

TABLE 13.--ENGINEERING INDEX PROPERTIES

[The symbol < means less than; > means more than. Absence of an entry indicates that data were not estimated]

Map symbol and soil name	Depth In	USDA texture	Classification		Frag- ments > 3 inches Pct	Percentage passing sieve number--				Liquid limit Pct	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
ABC*: Antosa-----	0-30	Sand, fine sand, loamy fine sand.	SM-SC, SP-SM, SM	A-2-4, A-3	0	100	95-100	90-100	8-35	<25	NP-7**
	30-47	Sandy clay, sandy clay loam.	SC	A-2-6, A-6, A-7-6	0	95-100	90-100	80-100	20-50	25-43	11-27
	47-72	Sandy clay loam, fine sandy loam.	SC	A-2-4, A-2-6, A-4, A-6	0-5	90-100	85-100	80-100	18-48	18-35	7-22
Bobillo-----	0-58	Sand, fine sand, loamy fine sand.	SM-SC, SP-SM, SM	A-2-4, A-3	0	100	95-100	90-100	7-35	<25	NP-7
	58-80	Sandy clay loam, fine sandy loam.	SC	A-2-6, A-6	0-5	90-100	85-100	80-100	20-50	25-40	11-25
BAA----- Batesville	0-10	Fine sandy loam	SC, SM, SM-SC, CL	A-2-4, A-4	0	100	95-100	85-100	30-60	<30	NP-10
	10-28	Sandy clay loam, clay loam.	CL, SC	A-6, A-7-6	0	95-100	95-100	90-100	40-65	30-50	11-27
	28-40	Cemented-----	---	---	---	---	---	---	---	---	---
BkA, BkB, BkC, BOB----- Bookout	0-14	Clay loam-----	CL	A-6, A-7-6	0	90-100	85-100	75-95	70-90	35-45	15-25
	14-80	Silty clay loam, silty clay, clay, clay loam.	CL	A-6, A-7-6	0	90-100	85-100	75-100	70-95	35-48	15-25
Br, Bu----- Brundage	0-3	Fine sandy loam	SC, SM, CL, SM-SC	A-2-4, A-4	0	100	95-100	65-100	30-60	<30	NP-10
	3-7	Sandy clay loam, clay loam.	SC, CL	A-6	0	95-100	95-100	80-100	36-55	25-35	11-20
	7-42	Sandy clay loam, clay loam.	CL, SC	A-6, A-7-6	0	95-100	95-100	90-100	40-65	30-50	11-27
	42-72	Sandy clay loam	CL, SC	A-6	0	95-100	95-100	85-100	40-65	25-40	11-25
BxB, BYB----- Brystal	0-7	Fine sandy loam	SM, SC, SM-SC	A-2-4, A-4	0	98-100	98-100	60-95	25-50	<25	NP-10
	7-44	Sandy clay loam, sandy loam.	SC, CL	A-4, A-6, A-2-4, A-2-6	0	98-100	98-100	70-95	30-55	27-39	8-18
	44-72	Sandy clay loam, sandy loam.	SC, SM-SC, CL	A-2-4, A-2-6, A-4, A-6	0	90-100	80-100	60-95	30-60	20-37	7-23
CaA, CaB, CDB---- Caid	0-12	Sandy clay loam	SC, CL	A-6, A-4	0	95-100	95-100	90-100	36-55	20-30	8-15
	12-29	Sandy clay loam, clay loam.	SC, CL	A-6, A-7	0	95-100	95-100	80-95	40-60	30-45	11-23
	29-72	Sandy clay loam, clay loam, sandy clay.	SC, CL	A-6, A-7	0	90-100	90-100	80-95	45-65	30-45	11-25
Cf, CGB----- Catarina	0-58	Clay-----	CH	A-7-6	0-2	85-100	82-100	82-100	80-98	51-76	30-49
	58-64	Clay-----	CH, CL	A-7-6	0-1	95-100	90-100	85-100	80-95	44-66	23-41
ChA, ChB, CKB---- Chacon	0-15	Clay loam-----	CL	A-6, A-7-6	0	97-100	95-100	90-100	51-75	30-42	15-25
	15-40	Sandy clay, clay loam, clay.	CL, CH	A-7-6	0	97-100	95-100	90-100	60-80	41-55	28-40
	40-66	Sandy clay, clay loam, clay.	CL, CH	A-6, A-7-6	0	90-100	90-100	85-95	60-80	35-55	23-40
Cm, Cn----- Cochina	0-72	Clay-----	CH	A-7-6	0	80-100	75-100	75-100	70-100	51-80	35-55
Co----- Conalb	0-80	Loam, silt loam, clay loam.	CL, CL-ML	A-4, A-6	0	90-100	90-100	85-100	75-100	25-37	5-16

