol > means more than. Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
66000:												
Moniteau--------	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-100	25-35	5-15
	7-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-100	25-35	5-15
	14-80	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	85-100	80-95	30-45	15-25
70006:												
Creldon---------	0-10	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	100	95-100	90-100	80-95	20-40	2-15
	10-26	Silty clay loam, silty clay	CH	A-7	0	0	90-100	90-100	85-95	80-95	50-60	25-35
	26-33	Silt loam, silty clay loam, gravelly silty clay loam	CL	A-6, A-7	0	0-5	75-100	70-100	65-95	60-90	35-45	15-25
	33-41	Very gravelly silty clay loam, extremely gravelly silty clay loam, extremely cobbly silt loam	GC	A-6, A-2, A-7	0	0-25	30-65	30-60	25-55	20-50	35-45	15-25
	41-80	Very gravelly clay, extremely gravelly clay, cobbly clay	CH, SC, GC	A-2, A-7	0	0-10	45-75	40-75	35-70	30-65	55-80	35-60
70020:												
Blueye----------	0-9	Gravelly silt loam	CL-ML, CL, GC, SC	A-4, A-6	0	0-10	50-75	50-75	45-75	35-65	25-35	5-15
	9-14	Gravelly silt loam, very gravelly silt loam, gravelly silty clay loam	CL, SC, CL-ML, GC	A-2-4, A-4, A-6	0	0-10	40-75	35-75	30-75	25-70	25-35	5-15
	14-39	Silty clay, gravelly silty clay, gravelly clay	GC, CH, SC	A-7	0	0-5	55-90	50-90	50-90	40-85	60-85	35-60
	39-80	Unweathered bedrock			---	---	---	---	---	---	---	---
70021:												
Moko----------	0-2	Very gravelly loam, very gravelly silt loam	GC	A-2	0-5	5-20	40-60	35-55	30-50	25-35	25-45	10-20
	2-10	Extremely channery clay loam, extremely flaggy silt loam, very gravelly loam	CL, GC, SC	A-6, A-7	0-10	5-25	65-90	60-85	55-80	40-80	25-45	10-20
	10-80	Unweathered bedrock			---	---	---	---	---	---	---	---

Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
70022:												
Tonti----------	0-8	Silt loam	CL-ML, CL, SC, SC-SM	A-4, A-6	0	0-5	80-100	75-100	70-95	65-85	20-35	4-15
	8-20	Gravelly silty clay loam, gravelly silt loam, silty clay loam	CL, GC, SC	A-4, A-6	0	0-5	65-100	60-100	55-100	45-95	25-40	8-20
	20-34	Extremely gravelly silt loam, very gravelly silty clay loam	CL, GC, SC	A-2, A-4, A-6	0-5	0-10	25-55	20-50	15-50	15-40	25-40	7-20
	34-80	Extremely gravelly silty clay, very gravelly clay	CH, CL, SC, GC	A-2, A-7	0-5	0-10	15-65	10-60	10-55	5-50	45-80	25-50
71250, 71251:												
Britwater-------	0-6	Silt loam	CL, CL-ML	A-4	0	0	80-100	75-100	70-95	50-75	0-30	6-10
	6-22	Gravelly silty clay loam, gravelly silt loam, silty clay loam, silt loam	GC, CL, SC	A-4, A-6	0	0	60-100	55-95	50-90	45-85	23-38	8-15
	22-80	Very gravelly silty clay loam, very gravelly clay loam, gravelly clay	CL, GC, SC	A-2, A-6, A-7	0	0-5	30-60	25-55	20-50	15-45	30-50	10-25
73000:												
Pomme----------	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	80-100	75-100	70-95	50-90	21-30	6-10
	7-19	Silty clay loam, gravelly silt loam, gravelly silty clay loam	CL	A-4, A-6	0	0-10	70-95	65-90	50-85	50-75	27-40	9-15
