

TABLE 17.--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<br>in | USDA texture   | Classification             |                     | Frag-<br>ments<br>> 3<br>inches<br>Pct | Percentage passing<br>sieve number-- |        |        |       | Liquid<br>limit<br>Pct | Plas-<br>ticity<br>index |
|--------------------------|-------------|--|----------------------------|---------------------|--|--------------------------------------|--------|--------|-------|------------------------|--------------------------|
|                          |             |  | Unified                    | AASHTO              |  | 4                                    | 10     | 40     | 200   |                        |                          |
|                          |             |  |                            |                     |  |                                      |        |        |       |                        |                          |
| 1-----<br>Arno           | 0-60        | Clay-----  | CL, CH                     | A-7                 | 0                                      | 95-100                               | 95-100 | 90-100 | 80-95 | 40-65                  | 21-40                    |
| 2: *<br>Arno-----        | 0-60        | Silty clay-----  | CL, CH                     | A-7                 | 0                                      | 95-100                               | 95-100 | 90-100 | 80-95 | 40-65                  | 21-40                    |
| Pecos-----               | 0-8         | Silty clay-----  | CH, CL                     | A-7, A-6            | 0                                      | 100                                  | 95-100 | 90-100 | 80-95 | 30-55                  | 15-35                    |
|                          | 8-60        | Clay, silty<br>clay, silty<br>clay loam.   | CL, CH                     | A-6, A-7            | 0                                      | 100                                  | 95-100 | 90-100 | 80-95 | 36-65                  | 18-40                    |
| Patrole-----             | 0-32        | Silt loam-----   | CL, CL-ML                  | A-4, A-6            | 0                                      | 100                                  | 100    | 85-100 | 51-85 | 20-35                  | 5-15                     |
|                          | 32-45       | Clay, silty clay   | CH                         | A-7                 | 0                                      | 95-100                               | 95-100 | 90-100 | 80-95 | 50-65                  | 20-40                    |
|                          | 45-60       | Variable-----  | ---                        | ---                 | ---                                    | ---                                  | ---    | ---    | ---   | ---                    | ---                      |
| 3, 4*-----               | 0-18        | Silty clay loam  | CL, CH                     | A-7-6,<br>A-6       | 0-5                                    | 90-100                               | 80-100 | 70-100 | 60-98 | 40-60                  | 20-38                    |
| Balmorhea                | 18-28       | Silty clay loam,<br>clay loam.   | CL, CH                     | A-7-6<br>A-6        | 0-5                                    | 90-100                               | 80-100 | 70-100 | 60-98 | 38-53                  | 18-32                    |
|                          | 28-34       | Clay loam, silty<br>clay loam,<br>silty clay.                                      | CL, CH                     | A-7-6<br>A-6        | 0-5                                    | 90-100                               | 80-100 | 70-100 | 60-98 | 41-70                  | 20-45                    |
|                          | 34-60       | Clay loam, silty<br>clay loam,<br>silty clay.                                      | CL, CH                     | A-7-6               | 0-10                                   | 80-100                               | 75-100 | 65-100 | 55-95 | 41-60                  | 20-37                    |
| 5*-----                  | 0-28        | Clay loam-----   | CL-ML, CL                  | A-4, A-6            | 0                                      | 100                                  | 100    | 85-100 | 80-95 | 25-40                  | 5-15                     |
| Bigetty                  | 28-60       | Silt loam-----   | CL-ML                      | A-4                 | 0                                      | 100                                  | 100    | 85-90  | 60-90 | 20-30                  | 4-7                      |
| 6: *<br>Bigetty-----     | 0-60        | Silty clay loam,<br>clay loam,<br>loam.  | CL-ML, CL                  | A-4, A-6            | 0                                      | 100                                  | 100    | 85-100 | 80-95 | 25-40                  | 5-15                     |
| Hockhouse-----           | 0-15        | Loam-----  | SC,<br>SM-SC,<br>GC        | A-2,<br>A-4,<br>A-6 | 3-30                                   | 70-95                                | 65-92  | 50-75  | 30-50 | 20-35                  | 4-15                     |
|                          | 15-60       | Very gravelly<br>loamy sand,<br>very cobbly<br>sand, very<br>cobbly loamy<br>sand. | GP-GM,<br>GP, SM,<br>SP-SM | A-1                 | 15-55                                  | 30-65                                | 25-50  | 10-25  | 1-15  | <25                    | NP-5                     |
| 7: *<br>Boracho-----     | 0-12        | Very gravelly<br>loam.   | SC, GC                     | A-4, A-6            | 0-5                                    | 60-75                                | 55-70  | 45-65  | 36-45 | 25-40                  | 8-17                     |
|                          | 12-20       | Indurated-----   | ---                        | ---                 | ---                                    | ---                                  | ---    | ---    | ---   | ---                    | ---                      |
|                          | 20-60       | Variable-----  | ---                        | ---                 | ---                                    | ---                                  | ---    | ---    | ---   | ---                    | ---                      |
| Espy-----                | 0-17        | Gravelly loam---   | SC                         | A-6, A-7            | 0-10                                   | 70-95                                | 55-80  | 45-65  | 36-50 | 35-50                  | 15-30                    |
|                          | 17-24       | Indurated-----   | ---                        | ---                 | ---                                    | ---                                  | ---    | ---    | ---   | ---                    | ---                      |
|                          | 24-60       | Variable-----  | ---                        | ---                 | ---                                    | ---                                  | ---    | ---    | ---   | ---                    | ---                      |
| 8*-----<br>Brewster      | 0-6         | Very gravelly<br>loam.   | GC                         | A-2,<br>A-4,<br>A-6 | 3-15                                   | 35-60                                | 30-55  | 20-50  | 15-40 | 25-40                  | 8-20                     |
|                          | 6-12        | Unweathered<br>bedrock.  | ---                        | ---                 | ---                                    | ---                                  | ---    | ---    | ---   | ---                    | ---                      |