See footnotes at end of table.

TABLE 13.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth <u>In</u>	USDA texture	Classification		Frag- ments > 3 inches <u>Pct</u>	Percentage passing sieve number--				Liquid limit <u>Pct</u>	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
CtA, CtB, CUB--- Cotulla	0-32	Clay-----	CH	A-7-6	0	80-100	75-100	75-100	75-100	51-70	29-46
	32-72	Clay, shaly clay	CH	A-7-6	0	80-100	75-100	75-100	70-100	51-70	29-46
DA----- Dev	0-72	Very gravelly loam, very gravelly clay loam.	GC, GP-GC, SC, SP-SC	A-2-4, A-2-6, A-7, A-6	0-10	10-78	5-65	5-50	5-42	28-47	9-24
DcC*: Dilley-----	0-5	Fine sandy loam	SM, SM-SC	A-2-4, A-4	0-10	75-100	70-100	70-85	25-40	<25	NP-7
	5-16	Fine sandy loam, sandy clay loam.	SC, SM-SC	A-4, A-6	0-10	75-100	75-100	70-85	36-50	20-30	7-15
	16-36	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
DFC----- Dilley	0-5	Fine sandy loam	SM, SM-SC	A-2-4, A-4	0-10	75-100	70-100	70-85	25-40	<25	NP-7
	5-16	Fine sandy loam, sandy clay loam.	SC, SM-SC	A-4, A-6	0-10	75-100	75-100	70-85	36-50	20-30	7-15
	16-36	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
DE----- Divot	0-64	Silty clay loam, clay, silty clay	CL, CH	A-7	0-5	85-100	75-100	75-100	70-95	40-55	19-30
DuB----- Duval	0-15	Loamy fine sand	SM, SM-SC	A-2-4	0	80-100	75-100	75-100	15-30	<20	NP-7
	15-44	Sandy clay loam, sandy loam.	SC	A-4, A-6	0	80-100	75-100	75-100	36-50	26-40	9-19
	44-50	Sandy clay loam, sandy loam.	SC, SM-SC	A-2-4, A-2-6, A-4, A-6	0	80-100	70-100	60-80	25-50	20-35	4-15
	50-70	Weathered bedrock	---	---	---	---	---	---	---	---	---
DvB, DYB----- Duval	0-15	Fine sandy loam	SM, SC, SM-SC	A-2-4, A-4	0	80-100	75-100	75-100	15-50	<25	NP-10
	15-44	Sandy clay loam, sandy loam.	SC	A-4, A-6	0	80-100	75-100	75-100	36-50	26-40	9-19
	44-50	Sandy clay loam, sandy loam.	SC, SM-SC	A-2-4, A-2-6, A-4, A-6	0	80-100	70-100	60-80	25-50	20-35	4-15
	50-70	Weathered bedrock	---	---	---	---	---	---	---	---	---
JED----- Jimenez	0-12	Very gravelly loam.	GC, GM-GC	A-1, A-2-4, A-2-6	5-20	30-58	15-40	15-35	15-30	22-35	5-15
	12-16	Cemented-----	---	---	---	---	---	---	---	---	---
16-24	Variable-----	---	---	---	---	---	---	---	---	---	
MAC----- Maverick	0-6	Very gravelly clay loam.	GC, SC	A-2-6, A-2-7, A-6, A-7	0-5	45-75	35-65	30-55	20-50	35-50	18-30
	6-18	Clay, clay loam	CH	A-7-6	0	98-100	95-100	90-100	80-100	51-71	30-45
	18-28	Clay, clay loam	CH, CL	A-7-6	0	98-100	90-100	85-100	75-95	45-60	20-40
	28-60	Shaly clay-----	CH, CL	A-7-6	0	90-100	85-100	80-100	60-95	41-72	20-52
MKG----- Maverick	0-6	Clay loam-----	CH, CL	A-7-6,	0	75-100	65-100	55-100	51-100	36-60	20-35
	6-18	Clay, clay loam	CH	A-7-6	0	98-100	95-100	90-100	80-100	51-71	30-45
	18-28	Clay, clay loam	CH, CL	A-7-6	0	98-100	90-100	85-100	75-95	45-60	20-40
	28-60	Shaly clay-----	CH, CL	A-7-6	0	90-100	85-100	80-100	60-95	41-72	20-52
MnA, MOA----- Montell	0-19	Clay-----	CH	A-7-6	0	80-100	75-100	75-100	75-100	51-70	29-46
	19-64	Clay-----	CH	A-7-6	0	80-100	75-100	75-100	70-100	51-73	29-49
OMD----- Olmos	0-14	Very gravelly loam and clay loam.	GC, GM-GC, SC, SM-SC	A-2-4, A-2-6	0-30	35-75	25-55	25-55	20-35	25-35	7-15
	14-72	Cemented-----	---	---	---	---	---	---	---	---	---

