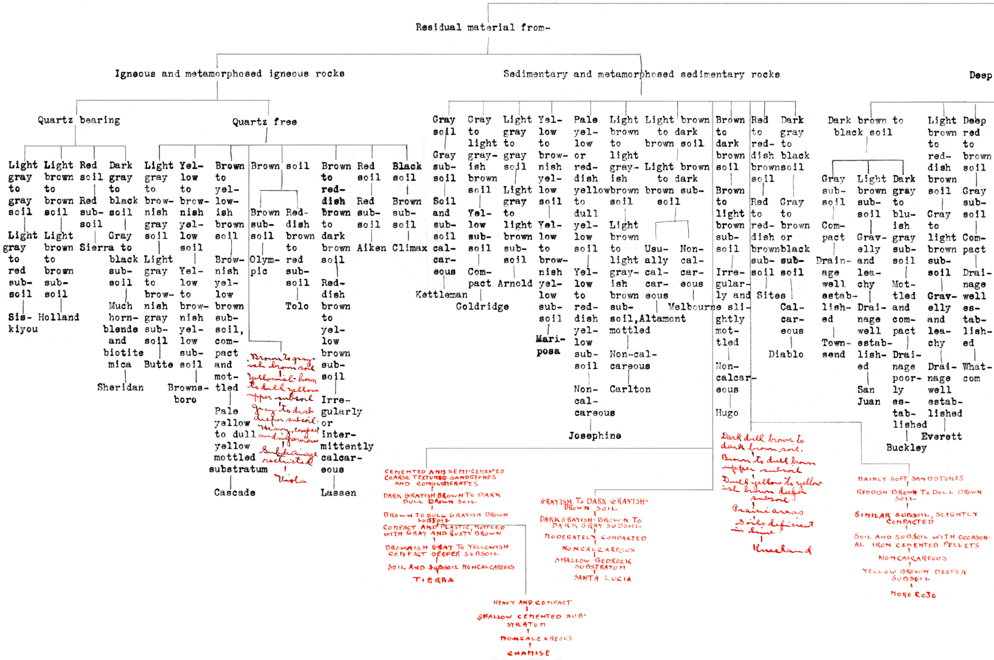
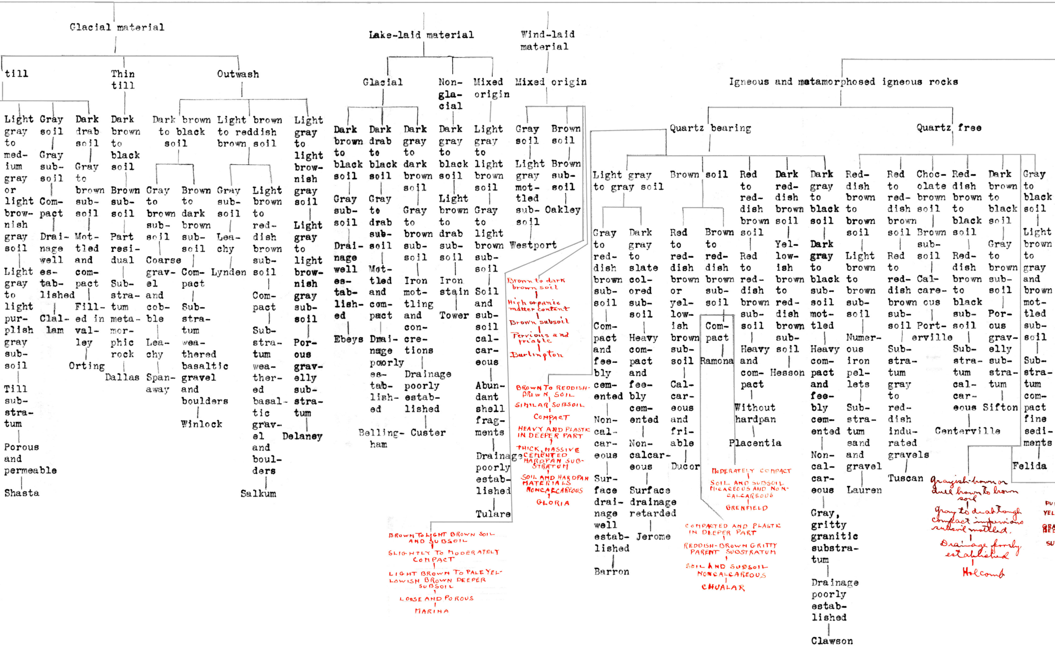