See footnote at end of table.

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

| Map symbol and soil name | Depth<br><u>In</u> | USDA texture  | Classification                |                               | Frag-<br>ments<br>> 3<br>inches<br><u>Pct</u> | Percentage passing<br>sieve number-- |        |        |       | Liquid<br>limit<br><u>Pct</u> | Plas-<br>ticity<br>index |
|--------------------------|--------------------|---|-------------------------------|-------------------------------|---|--------------------------------------|--------|--------|-------|-------------------------------|--------------------------|
|                          |                    |   | Unified                       | AASHTO                        |   | 4                                    | 10     | 40     | 200   |                               |                          |
|                          |                    |   |                               |                               |   |                                      |        |        |       |                               |                          |
| 9:*                      |                    |   |                               |                               |   |                                      |        |        |       |                               |                          |
| Brewster-----            | 0-10               | Stony loam-----   | GC                            | A-2,<br>A-4,<br>A-6           | 10-35   | 35-60                                | 30-55  | 20-50  | 15-40 | 25-40                         | 8-20                     |
|                          | 10-17              | Unweathered<br>bedrock.                                     | ---                           | ---                           | ---   | ---                                  | ---    | ---    | ---   | ---                           | ---                      |
| Rock outcrop             |                    |   |                               |                               |   |                                      |        |        |       |                               |                          |
| 10:*                     |                    |   |                               |                               |   |                                      |        |        |       |                               |                          |
| Canutio-----             | 0-60               | Very gravelly<br>sandy loam.                                | GP-GC,<br>GC, SC,<br>GM-GC    | A-1, A-2                      | 5-40  | 30-75                                | 25-70  | 15-50  | 10-30 | 22-40                         | 5-20                     |
| Delnorte-----            | 0-11               | Gravelly loam---  | GM,<br>GM-GC,<br>SM-SC,<br>SC | A-2,<br>A-4,<br>A-6,<br>A-1-B | 0-10  | 40-75                                | 30-70  | 25-70  | 15-45 | 20-30                         | 3-12                     |
|                          | 11-20              | Indurated-----  | ---                           | ---                           | ---   | ---                                  | ---    | ---    | ---   | ---                           | ---                      |
|                          | 20-60              | Variable-----   | ---                           | ---                           | ---   | ---                                  | ---    | ---    | ---   | ---                           | ---                      |
| 11-----                  |                    |   |                               |                               |   |                                      |        |        |       |                               |                          |
| Dalby-----               | 0-26               | Clay-----   | CL, CH                        | A-7-6                         | 0   | 98-100                               | 95-100 | 90-100 | 70-95 | 45-65                         | 25-40                    |
|                          | 26-60              | Clay, silty<br>clay, clay<br>loam.                          | CL, CH                        | A-7-6                         | 0   | 95-100                               | 95-100 | 85-100 | 70-95 | 41-60                         | 20-38                    |
| 12:*                     |                    |   |                               |                               |   |                                      |        |        |       |                               |                          |
| Delnorte-----            | 0-12               | Gravelly loam,<br>very gravelly<br>loam.                    | GM, GM-GC,<br>SM-SC,<br>SC    | A-2, A-4,<br>A-6              | 0-10  | 40-75                                | 25-65  | 20-55  | 15-45 | 20-30                         | 3-12                     |
