Soils Vulnerable to Pesticide Leaching

By Roberto R. Teso (April 1996)

Edited July 2000 by
Frank Spurlock, John Troiano
Joe Marade, and Don Weaver

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Background

Areas of the United States that are vulnerable to leaching of pesticides have been examined in order to identify common hydrogeologic properties. One property common to many areas is 'coarse-textured' soil. Pesticide contamination of ground water has been found in sandy soil areas of Long Island, Florida, Wisconsin, Nebraska, Oregon, and California. As a result, pesticide labels contain warning statements to alert the user to soil and other conditions that enhance the potential for leaching.

One example of a warning statement follows:

> (Pesticide) can travel (seep or leach) through soil and can enter ground water which may be used as drinking water. (Pesticide) has been found in ground water. Users are advised not to apply (Pesticide) to coarse (sand and loamy sand) soils where the ground water table is close to the surface and where these soils are very permeable, i.e. well-drained.

Although environmental warning statements on labels provide a general description of the qualities of a leaching-vulnerable soil, the application to field situations is unclear. Application rates of many soil-applied pesticides are adjusted according to texture and organic carbon content of soils to ensure efficacy. These considerations, however, usually only apply to upper layers of soil at depths down to 6 inches. When identifying a soil as vulnerable to leaching, the soil profile deeper than 6 inches should also be considered. For example, a soil may be designated as a loamy sand in the surface layer but the subsurface soil may be finer-textured resulting in low permeability.

Soil permeability is another general term used in environmental hazard statements that needs further clarification. While most "coarse" soils have relatively high permeability, soil textures finer than sands, loamy sands and sandy loams can also be "very permeable". The reason for this is that soil permeability is affected by many soil characteristics in addition to texture, such as soil structure, aggregate stability and orientation, compaction and the soluble salt and organic material content.

In order to provide guidance in the interpretation of label language, a definition for "high leaching-risk soil" has been derived to provide parameters for coarseness and permeability of soils as related to leaching potential. This definition in combination with the identification and location of Pesticide Mangement Zones (PMZs) has been used to provide maps for the location of coarse soils and to provide tables containing names of coarse soils.

Identification of "High Leaching-Risk Soil"

In order to identify coarse soils with respect to leaching, we define "High Leaching-Risk soils" as:

> *A "High Leaching-Risk Soil" is a soil that has a Particle Size Class of coarse-loamy or coarser and contains no soil layer in which the estimated soil permeability class is less than 2.0-6.0 inches per hour.*

Based on the parameter for soil coarseness and permeability in this definition, maps can be developed delineating areas where soils are vulnerable to leaching (Figures 1 and 2). The first example is a map depicting locations of current and proposed PMZ sections in the area of Fresno County bounded on the east by the National Forest Boundary Line and the west by the Fresno Slough (Figure 1). Figure 1 also spatially identifies areas containing "High Leaching-Risk Soils" (HLRS) and further identifies those HLRS areas where the water table lies within 6 feet of the soil surface during most years. The second example is a geographically correct map showing locations and boundaries of PMZs and the actual locations of HLRS within those boundaries (Figure 2). In addition, lists of coarse soils identified at the soil series or soil map unit taxonomic level have been produced (Tables 1 and 2). Table 1 identifies by county the names of coarse soils occurring in current and proposed PMZs. Table 2 lists the names of coarse soils in each PMZ as identified by its Township-Range-Section coordinates. This information has been extracted from soil survey reports and maps for Eastern Fresno County and from the California Soil Map Unit Inventory (CSMUI) developed by DPR in cooperation with the Soil Science Department at Cal-Poly, San Luis Obispo. Some road system information has been included to help orient the PCA and establish the approximate locations of PMZs.

Conclusions

Environmental hazard statements on pesticide labels may give warnings about properties of soils that make them vulnerable to pesticide leaching. The descriptions, however, are general and they are usually insufficient for determining specific vulnerable soils. A definition of "High Leaching-Risk Soils" has been derived to further define the properties of coarseness and permeability of vulnerable soils. Based on this definition and on the location of current and proposed PMZs, maps are available that delineate areas vulnerable to leaching. In addition, list are available that name coarse soils within vulnerable areas. **At minimum, the lowest rates of application are recommended for these soils**. Additional restrictions may be indicated on the label.

Additional Reference

<u>Definitions</u>

Particle Size Classes: Particle Size Class refers to the grain-size distribution of the whole soil (includes rock fragments) and is not the same as texture, which refers to the fine-earth fraction (sand, silt and clay) only. Depending on the soil subgroups or families being described, there are 7 or 11 classes recognized. The 7 class system includes the following classes: fragmental, sandy-skeletal, loamy-skeletal, clayey-skeletal, sandy, loamy, and clayey. In the 11 class system, the 7 class loamy category is replaced by the following classes: coarse-loamy,

fine-loamy, coarse-silty, and fine-silty. In addition, the 7 class clayey category is replaced by the 2 classes: fine and very-fine.

Permeability: Soil permeability is the quality of the soil that enables water or air to move through it. Accepted as a measure of this quality is the rate at which soil transmits water while saturated, expressed in inches per hour. That rate is the "saturated hydraulic conductivity" of soil physics. Soil scientists are in the process of converting to "hydraulic conductivity" terminology. There are seven recognized classes of permeability ratings and six classes of "hydraulic conductivity".

Permeability Class	Inches Per Hr	Hydraulic Conductivity Class	Um/s	Inches Per Hour
Very slow	<0.06	Very slow	<0.01	<0.001
Slow	0.06 – 0.2	Low	0.01 – 0.1	0.001 – 0.01
Moderately slow	0.2 – 0.6	Moderately low	0.1 – 1.0	0.01 – 0.14
Moderate	0.6 – 2.0	Moderate	1 - 10	0.14 – 1.4
Moderately rapid	2.0 – 6.0	High	10 – 100	1.4 - 14
Rapid	6.0 – 20.0	Very High	>100	>14
Very rapid	> 20.0			

Soil Maps

The Soil Conservation Service (SCS) and other cooperative agencies use Soil Taxonomy as the basis for classifying new soils and identifying soils on landscapes. Information gathered in field studies is transferred to maps and other reference materials found in soil survey reports and investigations. The amount of detail that can be described on a soils map is related to the scale of the map. Most county or partial county surveys are drawn at 1:24,000 scale.

Soil map units, the closed irregular figures delineated on soil maps, represent an efficient method for conveying information about the nature of the soils on the landscape through maps. A soil map unit is usually assigned the name of the dominant (most frequently found) soil series in the map unit, the common surface texture associated with the map unit, a slope assignment (%) and frequently, other distinguishing or important characteristics (Hanford sandy loam, 0-2%, shallow). Some minor areas of soils other than that specified in the soil map unit name can be present within a delineated polygon and are called inclusions. In general, inclusions are limited to no more than 20% of the area encompassed by a mapping polygon. At the 1:24,000 scale of mapping, inclusions consist of undelineated areas 5 to 10 acres or less in size within a mapping polygon.

Descriptions of the soil map units and information on soil inclusions can be found in the soil survey report accompanying the maps. Survey reports also supply information on the potential use of a soil map unit for various human activities including playgrounds, other types of recreation, engineering qualities for structures, etc. Additional information on the physical and chemical characteristics of the map unit can also be found. Frequently 4-5 layers are described to a total depth of 48-60+ inches. This information is compiled from Soils Information Records developed by the SCS in the process of defining the soil map units. Permeability ratings are assigned to each map unit based on the characteristics listed above and on studies which have been conducted over the years that have evaluated the relative effects of these characteristics on soil permeability.

FIGURE 1.

High Leaching-Risk Soils
Eastern Fresno Soil Survey Area

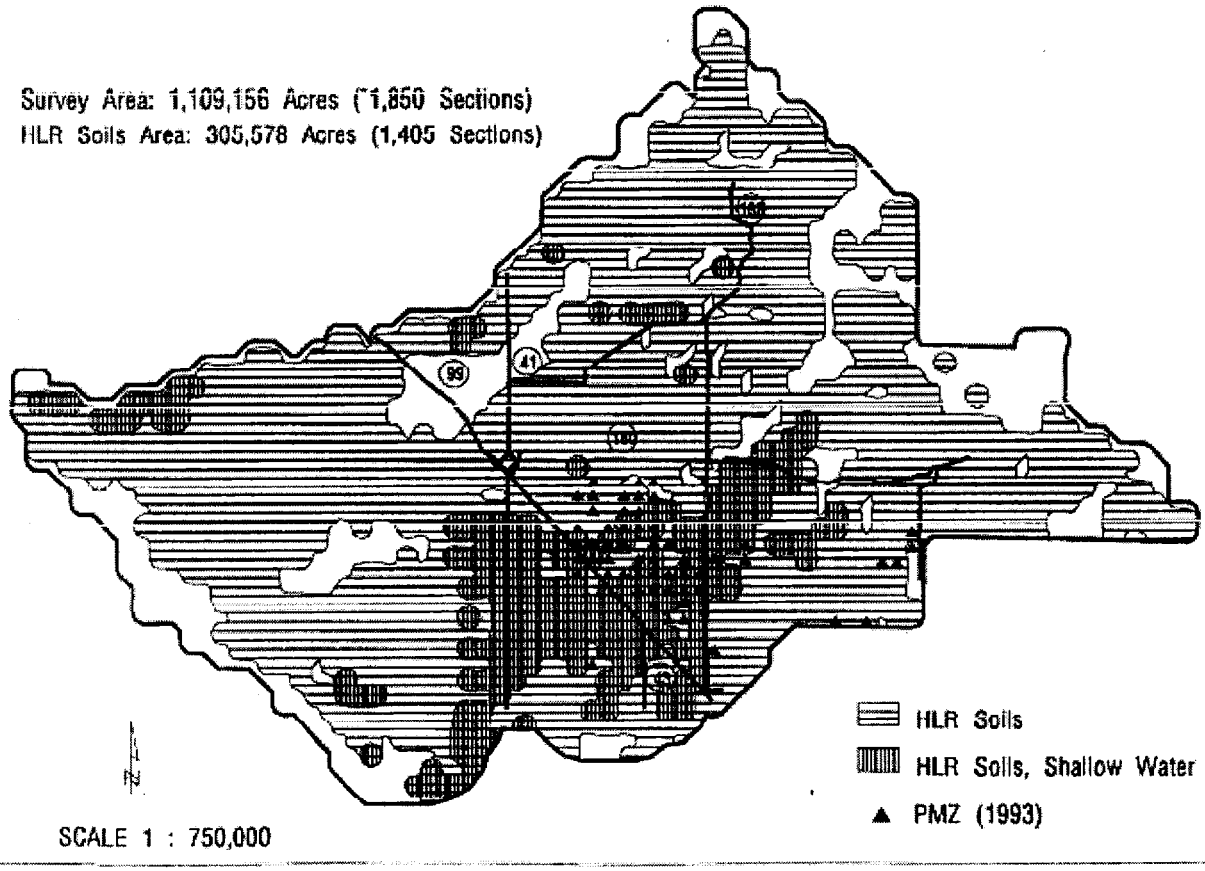
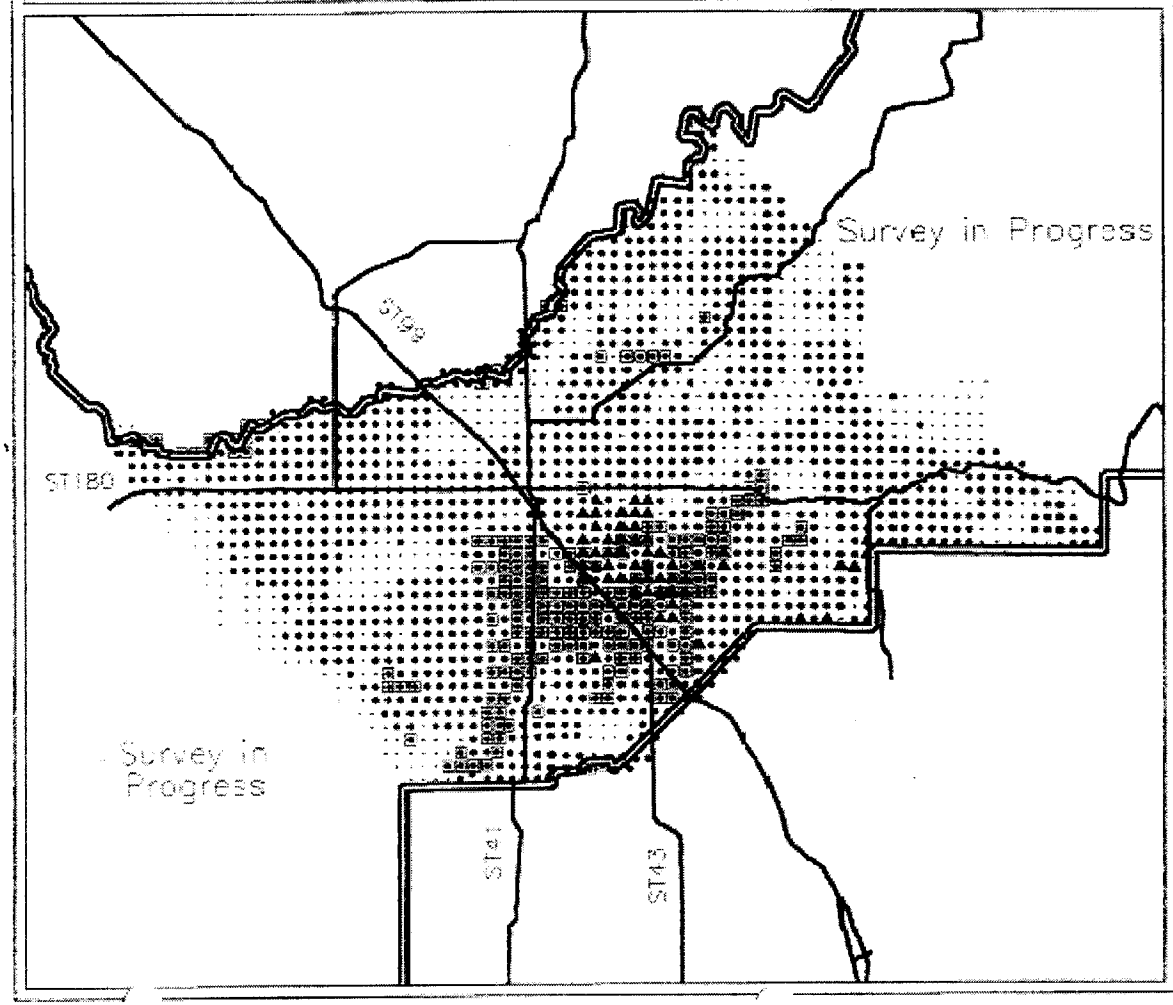