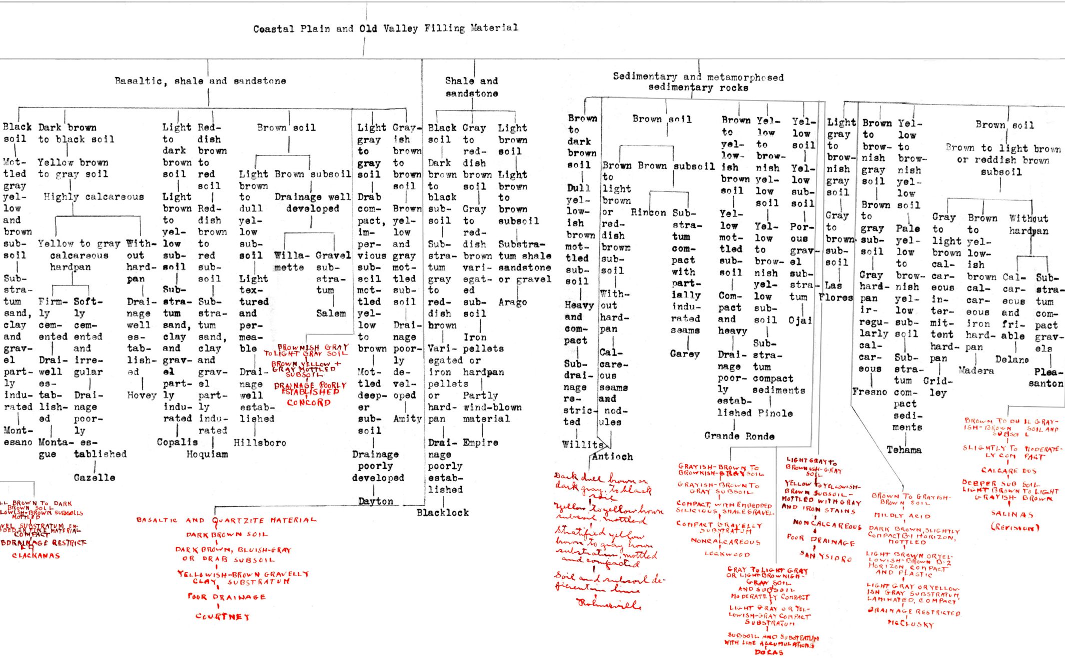
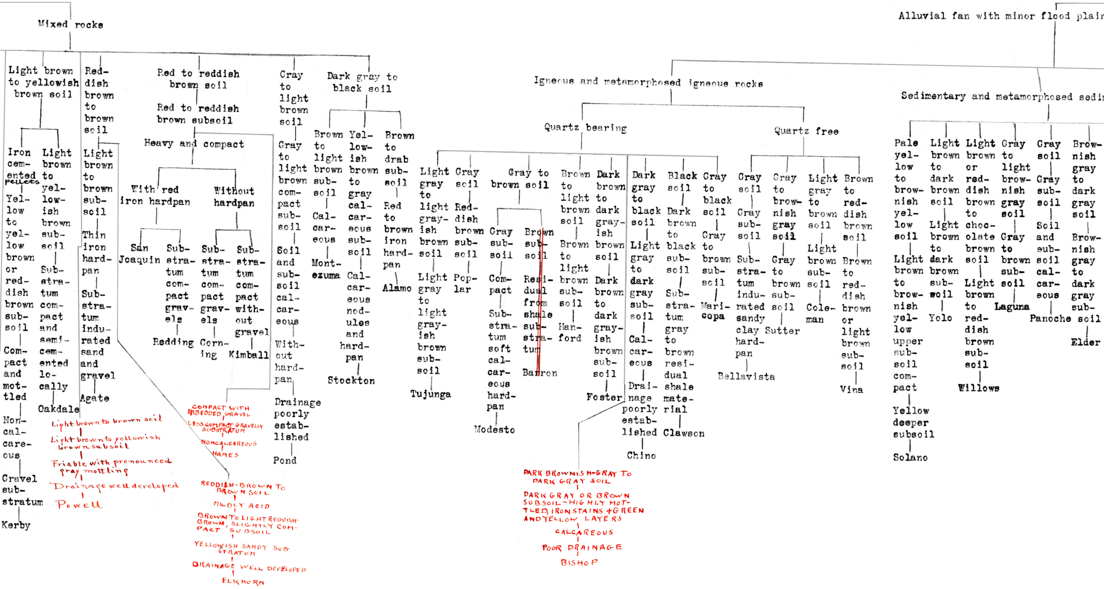
Revision of December, 1921.