	19-57	Very gravelly silty clay loam, very cobbly silty clay loam	GC	A-6, A-2, A-7-6	0	0-30	30-50	30-45	25-45	20-40	32-45	15-25
	57-86	Extremely gravelly clay, very cobbly clay	GC, GM	A-2, A-6, A-7-5	0	0-45	20-45	20-45	20-45	15-40	37-61	15-30

Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
73007:												
Plato----------	0-6	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	90-100	70-90	15-25	NP-6
	6-29	Silty clay loam, silty clay, clay	CH, CL	A-7	0	0	85-100	80-100	75-95	65-85	35-50	15-25
	29-46	Extremely gravelly silt loam, very gravelly silt loam, very gravelly silty clay loam	GC, GC-GM	A-1-b, A-4, A-6	0	0-15	25-55	20-50	15-45	15-40	25-40	5-20
	46-80	Very gravelly clay, gravelly clay, gravelly silty clay loam	CL, CH, GC, SC	A-7	0	0-20	40-75	40-70	35-70	30-60	45-60	30-45
73010:												
Wilderness------	0-6	Gravelly silt loam	GC, CL-ML, SC, SC-SM	A-2-4, A-4	0	0-10	55-85	50-75	45-70	40-65	20-30	5-10
	6-17	Very gravelly silty clay loam, extremely gravelly silty clay loam, very gravelly silt loam	GC, SC	A-2-6, A-6	0-5	0-15	25-55	20-50	15-50	15-40	25-40	10-20
	17-38	Very gravelly silt loam, very gravelly silty clay loam, extremely gravelly silt loam	GC, GP-GC, GC-GM	A-2-4, A-1, A-2-6	0-5	0-20	20-50	15-45	10-40	5-35	20-40	5-15
	38-80	Gravelly clay, clay, very gravelly clay, extremely gravelly silty clay	CL	A-6	0	0-10	15-65	10-60	10-55	5-50	25-40	15-25
73013:												
Lowassie--------	0-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-100	20-35	5-15
	10-18	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-100	25-40	5-20
	18-36	Silty clay, clay	CH	A-7	0	0	100	100	90-100	85-95	50-70	25-40
	36-80	Silt loam, silty clay loam		A-6, A-7	0	0	95-100	90-100	85-100	80-90	30-45	10-25

Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
73014:												
Clarksville-----	0-3	Very gravelly silt loam	GC, GP-GC, SC-SM, SC	A-1-a, A-2-4, A-2-6	0-5	0-10	30-70	30-60	5-50	5-45	13-40	NP-15
	3-13	Very gravelly silt loam, extremely gravelly silt loam	GP-GC, GC, SC, SP-SC	A-2-6, A-6	0-5	0-10	25-70	25-60	5-50	5-45	15-40	5-15
	13-47	Very gravelly silty clay loam, very gravelly silt loam	GC, SP-SC, GP-GC, SC	A-2-7, A-7	0-5	0-10	25-70	20-60	15-50	10-45	35-55	25-45
	47-80	Very gravelly silty clay, very gravelly clay, extremely gravelly silty clay	GC, CH	A-2-7, A-7	0-5	0-10	25-75	20-70	15-65	10-60	55-75	35-55
73015, 73016:												
Viraton---------	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	80-100	75-100	70-95	65-85	20-30	5-10
	6-21	Silt loam, gravelly silty clay loam, silty clay loam	CL	A-4, A-6	0	0-5	60-100	55-100	50-95	50-90	25-35	8-15
	21-33	Very gravelly silt loam, very gravelly silty clay loam	GC	A-2, A-4, A-6	0	0-10	35-60	30-55	25-45	25-45	25-35	8-15
	33-60	Very gravelly clay, extremely gravelly clay, extremely gravelly silty clay, extremely gravelly silty clay loam	GC	A-2, A-6, A-7	0	0-10	25-60	20-55	15-45	15-45	30-50	11-25
73017:												