FIGURE 2.

High Leaching-Risk Soils

Eastern Fresno Soil Survey Area



Map Symbols

- County_Line
- State_Highways
- HLRS_Sections
- PMZ_Sections
- Shallow_H2O
- Survey_Sections

Survey Area
1,109,156 Acres
~ 850 Sections

HLRS_Soil Area
305,578 Acres
1405 Sections

Percent HLRS_Soils in Survey Area
27.6 %

Miles
0 10 20

Table 1. Current list of PMZ coarse soils that are defined as 'High Leaching-Risk Soils'.

County	Soil Series Name	Mapping Unit Symbol or Number
Fresno	Atwater	AoA
		AoB
		ArA
	Delhi	DeA
		DeB
		DhA
		DhB
	Dello	Dm
	Grangeville	Gg
		Gf
		Gp
	Hanford	Ha
		Hc
		Hd
		He
		Hm
	Tujunga	TzbA
		TzbB
	Vista	VfC
		VmD
Merced	Atwater	AfA
		AnB
	Delhi	DcA
		DfA
Orange	Huenene	158
	San Emigdio	194
		195
Riverside	Gorgonio	GhC
	Hanford	HcC
		HcD2
		HgA
	San Emigdio	SeC2
		SfA
	Vista	VsD2
		VsF2
Stanislaus	Dello	DkA
	Hanford	HdB
	Tujunga	TuA
		TvA

Table 1 Continued. Current list of PMZ coarse soils that are defined as 'High Leaching-Risk Soils'.

County	Soil Series Name	Mapping Unit Symbol or Number
Tulare	Grangeville	131
	Greenfield	132
		133
	Honcut	139
		140
	San Emigdio	153
	Tujunga	164
	Vista	165
		166
		168
	Yetten	176
	Nalong	171

Table 2. Identification of "High Leaching-Risk Soils" occurring in PMZs.

SECTION (T-R-S)	MAP UNIT SYMBOL	SOIL SERIES (DOMINANT)
Fresno County		
M14S21E16	ARA	ATWATER
M14S21E16	DHA	DELHI
M14S21E16	HC	HANFORD
M14S21E20	DHA	DELHI
M14S21E20	HC	HANFORD
M14S21E20	HD	HANFORD
M14S21E20	TZBA	TUJUNGA
M14S21E21	HC	HANFORD
M14S21E21	HM	HANFORD
M14S21E23	HC	HANFORD
M14S21E24	HC	HANFORD
M14S21E25	DHA	DELHI
M14S21E25	HC	HANFORD
M14S21E25	HM	HANFORD
M14S21E26	DHA	DELHI
M14S21E26	HC	HANFORD
M14S21E28	DHA	DELHI
M14S21E28	HC	HANFORD
M14S21E28	HM	HANFORD
M14S21E32	DHA	DELHI
M14S21E32	HC	HANFORD
M14S21E34	DEA	DELHI
M14S21E34	DHA	DELHI
M14S21E34	DHB	DELHI
M14S21E34	HC	HANFORD
M14S21E35	DEA	DELHI
M14S21E35	DEB	DELHI
M14S21E35	DHA	DELHI
M14S21E35	DHB	DELHI
M14S21E35	DM	DELLO
M14S21E35	HC	HANFORD
M14S21E36	DEA	DELHI
M14S21E36	DEB	DELHI
M14S21E36	DHA	DELHI
M14S21E36	DHB	DELHI
M14S21E36	DM	DELLO
M14S21E36	HC	HANFORD
M14S21E36	HM	HANFORD
M14S22E31	DEA	DELHI
M14S22E31	DEB	DELHI
M14S22E31	DHA	DELHI
M14S22E31	DHB	DELHI
M14S22E31	DM	DELLO
M14S22E31	HC	HANFORD
M14S22E31	HM	HANFORD
M14S22E31	TZBA	TUJUNGA
M14S24E36	VFC	VISTA
M15S21E02	DEA	DELHI
M15S21E02	DEB	DELHI
M15S21E02	DHA	DELHI
M15S21E02	DHB	DELHI
M15S21E02	DM	DELLO
M15S21E02	HC	HANFORD
M15S21E03	DEA	DELHI
M15S21E03	DEB	DELHI
M15S21E03	DHA	DELHI
M15S21E03	DHB	DELHI
M15S21E03	DM	DELLO
M15S21E03	HC	HANFORD
M15S21E04	DEA	DELHI
M15S21E04	DHA	DELHI
M15S21E04	DHB	DELHI
M15S21E04	HC	HANFORD
M15S21E05	DEA	DELHI
M15S21E05	DHA	DELHI
M15S21E05	DHB	DELHI
M15S21E05	DM	DELLO
M15S21E05	HC	HANFORD
M15S21E08	DEA	DELHI
M15S21E08	DHA	DELHI
M15S21E08	DHB	DELHI
M15S21E08	DM	DELLO
M15S21E08	HC	HANFORD
M15S21E09	DHA	DELHI
M15S21E09	DHB	DELHI
M15S21E09	DM	DELLO
M15S21E09	HC	HANFORD
M15S21E10	DHA	DELHI
M15S21E10	HC	HANFORD
M15S21E10	HM	HANFORD
M15S21E12	DHA	DELHI
M15S21E12	DHB	DELHI
M15S21E12	HC	HANFORD
M15S21E12	HM	HANFORD
M15S21E12	TZBB	TUJUNGA
M15S21E13	DEA	DELHI
M15S21E13	DHB	DELHI
M15S21E13	DM	DELLO
M15S21E13	HC	HANFORD
M15S21E13	HM	HANFORD
M15S21E13	TZBA	TUJUNGA
M15S21E13	TZBB	TUJUNGA
M15S21E14	HC	HANFORD
M15S21E14	HM	HANFORD
M15S21E14	TZBA	TUJUNGA
M15S21E14	TZBB	TUJUNGA
M15S21E15	DHA	DELHI
M15S21E15	DHB	DELHI
M15S21E15	HC	HANFORD
M15S21E15	HM	HANFORD
M15S21E15	TZBA	TUJUNGA
M15S21E17	DEA	DELHI
M15S21E17	DHA	DELHI
M15S21E17	DHB	DELHI
M15S21E17	DM	DELLO
M15S21E17	HC	HANFORD
M15S21E24	DEB	DELHI
M15S21E24	DHA	DELHI
M15S21E24	DHB	DELHI
M15S21E24	DM	DELLO
M15S21E24	GD	GRANGEVILLE
M15S21E24	HC	HANFORD
M15S21E24	HM	HANFORD
M15S21E24	TZBA	TUJUNGA
M15S22E05	DHA	DELHI
M15S22E05	DHB	DELHI
M15S22E05	HC	HANFORD
M15S22E05	HD	HANFORD
M15S22E05	HM	HANFORD
M15S22E05	TZBB	TUJUNGA
M15S22E06	HC	HANFORD
M15S22E06	HM	HANFORD
M15S22E06	TZBB	TUJUNGA
M15S22E07	DHA	DELHI
M15S22E07	DHB	DELHI
M15S22E07	DM	DELLO
M15S22E07	HC	HANFORD
M15S22E07	HM	HANFORD
M15S22E07	TZBA	TUJUNGA
M15S22E09	DEA	DELHI
M15S22E09	DHA	DELHI
M15S22E09	HC	HANFORD
M15S22E09	HM	HANFORD
M15S22E09	TZBA	TUJUNGA
M15S22E11	DEA	DELHI
M15S22E11	DHA	DELHI
M15S22E11	DM	DELLO
M15S22E11	HC	HANFORD
M15S22E11	HM	HANFORD
M15S22E11	TZBA	TUJUNGA
M15S22E11	TZBB	TUJUNGA
M15S22E15	DEA	DELHI
M15S22E15	DHA	DELHI
M15S22E15	DM	DELLO
M15S22E15	HC	HANFORD
M15S22E15	HM	HANFORD
M15S22E15	TZBA	TUJUNGA
M15S22E16	DEA	DELHI
M15S22E16	DHA	DELHI
M15S22E16	DHB	DELHI
M15S22E16	DM	DELLO
M15S22E16	HC	HANFORD
M15S22E16	HM	HANFORD
M15S22E16	TZBA	TUJUNGA
M15S22E17	DHA	DELHI
M15S22E17	HC	HANFORD
M15S22E17	HM	HANFORD
M15S22E17	TZBA	TUJUNGA
M15S22E18	DEA	DELHI
M15S22E18	DEB	DELHI
M15S22E18	DHA	DELHI
M15S22E18	DHB	DELHI
M15S22E18	DM	DELLO
M15S22E18	HC	HANFORD
M15S22E18	HM	HANFORD
M15S22E18	TZBA	TUJUNGA
M15S22E19	DEB	DELHI
M15S22E19	DHA	DELHI
M15S22E19	HC	HANFORD
M15S22E19	HM	HANFORD
M15S22E19	TZBA	TUJUNGA
M15S22E20	DEA	DELHI
M15S22E20	DHA	DELHI
M15S22E20	DHB	DELHI
M15S22E20	DM	DELLO
M15S22E20	HC	HANFORD
M15S22E20	HM	HANFORD
M15S22E20	TZBA	TUJUNGA
M15S22E20	TZBB	TUJUNGA
M15S22E21	DHA	DELHI
M15S22E21	DHB	DELHI
M15S22E21	DM	DELLO
M15S22E21	HC	HANFORD