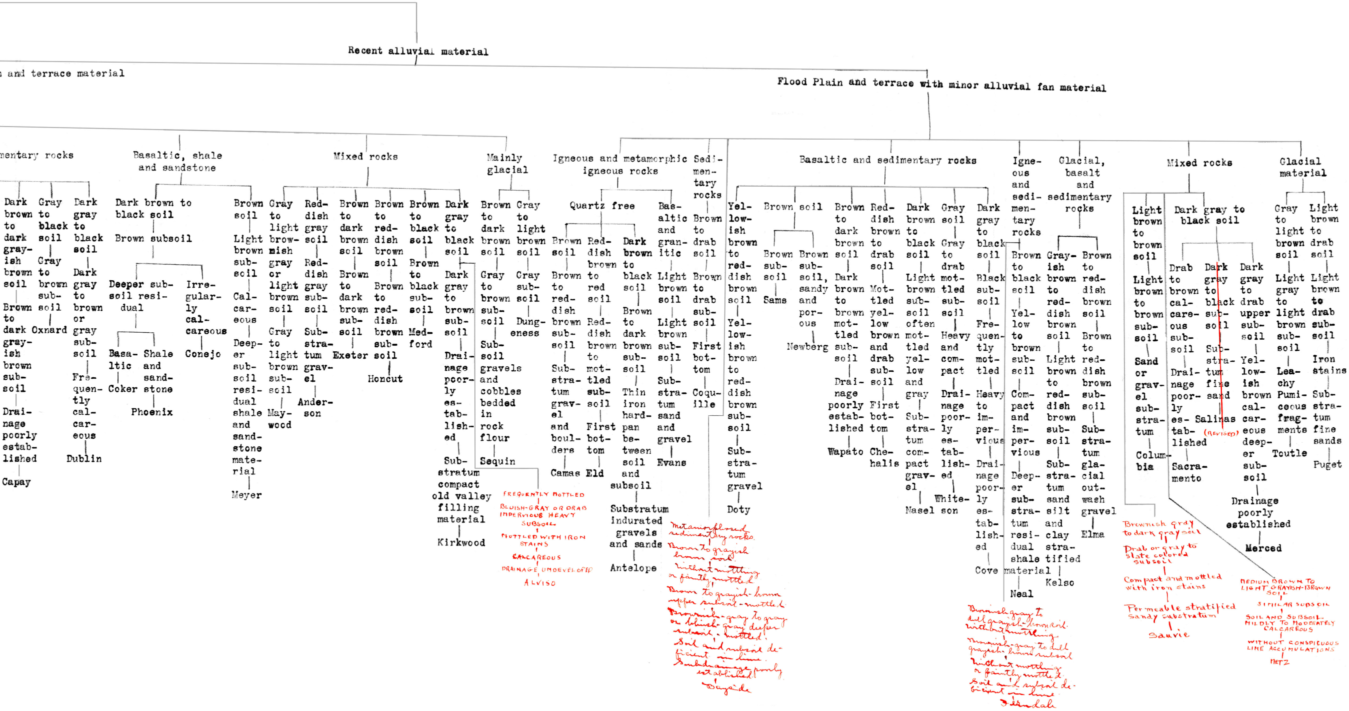

Residual material from-
Igneous and metamorphosed igneous rocks
Quartz bearing
Light gray to gray soil
Light gray to red subsoil
Siskiyou
Light brown to brown soil
Light brown to brown subsoil
Holland
Red soil
Red subsoil
Sierra
Dark gray to black soil
Gray to black subsoil
Much hornblende and biotite mica
Sheridan
Quartz free
Light gray to brownish gray soil
Light gray to brownish gray subsoil
Butte
Yellow to brownish yellow soil
Yellow to brownish yellow subsoil
Brownsboro
Brown to yellowish brown soil
Brownish yellow brown subsoil, compact and mottled
Pale yellow to dull yellow mottled substratum
Cascade
Brown soil
Brown subsoil
Olympic
Reddish brown to red subsoil
Tolo
Brown to grayish brown soil
Yellowish-brown to dull yellow upper subsoil
Gray to drab deeper subsoil.