|                          | 12-32              | Indurated-----  | ---                           | ---                           | ---   | ---                                  | ---    | ---    | ---   | ---                           | ---                      |
|                          | 32-60              | Variable-----   | ---                           | ---                           | ---   | ---                                  | ---    | ---    | ---   | ---                           | ---                      |
| Nickel-----              | 0-60               | Very gravelly<br>fine sandy<br>loam, very<br>gravelly loam. | GM-GM,<br>GM,<br>GP-GM        | A-1, A-2                      | 0-5   | 25-55                                | 20-50  | 15-45  | 5-35  | ---                           | NP                       |
| 13*-----                 |                    |   |                               |                               |   |                                      |        |        |       |                               |                          |
| Ector-----               | 0-9                | Very gravelly<br>loam.                                      | GC, GM-GC                     | A-2,<br>A-4,<br>A-6           | 10-35   | 30-60                                | 25-55  | 20-50  | 15-45 | 25-35                         | 7-15                     |
|                          | 9-25               | Unweathered<br>bedrock.                                     | ---                           | ---                           | ---   | ---                                  | ---    | ---    | ---   | ---                           | ---                      |
| 14-----                  |                    |   |                               |                               |   |                                      |        |        |       |                               |                          |
| Gila-----                | 0-11               | Fine sandy loam   | ML                            | A-4                           | 0   | 95-100                               | 95-100 | 80-90  | 50-65 | 23-27                         | 3-7                      |
|                          | 11-60              | Stratified silt<br>loam to<br>gravelly sandy<br>loam.       | ML, SM                        | A-2, A-4                      | 0   | 80-100                               | 70-100 | 50-95  | 30-75 | <30                           | NP                       |
| 15:*                     |                    |   |                               |                               |   |                                      |        |        |       |                               |                          |
| Gila-----                | 0-21               | Fine sandy loam   | ML                            | A-4                           | 0   | 95-100                               | 95-100 | 80-90  | 50-65 | 23-27                         | 3-7                      |
|                          | 21-60              | Stratified silt<br>loam to<br>gravelly sandy<br>loam.       | ML, SM                        | A-2, A-4                      | 0   | 80-100                               | 70-100 | 50-95  | 30-75 | <30                           | NP                       |
| Patrole-----             | 0-32               | Silt loam, very<br>fine sandy loam                          | CL, CL-ML                     | A-4, A-6                      | 0   | 100                                  | 100    | 85-100 | 51-85 | 20-35                         | 5-15                     |
|                          | 32-45              | Clay, silty clay  | CH                            | A-7                           | 0   | 95-100                               | 95-100 | 90-100 | 80-95 | 50-65                         | 26-40                    |
|                          | 45-60              | Variable-----   | ---                           | ---                           | ---   | ---                                  | ---    | ---    | ---   | ---                           | ---                      |
| 16-----                  |                    |   |                               |                               |   |                                      |        |        |       |                               |                          |
| Hoban-----               | 0-46               | Silty clay loam   | CL                            | A-6,<br>A-7-6                 | 0   | 98-100                               | 90-100 | 85-100 | 80-95 | 27-42                         | 11-23                    |
|                          | 46-72              | Silty clay loam,<br>silty clay,<br>clay.                    | CL                            | A-4,<br>A-6,<br>A-7-6         | 0   | 85-100                               | 85-100 | 75-95  | 51-85 | 25-50                         | 8-26                     |

See footnote at end of table.

