

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 <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 | | |
| | | | | | | | | | | | |
| AnA----- Angelo | 0-7 | Silty clay loam | CL | A-6, A-7-6 | 0 | 90-100 | 90-100 | 85-100 | 60-90 | 37-50 | 18-30 |
| | 7-36 | Clay, silty clay loam, silty clay, clay loam. | CL, CH | A-6, A-7-6 | 0 | 90-100 | 90-100 | 85-100 | 70-92 | 37-60 | 20-38 |
| | 36-80 | Clay loam, silty clay loam, clay, silty clay. | CL | A-6, A-7-6 | 0 | 60-100 | 60-100 | 60-100 | 50-90 | 30-49 | 15-30 |
| AnB----- Angelo | 0-12 | Silty clay loam | CL | A-6, A-7-6 | 0 | 90-100 | 90-100 | 85-100 | 60-90 | 37-50 | 18-30 |
| | 12-36 | Clay, silty clay loam, silty clay, clay loam. | CL, CH | A-6, A-7-6 | 0 | 90-100 | 90-100 | 85-100 | 70-92 | 37-60 | 20-38 |
| | 36-80 | Clay loam, silty clay loam, clay, silty clay. | CL | A-6, A-7-6 | 0 | 60-100 | 60-100 | 60-100 | 50-90 | 30-49 | 15-30 |
| BPC*: Blakeney----- | 0-14 | Fine sandy loam | SC, SM-SC | A-4, A-2-4 | 0-5 | 75-95 | 70-95 | 60-80 | 30-50 | 18-27 | 4-10 |
| | 14-36 | Indurated----- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 36-80 | Fine sandy loam, loam, gravelly loam. | SC, SM-SC, CL, CL-ML | A-2, A-4, A-6 | 5-20 | 75-95 | 70-90 | 55-85 | 25-55 | 15-25 | 4-12 |
| Spade----- | 0-36 | Fine sandy loam, loam. | SM, SM-SC | A-4, A-2-4 | 0 | 95-100 | 90-100 | 75-90 | 30-50 | <25 | NP-7 |
| | 36-80 | Unweathered bedrock. | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BrA----- Broome | 0-8 | Silt loam----- | CL | A-6, A-7 | 0 | 95-100 | 90-100 | 85-100 | 85-100 | 34-44 | 17-25 |
| | 8-44 | Clay loam, silty clay loam. | CL | A-6, A-7 | 0 | 95-100 | 85-100 | 80-100 | 70-98 | 34-49 | 16-28 |
| | 44-60 | Clay loam, silty clay loam. | CL | A-6 | 0 | 95-100 | 90-100 | 85-100 | 80-100 | 31-40 | 13-20 |
| BrB----- Broome | 0-5 | Silt loam----- | CL | A-6, A-7 | 0 | 95-100 | 90-100 | 85-100 | 85-100 | 34-44 | 17-25 |
| | 5-30 | Clay loam, silty clay loam. | CL | A-6, A-7 | 0 | 95-100 | 85-100 | 80-100 | 70-98 | 34-49 | 16-28 |
| | 30-90 | Clay loam, silty clay loam. | CL | A-6 | 0 | 95-100 | 90-100 | 85-100 | 80-100 | 31-40 | 13-20 |
| BrC----- Broome | 0-12 | Silt loam----- | CL | A-6, A-7 | 0 | 95-100 | 90-100 | 85-100 | 85-100 | 34-44 | 17-25 |
| | 12-30 | Clay loam, silty clay loam. | CL | A-6, A-7 | 0 | 95-100 | 85-100 | 80-100 | 70-98 | 34-49 | 16-28 |
| | 30-60 | Clay loam, silty clay loam. | CL | A-6 | 0 | 95-100 | 90-100 | 85-100 | 80-100 | 31-40 | 13-20 |
| CHB----- Cho | 0-8 | Gravelly loam--- | CL, SC | A-6, A-7-6 | 0-5 | 60-85 | 55-80 | 50-80 | 40-70 | 30-50 | 11-26 |
| | 8-18 | Cemented----- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 18-80 | Gravelly loam, gravelly clay loam, very gravelly loam. | CL, CL-ML, SC, SM | A-2, A-4, A-6, A-7-6 | 0-5 | 50-80 | 35-65 | 20-50 | 15-45 | 24-47 | 5-22 |
| CnA----- Conger | 0-6 | Loam----- | CL, CL-ML | A-4, A-6 | 0-5 | 90-100 | 90-100 | 75-95 | 51-75 | 20-35 | 5-15 |
| | 6-17 | Clay loam----- | CL | A-4, A-6 | 0-5 | 90-100 | 80-100 | 75-95 | 51-80 | 25-40 | 8-22 |
