Correlation Between Derivative and Source Geologic Map Units

Updated Ptype and Description	Source Ptype and Description	100K Quadrangle Counts																						
		Amboy 30' x 60'	Blythe 30' x 60'	Cuddeback Lake 30' x 60'	Cuyama 30' x 60'	El Cajon 30' x 60'	Ivanpah 30' x 60'	Lancaster 30' x 60'	Long Beach 30' x 60'	Los Angeles 30' x 60'	Mesquite Lake 30' x 60'	Newberry Springs 30' x 60'	Oceanside 30' x 60'	Palm Springs 30' x 60'	San Bernardino 30' x 60'	San Diego 30' x 60'	Santa Ana 30' x 60'	Santa Barbara (east) 30' x 60'	Santa Barbara (west) 30' x 60'	Sheep Hole Mts. 30' x 60'	Soda Mountains 30' x 60'	Taft (east) 30' x 60'	Tehachapi 30' x 60'	Grand Total
af - Artificial Fill		8		33			1	98	217	723	13	69	5	13	209	93	253	36	115		6		18	**1,910**
	af - Artificial fill								217	723			5			93		26	115					**1,179**
	alf - Artificial levee/fill																	10						**10**
	ml - Made land or artificial fill										11													**11**
	ml - Made land or artificial fill; material moved for construction and agricultural purposes.						1																	**1**
	ml - Made land or artificial fill; surficial material moved for mining, construction and agriculture that is extensively disturbed			29																				**29**
	ml - Made land; material moved for construction and agricultural purposes	8																						**8**
	ml - Modified land or artificial fill; material moved for construction, agriculture, flood control, or mining.											69												**69**
	ml/Qia - Made land or artificial fill overlies intermediate alluvial fan deposit										1													**1**
	ml/Qya - Made land or artificial fill overlies young alluvial fan deposit										1													**1**
	Qaf - Artificial fill														209		252							**461**
	Qaf? - Artificial fill, uncertain																1							**1**
	Qpf - Ponded fill; active sand and silt deposits resulting from the damming of drainages by man-made features			4																				**4**
Qsu - Undifferentiated Surficial Deposits; includes colluvium, slope wash, talus deposits, and other surface deposits of all ages		**32**		**130**	**5**	**86**	**68**	**37**		**13**	**89**	**59**	**154**	**834**	**1,573**	**33**	**200**		**29**		**49**		**95**	**3,486**
	Qags - Active groundwater discharge deposits; predominantly sand and silt										1													**1**
	Qags - Active groundwater-discharge spring mound deposits; loose to compact silt and fine sand in moist zone of active groundwater discharge; white to pale gray.						3																	**3**
	Qags+Qig - Active groundwater discharge deposits and intermediate groundwater discharge deposits; intermixed										1													**1**
	Qc - Colluvium																		29					**29**
	Qc - Colluvium; sand and gravel of slopewash, debris-flow, and talus deposits					86																		**86**
	Qc - Very young colluvial deposits														645		20							**665**
	Qd - Debris trains									9														**9**
	Qdg - Disturbed ground														32									**32**

Updated Ptype and Description		100K Quadrangle Counts																						
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	Qdt - Debris trains and talus									4														**4**
	Qia+Qyg - Intermediate alluvial fan deposits and young groundwater discharge deposits; intermixed.											1												**1**
	Qiag+Qyg - Intermediate alluvial fan grus deposits and young groundwater discharge deposits; intermixed.											1												**1**
	Qig - Intermediate groundwater discharge deposits; silt and fine sand in former zones of groundwater discharge										25													**25**
	Qig - Intermediate groundwater discharge deposits; silt and fine sand in former zones of groundwater discharge.											5												**5**
	Qig+Qag - Intermediate groundwater discharge deposits and active groundwater discharge deposits; intermixed.											1												**1**
	Qig+Qyg - Intermediate groundwater discharge deposits and young groundwater discharge deposits; intermixed.											2												**2**
	Qigs - Intermediate groundwater discharge spring mound deposits; silt and fine sand in former zones of groundwater discharge; commonly forms light colored raised features above surrounding landscape.											1												**1**
	Qigs+Qygs - Intermediate groundwater discharge spring mound deposits and young groundwater discharge spring mound deposits; intermixed.											1												**1**
	Qigw - Intermediate groundwater discharge wetland deposits; remnant calcareous silt and fine sand formed by paleo-springs and wetlands.											5												**5**
	Qigw - Intermediate groundwater-discharge wetland deposits; marly silt and fine sand; generally white to green and light brown; compact.						9																	**9**
	Qimc - Intermediate colluvial deposits; thicker than 2 meters; rocky and poorly sorted detritus; some areas varnished.											10												**10**
	Qimc - Intermediate colluvial deposits; thicker than 2 meters; rocky and poorly sorted mixed detritus										37													**37**
	Qimc - Intermediate mass-movement colluvial deposits; colluvial materials greater than 2 meters; rocky and poorly sorted; strongly varnished	2																						**2**
	Qimc - Intermediate mass-movement colluvial deposits; colluvial materials thicker than 2 m; rocky, poorly sorted.						5																	**5**
	Qimc+Qymc - Intermediate colluvial deposits and young colluvial deposits; intermixed										1													**1**