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

| Map symbol and soil name | Depth | USDA texture                            | Classification       |                       | Frag-ments > 3 inches | Percentage passing sieve number-- |        |        |       | Liquid limit | Plas-ticity index |  |
|--------------------------|-------|---|----------------------|-----------------------|-----------------------|-----------------------------------|--------|--------|-------|--------------|-------------------|--|
|                          |       |   | Unified              | AASHTO                |                       | Pct                               |        |        |       |              |                   |  |
|                          |       |   |                      |                       |                       | 4                                 | 10     | 40     | 200   |              |                   |  |
| 17:*                     |       |   |                      |                       |                       |                                   |        |        |       |              |                   |  |
| Hoban-----               | 0-46  | Clay loam-----                          | CL                   | A-6,<br>A-7-6         | 0                     | 98-100                            | 90-100 | 85-100 | 80-95 | 27-42        | 11-23             |  |
|                          | 46-72 | Silty clay loam                         | CL                   | A-4,<br>A-6,<br>A-7-6 | 0                     | 85-100                            | 85-100 | 75-95  | 51-85 | 25-50        | 8-26              |  |
| Reeves-----              | 0-6   | Clay loam-----                          | CL                   | A-6,<br>A-7-6         | 0                     | 98-100                            | 95-100 | 85-100 | 80-95 | 27-42        | 11-23             |  |
|                          | 6-30  | Clay loam, silt loam.                   | CL-ML, CL            | A-4, A-6              | 0                     | 100                               | 100    | 85-100 | 60-80 | 20-30        | 5-15              |  |
|                          | 30-60 | Gypsiferous material.                   | GM, ML, SC, GC       | A-4, A-6              | 0                     | 95-100                            | 85-100 | 65-95  | 45-75 | 25-50        | 8-26              |  |
| Holloman-----            | 0-15  | Loam-----                               | CL-ML, CL, ML        | A-4, A-6              | 0                     | 100                               | 100    | 85-95  | 55-75 | 20-35        | NP-15             |  |
|                          | 15-25 | weathered bedrock.                      | ---                  | ---                   | ---                   | ---                               | ---    | ---    | ---   | ---          | ---               |  |
| 18-----                  | 0-8   | Silty clay loam                         | CL                   | A-6,<br>A-7-6         | 0                     | 95-100                            | 95-100 | 90-100 | 70-95 | 28-45        | 12-28             |  |
| Hodgins-----             | 8-60  | Clay loam, silty clay loam, silty clay. | CL                   | A-6,<br>A-7-6         | 0                     | 95-100                            | 95-100 | 85-100 | 65-95 | 35-50        | 18-30             |  |
| 19*-----                 | 0-7   | Silty clay loam                         | CL                   | A-6,<br>A-7-6         | 0                     | 95-100                            | 95-100 | 90-100 | 70-95 | 35-45        | 18-28             |  |
| Hodgins-----             | 7-60  | Clay loam, silty clay loam, silty clay. | CL                   | A-6,<br>A-7-6         | 0                     | 95-100                            | 95-100 | 85-100 | 65-95 | 34-50        | 18-30             |  |
| 20:*                     |       |   |                      |                       |                       |                                   |        |        |       |              |                   |  |
| Holloman-----            | 0-6   | Loam-----                               | CL-ML, CL, ML        | A-4, A-6              | 0                     | 100                               | 100    | 85-95  | 55-75 | 20-35        | NP-15             |  |
|                          | 6-60  | weathered bedrock.                      | ---                  | ---                   | ---                   | ---                               | ---    | ---    | ---   | ---          | ---               |  |
| Reeves-----              | 0-7   | Clay loam-----                          | CL                   | A-6,<br>A-7-6         | 0                     | 98-100                            | 95-100 | 85-100 | 80-95 | 27-42        | 11-23             |  |
|                          | 7-28  | Clay loam, silt loam, silty clay loam.  | CL-ML, CL            | A-4, A-6              | 0                     | 100                               | 100    | 85-100 | 60-80 | 20-30        | 5-15              |  |
|                          | 28-60 | Gypsiferous material.                   | GM, ML, SC, GC       | A-4, A-6, A-7         | 0                     | 95-100                            | 85-100 | 65-95  | 45-75 | 25-50        | 8-26              |  |
| 21:*                     |       |   |                      |                       |                       |                                   |        |        |       |              |                   |  |
| Limpia-----              | 0-10  | Very cobbly loam                        | GC, GP-GC, SC, SP-SC | A-2, A-6              | 25-55                 | 20-65                             | 15-55  | 13-50  | 10-40 | 28-40        | 11-20             |  |
|                          | 10-57 | Very gravelly clay, very cobbly clay.   | GC, GP-GC            | A-2, A-7              | 8-55                  | 20-60                             | 15-55  | 15-55  | 10-50 | 41-60        | 20-38             |  |
| Mitre-----               | 0-4   | Very gravelly loam.                     | GC, SC               | A-2,<br>A-4,<br>A-6   | 0-25                  | 40-80                             | 30-80  | 25-60  | 20-50 | 25-35        | 8-15              |  |
|                          | 4-10  | Very gravelly clay loam.                | GC                   | A-2, A-6, A-7         | 8-40                  | 40-80                             | 30-75  | 25-65  | 20-55 | 35-50        | 15-30             |  |
|                          | 10-20 | Indurated-----                          | ---                  | ---                   | ---                   | ---                               | ---    | ---    | ---   | ---          | ---               |  |
| 22*-----                 | 0-11  | Very gravelly loam.                     | GC, GM-GC            | A-2,<br>A-4,<br>A-6   | 10-35                 | 30-60                             | 25-55  | 20-50  | 15-45 | 25-35        | 7-15              |  |
| Lozier-----              | 11-25 | Unweathered bedrock.                    | ---                  | ---                   | ---                   | ---                               | ---    | ---    | ---   | ---          | ---               |  |