Heavy, compact and impervious
Subdrainage restricted
Viola
Brown to reddish brown to dark brown soil
Reddish brown to yellow brown subsoil
Irregularly or intermittently calcareous
Lassen
Red soil
Red subsoil
Aiken
Black soil
Brown subsoil
Climax
Sedimentary and metamorphosed sedimentary rocks
Gray soil
Gray subsoil
Soil and subsoil calcareous
Kettleman
Gray to light grayish brown soil
Yellow subsoil
Compact
Goldridge
Light gray to gray soil
Light gray to light brown subsoil
Arnold
Yellow to brownish yellow soil
Yellow to brownish yellow subsoil
Mariposa
Pale yellow or reddish yellowbrown to dull yellow soil
Yellow to reddish yellow subsoil
Non-calcareous
Josephine
Light brown to light grayish soil
Light brown to light grayish brown subsoil, mottled
Non-calcareous
Carlton
Light brown to dark brown soil
Light brown to dark brown subsoil
Usually calcareous
Altamont
Non-calcareous
Melbourne
Brown to dark brown soil
Brown to light brown subsoil
Irregularly and slightly mottled
Non-calcareous
Hugo
Red to reddish brown soil
Red to reddish or brownblack subsoil
Sites
Dark gray to black brownsoil
Gray to brown or black subsoil
Calcareous
Diablo
Dark dull brown to dark brown soil.
Brown to dull brown upper subsoil
Dull yellow to yellowish brown deeper subsoil.
Prairie areas
Soils deficient in lime.
Kneeland
Dark brown to black soil
Gray subsoil
Compact
Drainage well established
Townsend
Light brown subsoil
Gravelly and leachy
Drainage well established
San Juan
Dark gray to bluish gray subsoil
Mottled and compact
Drainage poorly established
Buckley
Light brown to reddish brown soil
Gray to light brown subsoil
Gravelly and leachy
Drainage well established
Everett
Deep red to brown soil
Gray subsoil
Compact
Drainage well established
Whatcom
CEMENTED AND SEMI-CEMENTED COARSE TEXTURED SANDSTONES AND CONGLOMERATES
DARK GRAYISH BROWN TO DARK DULL BROWN SOIL
BROWN TO DULL GRAYISH BROWN SUBSOIL
COMPACT AND PLASTIC, MOTTLED WITH GRAY AND RUSTY BROWN
BROWNISH GRAY TO YELLOWISH COMPACT DEEPER SUBSOIL.
SOIL AND SUBSOIL NONCALCAREOUS
TIERRA
HEAVY AND COMPACT
SHALLOW CEMENTED SUBSTRATUM
NONCALCAREOUS
CHAMISE
GRAYISH TO DARK GRAYISH-BROWN SOIL
DARK GRAYISH-BROWN TO DARK GRAY SUBSOIL
MODERATELY COMPACTED
NONCALCAREOUS
SHALLOW BEDROCK SUBSTRATUM
SANTA LUCIA
MAINLY SOFT SANDSTONES
REDDISH BROWN TO DULL BROWN SOIL
SIMILAR SUBSOIL, SLIGHTLY COMPACTED
SOIL AND SUBSOIL WITH OCCASIONAL IRON CEMENTED PELLETS
NONCALCAREOUS
YELLOW BROWN DEEPER SUBSOIL
MORO ROJO
Deep


Glacial material
till
Light gray to medium gray or light brownish gray soil
Light gray to light purplish gray subsoil
Till substratum
Porous and permeable
Shasta
Gray soil
Gray subsoil
Compact
Drainage well established
Clallam
Dark drab soil
Gray to brown subsoil
Mottled and compact
Filled in valley
Orting
Thin till
Dark brown to black soil
Brown subsoil
Part residual
Substratum metamorphic rock
Dallas
Outwash
Dark brown to black soil
Gray to brown subsoil
Coarse gravel and cobble
Leachy
Spanaway
Brown to dark brown subsoil
Compact
Substratum weathered basaltic gravel and boulders