Updated Ptype and Description	100K Quadrangle Counts																						
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Qimc+Qymc - Intermediate mass-movement colluvial deposits and young mass-movement colluvial materials; intermixed	2																						**2**
Qmc - Colluvial deposits; hillslope materials thicker than 2 meters overlying wide areas; generally poorly vegetated			130																				**130**
Qmc - Mass-movement colluvial deposits, undivided; colluvial materials greater than 2 meters; rocky and poorly sorted; weak to strongly developed soils	25																						**25**
Qmc - Mass-movement colluvial deposits, undivided; colluvial materials thicker than 2 m; rocky and poorly sorted; little to strong soil development.						31																	**31**
Qmc/mv - Mass-movement colluvial deposits overlie mafic volcanic rocks (dacite, andesite, basalt); colluvial materials greater than 2 meters; rocky and poorly sorted; weak to strongly developed soils	1																						**1**
Qoc - Old colluvial deposits												20		11		29							**60**
Qog/ca+sl - Old groundwater discharge deposits overlie carbonate and siliciclastic rocks										1													**1**
Qog/sl - Old groundwater discharge deposits overlie siliciclastic rocks										1													**1**
Qomc - Older colluvial deposits; poorly sorted, mixed boulders to silt and clay; surfaces typically incised										15													**15**
Qos - Old surficial deposits														55		1							**56**
Qpi? - Incised pediments; moderately incised surfaces; sparse, patchy alluvial veneers; alluvial deposits mainly in incised channels.											3												**3**
Qpv - Veneered pediments; minimally incised surfaces having extensive alluvial veneers.											8												**8**
Qs - Very young surficial deposits														183									**183**
Qs1 - Very young surficial deposits, Unit 1														3									**3**
Qsw - Very young slope-wash deposits														26		22							**48**
Qsw? - Very young slope-wash deposits, uncertain																1							**1**
Qt - Very young talus deposits														170									**170**
QTg - Fault gouge				5																			**5**
Qvoc - Very old colluvial deposits, undivided												6											**6**
Qvor - Very old regolith														17		90							**107**
Qvos - Very old surficial deposits														23									**23**
Qvosw - Very old slope-wash deposits														1									**1**
Qyc - Young colluvial deposits												127		62	33	32							**254**
Qyc, depression - Depression in young colluvial deposits												1											**1**

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Qyc? - Young colluvial deposits, uncertain																1							**1**
Qyg - Young groundwater discharge deposits; silt and fine sand in zones of former groundwater discharge; generally calcareous.											2												**2**
Qyg - Young groundwater discharge deposits; silt and fine sand in zones of former water discharge; loose to compact silt, fine sand and calcium carbonate	2																						**2**
Qygs - Young groundwater discharge deposits; silt and fine sand in zones of former groundwater discharge; loose to compact										5													**5**
Qygs - Young groundwater discharge spring mound deposits; distinct mound landforms above adjacent deposits; occurs in association with eolian and playa fringe deposits.											6												**6**
Qygs - Young groundwater-discharge spring mound deposits; silt and fine sand in zones of former groundwater discharge; calcium carbonate typical.						7																	**7**
Qygw - Young groundwater discharge wetland deposits; similar to Qyg, but forms low broad relief.											2												**2**
Qygw - Young groundwater-discharge wetland deposits; former wetland deposit in lower Kelso Wash; resemble spring mounds but form broad planar deposits.						3																	**3**
Qygw? - Young groundwater discharge wetland deposits; similar to Qyg, but forms low broad relief.											1												**1**
Qymc - Young colluvial deposits; mixed, poorly sorted detritus; boulders to silt and clay; thicker than 2 meters; weak to moderate soil development										2													**2**
Qymc - Young colluvial deposits; poorly sorted muddy sand and gravel containing clasts as large as boulders; loose to moderately compacted.											6												**6**
Qymc - Young mass-movement colluvial deposits; colluvial material thicker than 2 m; rocky, loose, poorly sorted.						10																	**10**
Qymc? - Young colluvial deposits; poorly sorted muddy sand and gravel containing clasts as large as boulders; loose to moderately compacted.											4												**4**
Qypt - Young peat deposits																4							**4**
Qys - Young surficial deposits														110									**110**
Qysw - Young slope-wash deposits														5									**5**
Qyt - Young talus deposits														230									**230**

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Qls - Landslide Deposits; may include debris flows and older landslides		**2**		**6**	**1,412**	**14**	**14**	**383**	**249**	**33**	**23**	**90**	**1,735**	**382**	**2,345**	**313**	**5,440**	**2,114**	**162**		**23**	**6**	**159**	**14,905**
	Qdf - Debris flow deposits																		12					**12**
	Qiad - Intermediate alluvial fan composed of debris flow deposits; bouldery deposits with sand and silt matrix										10													**10**
	Qiad - Intermediate alluvial fan debris flow deposits; alluvial deposits dominated by debris flows; poorly sorted bouldery deposits encased in sand and silt matrix.											5												**5**
	Qiad - Intermediate alluvial fan deposits composed of debris-flow deposits; poorly sorted bouldery deposits with sand and mud matrix.						2																	**2**
	Qiad - Intermediate-age alluvial deposits dominated by debris flows; classified by hummocky topography	2																						**2**
	Qiad - Intermediate-age alluvial deposits; dominated by debris flows, hummocky topography			1																				**1**
	Qiad? - Intermediate alluvial fan debris flow deposits; alluvial deposits dominated by debris flows; poorly sorted bouldery deposits encased in sand and silt matrix.											1												**1**
	Qiad+Qia - Intermediate alluvial fan composed of debris flow deposits and intermediate alluvial fan deposits; intermixed										4													**4**
	Qiad+Qyad - Intermediate alluvial fan composed of debris flow deposits and young alluvial fan deposits composed of debris flow deposits; intermixed										2													**2**
	Qiad+Qyad - Intermediate alluvial fan debris flow deposits and young alluvial fan debris flow deposits; intermixed.											5												**5**
	Qiag+Qyad - Intermediate alluvial fan deposits composed of grus and young alluvial fan deposits composed of debris flow deposits; intermixed										1													**1**
	Qiayd - Younger intermediate alluvial fan debris flow deposits; debris flow deposits with moderately to strongly developed desert pavement with dark varnish on clasts.											8												**8**
	Qiayd? - Younger intermediate alluvial fan debris flow deposits; debris flow deposits with moderately to strongly developed desert pavement with dark varnish on clasts.											2												**2**

