

TABLE 4.—Engineering

[Tests performed by Texas Highway Department in accordance with standard procedures

Soil name and location	Parent material	Texas report number	Depth	Horizon	Shrinkage		
					Limit	Lineal	Ratio
Knippa silty clay: 6.8 miles north of Courthouse in Brackettville on Farm Road 674; 800 feet north and 100 feet east of entrance to Alamo Village. (Modal profile)	Alluvium (outwash).	62-6-R----	<i>Inches</i> 8-19	A12-----	13	15.5	1.91
		62-7-R----	41-55	Cca-----	12	14.8	2.00
6.8 miles north of Courthouse in Brackettville on Farm Road 674 and 2 miles northeast of Shahan Ranch entrance. (Gravelly subsoil)	Alluvium (outwash).	62-8-R----	6-15	A12-----	13	15.8	1.89
		62-9-R----	25-57	Cca-----	14	13.7	1.89
12 miles northeast of Brackettville; 0.6 mile north of Farm Road 334; 575 feet north and 60 feet west of Tularosa Road. (Heavier clay than in modal profile)	Alluvium (outwash).	62-10-R---	7-24	A12-----	11	19.4	1.96
		62-11-R---	41-56	Cca-----	13	15.4	1.98
Montell clay: 2 miles south of Spofford on State Route 131 and 100 feet northeast of Farm Road 1908. (Modal profile)	Old alluvium.	62-14-R---	10-30	A12-----	10	17.8	2.03
		62-15-R---	43-56	Cca <sup>1</sup> -----	13	16.1	1.94
2 miles west of Brackettville on U.S. Highway No. 90 and 3 miles southwest on Farm Road 693; 60 feet east of road. (Less clayey than in modal profile)	Old alluvium.	62-12-R---	10-30	A12-----	13	20.2	2.00
		62-13-R---	43-64	Cca <sup>1</sup> -----	10	19.8	2.01
7 miles south of Spofford and 800 feet north of county line; 100 feet northeast of State Route 131. (More clayey than in modal profile)	Old alluvium.	62-16-R---	11-24	A12-----	11	22.2	2.03
		62-17-R---	35-51	Cca <sup>1</sup> -----	13	20.3	1.92
Uvalde silty clay loam: 2 miles west of Brackettville on U.S. Highway No. 90 and 5 miles southwest on Farm Road 693; 1.2 miles west on lane to Kerr Ranch. (Modal profile)	Old outwash.	62-20-R---	6-17	A12-----	13	13.5	1.90
		62-21-R---	27-38	Cca-----	12	12.6	1.96
2 miles west of Brackettville and 3 miles southwest of U.S. Highway No. 90; 600 feet east of Farm Road 693. (More clayey than in modal profile)	Old outwash.	62-18-R---	9-23	A12-----	11	15.6	1.92
		62-19-R---	36-49	Cca-----	14	12.9	1.85
7 miles east of Spofford and 0.55 mile north of Farm Road 1572; 30 feet west of lane to Franks Ranch. (Thicker Cca horizon than in modal profile)	Old outwash.	62-22-R---	5-14	A12-----	15	10.2	1.85
		62-23-R---	29-58	Cca-----	15	9.2	1.87

<sup>1</sup> Mechanical analyses according to the AASHTO Designation T 88-57 (1). Results by this procedure frequently may differ somewhat from results that would have been obtained by the soil survey procedure of the Soil Conservation Service (SCS). In the AASHTO procedure, the fine material is analyzed by the hydrometer method and the various grain-size fractions are calculated on the basis of all the material, including that coarser than 2 millimeters in diameter. In the SCS soil survey procedure, the fine material is analyzed by the pipette method, and the material coarser than 2 millimeters in diameter is excluded from calculations of grain-size fractions. The mechanical analysis data used in this table are not suitable for use in naming textural classes for soils.

test data

of the American Association of State Highway Officials (AASHO) (1)

Mechanical analysis <sup>1</sup>										Liquid limit	Plasticity index	Classification	
Percentage passing sieve—						Percentage smaller than—			AASHO <sup>2</sup>			Unified <sup>3</sup>	
2 in.	¾ in.	½ in.	No. 4 (4.76 mm.)	No. 10 (2.0 mm.)	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)	0.05 mm.	0.005 mm.					0.002 mm.
100	100	100	99	99	92	89	85	60	48	48	27	A-7-6(16)-----	CL.
	98	95	91	84	77	73	71	50	40	43	25	A-7-6(14)-----	CL.
100	96	94	91	87	81	77	73	49	38	49	28	A-7-6(17)-----	CL.
100	76	61	49	37	33	31	31	23	16	43	24	A-2-7(2)-----	SC.
100	99	99	97	94	81	78	75	58	43	57	34	A-7-6(19)-----	CH.
	98	94	91	88	83	80	80	58	42	46	28	A-7-6(16)-----	CL.
			100	100	96	87	82	65	55	49	31	A-7-6(18)-----	CL.
				99	92	84	80	56	31	49	31	A-7-6(18)-----	CL.
			100	99	95	89	86	70	60	62	40	A-7-6(20)-----	CH.
				100	95	89	85	66	7	56	36	A-7-6(19)-----	CH.
			100	99	99	91	89	67	58	67	41	A-7-6(20)-----	CH.
				100	98	88	78	77	58	64	41	A-7-6(20)-----	CH.
			100	99	93	81	75	50	40	41	23	A-7-6(13)-----	CL.
				100	96	88	83	56	38	38	20	A-6(12)-----	CL.
100	99	99	99	99	91	84	78	57	45	46	25	A-7-6(15)-----	CL.
			100	99	94	89	89	67	55	42	22	A-7-6(13)-----	CL.
100	100	100	99	97	90	80	76	52	35	35	18	A-6(11)-----	CL.
	96	91	86	80	77	72	70	51	34	33	16	A-6(10)-----	CL.

<sup>1</sup> Based on AASHO Designation M 145-49 (1).  
<sup>2</sup> Based on Unified Soil Classification System, Tech. Memo. No. 3-357, v. 1, Corps of Engineers, March 1953 (9).  
<sup>3</sup> Based on sample as received in laboratory. Laboratory test data not corrected for the 3- to 10-inch material, amounting to 20 percent discarded in field sampling.  
<sup>4</sup> Cca horizon contains gypsum, but laboratory test data were not corrected.