Winlock
Light brown to reddish brown soil
Gray subsoil
Leachy
Lynden
Light brown to reddish brown subsoil
Compact
Substratum weathered basaltic gravel and boulders
Salkum
Light gray to light brownish gray soil
Light gray to light brownish gray subsoil
Porous gravelly substratum
Delaney
Lake-laid material
Glacial
Dark brown to black soil
Gray subsoil
Drainage well established
Ebeys
Dark drab to black soil
Gray to drab subsoil
Mottled and compact
Drainage poorly established
Bellingham
Dark gray to dark brown soil
Gray to brown subsoil
Iron mottling and concretions
Drainage poorly established
Custer
Nonglacial
Dark gray to black soil
Light brown to drab subsoil
Iron stain
Tower
Mixed origin
Light gray to light brown soil
Gray to light brown subsoil
Soil and subsoil calcareous
Abundant shell fragments
Drainage poorly established
Tulare
BROWN TO LIGHT BROWN SOIL AND SUBSOIL
SLIGHTLY TO MODERATELY COMPACT
LIGHT BROWN TO PALE YELLOWISH BROWN DEEPER SUBSOIL
LOOSE AND POROUS
MARINA
Wind-laid material
Mixed origin
Gray soil
Light gray mottled subsoil
Westport
Brown soil
Brown subsoil
Oakley
Brown to dark brown soil
High organic matter content
Brown subsoil
Pervious and friable
Burlington
BROWN TO REDDISH-BROWN SOIL
SIMILAR SUBSOIL
COMPACT
HEAVY AND PLASTIC IN DEEPER PART
THICK, MASSIVE CEMENTED HARDPAN SUBSTRATUM
SOIL AND HARDPAN MATERIALS NONCALCAREOUS
GLORIA
Igneous and metamorphosed igneous rocks
Quartz bearing
Light gray to gray soil
Gray to reddish brown subsoil
Compact and feebly cemented
Noncalcareous
Surface drainage well established
Barron
Dark gray to slate colored subsoil
Heavy compact and feebly cemented
Noncalcareous
Surface drainage retarded
Jerome
Brown soil
Red to reddish brown or yellowish brown subsoil
Calcareous and friable
Ducor
Brown to reddish brown subsoil
Compact
Ramona
MODERATELY COMPACT
SOIL AND SUBSOIL MICACEOUS AND NON-CALCAREOUS
GRENFIELD
COMPACTED AND PLASTIC IN DEEPER PART
REDDISH-BROWN GRITTY PARENT SUBSTRATUM
SOIL AND SUBSOIL NONCALCAREOUS
CHUALAR
Red to reddish brown soil
Red to reddish brown subsoil
Heavy and compact
Without hardpan
Placentia
Dark reddish brown soil
Yellowish brown to reddish brown subsoil
Hesson
Dark gray to black soil
Dark gray to black subsoil mottled
Heavy compact and feebly cemented
Noncalcareous
Gray, gritty granitic substratum
Drainage poorly established
Clawson
Reddish brown to brown soil
Light brown to brown subsoil
Numerous iron pellets
Substratum sand and gravel
Lauren
Quartz free
Red to reddish brown soil
Red to reddish brown subsoil
Substratum gray to reddish indurated gravels
Tuscan
Chocolate brown soil
Brown subsoil
Calcareous
Porterville
Reddish brown to black soil
Reddish brown to black subsoil
Substratum calcareous
Centerville
Dark brown to black soil
Gray to brown subsoil
Porous gravelly substratum
Sifton
Gray to black soil
Light brown to gray and brown mottled subsoil
Substratum compact fine sediments
Felida
grayish-brown or dull brown to brown soil
gray to drab tough compact impervious subsoil mottled.