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Qiayd+Qyayd - Younger intermediate alluvial fan debris flow deposits and younger young alluvial fan debris flow deposits; intermixed.											2												**2**
Qiml - Intermediate mass-movement landslide deposits; landslide deposits forming hummocky topography; rocky with mud matrix and weak desert pavement.						3																	**3**
Qiml - Intermediate-age mass movement deposits; landslide deposits thicker than 2 meters			2																				**2**
Qls - Landslide deposit				1,405																			**1,405**
Qls - Landslide deposits					14			213	33			1,504					1,551	147					**3,462**
Qls - Landslide deposits, undivided															305								**305**
Qls - Very young landslide deposits														864		1,277							**2,141**
Qls and fault zone - Landslide deposits, undivided, and fault zone															8								**8**
Qls? - Landslide deposits								36															**36**
Qls? - Landslide deposits, querried												231											**231**
Qls? - Landslide deposits, uncertain																	562	3					**565**
Qls? - Very young landslide deposits, uncertain																274							**274**
Qls-scarp - Landslide scarp																	1						**1**
Qlsy - Young landslide deposit				7																			**7**
Qoa+Qiad - Old alluvial fan deposits and intermediate alluvial fan composed of debris flow deposits; intermixed										1													**1**
Qoad - Old alluvial fan composed of debris flow deposits; poorly sorted bouldery deposits with sand and silt matrix; dominated by debris flows										4													**4**
Qols - Old landslide deposits														378		22							**400**
QTml - Extremely old landslide deposits; thicker than 2 meters; cemented with pedogenic carbonate			1																				**1**
Qvols - Very old landslide deposits														100		1							**101**
Qyad - Young alluvial fan debris flow deposits; muddy sand containing scattered pebbles, cobbles, and boulders; mainly deposited by debris flows; poorly sorted and stratified.											17												**17**
Qyad - Young alluvial fan deposits composed of debris-flow deposits; bouldery, matrix-supported.						9																	**9**
Qyad/Qia - Young alluvial fan deposits composed of debris flow deposits overlie intermediate alluvial fan deposits										1													**1**
Qyad/Qyaod - Young alluvial fan debris flow deposits overlie older young alluvial fan debris flow deposits; intermixed.											1												**1**

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	Qyad? - Young alluvial fan debris flow deposits; muddy sand containing scattered pebbles, cobbles, and boulders; mainly deposited by debris flows; poorly sorted and stratified.											1												**1**
	Qyad+Qiad - Young alluvial fan debris flow deposits and intermediate alluvial fan debris flow deposits; intermixed.											4												**4**
	Qyad+Qyaod - Young alluvial fan debris flow deposits and older young alluvial fan debris flow deposits; intermixed.											3												**3**
	Qyaod - Older young alluvial fan debris flow deposits.											33												**33**
	Qyaod/Qiad? - Older young alluvial fan debris flow deposits overlie intermediate alluvial fan debris flow deposits.											1												**1**
	Qyaod+Qiad - Older young alluvial fan debris flow deposits and intermediate alluvial fan debris flow deposits; intermixed.											5												**5**
	Qyayd - Younger young alluvial fan debris flow deposits; rough deposit surfaces; coarse, boulder size deposits near surge front.											2												**2**
	Qyls - Young landslide deposits														1,003		3,352							**4,355**
	Qyls? - Young landslide deposits, uncertain																514							**514**
	Qyml - Young mass-movement deposits; landslide deposits thicker than 2 meters			2																				**2**
Qb - Beach Deposits									**24**	**39**			**34**			**24**	**23**	**24**	**38**					**206**
	Qb - Beach deposits								24	39									38					**101**
	Qb - Marine beach deposits																	24						**24**
	Qm - Very young marine deposits, active sandy beach deposits																23							**23**
	Qmb - Marine beach deposits												34			24								**58**
Qw - Alluvial Wash Deposits		**23**	**83**	**38**	**1**		**23**	**160**	**4**	**488**	**83**	**69**	**34**	**875**	**1,149**	**3**	**49**	**26**		**122**	**35**	**42**	**141**	**3,448**
	Qaw - Active wash deposits; characterized by surfaces and channels that are active and have received deposits with the last few decades			12																				**12**
	Qaw - Active wash deposits; loose sand and gravel deposited within last few decades; sediment transport on semi-annual basis										13													**13**

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	Qaw - Active wash deposits; loose, fine sand to boulder gravel deposited by ephemeral streams actively receiving sediments; generally wider, longer, more gentle and flow more frequently than alluvial fan channels.											17												**17**
	Qaw+Qaa - Active wash deposits and active alluvial fan deposits; intermixed			2																				**2**
	Qaw+Qya - Active wash deposits and young alluvial fan deposits; intermixed			1							26													**27**
	Qaw+Qydf - Active wash deposits and young debris flow; intermixed										1													**1**
	Qaw+Qyw - Active wash deposits and young wash deposits; intermixed	8		5																				**13**
	Qaw+Qyw - Active wash deposits and young wash deposits; intermixed.						10					13												**23**
	Qaw+Qywy - Active wash deposits and younger young wash deposits; intermixed.											5												**5**
	Qawg+Qyag - Active wash deposits composed of grus and young wash deposits composed grus; intermixed										1													**1**
	Qawg+Qywg - Active wash deposits with clasts from granitic sources that weather to grus and young wash deposits with clasts from granitic sources that weather to grus; intermixed	2																						**2**
	QawMR - Active wash deposits of Mojave River.											11												**11**
	QawMR+QywyMR - Active wash deposits of Mojave River and younger young wash deposits of the Mojave River; intermixed.											3												**3**
	Qhw1 - Young wash deposits																	4						**4**
	Qhw2 - Young wash deposits																	2						**2**
	Qhw3 - Young wash deposits																	4						**4**
	Qw - Active channel and wash deposits								4															**4**
	Qw - Alluvium of modern washes; commonly incised into older alluvial fan deposits		83																					**83**
	Qw - Very young wash deposits														821		47							**868**
	Qw - Wash deposit																	15						**15**
	Qw - Wash deposits									467			33			3								**503**
	Qw - Wetland deposit				1																			**1**
	Qw, depression - Depression in wash deposits												1											**1**
	Qw1 - Very young wash deposits, Unit 1														193									**193**
	Qw1 - Wash deposit																	1						**1**
	Qw1 - Young wash deposits									9														**9**
	Qw2 - Very young wash deposits, Unit 2														132									**132**
	Qw2 - Young Wash Deposits									12														**12**