See footnotes at end of table.

TABLE 13.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth In	USDA texture	Classification		Frag- ments > 3 inches Pct	Percentage passing sieve number--				Liquid limit Pct	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
Pa*. Pits											
Po----- Poteet	0-24	Fine sandy loam	SM, SM-SC	A-2-4, A-4	0	95-100	95-100	90-100	30-49	<25	NP-7
	24-52	Sandy clay loam, clay loam, sandy clay.	SC, CL	A-6, A-7-6	0	95-100	95-100	90-100	40-55	32-45	15-23
	52-64	Sandy clay loam, clay loam, fine sandy loam.	SC, CL	A-6, A-7-6	0	95-100	90-100	85-100	36-55	30-43	14-22
PrA, PrB, PYB--- Pryor	0-9	Sandy clay loam	CL	A-6, A-7-6	0	90-100	90-100	90-100	55-85	25-45	11-25
	9-46	Clay loam, clay	CL, CH	A-6, A-7-6	0	98-100	95-100	90-100	70-95	37-55	22-35
	46-72	Shaly clay-----	CL, CH	A-6, A-7-6	0	98-100	95-100	85-100	75-90	37-55	25-35
RAC----- Randado	0-7	Fine sandy loam	SM, SM-SC	A-2-4	0-5	75-100	70-100	70-100	20-35	<25	NP-7
	7-15	Loam, sandy clay loam.	SC, SM-SC, GC	A-2-4, A-2-6, A-4, A-6	0-5	65-100	60-100	60-100	25-50	25-34	7-14
	15-26	Cemented-----	---	---	---	---	---	---	---	---	---
Tc----- Tiocono	0-64	Clay, sandy clay, silty clay.	CH	A-7-6	0	100	100	95-100	85-100	56-76	33-49
TnA, TnB, TOB--- Tonio	0-10	Fine sandy loam	SC, SM-SC, SM	A-2-4, A-4	0	95-100	90-100	90-100	25-50	<30	NP-10
	10-54	Sandy clay loam, loam, fine sandy loam, clay loam.	SC, CL	A-6, A-4	0	95-100	85-100	85-100	36-70	25-40	9-21
	54-74	Weathered bedrock	---	---	---	---	---	---	---	---	---
UdA, UdB, UVB--- Uvalde	0-34	Silty clay loam	CL	A-6, A-7	0-2	95-100	95-100	90-98	80-95	38-49	20-30
	34-84	Clay loam, silty clay, clay, silty clay loam.	CL	A-6, A-7	0-2	85-100	60-95	60-95	60-90	30-43	14-25
VAB----- Valco	0-17	Clay loam-----	CL	A-6, A-7-6	0-5	75-95	60-90	55-80	51-70	34-43	14-21
	17-40	Cemented-----	---	---	---	---	---	---	---	---	---
VEC----- Verick	0-5	Fine sandy loam	SC, SM-SC	A-2-4, A-4	0-5	95-100	75-100	70-100	25-50	20-30	4-10
	5-17	Sandy clay loam, fine sandy, loam	SC, CL	A-4, A-6	0-10	90-100	75-100	70-100	36-70	28-39	9-18
	17-40	Weathered bedrock	---	---	---	---	---	---	---	---	---
WbB, WEB----- Webb	0-10	Fine sandy loam	SM, SM-SC, ML, CL-ML	A-2, A-4	0-2	90-100	85-100	85-99	25-60	<25	NP-7
	10-13	Sandy clay loam, fine sandy loam.	SC, CL	A-4, A-6	0-2	95-100	90-100	85-99	45-70	25-38	8-20
	13-40	Sandy clay, clay, clay loam.	CL	A-6, A-7-6	0-2	95-100	90-100	90-99	51-80	37-50	20-30
	40-64	Sandy clay loam, fine sandy loam.	SC, CL	A-6	0-2	95-100	90-100	90-100	45-80	30-40	12-22
WnA, WnB, Wv--- Winterhaven	0-17	Silty clay loam	CL	A-4, A-6	0	100	100	95-100	80-100	25-40	8-16
	17-36	Silty clay loam, silt loam, clay loam.	CL	A-4, A-6	0	98-100	95-100	95-100	85-100	25-40	8-23
	36-72	Stratified silt loam to clay loam.	CL, CL-ML	A-4, A-6	0	98-100	95-100	85-100	55-95	20-40	4-20