SECTION (T-R-S)	MAP UNIT SYMBOL	SOIL SERIES (DOMINANT)
M15S22E21	HM	HANFORD
M15S22E21	TZBA	TUJUNGA
M15S22E22	DEB	DELHI
M15S22E22	DN	DELLO
M15S22E22	HC	HANFORD
M15S22E22	HM	HANFORD
M15S22E22	TZBA	TUJUNGA
M15S22E28	DEA	DELHI
M15S22E28	DHA	DELHI
M15S22E28	HC	HANFORD
M15S22E28	HM	HANFORD
M15S22E28	TZBA	TUJUNGA
M15S22E30	DEA	DELHI
M15S22E30	DHA	DELHI
M15S22E30	DHB	DELHI
M15S22E30	DN	DELLO
M15S22E30	HC	HANFORD
M15S22E30	HM	HANFORD
M15S22E30	TZBA	TUJUNGA
M15S22E30	TZBB	TUJUNGA
M15S22E32	DEA	DELHI
M15S22E32	DHA	DELHI
M15S22E32	HC	HANFORD
M15S22E32	HM	HANFORD
M15S22E32	TZBA	TUJUNGA
M15S22E33	DHA	DELHI
M15S22E33	HC	HANFORD
M15S22E33	HM	HANFORD
M15S22E33	TZBA	TUJUNGA
M15S23E06	DN	DELLO
M15S23E06	GF	GRANGEVILLE
M15S23E06	GP	GRANGEVILLE
M15S23E06	HC	HANFORD
M15S23E06	HM	HANFORD
M15S23E06	TZAA	TUJUNGA
M15S23E06	TZBA	TUJUNGA
M15S23E07	GF	GRANGEVILLE
M15S23E07	HC	HANFORD
M15S23E07	HD	HANFORD
M15S23E07	HM	HANFORD
M15S23E07	TZBA	TUJUNGA
M15S24E10	AOA	ATWATER
M15S24E10	AOB	ATWATER
M15S24E10	ARA	ATWATER
M15S24E10	HC	HANFORD
M15S24E10	TZBA	TUJUNGA
M15S24E11	AOA	ATWATER
M15S24E11	ARA	ATWATER
M15S24E11	HA	HANFORD
M15S24E11	HC	HANFORD
M15S24E11	VMD	VISTA
M15S24E31	AOA	ATWATER
M15S24E31	ARA	ATWATER
M15S24E31	DEA	DELHI
M15S24E31	DHA	DELHI
M15S24E31	HA	HANFORD
M15S24E31	HC	HANFORD
M15S24E31	TZBA	TUJUNGA
M15S24E33	HA	HANFORD
M15S24E33	HF	HANFORD
M15S24E33	TZBA	TUJUNGA
M16S21E16	DEA	DELHI
M16S21E16	DHA	DELHI
M16S21E16	HC	HANFORD
M16S22E11	DEA	DELHI
M16S22E11	DHA	DELHI
M16S22E11	HC	HANFORD
M16S22E11	HM	HANFORD
M16S22E11	TZBA	TUJUNGA
Merced County		
M06S12E32	AFA	ATWATER
M06S12E32	ANB	ATWATER
M06S12E32	DCA	DELHI
M06S12E32	DFA	DELHI
Orange County		
S03S09W34	194	SAN EMIGDIO
S04S09W07	194	SAN EMIGDIO
S04S09W18	194	SAN EMIGDIO
S04S09W18	195	SAN EMIGDIO
S04S10W24	158	MUEMEME
S04S10W24	194	SAN EMIGDIO
Riverside County		
S02S04W07	GHC	GORGONIO
S02S04W07	HCC	HANFORD
S02S04W17	HCC	HANFORD
S02S04W17	HCD2	HANFORD
S02S04W17	VSD2	VISTA
S02S05W12	HCC	HANFORD
S02S05W12	SEC2	SAN EMIGDIO
S02S05W12	SFA	SAN EMIGDIO
S02S05W12	TUR	TUJUNGA
S02S05W12	TVC	TUJUNGA
S03S06W22	GHC	GORGONIO
S03S06W22	HCC	HANFORD
S03S06W22	HCD2	HANFORD
S03S06W22	VSD2	VISTA
S03S06W22	VSF2	VISTA
S03S06W28	HCC	HANFORD
S03S06W28	HGA	HANFORD
S03S06W28	VSD2	VISTA
S03S06W28	VSF2	VISTA
Stanislaus County		
M04S09E03	TUA	TUJUNGA
M04S09E03	TVA	TUJUNGA
M04S09E10	TUA	TUJUNGA
M04S09E15	TUA	TUJUNGA
M04S09E16	TUA	TUJUNGA
M04S09E20	TUA	TUJUNGA
M04S09E21	HDB	HANFORD
M04S09E21	TUA	TUJUNGA
M04S09E22	DKA	DELLO
M04S09E22	HDB	HANFORD
M04S09E22	TUA	TUJUNGA
Tulare County		
M16S25E08	132	GREENFIELD
M16S25E08	139	HONCUT
M16S25E08	164	TUJUNGA
M16S25E18	132	GREENFIELD
M16S25E19	132	GREENFIELD
M16S25E29	164	TUJUNGA
M17S25E12	131	GRANGEVILLE
M17S25E13	131	GRANGEVILLE
M17S25E13	164	TUJUNGA
M17S25E13	176	YETTEM
M17S26E18	131	GRANGEVILLE
M17S26E18	176	YETTEM
M17S26E19	164	TUJUNGA
M17S26E19	176	YETTEM
M17S26E20	176	YETTEM
M17S26E21	176	YETTEM
M17S26E26	153	SAN EMIGDIO
M17S26E26	176	YETTEM
M18S26E01	131	GRANGEVILLE
M18S26E01	153	SAN EMIGDIO
M18S26E01	164	TUJUNGA
M18S26E01	176	YETTEM
M18S26E24	131	GRANGEVILLE
M18S26E24	139	HONCUT
M18S26E25	176	YETTEM
M18S26E36	139	HONCUT
M18S26E36	176	YETTEM
M18S27E08	131	GRANGEVILLE
M18S27E08	164	TUJUNGA
M18S27E08	176	YETTEM
M18S27E09	131	GRANGEVILLE
M18S27E10	133	GREENFIELD
M18S27E10	140	HONCUT
M18S27E10	176	YETTEM

SECTION (T-R-S)	MAP UNIT SYMBOL	SOIL SERIES (DOMINANT)
M18S27E15	153	GREENFIELD
M18S27E15	140	HONCUT
M18S27E16	140	HONCUT
M18S27E16	166	VISTA
M18S27E18	131	GRANGEVILLE
M18S27E19	176	YETTEM
M18S27E20	153	SAN EMIGDIO
M18S27E20	176	YETTEM
M18S27E20	177	YETTEM
M18S27E21	131	GRANGEVILLE
M18S27E21	153	SAN EMIGDIO
M18S27E21	166	VISTA
M18S27E21	177	YETTEM
M18S27E29	153	SAN EMIGDIO
M18S27E29	176	YETTEM
M18S27E30	176	YETTEM
M18S27E31	176	YETTEM
M19S26E01	132	GREENFIELD
M19S26E01	139	HONCUT
M19S26E36	139	HONCUT
M20S26E12	132	GREENFIELD
M20S26E24	139	HONCUT
M20S26E36	132	GREENFIELD
M20S26E36	139	HONCUT
M20S27E18	132	GREENFIELD
M20S27E18	139	HONCUT
M20S27E31	132	GREENFIELD
M20S27E31	139	HONCUT
M21S29E09	131	GRANGEVILLE
M21S29E09	166	VISTA
M21S29E09	168	VISTA-ROCK
M21S29E10	168	VISTA-ROCK
M21S29E11	164	TUJUNGA
M21S29E11	165	VISTA
M21S29E11	168	VISTA-ROCK
M21S29E14	140	HONCUT
M21S29E14	164	TUJUNGA
M21S29E14	168	VISTA-ROCK
M21S29E14	171	WALONG-ROCK
M21S29E15	131	GRANGEVILLE
M21S29E15	133	GREENFIELD
M21S29E15	168	VISTA-ROCK
M21S29E15	171	WALONG-ROCK
M21S29E16	164	TUJUNGA
M21S29E16	168	VISTA-ROCK

Note: This listing is the result of the application of Teso's definition for coarse soils to all available California soil surveys as of April 1996.

CSMUI List of Coarse-Loamy and
Sandy Particle Size Class Soils

The following is a list of the coarse-loamy and sandy family particle size class soils that are currently in the California Soils Map Unit Inventory (CSMUI). The first column specifies the soil survey area that contains the specified map unit symbol (column 3). The second column consists of the soil series name associated with the dominant soil in the map unit. If the second column is hyphenated then the map unit is a soil association or complex. Complexes can contain miscellaneous names other than Soil Series names i.e., FILL, URBAN. A series name followed by an "S" enclosed in parentheses signifies that the soil has a particle size class of "sandy", otherwise, the soil has a particle size class of "coarse-loamy". Likewise, acreage sums (column 4) listed in parentheses represent the total "sandy psc" acres found in the survey area. The sum not in parentheses is the total acreage of both "sandy" and "coarse-loamy" soils in the survey area.

ALAMEDA CO., W. PART	LAUGENOUR	117	760
	URBAN-BAYWOOD (S)	147	4025
	XEROPSAMMENTS (S)-FILL	156	6115
**********			----------
			(10140)
sum			10900
AMADOR AREA	AHWAHNEE	AAB	89
	AHWAHNEE	AAB2	99
	AHWAHNEE	AAC	323
	AHWAHNEE	AAC2	348
	AHWAHNEE	AAD	144
	AHWAHNEE	AAD2	115
	AHWAHNEE	ADD	1198
	AHWAHNEE	ADD3	103
	AHWAHNEE	ADE	881
	AHWAHNEE	AEE	461
	AHWAHNEE	AFD	122
	HONCUT	HM	525
	HONCUT	HN	583
	HONCUT	HO	2451
	HONCUT	HS	1033
	HONCUT	HV	412
	SHAVER	SCF	556
	SHAVER	SDF	214
**********			----------
sum			9657
ANTELOPE VALLEY AREA	ADELANTO	AAB	9265
	ADELANTO	ACA	13045

ADELANTO	ADB	1930
CAJON (S)	CAA	31000
CAJON (S)	CAC	32900
CAJON (S)	CBA	5130
CAJON (S)	CCA2	14545
CAJON (S)	CCD2	2385
CASTAIC-SAUGUS	CNG3	9235
GREENFIELD	GSA	8880
GREENFIELD	GSC	30050
GREENFIELD	GSC2	2185
GREENFIELD	GSD2	3705
HANFORD	HAB2	3625
HANFORD	HBA	7705
HANFORD	HBC	40000
HANFORD	HBD	5230
HANFORD	HCA	12940
HANFORD	HCC	19625
HANFORD	HDC	7095
HANFORD	HEC	1390
HESPERIA	HGA	24520
HESPERIA	HGA2	17785
HESPERIA	HGB	5990
HESPERIA	HKA	45450
HESPERIA	HKB	30200
HESPERIA	HMA	2040
HESPERIA	HNA	2965
METZ (S)	MFA	1105
METZ (S)	MFC	2060
METZ (S)	MGA	200
METZ (S)	MGB	695
OAK GLEN	OBA	680
OAK GLEN	OBC	8015
OAK GLEN	OCC	2460
OAK GLEN	ODA	540
OAK GLEN	ODC	5150
OAKDALE	OAC	6605
SAUGUS	SCE	1465
SAUGUS	SCF	4515
SAUGUS	SCF2	29950
SHERIDAN	SHE	1170
SHERIDAN	SHE2	745
SHERIDAN	SHF	10240
SHERIDAN	SHF2	10930
TRAY	TT2	3920
TRAY	TU	1130
TRAY	TV	6310
TRAY	TW	2550
VISTA	VSD2	2640
VISTA	VSE	2755
VISTA	VSE2	2790
VISTA	VSF	12410
VISTA	VSF2	14725
**********		---
		(90020)
sum		526570

BUTTE VALLEY-TULE LAKE AREA DEHILL 106

	DEHILL	107	
	DOEL	110	
	FORBAR	121	
	FORDNEY (S)	122	
	FORDNEY (S)	123	
	FORDNEY (S)	124	
	LAKI-HENLEY	137	
	LEAVERS	141	
	LEAVERS	142	
	ORSET	157	
	PODUS (S)	160	
	POE (S)	161	
	POMAN (S)	162	
	ROJO	164	
	ROJO	165	
**********			----------
sum			
CARSON VALLEY AREA (CA-NV)	CALPINE	CAA	136
	CALPINE	CCB	121
	CASHMERE	CF	498
	CAVE ROCK	CKC	283
	DRESSLER	DRA	154
	DRESSLER	DSA	202
	DRESSLER	DTA	866
	DRESSLER	DWA	306
	DRESSLER	DWB	420
	GLENBROOK (S)	GKF	1414
	GLENBROOK (S)	GLE	706
	HAYBOURNE	HAA	670
	HAYBOURNE	HAB	203
	HAYBOURNE	HBB	1609
	JOB	JG	168
	JOB	JH	327
	JOB	JK	534
	JOB	JL	344
	JUBILEE	JM	189
	JUBILEE	JN	246
	JUBILEE	JO	173
	JUBILEE	JP	368
	MOTTSVILLE (S)	MLB	777
	MOTTSVILLE (S)	MLD	4674
	MOTTSVILLE (S)	MOD	743
	MOTTSVILLE (S)	MOF	286
	MOTTSVILLE (S)-TOIYABE(S)	MTC	389
	OPHIR (S)	OGA	863
	OPHIR (S)	OGB	1781
	OPHIR (S)	OHC	509
	OPHIR (S)	OPB	548
	ORMSBY (S)	OR	662
	ORMSBY (S)	OS	212
	ORMSBY (S)	OY	688
	PREY	PGB	1235
	PREY	PHA	539
	PREY	PMD	268
	QUINCY (S)	QUE	2119