See footnote at end of table.

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

| Map symbol and soil name | Depth<br>in | USDA texture   | Classification             |                                 | Frag-<br>ments<br>> 3<br>inches<br>Pct | Percentage passing<br>sieve number-- |        |        |       | Liqui<br>limit<br>Pct | Plas-<br>ticity<br>index |  |
|--------------------------|-------------|--|----------------------------|---------------------------------|--|--------------------------------------|--------|--------|-------|-----------------------|--------------------------|--|
|                          |             |  | Unified                    | AASHTO                          |  | 4                                    | 10     | 40     | 200   |                       |                          |  |
|                          |             |  |                            |                                 |  |                                      |        |        |       |                       |                          |  |
| 23:*                     |             |  |                            |                                 |  |                                      |        |        |       |                       |                          |  |
| Lozier-----              | 0-5         | Stony loam-----  | GC, SC,<br>CL              | A-2,<br>A-4,<br>A-6             | 5-20                                   | 45-80                                | 40-70  | 35-65  | 20-60 | 25-35                 | 8-15                     |  |
|                          | 5-20        | Unweathered<br>bedrock.  | ---                        | ---                             | ---                                    | ---                                  | ---    | ---    | ---   | ---                   | ---                      |  |
|                          |             | Rock outcrop.  |                            |                                 |  |                                      |        |        |       |                       |                          |  |
| 24#-----                 |             |  |                            |                                 |  |                                      |        |        |       |                       |                          |  |
| Mierhill                 | 0-10        | Very gravelly<br>sandy loam.   | SC, GC                     | A-4, A-6                        | 0-35                                   | 60-75                                | 55-70  | 45-65  | 36-45 | 25-40                 | 8-17                     |  |
|                          | 10-18       | Very gravelly<br>sandy clay<br>loam, very<br>gravelly clay<br>loam, very<br>gravelly loam. | GC, SC                     | A-2-4,<br>A-2-6,<br>A-4,<br>A-6 | 0-35                                   | 30-60                                | 25-50  | 20-50  | 15-45 | 25-40                 | 8-17                     |  |
|                          | 18-24       | Indurated-----   | ---                        | ---                             | ---                                    | ---                                  | ---    | ---    | ---   | ---                   | ---                      |  |
|                          | 24-40       | Variable-----  | ---                        | ---                             | ---                                    | ---                                  | ---    | ---    | ---   | ---                   | ---                      |  |
| 25#-----                 |             |  |                            |                                 |  |                                      |        |        |       |                       |                          |  |
| Monanans                 | 0-4         | Loam-----  | SM, SC,<br>SM-SC           | A-2-4,<br>A-4,<br>A-6           | 0                                      | 90-100                               | 90-100 | 70-98  | 25-50 | 18-30                 | 3-12                     |  |
|                          | 4-24        | Loam, sandy clay<br>loam, fine<br>sandy loam.  | SC, CL,<br>SM-SC,<br>CL-ML | A-2-4,<br>A-4,<br>A-6,<br>A-2-6 | 0                                      | 90-100                               | 90-100 | 80-96  | 30-65 | 20-35                 | 4-15                     |  |
|                          | 24-60       | Loam, fine sandy<br>loam, sandy<br>clay loam.  | SC, CL,<br>SM-SC,<br>CL-ML | A-2-4,<br>A-2-6,<br>A-4,<br>A-6 | 0                                      | 75-100                               | 70-95  | 55-90  | 25-60 | 20-35                 | 4-15                     |  |
| 26-----                  |             |  |                            |                                 |  |                                      |        |        |       |                       |                          |  |
| Orla                     | 0-15        | Clay loam-----   | CL-ML, CL                  | A-4, A-6                        | 0                                      | 98-100                               | 95-100 | 85-100 | 60-90 | 20-35                 | 5-15                     |  |
|                          | 15-60       | Gypsiferous<br>material.   | GM, ML,<br>SC, GC          | A-4,<br>A-6,<br>A-7             | 0                                      | 65-100                               | 65-100 | 55-95  | 40-65 | 36-50                 | 8-26                     |  |