Drainage poorly established
Holcomb
PU
YEL
GRA
RED
SU

Key to the Soils of the Pacific Coast


Coastal Plain and Old Valley Filling Material
Basaltic, shale and sandstone
Black soil
Mottled gray yellow and brown subsoil
Substratum sand, clay and gravel partly indurated
Montesano
Dark brown to black soil
Yellow brown to gray soil
Highly calcareous
Yellow to gray calcareous hardpan
Firmly cemented
Drainage well established
Montague
Softly cemented and irregular
Drainage poorly established
Gazelle
Without hardpan
Drainage well established
Hovey
Light to dark brown soil
Light brown to yellow subsoil
Substratum sand, clay and gravel partly indurated
Copalis
Reddish brown to red soil
Reddish brown to red subsoil
Substratum sand, clay and gravel partly indurated
Hoquiam
Brown soil
Light brown to dull yellow subsoil
Light textured and permeable
Drainage well established
Hillsboro
Brown subsoil
Drainage well developed
Willamette
Gravel substratum
Salem
Light gray to gray soil
Drab compact, impervious subsoil mottled yellow to brown
Mottled deeper subsoil
Drainage poorly developed
Dayton
Grayish brown to brown soil
Brown yellow and gray mottled subsoil
Drainage poorly developed
Amity
Shale and sandstone
Black soil
Dark brown to black subsoil
Substratum gray to reddish brown
Variegated or iron pellets or hardpan
Drainage poorly established
Blacklock
Gray to reddish brown soil
Gray to reddish brown variegated subsoil
Iron pellets and hardpan
Partly wind-blown material
Empire
Light brown soil
Light brown to brown subsoil
Substratum shale sandstone or gravel
Arago
Sedimentary and metamorphosed sedimentary rocks
Brown to dark brown soil
Dull yellowish brown mottled subsoil
Heavy and compact
Subdrainage restricted
Willits
Brown soil
Brown to light brown or reddish brown subsoil
Without hardpan
Calcareous seams and nodules
Antioch
Brown subsoil
Rincon
Substratum compact with partially indurated seams
Garey
Brown to yellowish brown soil
Yellow mottled subsoil
Compact and heavy
Drainage poorly established
Grande Ronde
Yellow to brownish yellow soil
Yellow to brownish yellow subsoil
Substratum compact sediments
Pinole
Yellow soil
Yellow subsoil
Porous gravel substratum
Ojai
Light gray to brownish gray soil
Gray to brownish subsoil
Las Flores
Brown to brownish gray soil
Brown to gray subsoil
Gray hardpan irregularly calcareous
Fresno
Yellow to brownish yellow soil
Pale yellow to brownish yellow subsoil
Substratum compact sediments
Tehama
Brown soil
Brown to light brown or reddish brown subsoil
Gray to light brown calcareous intermittent hardpan
Gridley
Brown to yellowish brown calcareous iron hardpan
Madera
Without hardpan
Calcareous and friable
Delano
Substratum compact gravels
Pleasanton
LL BROWN TO DARK BROWN SOIL
LOWISH-BROWN SUBSOILS MOTTLED
VEL SUBSTRATUM EMBEDDED IN FINE MATERIAL COMPACT
BDRAINAGE RESTRICTED
CLACKAMAS
BASALTIC AND QUARTZITE MATERIAL
DARK BROWN SOIL
DARK BROWN, BLUISH-GRAY OR DRAB SUBSOIL
YELLOWISH-BROWN GRAVELLY CLAY SUBSTRATUM
POOR DRAINAGE
COURTNEY
BROWNISH GRAY TO LIGHT GRAY SOIL
BROWN YELLOW + GRAY MOTTLED SUBSOIL
DRAINAGE POORLY ESTABLISHED
CONCORD
Dark dull brown or dark gray to black soil
Yellow to yellow brown subsoil, mottled
Stratified yellow brown to gray brown substratum, mottled and compacted
Soil and subsoil deficient in lime
Rohnerville
GRAYISH-BROWN TO BROWNISH-GRAY SOIL
GRAYISH-BROWN TO GRAY SUBSOIL
COMPACT, WITH EMBEDDED SILICIOUS SHALE GRAVEL
COMPACT GRAVELLY SUBSTRATUM
NONCALCAREOUS
LOCKWOOD
GRAY TO LIGHT GRAY OR LIGHT BROWNISH-GRAY SOIL AND SUBSOIL
MODERATELY COMPACT
LIGHT GRAY OR YELLOWISH-GRAY COMPACT SUBSTRATUM
SUBSOIL AND SUBSTRATUM WITH LIME ACCUMULATIONS
DORCAS
LIGHT GRAY TO BROWNISH-GRAY SOIL
YELLOW TO YELLOWISH-BROWN SUBSOIL - MOTTLED WITH GRAY AND IRON STAINS
NONCALCAREOUS
POOR DRAINAGE
SAN YSIDRO
BROWN TO GRAYISH-BROWN SOIL
MILDLY ACID