	TOIYABE (S)	TAF	1973
	TOLL (S)	TLB	3081
	TOLL (S)	TLD	2417
	TOLL (S)	TMA	175
	TOLL (S)	TOB	174
**********			----------
			(24474)
sum			34050
COLORADO RIVER INDIAN RESERV ATION (CA-AZ)	AGUALT-CIBOLA	1	9585
	AGUALT-CIBOLA	2	4485
	ANTHO	3	840
	BADLAND-TORRIORTHENTS-TO RRIPSAMMENTS (S)	4	20047
	CIBOLA-AGUALT	8	2810
	GILMAN	11	15114
	GILMAN	12	10446
	GILMAN	13	6405
	LAGUNITA (S)	20	4187
	LAGUNITA (S)	21	11427
	SUPERSTITION (S)	28	8677
	SUPERSTITION (S)-ROSITAS (S)	29	38569
	VINT (S)	30	6695
	VINT (S)	31	3395
**********			----------
			(92997)
sum			142682
CONTRA COSTA COUNTY	BRIONES (S)	BDE	2635
	BRIONES (S)	BDE2	395
	BRIONES (S)	BDF	780
	BRIONES (S)	BDF2	1040
	BRIONES (S)	BEB	230
	DELHI (S)	DAC	8510
	LAUGENOUR	LA	520
	PIPER	PD	470
	PIPER	PE	2710
	PIPER	PH	2630
	SHIMA (S)	SE	2995
**********			----------
			(16585)
sum			22915
EASTERN FRESNO AREA	AHWAHNEE	ACB	362
	AHWAHNEE	ACC	3844
	AHWAHNEE	ACD	2673
	AHWAHNEE	ACE	1249
	AHWAHNEE	ADD	1791
	AHWAHNEE	ADE	3233
	AHWAHNEE	ADF	2853
	AHWAHNEE	AED	415
	AHWAHNEE	AEF	4246
	AHWAHNEE-SIERRA	AHD	585
	AHWAHNEE-SIERRA	AHE	288
	AHWAHNEE-TOLLHOUSE-ROCK	AKF	624

ATWATER	AOA	5989
ATWATER	AOB	786
ATWATER	APA	545
ATWATER	ARA	11110
ATWATER	ARB	595
ATWATER	ASA	798
ATWATER	ATA	4954
CAJON (S)	CA	1053
CAJON (S)	CB	2671
CAJON (S)	CC	410
CAJON (S)	CD	573
CAJON (S)	CE	284
CALHI (S)	CFA	17503
CALHI (S)	CFB	2845
CALHI (S)	CGA	7054
DELHI (S)	DEA	2752
DELHI (S)	DEB	2861
DELHI (S)	DHA	38844
DELHI (S)	DHB	7409
DELHI (S)	DLA	2967
DELLO (S)	DM	4001
DELLO (S)	DN	2494
EL PECO	EC	1369
EL PECO	ED	8600
EL PECO	EP	734
FOSTER	FM	2657
FOSTER	FN	1234
FOSTER	FO	388
FOSTER	FP	347
FOSTER	FR	1233
FRESNO-TRAVER	FX	947
GRANGEVILLE	GA	3459
GRANGEVILLE	GD	494
GRANGEVILLE	GE	1039
GRANGEVILLE	GF	16574
GRANGEVILLE	GG	3091
GRANGEVILLE	GH	552
GRANGEVILLE	GK	739
GRANGEVILLE	GL	1831
GRANGEVILLE	GM	1952
GRANGEVILLE	GN	1242
GRANGEVILLE	GO	1256
GRANGEVILLE SOILS	GP	2578
GREENFIELD	GSA	1314
GREENFIELD	GTA	8740
GREENFIELD	GTB	547
GREENFIELD	GUA	9686
HANFORD	HA	10722
HANFORD	HB	328
HANFORD	HC	28995
HANFORD	HD	1399
HANFORD	HE	2266
HANFORD	HF	384
HANFORD	HG	26911
HANFORD	HH	277
HANFORD	HK	2380
HANFORD	HL	974

HANFORD	HM	29839
HANFORD	HN	1936
HANFORD	HO	7440
HANFORD	HP	292
HANFORD	HR	1582
HESPERIA	HSA	1567
HESPERIA	HSC	500
HESPERIA	HSD	20935
HESPERIA	HSE	3057
HESPERIA	HSM	26548
HESPERIA	HSN	6388
HESPERIA	HSO	948
HESPERIA	HSP	1250
HESPERIA	HSR	20380
HESPERIA	HSS	422
HESPERIA	HST	21318
HESPERIA	HSY	12358
HONCUT	HWA	713
HONCUT	HWB	318
HONCUT	HYA	461
HONCUT	HZA	230
NORD	NO	336
NORD	NS	492
PACHAPPA	PA	1364
PACHAPPA	PC	1911
PACHAPPA	PD	2840
PACHAPPA	PE	3035
PIPER	PFB	397
PIPER	PGB	134
PIPER-ROSSI	PHB	402
POLLASKY	PMB	983
POLLASKY	PMC	289
POLLASKY	PMD	269
POLLASKY	PNB	350
POLLASKY	PNC	192
POLLASKY-MONTPELLIER	POC	915
POLLASKY-MONTPELLIER	POD	374
POLLASKY-ROCKLIN	PPC	374
SHAVER	SME	218
TRAVER	TR	3693
TRAVER	TS	8358
TRAVER	TT	8568
TRAVER	TU	10901
TRETTEN	TVC	224
TRETTEN	TVD	339
TRETTEN	TVE	798
TRETTEN	TVF	666
TRETTEN	TWF	1823
TRIMMER-TRETTEN	TZE	346
TRIMMER-TRETTEN	TZF	2468
TUJUNGA (S)	TZAA	662
TUJUNGA (S)	TZBA	14672
TUJUNGA (S)	TZBB	606
TUJUNGA (S)	TZCA	380
TUJUNGA (S)	TZDA	708
TUJUNGA SOILS (S)	TZEB	3603
VISALIA	VAA	2632

	VISALIA	VAB	976
	VISALIA	VDA	325
	VISALIA	VEA	207
	VISTA	VFB	2671
	VISTA	VFC	6369
	VISTA	VFD	6693
	VISTA	VFE	3012
	VISTA	VFF	1375
	VISTA	VGB	1164
	VISTA	VGD	7335
	VISTA	VGE	688
	VISTA	VKD	5809
	VISTA	VKE	4484
	VISTA	VKF	1278
	VISTA	VLD	577
	VISTA	VLF	7454
	VISTA	VMD	521
	VISTA-FALLBROOK	VND	454
	VISTA-FALLBROOK	VOD	1686
	VISTA-FALLBROOK	VOE	1090
	VISTA-FALLBROOK	VSF	907
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			(114352)
sum			577779
EASTERN SANTA CLARA AREA	BEN LOMOND	BEG	520
	SAN ANDREAS	SAE2	440
	SAN ANDREAS	SAG2	1250
**********			----------
sum			2210
EASTERN STANISLAUS AREA	COLUMBIA	CCA	1431
	COLUMBIA	CDA	51
	COLUMBIA	CEA	1241
	COLUMBIA	CFA	1753
	COLUMBIA	CGA	241
	COLUMBIA	CHA	278
	COLUMBIA	CKA	467
	COLUMBIA	CMA	852
	COLUMBIA	COA	356
	COLUMBIA	CPA	996
	COLUMBIA	CSB	3560
	DELHI (S)	DEA	4847
	DELHI (S)	DEB	312
	DELHI (S)	DFA	344
	DELHI (S)	DGA	1652
	DELHI (S)	DHA	1006
	DELHI (S)	DHB	621
	DELLO (S)	DKA	478
	DINUBA	DMA	10069
	DINUBA	DNA	98
	DINUBA	DOA	761
	DINUBA	DPA	2317
	DINUBA	DRA	27648
	DINUBA	DSA	640
	DINUBA	DTA	3371
	DINUBA	DWA	14811

	DINUBA	DXA	376
	DINUBA	DYA	977
	FOSTER	FOA	117
	FRESNO-DINUBA	FWA	817
	FRESNO-DINUBA	FXA	61
	GRANGEVILLE	GFA	1464
	GRANGEVILLE	GGA	161
	GRANGEVILLE	GHA	222
	GRANGEVILLE	GKA	311
	GRANGEVILLE	GMA	2942
	GRANGEVILLE	GNA	672
	GRANGEVILLE	GOA	219
	GREENFIELD	GRA	299
	GREENFIELD	GSA	3404
	GREENFIELD	GSB	83
	GREENFIELD	GVA	5460
	HANFORD	HBA	5425
	HANFORD	HBMA	361
	HANFORD	HBPA	5423
	HANFORD	HBSA	4389
	HANFORD	HCA	160
	HANFORD	HDA	45860
	HANFORD	HDB	900
	HANFORD	HDC	183
	HANFORD	HDMA	257
	HANFORD	HDPA	12998
	HANFORD	HDSA	4925
	HANFORD	HEA	743
	HONCUT	HNA	421
	HONCUT	HOA	208
	HONCUT	HPA	768
	HONCUT	HRA	187
	OAKDALE	OAA	5888
	TRAVER	TMA	8
	TRAVER	TNA	102
	TRAVER	TOA	144
	TRAVER	TPA	629
	TRAVER	TRA	279
	TRAVER	TSA	35
	TUJUNGA (S)	TUA	18578
	TUJUNGA (S)	TUB	329
	TUJUNGA (S)	TVA	1339
**********			---
			(29506)
sum			208325
EL DORADO AREA	AHWAHNEE	ACC	486
	AHWAHNEE	ADD	1468
	AHWAHNEE	ADE	3887
	CHAIX	CCE	4920
	CHAIX	CCF	2381
	SHAVER	SBB	288
	SHAVER	SBC	1648
	SHAVER	SBD	1813
	SHAVER	SCC	462
	SHAVER	SDE	1635
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sum			18988
FRESNO COUNTY, WESTERN PART	BISGANI (S)	311	0
	CANOAS-GUIJARRAL	408	0
	ELNIDO	320	0
	EXCELSIOR	445	8490
	EXCELSIOR	447	13530
	EXCELSIOR	448	1060
	GETRAIL-VERNADO-ROCK OUT CROP	735	3310
	GRANGEVILLE	140	130
	GUIJARRAL	406	6340
	KIMBERLINA	425	5530
	KIMBERLINA	426	1670
	MILHAM-GUIJARRAL	404	0
	MONORIDGE (S)-EXCLOSE-BA DLAND	710	11490
	MONVERO-MONORIDGE (S)	750	3310
	POLVADERO-GUIJARRAL	405	17800
	WASCO	488	3310
	WASCO	489	1690
**********			----------
			(14800)
sum			77660
GLENN COUNTY	COLUMBIA	CEA	619
	COLUMBIA	CEB	143
	COLUMBIA	CF	54
	COLUMBIA	CHA	8385
	COLUMBIA	CHB	1021
	COLUMBIA	CK	349
	COLUMBIA	CL	90
	COLUMBIA	CM	153
	COLUMBIA	CN	170
	COLUMBIA	CO	380
	COLUMBIA	CPB	727
	COLUMBIA	CRB	1487
	MAYWOOD	ME	240
**********			----------
sum			13818
IMPERIAL VALLEY AREA	ANTHO	100	4134
	ANTHO-SUPERSTITION (S)	101	8416
	CARSITAS (S)	103	7011
	ROSITAS (S)	130	22608
	ROSITAS (S)	131	1590
	ROSITAS (S)	132	77301
	ROSITAS (S)	133	40748
	ROSITAS (S)	134	19401
	ROSITAS (S)	135	22626
	ROSITAS (S)	136	90896
	ROSITAS (S)	137	3737
	ROSITAS (S)-SUPERSTITION (S)	138	11373
	SUPERSTITION (S)	139	12887

	PREMIER-DURORTHIDS	226	520
	TYPIC GYPSIORTHIDS-KIMBE RLINA	239	4530
	WASCO	243	105410
	WASCO	244	3485
	WHITEWOLF	246	1780
**********			----------
			(60675)
sum			466940
KERN CO., S.E. PART	ARVIN	109	3480
	ARVIN	110	960
	ARVIN	111	7453
	CAJON (S)	113	8475
	CAJON (S)	114	153132
	CAJON (S)	115	920
	CAJON (S)	116	31585
	CAJON (S)-GARLOCK	117	4633
	CINCO (S)	124	9022
	EDMUNDSTON	129	1612
	EDMUNDSTON	130	8134
	EDMUNDSTON	131	4842
	EDMUNDSTON	132	7223
	EDMUNDSTON-GODDE-TOLLHOU SE	133	2917
	EDMUNDSTON-GODDE-TOLLHOU SE	134	7850
	HESPERIA	144	19422
	HESPERIA	145	1197
	HESPERIA	146	1082
	JAWBONE (S)	148	12745
	PAJUELA-WHITEWOLF (S)	156	7598
	PSAMMENTS (S)-XEROLLS	165	4889
	STEUBER	174	3513
	STEUBER	175	9207
	STEUBER	176	7713
	STEUBER	177	1876
	TORRIFLUVENTS-CAJON (S)	184	2700
	TUJUNGA (S)	186	1018
	TUNIS-WALONG	188	18802
	WALONG	193	20665
	WALONG	194	34270
	WALONG-ARUJO	195	4276
	WALONG-ARUJO	196	8302
	WALONG-ARUJO	197	5781
	WALONG-EDMUNDSTON	199	11153
	WALONG-EDMUNDSTON	200	26678
	WALONG-ROCK	198	12304
	WHITEWOLF (S)	203	3947
	WHITEWOLF (S)	204	1435
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			(242099)
sum			472811
KERN CO., S.W. PART	BAKERSFIELD	KSA	12695
	BAKERSFIELD	KYA	3620
	CAJON (S)	CAA	6185