See footnotes at end of table.

TABLE 13.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth In	USDA texture	Classification		Frag- ments > 3 inches Pct	Percentage passing sieve number--				Liquid limit Pct	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
YHD*: Yologo-----	0-7	Very gravelly loam, very gravelly sandy clay loam.	GC, SC	A-2-4, A-2-6	0-5	30-70	25-70	15-50	15-35	25-35	8-15
	7-15	Very gravelly clay loam, very gravelly sandy clay loam.	GC, SC	A-2-6	0-10	20-65	15-50	14-50	13-35	30-40	11-20
	15-18	Indurated-----	---	---	---	---	---	---	---	---	---
	18-60	Variable-----	---	---	---	---	---	---	---	---	---
Hindes-----	0-10	Very gravelly sandy clay loam, very gravelly loam, very gravelly clay loam.	GC, SC	A-2-6, A-4, A-6 A-2-4	0-20	35-95	35-50	35-50	30-50	<30	8-15
	10-32	Very gravelly clay, very gravelly clay loam.	GC, SC	A-2-7, A-7-6	0-20	20-70	20-50	20-45	15-45	41-52	20-28
	32-80	Variable-----	---	---	---	---	---	---	---	---	---
ZAD----- Zapata	0-7 7-30	Gravelly loam----- Cemented-----	GC, SC, CL	A-4, A-6	0-8	65-90	60-85	55-85	35-65	27-40	9-21
ZcA, ZcB, ZVB---- Zavco	0-16 16-56 56-72	Sandy clay loam Sandy clay, clay Sandy clay loam, clay loam.	SC, CL SC, CL, CH SC, CL	A-4, A-6 A-7-6 A-6, A-7-6	0 0 0	95-100 95-100 85-100	95-100 95-100 80-100	80-90 85-95 70-85	40-65 45-75 45-65	25-40 41-58 34-45	8-22 21-33 15-25

\* See description of the map unit for composition and behavior characteristics of the map unit.  
 \*\* NP means nonplastic.