| | 17-22 | Cemented----- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 22-72 | Loam, gravelly loam, gravelly clay loam, clay loam. | CL, CL-ML, SC, SM-SC | A-4, A-6 | 5-15 | 80-95 | 75-90 | 60-85 | 45-70 | 20-40 | 5-22 |

See footnote 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 Pct | Percentage passing sieve number-- | | | | Liquid limit Pct | Plas- ticity index |
|--------------------------|----------------------|---|----------------------|-----------------|--|--------------------------------------|--------|--------|-------|------------------------|--------------------------|
| | | | Unified | AASHTO | | 4 | 10 | 40 | 200 | | |
| | | | | | | | | | | | |
| EGB----- Ector | 0-6 | Very gravelly loam. | GC, SC, GM | A-2, A-7 | 10-35 | 40-74 | 40-65 | 35-60 | 30-50 | 41-60 | 16-30 |
| | 6-24 | Unweathered bedrock. | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ESE----- Ector | 0-8 | Very stony loam | GM, SC, GC | A-2, A-7 | 15-45 | 40-70 | 40-65 | 35-60 | 30-50 | 41-60 | 16-30 |
| | 8-30 | Unweathered bedrock. | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| GfB----- Grandfield | 0-9 | Fine sandy loam | SM, ML, SM-SC, CL-ML | A-4 | 0 | 100 | 98-100 | 94-100 | 36-60 | <26 | NP-7 |
| | 9-24 | Sandy clay loam | SC, CL | A-4, A-6 | 0 | 100 | 98-100 | 90-100 | 36-65 | 20-40 | >-20 |
| | 24-35 | Sandy clay loam | SC, CL | A-4, A-6 | 0 | 100 | 98-100 | 90-100 | 36-65 | 20-40 | >-20 |
| | 35-80 | Fine sandy loam, sandy clay loam. | SM, ML, SC, CL | A-4 | 0 | 100 | 98-100 | 90-100 | 36-60 | <30 | NP-10 |
| MnA*: Mereta----- | 0-16 | Clay loam, clay | CL, CH | A-6, A-7-6 | 0-5 | 90-100 | 83-100 | 80-97 | 60-85 | 39-52 | 19-30 |
| | 16-30 | Variable, cemented. | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 30-80 | Variable, marl--- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Nuvalde----- | 0-14 | Clay loam----- | CH, CL | A-7-6, A-6 | 0 | 95-100 | 95-100 | 90-100 | 80-96 | 38-60 | 20-38 |
| | 14-48 | Clay loam, silty clay loam, clay, silty clay. | CH, CL | A-7-6, A-6 | 0 | 95-100 | 95-100 | 75-100 | 70-98 | 38-58 | 20-36 |
| | 48-80 | Clay loam, silty clay loam, clay. | CL | A-6, A-7-6 | 0 | 85-100 | 80-100 | 85-98 | 65-90 | 30-50 | 14-30 |
| MnB*: Mereta----- | 0-14 | Clay loam, clay | CL, CH | A-6, A-7-6 | 0-5 | 90-100 | 83-100 | 80-97 | 60-85 | 39-52 | 19-30 |
| | 14-24 | Variable, cemented. | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | 24-40 | Variable, marl--- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Nuvalde----- | 0-11 | Clay loam----- | CH, CL | A-7-6, A-6 | 0 | 95-100 | 95-100 | 90-100 | 80-96 | 38-60 | 20-38 |
| | 11-60 | Clay loam, silty clay loam, clay, silty clay. | CH, CL | A-7-6, A-6 | 0 | 95-100 | 95-100 | 75-100 | 70-98 | 38-58 | 20-36 |
| | 60-80 | Clay loam, silty clay loam, clay. | CL | A-6, A-7-6 | 0 | 85-100 | 80-100 | 85-98 | 65-90 | 30-50 | 14-30 |
| NOC----- Noelke | 0-9 | Very cobbly silty clay loam. | SC, GC | A-2, A-7-6, A-6 | 5-60 | 45-80 | 30-60 | 25-50 | 15-40 | 35-55 | 20-35 |
| | 9-12 | Cemented----- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12-80 | Unweathered bedrock. | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| NuA----- Nuvalde | 0-11 | Silty clay loam | CH, CL | A-7-6, A-6 | 0 | 95-100 | 95-100 | 90-100 | 80-96 | 38-60 | 20-38 |