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	Qw3 - Very young wash deposits, Unit 3														3		2							**5**
	Qy - Youngest alluvium; floors active washes; poorly sorted sand and sandy gravel																			122				**122**
	Qya+Qaw - Young alluvial fan deposits and active wash deposits; intermixed			4							39													**43**
	Qyad+Qaw - Young alluvial fan deposits composed of debris flow deposits and active wash deposits; intermixed										1													**1**
	Qyag+Qaw - Young alluvial fan deposits composed of grus and active wash deposits; intermixed										1													**1**
	Qyag+Qawg - Young alluvial fan deposits composed of grus and active wash deposits composed of grus; intermixed										1													**1**
	Qyw+Qaw - Young wash deposits and active wash deposits; intermixed	12		14																				**26**
	Qyw+Qaw - Young wash deposits and active wash deposits; intermixed.						13					14												**27**
	Qywey+Qawe - Younger mixed wash and eolian sand deposits and active mixed wash and eolian sand deposits; intermixed.											1												**1**
	Qywg+Qawg - Young wash deposits with clasts from granitic sources that weather to grus and active wash deposits with clasts from granitic sources that weather to grus; intermixed	1																						**1**
	QywMR+QawMR - Younger wash deposits of the Mojave River and active wash deposits of the Mojave River; intermixed.											2												**2**
	Qywy+Qaw - Younger young wash deposits and active wash deposits; intermixed.											3												**3**
Qf - Alluvial Fan Deposits		**43**	**39**	**356**			**214**	**927**		**573**	**222**	**506**	**1**	**938**	**956**		**73**	**98**	**203**		**141**	**104**	**511**	**5,905**
	ml+Qaae - Modified land or artificial fill and active mixed alluvial and eolian sand deposits; intermixed.											5												**5**
	pc+Qaa - Partly consolidated sediments and active alluvial fan deposits; intermixed.											3												**3**
	Qa6 - Young alluvial-fan and alluvial-valley deposits, Unit 6; characterized by lack of desert varnish, generally fine grain size, and evidence of recent sediment transport; includes minor wash, channel, and eolian deposits		39																					**39**
	Qaa - Active alluvial fan deposits; characterized by active surfaces that have received deposits within the last few decades			23																				**23**

Updated Ptype and Description	100K Quadrangle Counts																					
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
Qaa - Active alluvial fan deposits; poorly to moderately sorted fine sand to boulders deposited by ephemeral streams that have actively received sediments within the last few decades.											25												**25**
Qaa - Active alluvial fan deposits; sediments deposited within last few decades										30													**30**
Qaa - Active alluvial fan deposits; surfaces and channels actively receiving sediments in last few decades; loose, poorly sorted gravel and sand.						8																	**8**
Qaa/fv - Active alluvial fan deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, dacite, felsite).											2												**2**
Qaa/pc - Active alluvial fan deposits overlie partly consolidated sediments.											2												**2**
Qaa/Qia - Active alluvial fan deposits overlie intermediate alluvial fan deposits.											2												**2**
Qaa/Qiaeo - Active alluvial fan deposits overlie older intermediate mixed alluvial and eolian sand deposits.											1												**1**
Qaa/Qipw - Active alluvial fan deposits overlie intermediate wet playa deposits										1													**1**
Qaa+fv? - Active alluvial fan deposits and felsic volcanic rocks (rhyolite, rhyodacite, dacite, felsite); intermixed.											1												**1**
Qaa+Qaw - Active alluvial fan deposits and active alluvial wash deposits; intermixed			31																				**31**
Qaa+Qaw+Qya - Active alluvial fan deposits, active alluvial wash deposits, and young alluvial fan deposits; intermixed			3																				**3**
Qaa+Qia - Active alluvial fan deposits and intermediate alluvial fan deposits; intermixed										2													**2**
Qaa+Qia - Active alluvial fan deposits and intermediate alluvial fan deposits; intermixed.											3												**3**
Qaa+Qya - Active alluvial fan deposits and young alluvial fan deposits; intermixed	3		34							35													**72**
Qaa+Qya - Active alluvial fan deposits and young alluvial fan deposits; intermixed.						19					32												**51**
Qaa+Qya+Qaw - Active alluvial fan deposits, young alluvial fan deposits, and active alluvial wash deposits; intermixed			1																				**1**
Qaa+Qyad - Active alluvial fan deposits and young alluvial fan composed of debris flow deposits; intermixed										2													**2**
Qaa+Qyae - Active alluvial fan deposits and young mixed alluvial and eolian deposits; intermixed			1																				**1**
Qaa+Qyae - Active alluvial fan deposits and young mixed alluvial and eolian sand deposits; intermixed.											2												**2**