Bendavis--------	0-3	Very gravelly silt loam	GC, GC-GM, GM	A-2-4, A-4	0-5	0-5	30-55	25-50	20-45	15-40	12-20	2-8
	3-14	Gravelly silt loam, very gravelly silt loam	GC, GM, ML	A-4	0-5	0-5	55-80	45-75	40-70	35-65	12-20	2-8
	14-34	Very gravelly silt loam, very gravelly silty clay loam	GC, SC	A-2-6, A-6	0-5	0-5	25-70	25-60	20-55	20-50	23-30	7-15
	34-80	Unweathered bedrock			---	---	---	---	---	---	---	---

Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
73017:												
Poynor----------	0-4	Very gravelly silt loam	GC, GC-GM, GM	A-1, A-4, A-2-4	0-5	0-20	30-55	25-50	20-45	20-40	20-30	2-8
	4-10	Very gravelly loam, very gravelly silt loam	GC, GM, GC-GM	A-1-b, A-2-4, A-4	0-5	0-20	25-55	25-50	20-50	15-40	20-30	2-8
	10-28	Very gravelly silt loam, very gravelly clay loam	GC	A-2-6, A-6	0-5	0-20	25-55	25-50	20-50	15-45	25-40	10-20
	28-80	Silty clay, clay	CH, MH	A-7	0	0-10	95-100	90-100	85-95	70-90	51-80	25-40
73018:												
Clarksville-----	0-3	Very gravelly silt loam	GP-GC, GC, SC, SC-SM	A-1-a, A-2-6, A-2-4	0-5	0-15	15-70	25-60	5-50	5-45	13-40	NP-15
	3-13	Very gravelly silt loam, extremely gravelly silt loam	GC, SP-SC, GP-GC, SC	A-2-6, A-6	0-5	0-15	15-70	10-60	5-50	5-45	15-40	5-15
	13-47	Very gravelly silt loam, very gravelly silty clay loam, extremely gravelly clay loam	GC, SP-SC, GP-GC, SC	A-2-7, A-7	0-5	0-25	25-70	20-60	15-50	10-45	35-55	25-45
	47-80	Very cobbly clay, very gravelly clay, extremely gravelly silty clay	GC, CH	A-2-7, A-7	0-15	0-15	25-75	20-70	15-65	10-60	55-75	35-55
73019:												
Poynor----------	0-4	Very gravelly silt loam	GC, GM, GC-GM	A-1, A-2-4, A-4	0-5	0-20	30-55	25-50	20-45	20-40	20-30	2-8
	4-10	Very gravelly silt loam, gravelly silt loam	GC-GM, GC, GM	A-1-b, A-2-4, A-4	0-5	0-20	25-55	20-50	20-50	15-40	20-30	2-8
	10-28	Very gravelly silty clay loam, extremely gravelly silt loam	GC	A-2-6, A-6	0-5	0-20	25-55	20-50	20-50	15-45	25-40	10-20
	28-80	Gravelly clay, clay	CH, MH	A-7	0	0-10	95-100	80-100	85-95	70-90	51-70	25-35

Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
73020:												
Poynor----------	0-4	Very gravelly silt loam	GC-GM, GC, GM	A-1, A-2-4, A-4	0-5	0-20	30-55	25-50	20-45	20-40	20-30	2-8
	4-10	Very gravelly silt loam, extremely gravelly silt loam	GC-GM, GC, GM	A-1-b, A-4, A-2-4	0-5	0-20	25-55	20-50	20-50	15-40	20-30	2-8
	10-28	Very gravelly silty clay loam, extremely gravelly silt loam	GC	A-2-6, A-6	0-5	0-20	25-55	20-50	20-50	15-45	25-40	10-20
	28-80	Clay, cobbly clay	CH, MH	A-7	0	0-10	95-100	80-100	85-95	70-90	51-70	25-35
73021:												
Poynor----------	0-4	Very gravelly silt loam	GC, GM, GC-GM	A-1, A-2-4, A-4	0-5	0-20	30-55	25-50	20-45	20-40	20-30	2-8
	4-10	Very gravelly silt loam	GC, GM, GC-GM	A-1-b, A-2-4, A-4	0-5	0-20	25-55	20-50	20-50	15-40	20-30	2-8
	10-28	Very gravelly silty clay loam, very gravelly silt loam	GC	A-2-6, A-6	0-5	0-20	25-55	20-50	20-50	15-45	25-40	10-20
	28-80	Clay, cobbly clay	CH, MH	A-7	0	0-10	95-100	80-100	85-95	70-90	51-80	25-40