| | 11-48 | Clay loam, silty clay loam, clay, silty clay. | CH, CL | A-7-6, A-6 | 0 | 95-100 | 95-100 | 75-100 | 70-98 | 38-58 | 20-36 |
| | 48-80 | Clay loam, silty clay loam, clay. | CL | A-6, A-7-6 | 0 | 85-100 | 80-100 | 85-98 | 65-90 | 30-50 | 14-30 |
| NuB----- Nuvalde | 0-10 | Silty clay loam | CH, CL | A-7-6, A-6 | 0 | 95-100 | 95-100 | 90-100 | 80-96 | 38-60 | 20-38 |
| | 10-50 | Clay loam, silty clay loam, clay, silty clay. | CH, CL | A-7-6, A-6 | 0 | 95-100 | 95-100 | 75-100 | 70-98 | 38-58 | 20-36 |
| | 50-80 | Clay loam, silty clay loam, clay. | CL | A-6, A-7-6 | 0 | 85-100 | 80-100 | 85-98 | 65-90 | 30-50 | 14-30 |

See footnote 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 | | |
| | | | | | | | | | | | |
| OcA----- Olton | 0-8 | Clay loam----- | CL | A-4, A-6 | 0 | 100 | 95-100 | 85-100 | 55-85 | 25-40 | 8-22 |
| | 8-27 | Clay loam, clay | CL | A-6, A-7-6 | 0 | 95-100 | 90-100 | 90-100 | 65-95 | 35-50 | 18-32 |
| | 27-80 | Clay loam, clay | CL | A-4, A-6, A-7-6 | 0 | 90-100 | 85-100 | 80-100 | 60-90 | 20-43 | 8-27 |
| ReA----- Reagan | 0-8 | Silty clay loam | CL | A-6, A-7-6 | 0 | 95-100 | 95-100 | 85-100 | 75-95 | 35-45 | 18-28 |
| | 8-30 | Loam, silty clay loam, silty clay. | CL | A-6, A-7-6 | 0 | 95-100 | 93-100 | 80-100 | 75-95 | 35-50 | 18-30 |
| | 30-80 | Loam, silty clay loam, silty clay. | CL | A-6, A-7-6 | 0 | 95-100 | 90-100 | 80-100 | 75-95 | 35-50 | 18-30 |
| ReB----- Reagan | 0-8 | Silty clay loam | CL | A-6, A-7-6 | 0 | 95-100 | 95-100 | 85-100 | 75-95 | 35-45 | 18-28 |
| | 8-36 | Loam, silty clay loam, silty clay. | CL | A-6, A-7-6 | 0 | 95-100 | 93-100 | 80-100 | 75-95 | 35-50 | 18-30 |
| | 36-80 | Loam, silty clay loam, silty clay. | CL | A-6, A-7-6 | 0 | 95-100 | 90-100 | 80-100 | 75-95 | 35-50 | 18-30 |
| Ro----- Rioconcho | 0-80 | Silty clay loam, silty clay. | CL, CH | A-6, A-7-6 | 0-10 | 85-100 | 83-100 | 75-100 | 70-99 | 35-55 | 20-35 |
| RV*: Rioconcho | 0-80 | Clay loam----- | CL, CH | A-6, A-7-6 | 0-10 | 85-100 | 83-100 | 75-100 | 70-99 | 35-55 | 20-35 |
| Dev----- | 0-8 | Gravelly clay loam. | GC, SC | A-2, A-4, A-6, A-7 | 0-10 | 45-80 | 45-70 | 35-55 | 20-50 | 28-47 | 9-24 |
| | 8-22 | Very gravelly loam, extremely gravelly loam. | GC, SC | A-2, A-6, A-7 | 0-10 | 40-80 | 35-65 | 20-55 | 15-45 | 28-47 | 9-24 |
| | 22-80 | Very gravelly loam, very gravelly clay loam, extremely gravelly 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 |
| TAB----- Tarrant | 0-12 | Very cobbly clay, very cobbly silty clay. | CH, GC, SC | A-7-6, A-7-5 | 33-77 | 55-100 | 51-100 | 48-99 | 36-95 | 51-75 | 25-44 |
| | 12-30 | Unweathered bedrock. | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ToA----- Tobosa | 0-23 | Clay----- | CH | A-7-6 | 0-3 | 95-100 | 95-100 | 85-100 | 75-98 | 51-72 | 30-45 |
| | 23-49 | Clay----- | CH, CL | A-7-6 | 0-3 | 95-100 | 95-100 | 85-100 | 70-95 | 45-65 | 25-40 |
| | 49-60 | Unweathered bedrock. | --- | --- | --- | --- | --- | --- | --- | --- | --- |

* See description of the map unit for composition and behavior characteristics of the map unit.