| 27#-----                 |             |  |                            |                                 |  |                                      |        |        |       |                       |                          |  |
| Orla                     | 0-5         | Clay loam-----   | CL-ML, CL                  | A-4, A-6                        | 0                                      | 98-100                               | 95-100 | 85-100 | 60-90 | 20-35                 | 5-15                     |  |
|                          | 5-60        | Gypsiferous<br>material.   | GM, ML,<br>SC, GC          | A-4,<br>A-6,<br>A-7             | 0                                      | 65-100                               | 65-100 | 55-95  | 40-65 | 36-50                 | 8-26                     |  |
| 28-----                  |             |  |                            |                                 |  |                                      |        |        |       |                       |                          |  |
| Patrole                  | 0-24        | Silt loam-----   | CL, CL-ML                  | A-4, A-6                        | 0                                      | 100                                  | 100    | 85-100 | 51-85 | 20-35                 | 5-15                     |  |
|                          | 24-60       | Clay, silty clay   | CH                         | A-7                             | 0                                      | 95-100                               | 95-100 | 90-100 | 80-95 | 50-65                 | 26-40                    |  |
| 29-----                  |             |  |                            |                                 |  |                                      |        |        |       |                       |                          |  |
| Pecos                    | 0-18        | Silty clay-----  | CH, CL                     | A-7, A-6                        | 0                                      | 100                                  | 95-100 | 90-100 | 80-95 | 30-55                 | 15-35                    |  |
|                          | 18-60       | Clay, silty<br>clay, silty<br>clay loam.   | CL, CH                     | A-6, A-7                        | 0                                      | 100                                  | 95-100 | 90-100 | 80-95 | 36-65                 | 18-40                    |  |
| 30#-----                 |             |  |                            |                                 |  |                                      |        |        |       |                       |                          |  |
| Phantom                  | 0-60        | Clay loam, clay  | CL, CH                     | A-7-6                           | 0                                      | 90-100                               | 85-100 | 80-100 | 75-95 | 41-60                 | 22-38                    |  |
| 31-----                  |             |  |                            |                                 |  |                                      |        |        |       |                       |                          |  |
| Reakor                   | 0-10        | Silty clay loam  | CL-ML, CL                  | A-4, A-6                        | 0                                      | 100                                  | 100    | 90-100 | 60-85 | 25-35                 | 5-15                     |  |
|                          | 10-60       | Clay loam, loam,<br>silty clay<br>loam.  | CL-ML, CL                  | A-4, A-6                        | 0                                      | 100                                  | 100    | 90-100 | 75-90 | 25-35                 | 5-15                     |  |
| 32#-----                 |             |  |                            |                                 |  |                                      |        |        |       |                       |                          |  |
| Reakor                   | 0-8         | Loam-----  | CL-ML,<br>CL               | A-4                             | 0                                      | 100                                  | 100    | 90-100 | 70-85 | 20-30                 | 5-10                     |  |
|                          | 8-60        | Clay loam, loam,<br>silty clay<br>loam.  | CL-ML, CL                  | A-4, A-6                        | 0                                      | 100                                  | 100    | 90-100 | 75-90 | 25-35                 | 5-16                     |  |
| 33:*                     |             |  |                            |                                 |  |                                      |        |        |       |                       |                          |  |
| Reakor-----              | 0-4         | Loam-----  | CL-ML,<br>CL               | A-4                             | 0                                      | 100                                  | 100    | 90-100 | 70-85 | 20-30                 | 5-10                     |  |
|                          | 4-60        | Clay loam, loam,<br>silty clay<br>loam.  | CL-ML, CL                  | A-4, A-6                        | 0                                      | 100                                  | 100    | 90-100 | 75-90 | 25-35                 | 5-16                     |  |

See footnote at end of table.