73022:												
Alred----------	0-4	Very gravelly silt loam	GC, GC-GM	A-2, A-4, A-6	0	0-15	35-60	25-50	20-45	15-40	20-30	5-10
	4-27	Very gravelly silty clay loam, very gravelly silt loam, extremely gravelly silt loam	GC	A-2, A-4, A-6	0	0-25	25-55	20-50	15-45	15-40	25-38	8-15
	27-80	Clay, cobbly clay, gravelly clay	CH	A-7	0	0-30	60-100	55-100	50-95	50-85	50-80	30-45
Bardley---------	0-4	Very gravelly silt loam	CL, CL-ML, SC, GC	A-4, A-6	0-5	0-15	60-90	25-50	50-70	45-65	25-35	5-15
	4-8	Extremely gravelly silt loam, very gravelly silt loam	GC, GP-GC	A-2	0-5	0-15	15-30	10-30	5-25	5-25	35-45	15-20
	8-27	Clay, gravelly clay	GM, MH, SM	A-7	0	0-10	70-95	50-95	50-90	40-85	50-70	20-35
	27-80	Unweathered bedrock			---	---	---	---	---	---	---	---

Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
73023:												
Mano----------	0-3	Gravelly silt loam	GC, CL, GM, ML	A-2, A-1, A-4	0	0-5	55-80	50-75	25-75	15-70	16-25	3-8
	3-13	Gravelly silt loam			0	0-5	55-80	50-75	25-75	15-70	16-25	3-8
	13-33	Very gravelly silt loam, very gravelly silty clay loam	GC	A-2, A-6	0	0-5	25-55	25-50	25-50	25-45	20-30	5-15
	33-80	Clay, silty clay, gravelly clay	CH	A-7	0	0	70-95	70-95	65-90	55-85	50-75	30-45
Ocie----------	0-5	Very gravelly silt loam	CL, CL-ML, SC-SM, SC	A-1, A-2, A-4	0	0-15	45-80	40-60	30-65	20-60	0-25	5-10
	5-11	Very gravelly silt loam, very gravelly loam, gravelly silt loam	GC, GC-GM	A-1-b, A-2-6, A-2-4	0-5	0-20	40-55	20-75	20-45	15-35	20-30	5-15
	11-24	Very gravelly silty clay loam, very gravelly silt loam	GC, GC-GM	A-1-b, A-2-4, A-2-6	0-5	0-20	40-55	25-50	20-45	15-35	20-30	5-15
	24-56	Clay, gravelly clay	CH	A-7	0-5	0-15	75-95	70-90	65-85	60-80	50-70	30-40
	56-80	Unweathered bedrock			---	---	---	---	---	---	---	---
73024:												
Mano----------	0-3	Very gravelly silt loam	GC, CL, GM, ML	A-1, A-2, A-4	0	0-5	30-80	25-50	25-75	15-70	16-25	3-8
	3-13	Very gravelly silt loam			0	0-5	30-80	25-50	25-75	15-70	16-25	3-8
	13-33	Very gravelly silt loam, very gravelly silty clay loam	GC	A-2, A-6	0	0-5	25-55	25-50	25-50	25-45	20-30	5-15
	33-80	Clay, gravelly clay	CH	A-7	0	0	70-95	70-95	65-90	55-85	50-75	30-45
Ocie----------	0-5	Very gravelly silt loam	CL-ML, CL, SC, SC-SM	A-1, A-2, A-4	0	0-15	45-80	40-50	30-65	20-60	0-25	5-10
	5-11	Very gravelly silt loam	GC, GC-GM	A-1-b, A-2-4, A-2-6	0-5	0-20	40-55	20-50	20-45	15-35	20-30	5-15
	11-24	Very gravelly silt loam, extremely gravelly silt loam, very gravelly silty clay loam	GC, GC-GM	A-1-b, A-2-4, A-2-6	0-5	0-20	40-55	20-50	20-45	15-35	20-30	5-15
	24-56	Gravelly clay, clay	CH	A-7	0-5	0-15	75-95	70-90	65-85	60-80	50-70	30-40
	56-80	Unweathered bedrock			---	---	---	---	---	---	---	---

Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
73025:												
Gatewood--------	0-2	Gravelly silt loam	CL, GC, SC	A-2, A-4, A-6	0	0-15	55-80	50-75	45-70	40-65	25-35	5-15
	2-5	Very gravelly silt loam, gravelly silt loam	GC, CL, SC	A-4, A-2, A-6	0	0-15	40-90	35-85	30-75	30-70	25-35	5-15