	CAJON (S)	CGA	140
	CAJON (S)	CLA	1410
	CAJON (S)	CNA	8120
	CAJON (S)	CNB	190
	CAJON (S)	CSB	30
	CONDOR	HBA	1255
	CONDOR	HBB	980
	EXCELSIOR	EMA	5655
	EXCELSIOR	EXA	14935
	EXCELSIOR	EZA	7525
	EXCELSIOR	KGA	1895
	GUIJARRAL	GUB	95
	HESPERIA	HEA	3320
	HESPERIA	HSA	1690
	KIMBERLINA	KBA	5030
	KIMBERLINA	KCB	370
	KIMBERLINA	KMA	18300
	KIMBERLINA	KMB	380
	MILAGRO	MCA	5955
	MILAGRO	MLA	3745
	MILLUX-TENNCO	MTA	2265
	MILLUX-ZALVIDEA	MZA	3755
	PREMIER	PSA	12825
	PREMIER	PSB	945
	TENNCO	TNA	3340
	VINELAND (S)	VNA	300
	VINELAND (S)	VPA	895
	WASCO	WSA	1075
	WHEELRIDGE (S)	WBA	200
	WHEELRIDGE (S)	WBB	1840
	WHITEWOLF (S)	NDA	465
	WHITEWOLF (S)	WWA	1235
	WHITEWOLF (S)	WWB	2165
	WHITEWOLF (S)-BAKERSFIELD	PXA	7120
	ZALVIDEA	ZAA	1325
	ZALVIDEA	ZZA	780
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			(30295)
sum			144050
KINGS COUNTY	BOGGS	103	4213
	CAJON (S)	104	3913
	CANTUA	105	7620
	CANTUA	106	1900
	EXCELSIOR	112	8771
	GRANGEVILLE	119	10059
	GRANGEVILLE	120	5991
	GRANGEVILLE	121	6665
	HOMELAND (S)	124	6114
	KETTLEMAN-CANTUA	129	27979
	KIMBERLINA	130	37476
	KIMBERLINA	131	11129
	KIMBERLINA-GARCES	132	18190
	LEMOORE	137	5474
	NORD	147	27722
	NORD	148	5532

	NORD	149	28601
	SANDRIDGE (S)	162	3958
	VANGUARD	168	9615
	WASCO	174	28993
	WHITEWOLF (S)	179	3500
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			(17485)
sum			263415
LAKE COUNTY	KELSEY	147	2755
**********			----------
sum			2755
LOS ANGELES CO., S. PART AND W. SAN FERNANDO VALLEY AREA	ANACAPA	100	215
	ANACAPA-URBAN	101	4680
	CAPISTRANO-URBAN	107	7060
	CAPISTRANO-URBAN	108	2680
	SAN EMIGDIO-URBAN	127	9015
	SAUGUS	128	475
	SAUGUS	129	2950
	TUJUNGA (S)-URBAN	135	890
	VISTA	137	1000
	XERORTHENTS-URBAN-SAUGUS	143	810
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			(890)
sum			29775
MADERA AREA	AHWAHNEE-AUBERRY	AAC	3674
	AHWAHNEE-AUBERRY	AAD	12869
	AHWAHNEE-AUBERRY	ABB	4
	AHWAHNEE-AUBERRY	ABD	17747
	AHWAHNEE-AUBERRY	ABE	12977
	AHWAHNEE-AUBERRY	ACD	1199
	AHWAHNEE-AUBERRY	ACF	4010
	AHWAHNEE-VISTA	ADB	108
	AHWAHNEE-VISTA	ADC	9030
	AHWAHNEE-VISTA	ADD	29180
	AHWAHNEE-VISTA	AEB	138
	AHWAHNEE-VISTA	AED	101864
	AHWAHNEE-VISTA	AEE	32523
	AHWAHNEE-VISTA	ARD	7150
	AHWAHNEE-VISTA	ARF	12794
	ATWATER	ATA	3316
	ATWATER	ATB	2566
	ATWATER	AWA	4331
	ATWATER	AWB	1600
	CAJON (S)	CAA	1906
	CAJON (S)	CAAA	3006
	CAJON (S)	CABA	205
	CAJON (S)	CACA	541
	CALHI (S)	CBAB	1011
	CALHI (S)	CBBB	1156
	CALHI (S)	CCAA	60
	CALHI (S)	CCAB	90
	CALHI (S)	CCBA	291
	CALHI (S)	CCBB	153

CALHI (S)	CCCA	149
COLUMBIA	CMA	1018
COLUMBIA	CMDA	552
COLUMBIA	CMTA	1287
COLUMBIA	COA	205
COLUMBIA	COTA	205
COLUMBIA	CPA	26
COLUMBIA	CPDA	78
COLUMBIA	CRB	168
DELHI (S)	DEA	690
DELHI (S)	DEB	440
DELHI (S)	DFA	634
DINUBA	DMA	1884
DINUBA	DOA	104
DINUBA-EL PECO	DPA	7400
DINUBA-EL PECO	DSA	3495
DINUBA-EL PECO	DTA	175
DINUBA-EL PECO	DUA	142
EL PECO-DINUBA	EDA	7691
FOSTER	FAA	343
FOSTER	FAAA	877
FOSTER	FABA	254
FOSTER	FACA	153
FOSTER	FBA	1876
FOSTER	FBAA	351
FOSTER	FBBA	392
FOSTER	FBCA	272
FOSTER	FBDA	19
FOSTER	FBEA	298
FOSTER	FCBA	34
FOSTER-CHINO	FDCA	533
FRESNO-EL PECO	FEAA	4711
FRESNO-EL PECO	FEBA	5849
FRESNO-EL PECO	FECA	32168
FRESNO-EL PECO	FFAA	3853
FRESNO-EL PECO	FFBA	5155
FRESNO-EL PECO	FFCA	6968
FRESNO-EL PECO-CHINO	FGAA	2600
FRESNO-EL PECO-CHINO	FGBA	377
FRESNO-EL PECO-LEWIS	FHBA	4879
FRESNO-EL PECO-LEWIS	FHCA	548
FRESNO-EL PECO-POZO	FKAA	671
FRESNO-EL PECO-POZO	FKBA	500
GRANGEVILLE	GAA	12522
GRANGEVILLE	GBA	4517
GRANGEVILLE	GCA	11459
GRANGEVILLE	GDA	1917
GRANGEVILLE	GEA	526
GRANGEVILLE	GFA	877
GRANGEVILLE	GHA	1257
GRANGEVILLE	GKA	552
GRANGEVILLE	GMA	1003
GRANGEVILLE	GNA	821
GREENFIELD	GRA	3510
GREENFIELD	GRB	373
GREENFIELD	GSA	3167
GREENFIELD	GSB	15

	GREENFIELD	GUA	772
	GREENFIELD	GUB	794
	GREENFIELD	GVA	1156
	GREENFIELD	GVB	821
	HANFORD	HAA	7613
	HANFORD	HBA	3353
	HANFORD	HEB	619
	HANFORD	HFA	3323
	HANFORD	HGA	2316
	HANFORD	HHA	407
	PACHAPPA	PAA	7781
	PACHAPPA	PBA	8508
	PACHAPPA	PCA	668
	PACHAPPA	PDA	4409
	PACHAPPA	PEA	388
	TRAVER	TMA	1706
	TRAVER	TNA	8501
	TRAVER	TOA	7553
	TRAVER-CHINO	TPA	1231
	TRAVER-CHINO	TRA	2309
	TRAVER-FRESNO-EL PECO	TSA	201
	TRAVER-FRESNO-EL PECO	TTA	183
	TUJUNGA (S)	TWA	20504
	TUJUNGA (S)	TWB	257
	TUJUNGA (S)	TXA	642
	TUJUNGA (S)	TYA	93
	TUJUNGA (S)-HANFORD	TZB	2749
	VISALIA	VAA	4730
	VISALIA	VDA	2134
	VISALIA	VNA	310
	VISTA-SESAME	VSB	959
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			(34577)
sum			505029
MARIN COUNTY	PABLO (S)-BAYVIEW	152	2375
	SIRDRAK (S)	170	2185
	SIRDRAK (S)	171	525
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			(8490)
sum			8490
MARIPOSA AREA	AHWAHNEE	AAC	1083
	AHWAHNEE	AAD	1984
	AHWAHNEE-AUBERRY	ABE	602
	AHWAHNEE-AUBERRY	ACE	23916
	AHWAHNEE-AUBERRY	ADG	9373
	SAN ANDREAS-COARSEGOLD	SAD	3570
	SAN ANDREAS-COARSEGOLD	SAE	4105
	SAN ANDREAS-COARSEGOLD	SAF	8672
	SAN ANDREAS-COARSEGOLD	SBE	7264
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sum			60569
MENDOCINO CO., E. PART AND S .W. PART OF TRINITY CO.	RUSSIAN	188	4849

	RUSSIAN	189	190
	RUSSIAN	190	1410
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sum			6449
MERCED AREA	ATWATER	ADA	1226
	ATWATER	AFA	6600
	ATWATER	AFB	8980
	ATWATER	AGA	840
	ATWATER	AGB	1741
	ATWATER	AKA	1646
	ATWATER	ANA	1885
	ATWATER	ANB	12388
	COLUMBIA	CAA	693
	COLUMBIA	CBA	712
	COLUMBIA	CCA	342
	DELHI (S)	DBA	422
	DELHI (S)	DBB	150
	DELHI (S)	DCA	3655
	DELHI (S)	DDA	5336
	DELHI (S)	DDB	878
	DELHI (S)	DEA	3815
	DELHI (S)	DFA	29899
	DELHI (S)	DFB	4777
	DELHI (S)	DFC	424
	DELHI (S)	DGA	3822
	DELHI (S)	DGB	149
	DELLO (S)	DHA	373
	DELLO (S)	DKA	1792
	DELLO (S)	DMA	119
	DELLO (S)	DNA	390
	DELLO (S)	DOA	807
	DINUBA	DPA	3186
	DINUBA	DRA	2627
	DINUBA	DSA	264
	DINUBA	DTA	264
	FOSTER	FAA	352
	FOSTER	FBA	674
	FOSTER	FCA	260
	FOSTER	FDA	830
	FOSTER	FEA	137
	GRANGEVILLE	GAA	5487
	GRANGEVILLE	GBA	3373
	GRANGEVILLE	GCA	2030
	GRANGEVILLE	GDA	73
	GREENFIELD	GEA	994
	GREENFIELD	GFA	2743
	GREENFIELD	GFB	618
	GREENFIELD	GFB3	19
	HANFORD	HAA	3116
	HANFORD	HBA	1295
	HANFORD	HCB	671
	HANFORD	HDA	1078
	HANFORD	HEA	5106
	HONCUT	HRA	906
	HONCUT	HSA	454

	HONCUT	HTA	9919
	HONCUT	HUA	758
	HONCUT	HWA	1816
	HONCUT	HXA	117
	HONCUT	HZA	258
	PACHAPPA	PAA	3237
	PACHAPPA	PBA	1687
	PACHAPPA	PCA	510
	PACHAPPA	PDA	3007
	PACHAPPA	PEA	1330
	PACHAPPA	PFA	3432
	PACHAPPA	PGA	1769
	PIPER	PPA	363
	PIPER	PSA	421
	PIPER	PTA	24
	TRAVER	THA	65
	TRAVER	TKA	123
	TRAVER	TMA	434
	TRAVER	TNA	3373
	TRAVER	TOA	6788
	TRAVER	TPA	2891
	TUJUNGA (S)	TSA	649
	TUJUNGA (S)	TTA	1157
	TUJUNGA (S)	TUA	1634
	TUJUNGA (S)	TWA	596
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			(60844)
sum			176776
MERCED CO., W. PART	BISGANI (S)	137	2040
	BISGANI (S)	138	610
	ELNIDO	178	5850
	ELNIDO	179	1320
	ELNIDO	180	3880
	OQUIN	224	220
	OQUIN	225	1350
	SAN EMIGDIO	246	610
	SAN EMIGDIO	247	450
	SAN TIMOTEO	249	650
	SAN TIMOTEO-WISFLAT	250	1110
	SAN TIMOTEO-WISFLAT	251	520
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			(2650)
sum			18610
MODOC CO., ALTURAS AREA	GLEASON	140	286
	GLEASON	141	140
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sum			426
MONTEREY COUNTY	ARNOLD (S)	AKD	5030
	ARNOLD (S)	AKF	23650
	ARNOLD (S)-SAN ANDREAS	AM	4145
	ARNOLD (S)-SANTA YNEZ	AR	11400
	ARROYO SECO	ASA	6685
	ARROYO SECO	ASB	5305
	ARROYO SECO	ASC	4820