DARK BROWN, SLIGHTLY COMPACT B-1 HORIZON, MOTTLED
LIGHT BROWN OR YELLOWISH-BROWN B-2 HORIZON COMPACT AND PLASTIC
LIGHT GRAY OR YELLOWISH GRAY SUBSTRATUM, LAMINATED, COMPACT
DRAINAGE RESTRICTED
MCCLUSKY
BROWN TO DULL GRAYISH-BROWN SOIL AND SUBSOIL
SLIGHTLY TO MODERATELY COMPACT
CALCAREOUS
DEEPER SUBSOIL LIGHT BROWN TO LIGHT GRAYISH-BROWN
SALINAS
(REVISION)


Mixed rocks
Light brown to yellowish brown soil
Iron cemented pellets
Yellow to yellow brown or reddish brown subsoil
Compact and mottled
Noncalcareous
Gravel substratum
Kerby
Light brown to yellowish brown subsoil
Substratum compact and semi-cemented locally
Oakdale
Reddish brown to brown soil
Light brown to brown subsoil
Thin iron hardpan
Substratum indurated sand and gravel
Agate
Light brown to brown soil
Light brown to yellowish brown subsoil
Friable with pronounced gray mottling
Drainage well developed
Powell
Red to reddish brown soil
Red to reddish brown subsoil
Heavy and compact
With red iron hardpan
San Joaquin
Substratum compact gravels
Redding
Without hardpan
Substratum compact gravels
Corning
Substratum compact without gravel
Kimball
COMPACT WITH EMBEDDED GRAVEL
LESS COMPACT GRAVELLY SUBSTRATUM
NONCALCAREOUS
HAMES
REDDISH-BROWN TO BROWN SOIL
MILDLY ACID
BROWN TO LIGHT REDDISH-BROWN, SLIGHTLY COMPACT SUBSOIL
YELLOWISH SANDY SUBSTRATUM
DRAINAGE WELL DEVELOPED
ELKHORN
Gray to light brown soil
Gray to light brown compact subsoil
Soil and subsoil calcareous
Without hardpan
Drainage poorly established
Pond
Dark gray to black soil
Brown to light brown subsoil
Calcareous
Montezuma
Yellowish brown to gray calcareous subsoil
Calcareous nodules and hardpan
Stockton
Brown to drab subsoil
Red to brown iron hardpan
Alamo
Alluvial fan with minor flood plai
Igneous and metamorphosed igneous rocks
Quartz bearing
Light gray to light grayish brown soil
Light gray to light grayish brown subsoil
Tujunga
Gray soil
Reddish brown subsoil
Poplar
Gray to brown soil
Gray subsoil
Compact
Substratum soft calcareous hardpan
Modesto
Brown subsoil
Residual from shale substratum
Barron
Brown to light brown soil
Brown to light brown subsoil
Hanford
Dark brown to dark grayish brown soil
Dark brown to dark grayish brown subsoil
Foster
DARK BROWNISH-GRAY TO DARK GRAY SOIL
DARK GRAY OR BROWN SUBSOIL – HIGHLY MOTTLED, IRON STAINS + GREEN AND YELLOW LAYERS
CALCAREOUS
POOR DRAINAGE
BISHOP
Dark gray to black soil
Light gray to dark gray subsoil
Calcareous
Drainage poorly established
Chino
Black soil
Dark brown to black subsoil
Substratum gray to brown residual shale material
Clawson
Gray to black soil
Gray to brown subsoil
Maricopa
Quartz free
Gray soil
Gray subsoil
Substratum indurated sandy clay hardpan
Bellavista
Gray to brownish gray soil
Gray to brown subsoil
Sutter
Light gray to brown soil
Light brown subsoil
Coleman
Brown to reddish brown soil
Brown to reddish brown or light brown subsoil
Vina
Sedimentary and metamorphosed sedi
Pale yellow to brownish yellow soil
Light brown to brownish yellow upper subsoil compact
Yellow deeper subsoil
Solano
Light brown to dark brown soil
Light brown to dark brown subsoil
Yolo
Light brown or reddish brown to chocolate brown soil
Light brown to reddish brown subsoil
Willows
Gray to light brownish gray soil
Gray to brown subsoil
Laguna
Gray soil
Gray subsoil
Soil and subsoil calcareous
Panoche
Brownish gray to dark gray soil
Brownish gray to dark gray subsoil
Elder


Recent alluvial material
and terrace material
Flood Plain and terrace with minor alluvial fan material
mentary rocks
Dark brown to dark grayish brown soil
Brown to dark grayish brown subsoil
Drainage poorly established
Capay
Gray to black soil
Gray to brown subsoil
Oxnard
Dark gray to black soil
Dark gray to brown or gray subsoil
Frequently calcareous
Dublin
Basaltic, shale and sandstone
Dark brown to black soil
Brown subsoil
Deeper subsoil residual
Basaltic
Coker
Shale and sandstone