	5-36	Clay, gravelly clay	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-85	55-75	30-45
	36-80	Unweathered bedrock			---	---	---	---	---	---	---	---
Ocie----------	0-5	Very gravelly silt loam	CL, SC-SM, CL-ML, SC	A-1, A-2, A-4	0	0-15	45-80	40-50	30-65	20-60	0-25	5-10
	5-11	Very gravelly silt loam	GC, GC-GM	A-1-b, A-2-4, A-2-6	0-5	0-20	40-55	30-50	20-45	15-35	20-30	5-15
	11-24	Very gravelly silt loam, very gravelly silty clay loam	GC, GC-GM	A-1-b, A-2-4, A-2-6	0-5	0-20	40-55	20-50	20-45	15-35	20-30	5-15
	24-56	Clay, gravelly clay	CH	A-7	0-5	0-15	75-95	70-90	65-85	60-80	50-70	30-40
	56-80	Unweathered bedrock			---	---	---	---	---	---	---	---
73026:												
Gatewood--------	0-2	Very gravelly silt loam	CL, CL-ML, ML, GC	A-6, A-2-6, A-2-7	0	0-10	35-95	40-60	35-55	30-50	20-40	10-20
	2-5	Very gravelly silt loam	GC, GM	A-1-b, A-2-6, A-2-7	0	0-10	40-95	35-60	30-55	25-50	20-40	10-20
	5-36	Gravelly clay, clay	GC, CH	A-7	0-10	0-10	25-95	60-85	55-80	50-75	50-80	30-50
	36-80	Unweathered bedrock			---	---	---	---	---	---	---	---
Ocie----------	0-5	Very gravelly silt loam	CL, GC, SC	A-2, A-4, A-6	0	0-15	55-80	40-60	35-55	30-50	25-35	5-15
	5-11	Very gravelly silt loam, extremely gravelly silt loam	CL, SC, GC	A-4, A-2, A-6	0	0-15	40-90	35-60	30-55	30-50	25-35	5-15
	11-24	Very gravelly silt loam, extremely gravelly silt loam, very gravelly silty clay loam	GC, GC-GM	A-1-b, A-2-4, A-2-6	0-5	0-20	40-55	20-50	20-45	15-35	20-30	5-15
	24-56	Clay, gravelly clay	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-85	55-75	30-45
	56-80	Unweathered bedrock			---	---	---	---	---	---	---	---
73027:												
Gatewood--------	0-2	Very gravelly silt loam	GC, CL, GP-GC SC	A-4, A-2, A-6	0-5	5-15	30-80	40-60	35-55	30-50	25-35	5-15
	2-5	Very gravelly silt loam	GC, GM	A-1-b, A-2-6, A-2-7	0	5-15	40-95	35-70	30-65	25-60	20-40	10-20
	5-36	Clay, gravelly clay	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-85	55-75	30-45
	36-80	Unweathered bedrock			---	---	---	---	---	---	---	---

Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
73027:												
Ocie----------	0-5	Very gravelly silt loam	CL, GC, SC	A-2, A-6, A-4	0	0-15	55-80	30-60	30-55	25-50	25-35	5-15
	5-11	Very gravelly silt loam	SC, CL, GC	A-2, A-4, A-6	0	0-15	40-90	35-60	30-55	25-50	25-35	5-15
	11-24	Very gravelly silt loam, extremely gravelly silt loam, very gravelly silty clay loam	GC, GC-GM	A-1-b, A-2-6, A-2-4	0-5	0-20	40-55	20-50	20-45	15-35	20-30	5-15
	24-56	Gravelly clay, clay	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-85	55-75	30-45
	56-80	Unweathered bedrock			---	---	---	---	---	---	---	---
73028:												
Rueter----------	0-5	Extremely gravelly silt loam	GP-GC, GC, SC, SC-SM	A-1-a, A-2-4, A-2-6	0-5	0-15	15-70	10-35	5-35	5-30	13-40	NP-15
	5-13	Extremely gravelly silt loam, very gravelly silt loam	GC, GP-GC, SP-SC, SC	A-2-6, A-6	0-5	0-15	15-70	10-60	5-50	5-45	15-40	5-15