Updated Ptype and Description	100K Quadrangle Counts																					
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
Qaa+Qyaey - Active alluvial fan deposits and younger young mixed alluvial and eolian sand deposits; intermixed.											1												**1**
Qaa+Qyay - Active alluvial fan deposits and younger young alluvial fan deposits; intermixed.											107												**107**
Qaa+Qyea - Active alluvial fan deposits and young mixed eolian and alluvial deposits; intermixed			1																				**1**
Qaa+Qyed/Qipw - Active alluvial fan deposits and young eolian sand dune deposits overlie intermediate wet playa deposits										1													**1**
Qaae - Active mixed alluvial and eolian sand deposits; active alluvial fan deposits interstratified with lesser amounts of eolian sand.											4												**4**
Qaae/mv - Active mixed alluvial and eolian sand deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											1												**1**
Qaae/Qiv - Active mixed alluvial and eolian sand deposits overlie intermediate axial valley deposits.											2												**2**
Qaae/Qoa - Active mixed alluvial and eolian sand deposits overlie old alluvial fan deposits.											2												**2**
Qaae+Qyae - Active mixed alluvial and eolian sand deposits and young mixed alluvial and eolian sand deposits; intermixed.											4												**4**
Qaae+Qyaey - Active mixed alluvial and eolian sand deposits and younger young mixed alluvial and eolian sand deposits; intermixed.											8												**8**
Qaag - Active alluvial fan deposits composed of grus; predominantly clasts from granitic sources that weather to grus			21																				**21**
Qaag - Active alluvial fan deposits; predominately clasts from granitic sources that weather to grus	1																						**1**
Qaag - Active alluvial fan grus deposits; moderately to well-sorted coarse sand to fine gravel derived from granitic sources that weather to grus.											7												**7**
Qaag+Qaw - Active alluvial fan deposits composed of grus and active wash deposits; intermixed			1																				**1**
Qaag+Qyag - Active alluvial fan deposits and young alluvial fan deposits composed of grus; intermixed.						7																	**7**
Qaag+Qyag - Active alluvial fan deposits composed of grus and young alluvial fan deposits composed of grus; intermixed			14							3													**17**

Updated Ptype and Description	100K Quadrangle Counts																						
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Qaag+Qyag - Active alluvial fan deposits with clasts from granitic sources that weather to grus and young alluvial fan deposits with clasts from granitic sources that weather to grus; intermixed	3																						**3**
Qac - Alluvium and colluvium																		203					**203**
Qf - Alluvial fan deposits									572			1											**573**
Qf - Very young alluvial-fan deposits														734		59							**793**
Qf - Young alluvial fan deposits																	12						**12**
Qf1 - Alluvial fan deposits, unit 1									1														**1**
Qf1 - Very young alluvial-fan deposits, Unit 1														159		14							**173**
Qf2 - Very young alluvial-fan deposits, Unit 2														63									**63**
Qhf - Young alluvial fan deposits																	60						**60**
Qhfy - Alluvial fan deposits																	26						**26**
Qia+Qaa - Intermediate alluvial fan deposits and active alluvial fan deposits; intermixed	1									2													**3**
Qia+Qaa - Intermediate alluvial fan deposits and active alluvial fan deposits; intermixed.											3												**3**
Qiay+Qaa - Younger intermediate alluvial fan deposits and active alluvial fan deposits; intermixed.											9												**9**
Qya+Qaa - Young alluvial fan deposits and active alluvial fan deposits; intermixed	27		154							111													**292**
Qya+Qaa - Young alluvial fan deposits and active alluvial fan deposits; intermixed.						107					124												**231**
Qya+Qaa/Qpi-sl - Young alluvial fan deposits and active alluvial fan deposits overlie carbonate and siliciclastic rocks										2													**2**
Qya+Qaa+Qaw - Young alluvial fan deposits, active alluvial fan deposits, and active wash deposits; intermixed			10																				**10**
Qya+Qaae - Young alluvial fan deposits and active mixed alluvial and eolian sand deposits; intermixed.											1												**1**
Qyae/Qya+Qaa - Young mixed alluvial and eolian deposits overlie young alluvial fan deposits and active alluvial fan deposits										4													**4**
Qyae+Qaa - Young mixed alluvial and eolian deposits and active alluvial fan deposits; intermixed			1																				**1**
Qyae+Qaa - Young mixed alluvial and eolian sand deposits and active alluvial fan deposits; intermixed.						18					10												**28**
Qyae+Qaae - Young mixed alluvial and eolian sand deposits and active mixed alluvial and eolian sand deposits; intermixed.											2												**2**

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	Qyaeg+Qaag - Young mixed alluvial fan grus and eolian sand deposits and active alluvial fan grus deposits; intermixed.											2												**2**
	Qyaey+Qaa - Younger young mixed alluvial and eolian sand deposits and active alluvial fan deposits; intermixed.											7												**7**
	Qyaey+Qaae - Younger young mixed alluvial and eolian sand deposits and active mixed alluvial and eolian sand deposits; intermixed.											11												**11**
	Qyag+Qaag - Young alluvial fan deposits composed of grus and active alluvial fan deposits composed of grus; intermixed			59							29													**88**
	Qyag+Qaag - Young alluvial fan deposits composed of grus and active alluvial fan deposits composed of grus; intermixed.						53																	**53**
	Qyag+Qaag - Young alluvial fan deposits with clasts from granitic sources that weather to grus and active alluvial fan deposits with clasts from granitic sources that weather to grus; intermixed	7																						**7**
	Qyag+Qaag - Young alluvial fan grus deposits and active alluvial fan grus deposits; intermixed.											15												**15**
	Qyag+Qaag+Qawg - Young alluvial fan deposits composed of grus; active alluvial fan deposits composed of grus, and active wash deposits; intermixed			2																				**2**
	Qyao+Qaa - Older young alluvial fan deposits and active alluvial fan deposits; intermixed.											1												**1**
	Qyay+Qaa - Young alluvial fan deposits and active alluvial fan deposits; intermixed	1																						**1**
	Qyay+Qaa - Younger young alluvial fan deposits and active alluvial fan deposits; intermixed.											102												**102**
	Qyea+Qaa - Young mixed eolian sand and alluvial deposits and active alluvial fan deposits; intermixed.						2																	**2**
	Qyeay+Qaa - Younger young mixed eolian sand and alluvial deposits and active alluvial fan deposits; intermixed.											3												**3**
	Qyeay+Qaae - Younger young mixed eolian sand and alluvial deposits and active mixed alluvial and eolian sand deposits; intermixed.											1												**1**
	Qywey+Qaae - Younger mixed wash and eolian sand deposits and active mixed alluvial and eolian sand deposits; intermixed											1												**1**
Qa - Alluvial Valley Deposits		**3**	**20**	**8**	**107**	**278**	**7**	**978**	**22**	**9**	**9**	**5**	**35**	**37**	**242**		**3**	**286**	**38**		**12**	**55**	**197**	**2,351**
	Qa - Active alluvium				107																			**107**