	ARROYO SECO	AVA	2915
	ARROYO SECO	AVB	2315
	BAYWOOD (S)	BBC	11300
	ELDER	EAA	6665
	ELDER	EBC	1130
	ELDER	ECA	3335
	GAREY	GBC	3845
	GAREY	GBE	6085
	GAREY	GBF2	875
	GAREY-OCEANO (S)	GC	750
	GAVIOTA-SAN ANDREAS	GEE	9250
	GAVIOTA-SAN ANDREAS	GEG	13550
	GORGONIO (S)	GKB	6300
	GREENFIELD	GMB	1620
	GREENFIELD	GMC	1250
	GREENFIELD	GMD	740
	HANFORD	HBB	1955
	JUNIPERO	JAF	1785
	JUNIPERO	JBG	23810
	JUNIPERO-SUR	JC	19910
	METZ (S)	ME	3945
	METZ (S)	MF	5745
	METZ (S)	MG	19060
	OCEANO (S)	OAD	13110
	PFEIFFER	PDC	1040
	PFEIFFER	PDD	1090
	PFEIFFER-ROCK	PE	6775
	PICO	PF	13745
	PSAMMENTS (S)-FLUVENTS	PR	12650
	PSAMMENTS (S)-FLUVENTS	PS	9300
	SAN ANDREAS	SCE	3555
	SAN ANDREAS	SCG	11580
	SAN TIMOTEO	SEG	2125
	SHERIDAN	SOD	570
	SHERIDAN	SOE	16850
	SHERIDAN	SOG	75200
	SNELLING-GREENFIELD	SPD	3730
	SNELLING-GREENFIELD	SPE2	4540
	SUR-JUNIPERO	SS	89000
	TANGAIR (S)	TAC	805
	TUJUNGA (S)	TBB	3925
	VISTA	VAD	1100
	VISTA	VAE	8055
	VISTA	VAG	42700
	VISTA-ROCK	VB	4825
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			(131115)
sum			535440
NEVADA AREA	AHWAHNEE	ADB	1647
	AHWAHNEE	ADC	3971
	AHWAHNEE	ADD	568
	AHWAHNEE-ROCK	AED	4465
	AHWAHNEE-ROCK	AEE	1615
	CHAIX	CDE2	1355
	CHAIX-HOTAW	CHC2	1086
	CHAIX-HOTAW	CHD2	2841

	CHAIX-HOTAW	CHE2	2848
	CHAIX-ROCK	CKF	3529
	ROCK-AHWAHNEE	ROE	3714
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sum			27639
NORTHERN SANTA BARBARA AREA (2)	ARNOLD (S)	ARD	5932
	ARNOLD (S)	ARF	29443
	ARNOLD (S)	ARF3	2077
	BETTERAVIA (S)	BMA	4666
	BETTERAVIA (S)	BMA3	260
	BETTERAVIA (S)	BMC	1749
	CORRALITOS (S)	CTA	1026
	CORRALITOS (S)	CTD	3101
	CORRALITOS (S)	CTD2	634
	CORRALITOS (S)	CUA	3810
	CORRALITOS (S)	CUC	2967
	CORRALITOS (S)	CUD	1406
	ELDER	EDA	364
	ELDER	EDA2	691
	ELDER	EDC2	4675
	ELDER	EDD2	740
	ELDER	EMA	690
	ELDER	EMC	3355
	ELDER	ENA2	1157
	ELDER	ENC2	2847
	ELDER	END2	971
	GAREY	GAA2	188
	GAREY	GAC2	4836
	GAREY	GAE2	531
	GAREY	GAE3	1630
	MARINA (S)	MAA	2938
	MARINA (S)	MAC	7905
	MARINA (S)	MAE	9803
	MARINA (S)	MAE3	1394
	METZ (S)	MNA	8488
	METZ (S)	MNC	626
	METZ (S)	MNC2	7345
	METZ (S)	MOA	1941
	OCEANO (S)	OCA	639
	OCEANO (S)	OCD	9997
	OCEANO (S)	OCD3	2568
	SAN ANDREAS-TIERRA	SFD	1517
	SAN ANDREAS-TIERRA	SFE	6729
	SAN ANDREAS-TIERRA	SFF3	1745
	SAN ANDREAS-TIERRA	SFG	11119
	TANGAIR (S)	TAA	5353
	TANGAIR (S)	TAC	3713
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			(119781)
sum			163566
ORANGE CO. AND W. PART OF RIVERSIDE CO.	BLASINGAME-VISTA	120	485
	BLASINGAME-VISTA	121	985
	CAPISTRANO	135	5510

	CAPISTRANO	136	2075
	CORRALITOS (S)	146	2770
	CORRALITOS (S)	147	480
	ESCONDIDO	150	415
	ESCONDIDO	151	950
	HANFORD	156	520
	HUENEME	157	495
	HUENEME	158	23705
	MARINA (S)	161	565
	MARINA (S)	162	4000
	METZ (S)	163	20755
	METZ (S)	164	9310
	SAN ANDREAS	193	1205
	SAN EMIGDIO	194	15775
	SAN EMIGDIO	195	1000
	SAN EMIGDIO	196	7420
	VISTA	213	245
	VISTA	214	215
	VISTA	215	440
	VISTA-ROCK	216	935
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			(37880)
sum			100255
PALO VERDE AREA	ACO	AC	5470
	ACO	AF	8095
	GILMAN	GB	12195
	GILMAN	GC	4070
	ROSITAS (S)	ROA	14650
	ROSITAS (S)	ROB	4140
	ROSITAS (S)	RRA	460
	ROSITAS (S)	RSA	2655
	ROSITAS (S)	RTA	6080
	ROSITAS (S)	RUA	420
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			(28405)
sum			58235
PLACER CO., W. PART	ANDREGG	106	19100
	ANDREGG	107	2650
	ANDREGG	108	1175
	ANDREGG	109	5300
	ANDREGG	110	1150
	ANDREGG	111	1800
	ANDREGG-ROCK	112	2025
	ANDREGG-SHENANDOAH	113	2400
	CAPERTON-ANDREGG	130	6375
	CAPERTON-ANDREGG	131	1770
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sum			43745
RIVERSIDE CO., COACHELLA VALLEY AREA	CAJON (S)	CAD	1656
	CARSITAS (S)	CDC	67477
	CARSITAS (S)	CDE	4257
	CARSITAS (S)	CFB	3275
	CARSITAS (S)	CHC	35707

	CARSITAS (S)	CKB	24402
	COACHELLA (S)	CPA	14390
	COACHELLA (S)	CPB	1451
	COACHELLA (S)	CRA	7535
	COACHELLA (S)	CSA	2599
	GILMAN	GAB	1174
	GILMAN	GBA	13601
	GILMAN	GBB	647
	GILMAN	GCA	21145
	GILMAN	GDA	1167
	GILMAN	GEA	1234
	GILMAN	GFA	3765
	MYOMA (S)	MAB	40928
	MYOMA (S)	MAD	25807
	MYOMA (S)	MCB	4180
	ROCK-TORRIPSAMMENTS (S)	RT	6524
	TUJUNGA (S)	TPE	230
	TUJUNGA (S)	TRC	595
	TUJUNGA (S)	TSB	480
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			(241493)
sum			284226
SACRAMENTO COUNTY	ANDREGG	103	740
	ANDREGG	104	610
	ANDREGG-AUBURN	107	8300
	ANDREGG-URBAN	105	560
	ANDREGG-URBAN	106	210
	COLUMBIA	116	1130
	COLUMBIA	117	2680
	COLUMBIA	118	2770
	COLUMBIA	119	340
	COLUMBIA	120	3110
	COLUMBIA	121	4390
	COLUMBIA	122	280
	COLUMBIA	123	620
	COLUMBIA-URBAN	124	1170
	LANG (S)	167	500
	LANG (S)-URBAN	168	270
	LAUGENOUR	169	1840
	LAUGENOUR-URBAN	170	320
	REIFF	199	1770
	ROSSMOOR	204	770
	ROSSMOOR-URBAN	205	3890
	TINNIN (S)	225	940
	TINNIN (S)-URBAN	226	360
	VINA	233	1220
	VINA	234	600
	XEROPSAMMENTS (S)	244	980
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			(3050)
sum			40370
SAN BENITO COUNTY	ARNOLD (S)	ATD	260
	ARNOLD (S)	ATE2	1650
	ARNOLD (S)	ATF3	575
	CORRALITOS (S)	CUC	375

	HANFORD	HAA	1340
	HANFORD	HAC	3005
	HANFORD	HFA	355
	HANFORD	HFC	270
	METZ (S)	MEA	1605
	METZ (S)	MGA	670
	METZ (S)	MGC	340
	REIFF	REA	3495
	REIFF	REC	2095
	SHERIDAN	SKD	1365
	SHERIDAN	SKE	6330
	SHERIDAN	SKE2	6735
	SHERIDAN	SKG2	11860
	SHERIDAN	SKG3	38450
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			(5475)
sum			80775
SAN BERNARDINO CO., MOJAVE R IVER AREA	ARRASTRE-ROCK	101	12100
	AVAWATZ (S)-OAK GLEN	102	12000
	BRYMAN-CAJON (S)	110	7500
	CAJON (S)	112	46200
	CAJON (S)	113	117200
	CAJON (S)	114	6600
	CAJON (S)	115	59400
	CAJON (S)	116	8600
	CAJON (S)	117	28800
	CAJON (S)-ARIZO	118	66000
	CAJON (S)-WASCO	119	5900
	CRAFTON-SHEEPHEAD-ROCK	121	7000
	CUSHENBURY-CRAFTON-ROCK	122	12900
	HALLORAN	127	21200
	HALLORAN-DUNE	128	2900
	HANFORD	129	800
	HELENDALE	131	9200
	HELENDALE	132	16600
	HELENDALE-BRYMAN	133	43500
	HESPERIA	134	19200
	KIMBERLINA	137	17800
	KIMBERLINA	138	3000
	KIMBERLINA	139	5400
	LAVIC	140	5500
	LOVELACE (S)	141	4500
	LUCERNE	142	4800
	LUCERNE	143	6400
	MANET (S)	144	29200
	MANET (S)	145	2400
	MANET (S)	146	9300
	MANET (S)	147	1800
	NOROB-HALLORAN	152	41800
	TORRIORTHENTS-TORRIPSAMM ENTS (S)-URBAN	163	1900
	TUJUNGA (S)	167	1600
	VICTORVILLE	169	6300
	VILLA (S)	171	13700
	VILLA (S)	172	3000

	WASCO	173	16000
	WASCO	174	4100
	WRIGHTWOOD-BULL TRAIL	175	7300
	YERMO-KIMBERLINA	177	18200
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			(425600)
sum			707600
SAN BERNARDINO CO., S.W. PAR T	CRAFTON-ROCK	CS2	550
	DELHI (S)	DB	20440
	GRANGEVILLE	GR	7510
	GRANGEVILLE	GS	1350
	GREENFIELD	GTC	8010
	GREENFIELD	GTD	525
	GREENFIELD	GUD	220
	HANFORD	HAC	27655
	HANFORD	HAD	1655
	HANFORD	HBA	6615
	METZ (S)	MGC	300
	OAK GLEN	OAC	540
	OAK GLEN	OGD	1060
	OAK GLEN	OGE	670
	PSAMMENTS (S)-FLUVENTS	PS	8800
	SAN EMIGDIO	SAD	370
	SAN EMIGDIO	SBC	470
	SAN EMIGDIO	SCA	1900
	SAN EMIGDIO	SCC	3145
	SAN TIMOTEO	SGF2	2430
	SAUGUS	SHF	9455
	TUJUNGA (S)	TUB	42930
	TUJUNGA (S)	TVC	36720
	VISTA-ROCK	VR	1020
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			(109190)
sum			184340
SAN DIEGO AREA	ARLINGTON	AVC	932
	CALPINE	CAB	1538
	CALPINE	CAC	5988
	CALPINE	CAC2	2664
	CALPINE	CAD2	3044
	CARLSBAD (S)	CBB	1668
	CARLSBAD (S)	CBC	2485
	CARLSBAD (S)	CBD	840
	CARLSBAD (S)	CBE	402
	CARLSBAD (S)-URBAN	CCC	1485
	CARLSBAD (S)-URBAN	CCE	600
	CORRALITOS (S)	CSB	1420
	CORRALITOS (S)	CSC	2655
	CORRALITOS (S)	CSD	1894
	CROUCH	CTE	15736
	CROUCH	CTF	10416
	CROUCH	CUE	13052
	CROUCH	CUG	27751
	CROUCH	CVG	5806
	ELDER	EDC	1243