Phoenix
Irregularly calcareous
Conejo
Mixed rocks
Brown soil
Light brown subsoil
Calcareous
Deeper subsoil residual shale and sandstone material
Meyer
Gray to light brownish gray or light brown soil
Gray to light brown subsoil
Maywood
Reddish gray soil
Reddish gray subsoil
Substratum gravel
Anderson
Brown to dark brown soil
Brown to dark brown subsoil
Exeter
Brown to reddish brown soil
Brown to reddish brown subsoil
Honcut
Brown to black soil
Brown to black subsoil
Medford
Dark gray to black soil
Dark gray to brown subsoil
Drainage poorly established
Substratum compact old valley filling material
Kirkwood
Mainly glacial
Brown to dark brown soil
Gray to brown subsoil
Subsoil gravels and cobbles bedded in rock flour
Sequin
Gray to light brown soil
Gray subsoil
Dungeness
FREQUENTLY MOTTLED
BLUISH-GRAY OR DRAB IMPERVIOUS HEAVY SUBSOIL
MOTTLED WITH IRON STAINS
CALCAREOUS
DRAINAGE UNDEVELOPED
ALVISO
Igneous and metamorphic igneous rocks
Quartz free
Brown soil
Brown to reddish brown subsoil
Substratum gravel and boulders
Camas
Reddish brown soil
Reddish brown to mottled subsoil
First bottom
Eld
Dark brown to black soil
Brown to dark brown subsoil
Thin iron hardpan between soil and subsoil
Substratum indurated gravels and sands
Antelope
Basaltic granitic
Light brown soil
Light brown subsoil
Substratum sand and gravel
Evans
Sedimentary rocks
Brown to drab soil
Brown to drab subsoil
First bottom
Coquille
Metamorphosed sedimentary rocks.
Brown to grayish brown soil.
without mottling or faintly mottled.
Brown to grayish-brown upper subsoil - mottled.
Brownish-gray to gray or bluish-gray deeper subsoil - mottled.
Soil and subsoil deficient in lime.
Subdrainage poorly established.
Bayside
Basaltic and sedimentary rocks
Yellowish brown to reddish brown soil
Yellowish brown to reddish brown subsoil
Substratum gravel
Doty
Brown soil
Brown subsoil
Sams
Brown subsoil, sandy and porous
Newberg
Brown to dark brown soil
Dark brown to brown mottled subsoil
Drainage poorly established
Wapato
Reddish brown to drab soil
Mottled yellow brown and drab subsoil
First bottom
Chehalis
Dark brown to black soil
Light brown subsoil often mottled yellow and gray
Substratum compact gravel
Nasel
Gray soil
Gray to drab mottled subsoil
Heavy and compact
Drainage poorly established
Whiteson
Dark gray to black soil
Black subsoil
Frequently mottled
Heavy to impervious
Drainage poorly established
Cove
Igneous and sedimentary rocks
Brown to black soil
Yellow to brown subsoil
Compact and impervious
Deeper substratum residual shale material
Neal
Brownish gray to dull grayish-brown soil. without mottling.
Brownish-gray to dull grayish-brown subsoil
without mottling or faintly mottled.
Soil and subsoil deficient in lime.
Issendale
Glacial, basalt and sedimentary rocks
Grayish brown to reddish brown soil
Light brown to reddish brown subsoil
Substratum sand silt and clay stratified
Kelso
Brown to reddish brown soil
Brown to reddish brown subsoil
Substratum glacial outwash gravel
Elma
Mixed rocks
Light brown to brown soil
Light brown to brown subsoil
Sand or gravel substratum
Columbia
Dark gray to black soil
Drab to brown calcareous subsoil
Drainage poorly established
Sacramento
Dark gray to black soil
Substratum fine sand
Salinas
(REVISED)
Dark gray drab upper subsoil
Yellowish brown calcareous deeper subsoil
Drainage poorly established
Merced
Brownish gray to dark gray soil
Drab or gray to slate colored subsoil
Compact and mottled with iron stains
Permeable stratified sandy substratum
Sauvie
MEDIUM BROWN TO LIGHT GRAYISH-BROWN SOIL
SIMILAR SUBSOIL
SOIL AND SUBSOIL MILDLY TO MODERATELY CALCAREOUS
WITHOUT CONSPICUOUS LIME ACCUMULATIONS
METZ
Glacial material
Gray to light brown soil
Light gray to light brown subsoil
Leachy
Pumiceous fragments
Toutle
Light brown drab soil
Light brown to drab subsoil
Iron stains
Substratum fine sands
Puget