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Qa - Active channel alluvium																		38					**38**
Qa - Alluvial flood-plain deposits								22				34											**56**
Qa - Alluvium, undifferentiated, active channel									9														**9**
Qa - Very young axial-channel deposits														240		1							**241**
Qa, depression - Depression in alluvial flood-plain deposits												1											**1**
Qa1 - Very young axial-channel deposits, Unit 1														2									**2**
Qaae/Qya - Active mixed alluvial and eolian sand deposits overlie young alluvial fan deposits										1													**1**
Qaae/Qyed - Active mixed alluvial and eolian sand deposits overlie young eolian sand dune deposits										1													**1**
Qav - Active valley-axis deposits; fine gravel, sand, silt and clay; loose and unconsolidated; relatively smooth surfaces										1													**1**
Qav - Active valley-axis deposits; loose, fine-grained deposits in valley axes characterized by anastomosing ephemeral washes, low relief interfluves and eolian deposits			6																				**6**
Qav+Qye - Active valley-axis deposits and young eolian sand deposits; intermixed										1													**1**
Qav+Qyv - Active axial valley deposits and young axial valley deposits; intermixed.											1												**1**
Qav+Qyv - Active valley-axis deposits and young valley axis deposits; intermixed			1																				**1**
Qav+Qyv - Active valley-axis deposits and young valley-axis deposits; intermixed										3													**3**
Qav+Qyv - Active valley-axis deposits and young valley-axis deposits; intermixed.						1																	**1**
Qha - Young colluvial flood-plain deposits																	286						**286**
Qr - Alluvium of the modern Colorado River flood plain; unconsolidated clay, silt and sand; mostly vegetated		20																					**20**
Qu - Alluvium and colluvium, undivided					41																		**41**
Qv - Very young alluvial-valley deposits																2							**2**
Qya - Young alluvium; sand, silt, and gravel in modern streambeds and washes (Note: Qya label was retained in places for edge match with San Diego quadrangle)					237																		**237**
Qya+Qaae - Young alluvial fan deposits and active mixed alluvial and eolian sand deposits; intermixed										1													**1**
Qyae+Qaa - Young mixed alluvial and eolian sand deposits and active alluvial fan deposits; intermixed	1																						**1**

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	Qyae+Qaae - Young mixed alluvial and eolian deposits and active mixed alluvial and eolian deposits; intermixed			1																				**1**
	Qyv+Qav - Young axial valley deposits and active axial valley deposits; intermixed.											4												**4**
	Qyv+Qav - Young valley-axis deposits and active valley-axis deposits; intermixed	2									1													**3**
	Qyv+Qav - Young valley-axis deposits and active valley-axis deposits; intermixed.						6																	**6**
Qt - Terrace Deposits; includes marine and stream terrace deposits								**107**		**3**				**1**				**65**				**58**	**48**	**282**
	Qhps - Paralic deposits, sea cliff terrace																	10						**10**
	Qht - Holocene stream terrace																	35						**35**
	Qht1 - Holocene stream terrace																	2						**2**
	Qht3 - Holocene stream terrace																	3						**3**
	Qpmw - Mass wasting on terrace																	2						**2**
	Qppp - Paralic deposits on terrace																	13						**13**
	Qt - Terrace Deposits									3														**3**
Ql - Lacustrine, Playa and Estuarine (Paralic) Deposits		**2**	**2**	**54**			**4**	**45**	**28**	**2**	**15**	**50**	**2**	**4**	**31**	**11**	**36**	**13**	**30**	**7**	**40**	**2**	**25**	**403**
	pa - Ponded alluvium, fanglomerate and lacustrine deposits									2														**2**
	Qap - Active playa deposits; playa deposits that are active and have received sediment in the last few decades; fine sand, silt and clay with some salts; flat and prone to flooding			45																				**45**
	Qap - Active playa deposits; silt, clay and sand; predominantly dry playas actively receiving water and sediment from surrounding areas										5													**5**
	Qap - Active playa deposits; weakly bedded, poorly sorted silt, clay and sand; salt in some places; prone to flooding.						3																	**3**
	Qap - Active playa deposits; weekly bedded, poorly sorted silt, clay and sand; salt in places; prone to flooding.											26												**26**
	Qap/Qvp3 - Active playa deposits overlie Pisgah crater volcanic flows and cinder cones of olivine basalt.											1												**1**
	Qap+Qagw - Active playa deposits and active groundwater discharge wetland deposits; intermixed.											4												**4**
	Qap+Qapf - Active playa deposits and active playa fringe deposits; intermixed.											4												**4**
	Qap+Qyp - Active playa deposits and young playa deposits; intermixed.											1												**1**