	ESCONDIDO	ESC	1813
	ESCONDIDO	ESD2	4160
	ESCONDIDO	ESE2	5050
	ESCONDIDO	EVC	628
	FALLBROOK-VISTA	FVD	6858
	FALLBROOK-VISTA	FVE	8444
	GRANGEVILLE	GOA	3610
	GREENFIELD	GRA	906
	GREENFIELD	GRB	3537
	GREENFIELD	GRC	2964
	GREENFIELD	GRD	1240
	KITCHEN CREEK	KCC	5123
	KITCHEN CREEK	KCD2	2039
	LA POSTA (S)	LAE2	29354
	LA POSTA (S)	LAE3	4329
	LA POSTA (S)	LCE	23061
	LA POSTA (S)	LCE2	31744
	LA POSTA (S)	LCF2	7270
	LA POSTA (S)-SHEEPHEAD	LDE	2890
	LA POSTA (S)-SHEEPHEAD	LDG	4112
	MARINA (S)	MLC	13538
	MARINA (S)	MLE	2105
	MECCA	MNA	2268
	MECCA	MNB	4679
	MECCA	MOA	1180
	MECCA	MPA2	3867
	MOTTSVILLE (S)	MVA	1587
	MOTTSVILLE (S)	MVC	32030
	MOTTSVILLE (S)	MVD	8412
	MOTTSVILLE (S)	MXA	4355
	REIFF	RKA	1949
	REIFF	RKB	1650
	REIFF	RKC	2105
	ROSITAS (S)	ROA	12923
	ROSITAS (S)	RRC	1708
	ROSITAS (S)	RSA	5450
	ROSITAS (S)	RSC	21790
	ROSITAS (S)	RSD	2155
	TUJUNGA (S)	TUB	19291
	VISALIA	VAA	15078
	VISALIA	VAB	17274
	VISALIA	VAC	6156
	VISALIA	VAD	1655
	VISALIA	VBB	1993
	VISALIA	VBC	558
	VISTA	VSC	4393
	VISTA	VSD	4997
	VISTA	VSD2	4012
	VISTA	VSE	12357
	VISTA	VSE2	5287
	VISTA	VSG	5841
	VISTA	VVD	7234
	VISTA	VVE	7204
	VISTA	VVG	8176
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			(241553)
sum			496008

SAN JOAQUIN COUNTY	ACAMPO	101	9540
	BISGANI (S)	109	1385
	COLUMBIA	130	10985
	COLUMBIA	131	2535
	COLUMBIA	132	2640
	COLUMBIA	133	1750
	DELHI (S)	141	1685
	DELHI (S)	142	20450
	DELHI (S)-URBAN	143	3675
	DELLO (S)	144	375
	DELLO (S)	145	1180
	DELLO (S)	146	1145
	DELLO (S)	147	400
	DELLO (S)	148	1290
	DEVRIES	149	9545
	GRANGEVILLE	166	7900
	GRANGEVILLE	167	3075
	HONCUT	175	7555
	KINGDON	189	6760
	MANTECA	196	9680
	NORD	201	735
	PIPER	213	470
	RAMOTH	216	2215
	RAMOTH	217	595
	RAMOTH	218	420
	REIFF	222	735
	REIFF	223	540
	SHIMA (S)	246	965
	TIMOR (S)	254	3135
	TINNIN (S)	255	16800
	TOKAY	256	31430
	TOKAY-URBAN	257	4650
	TUJUNGA (S)	259	3185
	VERITAS	265	595
	VERITAS	266	23440
	VERITAS	267	415
	VINA	272	1830
	WISFLAT-ARBURUA-SAN TIMOTEO	275	7425
	WISFLAT-ARBURUA-SAN TIMOTEO	276	3100
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			(55670)
sum			206230

SAN LUIS OBISPO CO., CARRIZO PLAIN AREA	ARNOLD (S)-SAN ANDREAS	339	
	ARNOLD (S)-SAN ANDREAS	340	
	BEAM-SAN TIMOTEO	229	
	BELLYACHE-SAN TIMOTEO	293	
	ELDER	474	
	ELDER	475	
	ELDER	540	
	LITHIC TORRIORTHENTS-SEMPER-ROCK	123	
	METZ (S)	480	

	PADRES	179	
	PADRES	180	
	PADRES	181	
	PADRES-WASIOJA	230	
	SAN EMIGDIO	149	
	SAN EMIGDIO	150	
	SAN EMIGDIO	154	
	SAN EMIGDIO	155	
	SAN TIMOTEO-SAN ANDREAS-BELLYSPRING	290	
	SAN TIMOTEO-SAN ANDREAS-BELLYSPRING	291	
	SAN TIMOTEO-SAN ANDREAS-BELLYSPRING	292	
	SEMPER	371	
	SEMPER	372	
	SEMPER-BADLAND	375	
	WASIOJA-PADRES	493	
**********			----------
sum			
SAN LUIS OBISPO CO., COASTAL PART	ARNOLD (S)	102	3335
	ARNOLD (S)	103	3940
	BAYWOOD (S)	104	3545
	BAYWOOD (S)	105	1755
	BAYWOOD (S)	106	720
	BRIONES (S)	108	2090
	BRIONES (S)-PISMO	109	2320
	BRIONES (S)-TIERRA	110	6950
	CAPISTRANO	113	215
	CAPISTRANO	114	515
	CORRALITOS (S)	124	695
	CORRALITOS (S)	125	1310
	ELDER	135	1055
	ELDER	136	280
	ELDER	137	280
	ELDER	138	560
	ELDER	139	1650
	GAREY	140	790
	OCEANO (S)	184	14060
	OCEANO (S)	185	4980
	PISMO (S)	189	3660
	PISMO (S)-ROCK	190	2080
	PISMO (S)-TIERRA	191	3040
	PSAMMENTS (S)-FLUVENTS	192	3000
	PSAMMENTS (S)-FLUVENTS	193	800
	TUJUNGA (S)	219	1920
	TUJUNGA (S)	220	335
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			(60535)
sum			65880
SAN LUIS OBISPO CO., PASO ROBLES AREA	ARNOLD (S)	107	2565
	ARNOLD (S)-SAN ANDREAS	108	3580
	CIENEBA-ANDREGG	127	10470

	CIENEBA-VISTA	128	4700
	ELDER	138	1495
	ELDER	139	405
	ELDER	140	1785
	GAVIOTA-SAN ANDREAS	142	2015
	GAVIOTA-SAN ANDREAS	143	6600
	HANFORD-GREENFIELD	147	2515
	HANFORD-GREENFIELD	148	4815
	HANFORD-GREENFIELD	149	1595
	HANFORD-GREENFIELD	150	2895
	METZ (S)	166	4060
	METZ (S)-TUJUNGA (S)	167	2915
	OCEANO (S)	182	1315
	PICO	183	2695
	PICO	184	1975
	SAN ANDREAS	192	765
	SAN ANDREAS-ARUJO	193	4905
	SAN EMIGDIO	194	1035
	SAN EMIGDIO	195	2835
	VISTA	210	850
	VISTA-CIENEBA	211	4995
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			(14435)
sum			73780
SAN MATEO AREA	BAYWOOD (S)	BAB2	62
	BAYWOOD (S)	BAC2	158
	BAYWOOD (S)	BAD2	14
	CORRALITOS (S)	CRA	60
	CORRALITOS (S)	CSA	64
	CORRALITOS (S)	CSB	181
	CORRALITOS (S)	CTA	195
	CORRALITOS (S)	CTB	42
	CORRALITOS (S)	CUA	164
	CORRALITOS (S)	CWB	20
	CORRALITOS (S)	CYA	149
	SHERIDAN	SHD	41
	SHERIDAN	SHE	129
	SHERIDAN	SHF	1091
**********			----------
			(1109)
sum			2370
SAN MATEO CO., E. PART AND S AN FRANCISCO CO.	SCARPER-MIRAMAR	128	2360
	SIRDRAK (S)	129	2340
	URBAN-SIRDRAK (S)	136	6655
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			(8995)
sum			11355
SANTA BARBARA CO., SOUTH COA STAL PART	AGUEDA-GOLETA	ABC	592
	ARNOLD (S)	AGD	260
	ARNOLD (S)	AGE2	393
	ARNOLD (S)	AGF2	400
	ARNOLD (S)	AGG	146

	BAYWOOD (S)	BCC	1007
	ELDER	EAA	1693
	ELDER	EAB	589
	ELDER-SOBOBA	EB	382
	GOLETA	GCA	2067
	GOLETA	GCC	1754
	GOLETA	GDA	1831
	METZ (S)	MC	184
	SAN ANDREAS-TIERRA	SAD2	201
	SAN ANDREAS-TIERRA	SAE2	744
	SAN ANDREAS-TIERRA	SAF2	502
	TIERRA-SAN ANDREAS	TAE2	303
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			(2390)
sum			13048
SANTA CRUZ COUNTY	BAYWOOD (S)	104	1495
	BAYWOOD (S)	105	2945
	BAYWOOD (S)	106	2420
	BAYWOOD (S)	107	1575
	BEN LOMOND	110	2290
	BEN LOMOND	111	3885
	BEN LOMOND	112	9030
	BEN LOMOND-CATELLI-SUR	113	23320
	BEN LOMOND-FELTON	114	4670
	BEN LOMOND-FELTON	115	20645
	ELDER	129	2940
	ELDER	130	2110
	ELDER	131	460
	ELKHORN-PFEIFFER	136	2815
	PFEIFFER	159	1610
	PFEIFFER	160	760
	SUR-CATELLI	173	19090
	ZAYANTE (S)	182	4310
	ZAYANTE (S)	183	1990
	ZAYANTE (S)-ROCK	184	845
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			(15580)
sum			109205
SHASTA AREA	CHAIX	CAE3	4875
	CHAIX	CAF3	7965
	CHAIX	CBD2	1430
	CHAIX	CBE	5205
	CHAIX	CBF	13505
	CORBETT (S)	CXE	1585
	CORBETT (S)	CXF3	6180
	CORBETT (S)	CXG	10270
	CORBETT (S)	CYG	745
	HONCUT	HD	780
	HONCUT	HE	845
	HONCUT	HF	295
	KANAKA	KBC	455
	KANAKA	KCD	1795
	KANAKA	KCE	2920
	KANAKA	KCF2	2380
	MOLINOS	MM	375

	MOLINOS	MN	415
	MOLINOS	MO	715
	REIFF	RFB	195
	REIFF	RGA	3430
	REIFF	RGB	550
	REIFF	RHA	345
	REIFF	RKA	500
	REIFF	RLA	4850
	REIFF	RMA	1245
	REIFF	RNA	330
	REIFF	ROA	260
	TUJUNGA (S)	TFA	420
	TUJUNGA (S)	TFB	175
	VINA	VEA	1510
	VINA	VFA	305
	VINA	VGB	335
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			(19375)
sum			77185
SIERRA VALLEY AREA	BECKWOURTH	BF	4564
	BECKWOURTH	BH	259
	BECKWOURTH	BK	778
	BECKWOURTH-LOYALTON	BMA	4423
	BECKWOURTH-ORMSBY (S)	BN	2045
	CALPINE	CAA	2649
	CALPINE	CAB	1226
	CALPINE	CAC	942
	CALPINE-LOVEJOY	CGB2	3856
	GLENBROOK (S)-ROCK	GRF	2595
	HAYPRESS-TOIYABE (S)	HTE	882
	HAYPRESS-TOIYABE (S)	HTG	1432
	MOTTSVILLE (S)	MRC	2197
	ORMSBY (S)	ORA	3592
	ORMSBY (S)	ORB	973
	ORMSBY (S)	OTA	442
	ORMSBY (S)	OTB	179
	QUINCY (S)	QUD	456
	SARALEGUI	SAD	1605
	SMITHNECK	SW	1407
	TOIYABE (S)-BONTA	TBE	1726
	TOIYABE (S)-BONTA	TBG	2763
	TROSI-SARALEGUI	TUF2	1548
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			(19282)
sum			42539
SISKIYOU AREA, CENTRAL PART	CHAIX-CHAWANAKEE	119	2685
	CHAIX-CHAWANAKEE	120	8280
	CHAIX-CHAWANAKEE	121	11540
	GAZELLE	153	16480
	ODAS	198	2320
	ORSET	200	685
	REDOLA	210	765
	REDOLA	211	1905
	STONER	229	6505
	STONER	230	7840