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

| Map symbol and soil name | Depth | USDA texture  | Classification                |                     | Frag-ments > 3 inches | Percentage passing sieve number-- |        |        |       | Liquid limit | Plas-ticity index |
|--------------------------|-------|---|-------------------------------|---------------------|-----------------------|-----------------------------------|--------|--------|-------|--------------|-------------------|
|                          |       |   | Unified                       | AASHTO              |                       | 4                                 | 10     | 40     | 200   |              |                   |
|                          | In    |   |                               |                     | Pct                   |                                   |        |        |       | Pct          |                   |
| 33:*                     |       |   |                               |                     |                       |                                   |        |        |       |              |                   |
| Lozier-----              | 0-8   | Stony loam-----<br>loam.  | GC, SC,<br>CL                 | A-2,<br>A-4,<br>A-6 | 5-20                  | 45-80                             | 40-70  | 40-70  | 20-60 | 25-35        | 8-15              |
|                          | 8-25  | Unweathered<br>bedrock.   | ---                           | ---                 | ---                   | ---                               | ---    | ---    | ---   | ---          | ---               |
| 34-----                  | 0-11  | Clay loam   | CL                            | A-6,<br>A-7-6       | 0                     | 98-100                            | 95-100 | 85-100 | 80-95 | 27-42        | 11-23             |
| Reeves                   | 11-33 | Clay loam, silt<br>loam.  | CL-ML, CL                     | A-4, A-6            | 0                     | 100                               | 100    | 85-100 | 60-80 | 20-30        | 5-15              |
|                          | 33-60 | Gypsiferous<br>material.  | GM, ML,<br>SC, GC             | A-7                 | 0                     | 95-100                            | 85-100 | 65-95  | 45-75 | 25-50        | 8-26              |
| 35:*                     |       |   |                               |                     |                       |                                   |        |        |       |              |                   |
| Rockhouse                | 0-14  | Gravelly loam---  | SC, SM<br>SM-SC,<br>GM-GC     | A-2,<br>A-4,<br>A-6 | 8-50                  | 50-80                             | 45-75  | 30-70  | 25-50 | 20-30        | 4-12              |
|                          | 14-60 | Very gravelly<br>loamy sand,<br>very cobbly<br>sand, very<br>cobbly loamy<br>sand.    | GP-GM,<br>GP, SM,<br>SP-SM    | A-1                 | 15-55                 | 30-65                             | 25-50  | 10-25  | 1-15  | <25          | NP-5              |
| 36:*                     |       |   |                               |                     |                       |                                   |        |        |       |              |                   |
| Sanderson-----           | 0-17  | Gravelly loam---  | GC,<br>GM-GC,<br>SC,<br>SM-SC | A-2,<br>A-4,<br>A-6 | 0-20                  | 40-90                             | 30-85  | 25-75  | 20-50 | 22-40        | 5-20              |
|                          | 17-60 | Very gravelly<br>loam, very<br>gravelly clay<br>loam, very<br>gravelly sandy<br>loam. | GC,<br>GM-GC,<br>SC,<br>SM-SC | A-2,<br>A-4,<br>A-6 | 0-25                  | 30-80                             | 20-70  | 15-65  | 13-50 | 22-40        | 5-20              |
| Upton-----               | 0-18  | Gravelly loam---  | CL, GC,<br>SC                 | A-4, A-6            | 0-2                   | 65-85                             | 60-75  | 55-70  | 30-55 | 23-35        | 8-15              |
|                          | 18-23 | Cemented-----   | ---                           | ---                 | 0-50                  | ---                               | ---    | ---    | ---   | ---          | ---               |
|                          | 23-30 | Variable-----   | ---                           | ---                 | 0-20                  | ---                               | ---    | ---    | ---   | ---          | ---               |
| 37:*                     |       |   |                               |                     |                       |                                   |        |        |       |              |                   |
| Saragosa                 | 0-4   | Clay loam-----  | CL, CL-ML                     | A-4, A-6            | 0                     | 98-100                            | 95-100 | 85-100 | 60-90 | 20-35        | 5-15              |
|                          | 4-60  | Gypsiferous<br>material.  | GM, ML,<br>SC, SM             | A-4,<br>A-6,<br>A-7 | 0                     | 65-100                            | 65-100 | 55-95  | 40-65 | 36-50        | 8-26              |
| 38-----                  | 0-16  | Loam-----   | CL, CL-ML                     | A-4, A-6            | 0                     | 100                               | 98-100 | 85-98  | 51-85 | 22-40        | 7-20              |
| Toyah                    | 16-60 | Loam, clay loam,<br>sandy clay<br>loam.   | CL, SC,<br>CL-ML,<br>SM-SC    | A-4, A-6            | 0                     | 100                               | 95-100 | 80-98  | 36-80 | 22-40        | 7-20              |
| 39, 40-----              | 0-16  | Clay loam-----  | CL, CL-ML                     | A-4, A-6            | 0                     | 100                               | 98-100 | 85-98  | 51-85 | 22-40        | 7-20              |
| Toyah                    | 16-60 | Loam, clay loam,<br>sandy clay<br>loam.   | CL, SC,<br>CL-ML,<br>SM-SC    | A-4, A-6            | 0                     | 100                               | 95-100 | 80-98  | 36-80 | 22-40        | 7-20              |
| 41-----                  | 0-18  | Gravelly loam---  | CL, GC,<br>SC                 | A-4, A-6            | 0-2                   | 65-85                             | 60-75  | 55-70  | 30-55 | 23-35        | 8-15              |
| Upton                    | 18-23 | Cemented-----   | ---                           | ---                 | 0-50                  | ---                               | ---    | ---    | ---   | ---          | ---               |
|                          | 23-30 | Variable-----   | ---                           | ---                 | 0-20                  | ---                               | ---    | ---    | ---   | ---          | ---               |
| 42:*                     |       |   |                               |                     |                       |                                   |        |        |       |              |                   |
| Upton-----               | 0-12  | Gravelly loam---  | CL, GC,<br>SC                 | A-4, A-6            | 0-2                   | 65-85                             | 60-75  | 55-70  | 30-55 | 23-35        | 8-15              |
|                          | 12-23 | Cemented-----   | ---                           | ---                 | 0-50                  | ---                               | ---    | ---    | ---   | ---          | ---               |
|                          | 23-30 | Variable-----   | ---                           | ---                 | 0-20                  | ---                               | ---    | ---    | ---   | ---          | ---               |