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Qapf - Active playa fringe deposits; loose complexly mixed materials forming halo around playas										5													**5**
Qapf - Active playa fringe deposits; poorly to moderately sorted sand and silt, with minor cobbles, gravel and clay; may have groundwater discharge or salt deposits.											8												**8**
Qapf - Active playa fringe of mixed eolian, alluvial, groundwater discharge and playa deposits; have received sediment in the last few decades			3																				**3**
Qapf+Qae - Active playa fringe deposits and active eolian sand deposits; intermixed.											2												**2**
Qapf+Qygs - Active playa fringe deposits and young groundwater discharge spring mound deposits; intermixed.											1												**1**
Qapf+Qypf - Active playa fringe deposits and young playa fringe deposits; intermixed										1													**1**
Qaps - Active playa sandy facies deposits; form near margins of playas where alluvial sediments intertongue with playa sediments.						1																	**1**
Qaps - Active playa sandy facies deposits; sandy facies near margin of playas where alluvial sediments interfinger with playa sediments										1													**1**
Qaps - Playa sand; sandy facies of playa generally near margins where alluvial sediments interfinger with playa sediments.											3												**3**
Qaps+Qaed - Active sandy facies of playa deposits and active eolian sand dune deposits			2																				**2**
Qaps+Qav - Active sandy facies of playa deposits and active valley-axis deposits			4																				**4**
Qapw - Active wet playa deposits; groundwater generates gypsum and salt deposits										2													**2**
Qe - Estuarine deposits																		30					**30**
Qes - Very young estuarine deposits																27	11						**38**
Ql - Lacustrine deposits																	2						**2**
Ql - Very young lacustrine deposits														7		8							**15**
Qlv - Very young lacustrine and fluvial deposits																1							**1**
Qp - Playa lake deposits; unconsolidated clay, silt and sand		2																					**2**
Qpe - Paralic estuarine deposits								28				2			11								**41**
Qpl - Very young playa deposits														2									**2**
Qpl1 - Very young playa deposits, Unit 1														1									**1**
Qpsh - Playa deposits, silt, clay, and halite salt; commonly associated with brine																			7				**7**

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	Qyp - Young playa deposits; moderately to well sorted silt, clay; commonly compact; rarely flooded	2																						**2**
	Qypf+Qapf - Young playa fringe deposits and active playa fringe deposits; intermixed										1													**1**
	Qypl - Young playa deposits														21									**21**
Qe - Eolian and Dune Deposits		**9**	**24**	**23**			**44**	**52**	**4**	**1**	**13**	**146**		**106**	**12**		**9**	**7**	**2**	**83**	**42**	**1**	**23**	**601**
	Qae - Active eolian sand deposits; fine to medium sand; loose and subject to migration; no soil development.											23												**23**
	Qae - Active eolian sand deposits; loose and subject to migration; no soil development										2													**2**
	Qae/ca - Active eolian sand deposits overlie carbonate rocks (marble, dolomite, limestone)										1													**1**
	Qae/ca - Active eolian sand deposits overlie carbonate rocks (marble, limestone, dolomite).						4																	**4**
	Qae/fv - Active eolian sand deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, dacite, felsite).											1												**1**
	Qae/fv - Active eolian sand deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, felsite).						12																	**12**
	Qae/mp - Active eolian sand deposits overlie mafic plutonic rocks (gabbro, diorite, monzodiorite, syenite, alkalic rocks).						3																	**3**
	Qae/mv - Active eolian sand deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											30												**30**
	Qae/pc - Active eolian sand deposits overlie partly consolidated sediments.											5												**5**
	Qae/Qia - Active eolian sand deposits overlie intermediate alluvial fan deposits.											2												**2**
	Qae/Qiaeo - Active eolian sand deposits overlie older intermediate mixed alluvial and eolian sand deposits.											11												**11**
	Qae/Qiaey - Active eolian sand deposits overlie younger intermediate mixed alluvial and eolian deposits.											2												**2**
	Qae/Qiao - Active eolian sand deposits overlie older intermediate alluvial fan deposits.											5												**5**
	Qae/Qiay - Active eolian sand deposits overlie younger intermediate alluvial fan deposits.											9												**9**
	Qae/Qilc - Active eolian sand deposits overlie coarse lacustrine-alluvial sediments.											1												**1**

Updated Ptype and Description		100K Quadrangle Counts																						
	Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
	Qae/Qya - Active eolian sand deposits overlie young alluvial fan deposits										1													**1**
	Qae/Qya - Active eolian sand deposits overlie young alluvial fan deposits.											2												**2**
	Qae/Qyao - Active eolian sand deposits overlie older young alluvial fan deposits.											3												**3**
	Qae/Qyea - Active eolian sand deposits overlie young mixed eolian and alluvial deposits	1																						**1**
	Qae/Qyea - Active eolian sand deposits overlie young mixed eolian and alluvial deposits.											1												**1**
	Qae/QywoMR - Active eolian sand deposits overlie older young wash deposits of the Mojave River.											2												**2**
	Qae/QywyMR - Active eolian sand deposits overlie younger young wash deposits of the Mojave River.											2												**2**
	Qae/sl - Active eolian sand deposits overlie siliciclastic rocks (silicic sedimentary and metamorphic rocks; i.e., sandstone, quartzite, shale, siltstone).						1																	**1**
	Qae+Qiaeo - Active eolian sand deposits and older intermediate mixed alluvial and eolian sand deposits; intermixed.											1												**1**
	Qae+Qyeay - Active eolian sand deposits and younger young mixed eolian sand and alluvial deposits; intermixed.											1												**1**
	Qae+Qyed - Active eolian sand deposits and young eolian sand dune deposits; intermixed										1													**1**
	Qaea - Active mixed eolian and alluvial deposits; active eolian sand deposits interstratified with lenses of alluvial fan deposits.											5												**5**
	Qaea - Active mixed eolian and alluvial deposits; mixed eolian and alluvial materials that show evidence of migration			10																				**10**
	Qaea/ml - Active mixed eolian and alluvial deposits overlie made land or artificial fill			3																				**3**
	Qaea+Qyae - Active mixed eolian and alluvial deposits and young mixed alluvial and eolian sand deposits; intermixed.											1												**1**
	Qaed - Active eolian sand dune deposits; eolian sand deposits that are active and show evidence of migration			1																				**1**
	Qaed - Active eolian sand dune deposits; fine to medium sand with pronounced dune morphology.											2												**2**
	Qaed - Active eolian sand dune deposits; loose and subject to migration but preserves dune morphology; no soil development										2													**2**