	STONER	231	3535
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sum			62540
SOLANO COUNTY	COLUMBIA	CM	961
	REIFF	RA	940
	TUJUNGA (S)	TU	1520
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			(1520)
sum			3421
SONOMA COUNTY	BAYWOOD (S)	BAC	610
	BAYWOOD (S)	BAE	205
	PAJARO	PAA	1393
	PAJARO	PAB	455
	PAJARO	PBB	718
	PAJARO	PCA	1577
	PAJARO	PCB	1152
	SHERIDAN	SEE	219
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			(815)
sum			6329
SURPRISE VALLEY-HOME CAMP AR EA (CA-NV)	DONICA-SURPRISE	DU	2721
	FOUR STAR	FO	2783
	FOUR STAR	FR	240
	FOUR STAR	FS	588
	FOUR STAR	FT	192
	LOLAK-ZORRAVISTA (S)	LN	4676
	LONGVAL	LOC	5069
	SURPRISE	SRA	809
	SURPRISE	SRB	8187
	SURPRISE	SRC	148
	SURVYA-ZORRAVISTA (S)	SV	794
	ZORRAVISTA (S)	ZOC	3995
	ZORRAVISTA (S)-COUCH	ZR	1372
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			(10837)
sum			31574
SUTTER COUNTY	COLUMBIA	117	4685
	COLUMBIA	118	1695
	COLUMBIA	119	1475
	COLUMBIA	120	1050
	COLUMBIA	121	4150
	COLUMBIA	122	1325
	HOLILLIPAH (S)	133	2485
	HOLILLIPAH (S)	134	1355
	HOLILLIPAH (S)	135	2125
	HOLILLIPAH (S)	136	375
	PALLS-BOHNA VARIANT	155	3845
	PALLS-STOHLMAN	156	11575
	PALLS-STOHLMAN	157	7755
	STOHLMAN-PALLS	171	550
	STOHLMAN-PALLS	172	5455
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			(6340)
sum			49900
TAHOE BASIN AREA	CAGWIN (S)-ROCK	CAD	2125
	CAGWIN (S)-ROCK	CAE	9110
	CAGWIN (S)-ROCK	CAF	15195
	ELMIRA (S)	EBC	420
	ELMIRA (S)	EBE	685
	ELMIRA (S)	ECE	330
	ELMIRA (S)-GEFO (S)	EFB	3125
	GEFO (S)	GEC	1335
	GEFO (S)	GED	300
	JABU	JAC	1720
	JABU	JAD	825
	JABU	JBD	275
	ROCK-CAGWIN (S)	RCF	4740
	ROCK-CAGWIN (S)	RCG	2550
	ROCK-TOEM (S)	RTF	11155
	ROCK-TOEM (S)	RTG	5160
	TOEM (S)-ROCK	TRE	915
	TOEM (S)-ROCK	TRF	5775
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			(62920)
sum			65740
TEHAMA COUNTY AREA	COLUMBIA	CMA	2073
	COLUMBIA	CMB	1315
	COLUMBIA	CN	378
	COLUMBIA	CO	2292
	COLUMBIA	CPB	644
	COLUMBIA	CSA	6334
	COLUMBIA	CSB	1270
	COLUMBIA	CT	291
	COLUMBIA	CU	8367
	MAYWOOD	MC	706
	MAYWOOD	MD	562
	MAYWOOD	ME	634
	MAYWOOD	MF	4948
	MAYWOOD	MG	1216
	MAYWOOD	MH	628
	MOLINOS	MY	1797
	MOLINOS	MZ	960
	MOLINOS	MZD	463
	MOLINOS	MZM	975
	MOLINOS	MZR	4085
	MOLINOS	MZS	1980
	MOLINOS	MZT	1861
	VINA	VD	5362
	VINA	VNA	200
	VINA	VNB	67
	VINA	VW	791
	VINA	VY	1318
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sum			51517
TRINITY CO., WEAVERVILLE ARE A	MINERSVILLE	177	

	TALLOWBOX-MINERSVILLE	198	
	TALLOWBOX-MINERSVILLE	199	
	VALCREEK-MINERSVILLE	203	
	VALCREEK-MINERSVILLE-CHO OP	204	
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sum			
TULARE CO., CENTRAL PART	CROUCH	121	402
	CROUCH	122	848
	CROUCH-ROCK	123	15086
	GRANGEVILLE	131	5306
	GREENFIELD	132	1690
	GREENFIELD	133	2768
	HONCUT	139	2952
	HONCUT	140	3318
	SAN EMIGDIO	153	7194
	TUJUNGA (S)	164	7072
	VISTA	165	1738
	VISTA	166	5576
	VISTA	167	2556
	VISTA-ROCK	168	39208
	WALONG	169	522
	WALONG	170	1304
	WALONG-ROCK	171	8904
	YETTEM	176	4756
	YETTEM	177	2314
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			(7072)
sum			113514
TULARE CO., W. PART	DELHI (S)	DHA	845
	EXCELSIOR	EEA	2500
	GRANGEVILLE	GRA	8680
	GRANGEVILLE	GRX	0
	HANFORD	HCA	19780
	KIMBERLINA	KIA	5220
	NORD	NOA	0
	TAGUS	TAA	19415
	TUJUNGA (S)	TUA	6155
	WASCO	WAA	10260
	YETTEM	YEA	1430
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			(7000)
sum			74285
VENTURA AREA	ANACAPA	ACA	2345
	ANACAPA	ACC	4200
	ANACAPA	ANC	1810
	ARNOLD (S)	ASF	1504
	CALLEGUAS-ARNOLD (S)	CBF2	10410
	CASTAIC-SAUGUS	CGG2	15350
	CORRALITOS (S)	COA	760
	CORRALITOS (S)	COC	1232
	HUENEME	HM	1410

	HUENEME	HN	10600
	METZ (S)	MCA	2076
	METZ (S)	MCC	838
	METZ (S)	MEA	5515
	METZ (S)	MEC	1305
	METZ (S)	MFA	837
	PICO	PCA	7362
	PICO	PCC	2260
	PICO	PSA	2026
	SAN ANDREAS	SBF	5427
	SAUGUS	SHE	1160
	SAUGUS	SHF2	3348
	VINA	VAA	333
	VINA	VAC	1732
	VINA	VNC	826
	VINA	VSC	1540
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			(24477)
sum			86206
WESTERN RIVERSIDE AREA	ANZA	ACC	400
	ANZA	ADA	670
	ANZA	ADC	380
	ARLINGTON	ANC	1220
	ARLINGTON	AND	540
	ARLINGTON	AOA	920
	ARLINGTON	AOC	5340
	ARLINGTON	AOD	530
	ARLINGTON	APB	2880
	ARLINGTON	ARB	1450
	ARLINGTON	ARD	1060
	ARLINGTON-GREENFIELD	ATC2	2120
	ARLINGTON-GREENFIELD	ATD2	3600
	ARLINGTON-GREENFIELD	ATF3	600
	CALPINE	CCC2	4400
	CALPINE	CCD2	880
	CALPINE	CDC2	480
	CRAFTON	CSF2	19500
	CRAFTON	CTF2	300
	CRAFTON	CUE	580
	CROUCH	CVD2	1010
	CROUCH	CWD2	2500
	CROUCH	CWE2	1460
	CROUCH	CYE2	3460
	CROUCH	CYF2	1900
	DELHI (S)	DAD2	3180
	DELHI (S)	DBA	1930
	DELLO (S)	DGB	630
	DELLO (S)	DMA	2010
	DELLO (S)	DNB	540
	DELLO (S)	DOA	790
	DELLO (S)	DPB	640
	DELLO (S)	DRA	1800
	ESCONDIDO	ECC2	1740
	ESCONDIDO	ECD2	3930
	ESCONDIDO	ECE2	890
	ESCONDIDO	EFF2	590

GORGONIO (S)	GHC	3250
GORGONIO (S)	GHD	1540
GORGONIO (S)	GKD	590
GORGONIO (S)	GLC	3020
GORGONIO (S)	GMD	8340
GORGONIO (S)	GND	2160
GRANGEVILLE	GOB	3270
GRANGEVILLE	GPB	800
GRANGEVILLE	GRB	770
GRANGEVILLE	GSB	830
GRANGEVILLE	GTA	4500
GRANGEVILLE	GTD	150
GRANGEVILLE	GUB	2380
GRANGEVILLE	GVB	2760
GRANGEVILLE	GWA	730
GRANGEVILLE	GXA	760
GREENFIELD	GYA	10200
GREENFIELD	GYC2	24000
GREENFIELD	GYD2	4200
GREENFIELD	GYE2	900
HANFORD	HAC	770
HANFORD	HCA	2970
HANFORD	HCC	39500
HANFORD	HCD2	10200
HANFORD	HDD2	2230
HANFORD	HEC2	450
HANFORD	HFD	1040
HANFORD	HGA	4500
HONCUT	HNC	1520
HONCUT	HND2	450
HONCUT	HOE	200
HONCUT	HUC2	1200
METZ (S)	MDC	640
METZ (S)	MED	1610
METZ (S)	MFA	790
METZ (S)	MGB	1750
METZ (S)	MHB	980
METZ (S)	MLD	1200
MOTTSVILLE (S)	MOC	4430
MOTTSVILLE (S)	MOD	3370
MOTTSVILLE (S)	MRE	880
MOTTSVILLE (S)	MSC	5020
MOTTSVILLE (S)	MSD	3050
MOTTSVILLE (S)	MTE2	1320
OAK GLEN	OGD	1460
OAK GLEN	OGE	860
OAK GLEN	OKD	910
PACHAPPA	PAA	3470
PACHAPPA	PAC2	3060
SAN EMIGDIO	SDD	770
SAN EMIGDIO	SEA	7660
SAN EMIGDIO	SEC2	6760
SAN EMIGDIO	SED2	1670
SAN EMIGDIO	SFA	3400
SAN EMIGDIO	SGA	3710
SAN EMIGDIO	SGC	4670
SAN EMIGDIO	SGD2	840

	SAN TIMOTEO	SME2	4010
	SAN TIMOTEO	SMF2	6800
	TRAVER	TP2	2210
	TRAVER	TR2	3340
	TRAVER	TS	1400
	TRAVER	TT2	2570
	TUJUNGA (S)	TUB	970
	TUJUNGA (S)	TVC	3600
	TUJUNGA (S)	TWC	1450
	VISALIA	VLC2	540
	VISALIA	VMA	350
	VISALIA	VMC	280
	VISTA	VSC	3300
	VISTA	VSD2	9630
	VISTA	VSF2	3470
	VISTA	VTF2	5070
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			(61480)
sum			330300
YOLO COUNTY	LANG (S)	LA	2675
	LANG (S)	LB	2595
	LANG (S)	LC	320
	LANG (S)	LD	770
	LAUGENOUR	LG	2187
	LAUGENOUR	LH	1020
	LAUGENOUR	LK	1190
	REIFF	RA	6678
	REIFF	RB	1813
	TYNDALL	TB	4043
	TYNDALL	TC	1940
	TYNDALL	TD	755
	TYNDALL	TE	2357
	TYNDALL	TF	725
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sum			29068
YUBA CO. AREA	CHAIX-CHAWANAKEE-HOTAW	135	
	CHAWANAKEE-CHAIX-HOTAW	136	
	COLUMBIA	137	
	COLUMBIA	138	
	COLUMBIA	139	
	COLUMBIA-URBAN	140	
	HOLILLIPAH (S)	161	
	HOLILLIPAH (S)	162	
	HOLILLIPAH (S)	163	
	OAKDALE	197	
	OAKDALE-URBAN	198	
	TUJUNGA (S)	249	
	TUJUNGA (S)	250	
	TUJUNGA (S)	251	
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sum			
YUMA-WELLTON AREA	ANTHO	01	16990
	ANTHO	02	4105
	DATELAND	05	12491

	DATELAND	06	7037
	GILMAN	09	1213
	INDIO-LAGUNITA (S)-RIPLE Y	16	56650
	LAGUNITA (S)	18	10813
	LAGUNITA (S)	19	2662
	ROSITAS (S)	25	53272
	ROSITAS (S)-LIGURTA	26	18244
	SUPERSTITION (S)	28	42440
	SUPERSTITION (S)	29	2433
	TREMANT-ROSITAS (S)	31	52581
	VINT (S)	32	5714
	WELLTON	33	16542
	WELLTON-DATELAND-ROSITAS (S)	34	7802
**********			---
			(252611)
sum			310989

1753 rows selected.

RRTeso April 16, 1996