	13-42	Extremely gravelly silt loam, very gravelly loam	GP-GC, GC, SC, SP-SC	A-2-7, A-7	0-5	0-25	25-70	20-60	15-50	10-45	35-55	25-45
	42-80	Very gravelly clay	GC, CH	A-2-7, A-7	0-5	0-15	25-75	30-70	25-65	20-60	55-75	35-55
73028:												
Bardley---------	0-4	Extremely gravelly silt loam	CL-ML, CL, GC, SC	A-4, A-6	0-5	0-15	60-90	15-30	15-30	10-25	25-35	5-15
	4-8	Very gravelly silt loam, extremely gravelly silty clay loam, extremely gravelly silt loam	GC, GP-GC	A-2	0-5	0-15	15-30	10-30	5-25	5-25	35-45	15-20
	8-27	Clay, gravelly clay	MH, GM, SM	A-7	0	0-10	70-95	50-95	50-90	40-85	50-70	20-35
	27-80	Unweathered bedrock			---	---	---	---	---	---	---	---
73029:												
Gasconade-------	0-7	Very gravelly silty clay loam	GC	A-2-6, A-6, A-2-7	0	0-15	40-55	35-50	25-45	20-40	38-43	15-20
	7-14	Very gravelly clay, extremely gravelly clay	GC	A-2-6, A-2-7	0-2	0-20	40-55	35-50	20-40	20-35	38-61	15-30
	14-80	Unweathered bedrock			---	---	---	---	---	---	---	---

Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
73029:												
Gatewood--------	0-2	Very gravelly silt loam	CL, GC, SC	A-2, A-4, A-6	0	0-15	55-80	40-60	35-55	30-45	25-35	5-15
	2-5	Gravelly silt loam, very gravelly silt loam	CL, GC, SC	A-4, A-2, A-6	0	0-15	40-90	35-85	30-75	30-70	25-35	5-15
	5-36	Gravelly clay, clay	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-85	55-75	30-45
	36-80	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
73030:												
Gasconade-------	0-7	Very gravelly clay loam	CL	A-6	5-15	35-75	75-90	70-85	60-75	55-65	30-40	15-25
	7-14	Very gravelly clay, very flaggy silty clay	GC	A-2-7	0-10	10-70	45-55	40-50	30-40	20-35	55-65	35-45
	14-80	Unweathered bedrock			---	---	---	---	---	---	---	---
73032:												
Gatewood--------	0-2	Very gravelly silt loam	CL, SC, GC	A-4, A-2, A-6	0	0-15	55-80	35-55	30-50	30-45	25-35	5-15
	2-5	Very gravelly silt loam, gravelly silt loam	CL, GC, SC	A-2, A-4, A-6	0	0-15	40-90	35-85	30-75	30-70	25-35	5-15
	5-36	Clay, gravelly clay	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-85	55-75	30-45
	36-80	Unweathered bedrock			---	---	---	---	---	---	---	---
73033:												
Gatewood--------	0-2	Extremely gravelly silt loam	CL, GC, SC	A-2, A-6, A-4	0	0-15	55-80	20-30	15-30	10-25	25-35	5-15
	2-5	Very gravelly silt loam, gravelly silt loam	CL, GC, SC	A-2, A-4, A-6	0	0-15	40-90	35-85	30-75	30-70	25-35	5-15
	5-36	Clay, cobbly clay	CH	A-7	0-5	0-10	80-95	60-90	55-90	50-85	55-75	30-45
	36-80	Unweathered bedrock			---	---	---	---	---	---	---	---
73051:												
Winnipeg--------	0-6	Silt loam	CL	A-4	0	0	95-100	90-100	85-95	75-85	25-35	5-15
	6-16	Silt loam, silty clay loam	CL	A-6	0	0	95-100	90-100	85-95	80-90	30-40	10-20
	16-44	Silty clay loam, silt loam	CL	A-6	0	0	90-100	75-100	60-95	55-90	35-45	15-25
	44-80	Gravelly silty clay loam, very gravelly silty clay loam	GC, SC	A-2-6, A-6	0	0	45-100	35-100	35-95	30-85	34-70	15-45

Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
74626:												