See footnote at end of table.

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

| Map symbol and soil name | Depth<br><u>In</u> | USDA texture                       | Classification         |                       | Frag-<br>ments<br>> 3<br>inches<br><u>Pct</u> | Percentage passing<br>sieve number-- |        |        |       | Liquid<br>limit<br><u>Pct</u> | Plas-<br>ticity<br>index |
|--------------------------|--------------------|------------------------------------|------------------------|-----------------------|---|--------------------------------------|--------|--------|-------|-------------------------------|--------------------------|
|                          |                    |                                    | Unified                | AASHTO                |   | 4                                    | 10     | 40     | 200   |                               |                          |
| 42:*                     | 0-6                | Very gravelly<br>loam.             | GM,                    | A-2,                  | 0-10  | 40-75                                | 30-70  | 25-70  | 15-45 | 20-40                         | 3-19                     |
| Delnorte-----            |                    |                                    | GM-GC,<br>SM-SC,<br>SC | A-4,<br>A-6,<br>A-1-B |   |                                      |        |        |       |                               |                          |
|                          | 6-20               | Indurated-----                     | ---                    | ---                   | ---   | ---                                  | ---    | ---    | ---   | ---                           | ---                      |
|                          | 20-60              | Variable-----                      | ---                    | ---                   | ---   | ---                                  | ---    | ---    | ---   | ---                           | ---                      |
| 43-----                  | 0-60               | Clay-----                          | CL, CH                 | A-7-6                 | 0   | 95-100                               | 95-100 | 90-100 | 70-95 | 45-65                         | 25-40                    |
| Verhalen                 |                    |                                    |                        |                       |   |                                      |        |        |       |                               |                          |
| 44*-----                 | 0-8                | Cobbly clay-----                   | GC, SC,<br>CH, CL      | A-7-6                 | 15-45   | 65-95                                | 50-90  | 45-90  | 36-85 | 45-65                         | 25-40                    |
| Verhalen                 | 8-60               | Clay, silty<br>clay, clay<br>loam. | CL, CH                 | A-7-6                 | 0   | 95-100                               | 95-100 | 90-100 | 70-95 | 45-65                         | 25-40                    |

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