Tanglenook------	0-6	Silt loam	CL	A-4	0	0	100	100	95-100	80-90	27-32	5-10
	6-17	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-90	35-45	15-25
	17-30	Silty clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	95-100	45-55	25-35
	30-56	Silty clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	95-100	45-55	25-35
	56-80	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	95-100	45-55	25-35
74627:												
Hartville-------	0-7	Silt loam	CL, ML	A-4, A-6	0	0	95-100	90-100	80-95	70-90	15-30	5-15
	7-11	Silt loam	CL	A-6, A-7	0	0	95-100	90-100	85-100	75-90	15-30	15-25
	11-40	Silty clay, silty clay loam	CH	A-7	0	0	95-100	85-100	80-100	75-95	50-60	30-40
	40-80	Silty clay loam	SC, GC, CH	A-7	0	0	85-95	75-95	65-100	60-95	40-50	25-40
75377:												
Racket----------	0-21	Silt loam	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-95	55-85	25-35	5-15
	21-42	Silt loam, loam	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-95	55-95	25-40	5-20
	42-80	Stratified extremely gravelly sand to gravelly loamy sand	GM, SP-SM, GP-GM, SM	A-1	0	0-15	30-65	20-65	10-50	5-20	15-30	NP-5
75379:												
Kaintuck--------	0-6	Loam	ML, CL-ML, SC-SM, SM	A-4	0	0	95-100	85-100	75-95	60-75	0-20	NP-5
	6-45	Stratified fine sandy loam to silt loam	CL-ML, GM, SM, ML	A-2, A-4	0	0	95-100	85-100	70-90	40-55	0-20	NP-5
	45-80	Stratified loamy sand to fine sandy loam	GM, CL-ML, ML, SM	A-1, A-4, A-2	0	0	80-100	75-100	40-60	15-25	0-20	NP-5
75380:												
Dapue----------	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	95-100	85-100	60-95	25-40	5-15
	9-15	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	95-100	85-100	60-95	25-40	5-15
	15-80	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	95-100	85-100	60-95	25-40	5-15
75381:												
Bearthicket-----	0-10	Silt loam	CL, CL-ML, ML	A-4	0	0	100	95-100	90-100	75-90	25-35	3-10
	10-48	Silt loam, silty clay loam	CL-ML, CL, ML	A-4, A-6	0	0	100	95-100	90-100	80-90	25-40	5-15
	48-80	Silt loam, silty clay loam	CL-ML, CL, ML	A-4, A-6	0	0	95-100	85-100	80-100	75-95	25-40	5-15

Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
75382:												
Cedargap--------	0-8	Gravelly loam	GM, SM	A-1, A-2-4, A-4	0	0-5	60-85	50-75	45-70	40-60	25-35	3-10
	8-46	Very gravelly loam, very gravelly clay loam	GM, ML, SM	A-1, A-4, A-2	0	0-5	35-65	25-55	20-50	15-40	25-35	3-10
	46-80	Very gravelly clay loam, extremely gravelly loam, very gravelly loam	GC, GC-GM	A-1-b, A-2-4, A-2-6	0-20	0-20	40-70	30-60	25-55	20-50	20-35	5-20
75383:												
Cedargap--------	0-8	Silt loam	GM, SM	A-1, A-2-4, A-4	0	0-5	90-100	75-95	70-90	65-85	25-35	3-10
	8-46	Very gravelly loam, very gravelly clay loam	GM, SM, ML	A-1, A-2, A-4	0	0-5	35-65	25-55	20-50	15-40	25-35	3-10
	46-80	Very gravelly clay loam, extremely gravelly loam, very gravelly loam	GC, GC-GM	A-1-b, A-2-4, A-2-6	0-20	0-20	40-70	30-60	25-55	20-50	20-35	5-20
99000. Pits, quarries												
99001. Water												
99002. Orthents, borrow area, clayey												