Updated Ptype and Description	100K Quadrangle Counts																						
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
Qaed - Active eolian sand dune deposits; well-sorted sand in dune landforms.						6																	**6**
Qaed+Qyed - Active eolian sand deposits and young eolian sand deposits; intermixed	3																						**3**
Qaed+Qyed - Active eolian sand dune deposits and young eolian sand dune deposits; intermixed.						2					1												**3**
Qaer - Active eolian sand ramp deposits; climbing and falling deposits; generally deposited over inclined bedrock										3													**3**
Qaer - Active eolian sand ramp deposits; ramp of inclined sand sheets or wedge shaped sand deposits on hillsides; represent climbing and falling dunes.											3												**3**
Qaer - Active eolian sand ramp deposits; sand and rock in steep mantles of hillsides; represent climbing and falling dunes.						6																	**6**
Qaer/fv - Active eolian sand ramp deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, dacite, felsite).											2												**2**
Qaer/mv - Active eolian sand ramp deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											1												**1**
Qaer/mv - Active eolian sand ramp deposits overlie mafic volcanic rocks (dacite, andesite, basalt)										1													**1**
Qaer/pc - Active eolian sand ramp deposits overlie partly consolidated sediments.											1												**1**
Qaes - Active eolian sand sheet deposits; eolian sand ramp deposits that are active and show evidence of migration			1																				**1**
Qaes/ml - Active eolian sand sheet deposits overlie made land or artificial fill			1																				**1**
Qaes/Qvp1 - Active eolian sand sheet deposits overlie Pisgah crater volcanic flows and cinder cones of olivine basalt.											2												**2**
Qaes/Qvp2 - Active eolian sand sheet deposits overlie Pisgah crater volcanic flows and cinder cones of olivine basalt.											3												**3**
Qaes/Qvp3 - Active eolian sand sheet deposits overlie Pisgah crater volcanic flows and cinder cones of olivine basalt.											2												**2**
Qds - Dune sand																		2					**2**
Qe - Eolian deposits								3															**3**
Qe - Very young eolian deposits														12		9							**21**
Qe - Young eolian deposits																	7						**7**
Qe? - Eolian deposits								1	1														**2**
Qia+Qae - Intermediate alluvial fan deposits and active eolian sand deposits; intermixed.											2												**2**

Updated Ptype and Description	Source Ptype and Description	100K Quadrangle Counts																						
		Amboy 30' x 60'	Blythe 30' x 60'	Cuddeback Lake 30' x 60'	Cuyama 30' x 60'	El Cajon 30' x 60'	Ivanpah 30' x 60'	Lancaster 30' x 60'	Long Beach 30' x 60'	Los Angeles 30' x 60'	Mesquite Lake 30' x 60'	Newberry Springs 30' x 60'	Oceanside 30' x 60'	Palm Springs 30' x 60'	San Bernardino 30' x 60'	San Diego 30' x 60'	Santa Ana 30' x 60'	Santa Barbara (east) 30' x 60'	Santa Barbara (west) 30' x 60'	Sheep Hole Mts. 30' x 60'	Soda Mountains 30' x 60'	Taft (east) 30' x 60'	Tehachapi 30' x 60'	Grand Total
	Qiag+Qae - Intermediate alluvial fan deposits composed of grus and active eolian sand deposits; intermixed										2													**2**
	Qs - Eolian sand; unconsolidated sand dunes and sheets		24																					**24**
	Qwy - Younger windblown sand; active dunes and sand sheets																			83				**83**
	Qye+Qae - Young eolian deposits and active eolian sand deposits; intermixed			4																				**4**
	Qye+Qae - Young eolian sand deposits and active eolian sand deposits; intermixed	1																						**1**
	Qye+Qae - Young eolian sand deposits and active eolian sand deposits; intermixed.											12												**12**
	Qye+Qae/Qilg - Young eolian deposits and active eolian sand deposits overlie intermediate-age lacustrine sand			1																				**1**
	Qyea+Qae - Young mixed eolian sand and and alluvial deposits and active eolian sand deposits; intermixed	2																						**2**
	Qyea+Qaea - Young mixed eolian and alluvial deposits and active mixed eolian and alluvial deposits; intermixed.											3												**3**
	Qyeay+Qaea - Younger young mixed eolian sand and alluvial deposits and active mixed eolian sand and alluvial deposits; intermixed.											3												**3**
	Qyed+Qaed - Young eolian dune deposits and active eolian dune deposits; intermixed	2																						**2**
	Qyed+Qaed - Young eolian sand dune deposits and active eolian sand dune deposits; intermixed.						3					1												**4**
	Qyer+Qaer - Young eolian sand ramp deposits and active eolian ramp deposits; intermixed			2																				**2**
	Qyer+Qaer - Young eolian sand ramp deposits and active eolian sand ramp deposits; intermixed.						7																	**7**
	QywyMR+Qae - Younger young locally designated grussy Mojave River deposits and active eolian sand deposits; intermixed.											1												**1**
Qyw - Young Alluvial Wash Deposits		**20**		**50**			**54**	**26**				**84**			**121**		**26**				**13**		**18**	**412**
	Qiw+Qyw - Intermediate-age wash deposits and young wash deposits; intermixed			1																				**1**
	Qiwey - Younger intermediate mixed wash and eolian sand deposits; poorly to moderately sorted silt, gravel, cobbles, and bounders interstratified with lenses of fine to medium, thinly bedded eolian sand deposits.											3												**3**

Updated Ptype and Description		100K Quadrangle Counts																						
	Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
	Qiwy+Qyw - Intermediate young wash deposits and young wash deposits; intermixed.											3												**3**
	Qiwy+Qywo - Intermediate young wash deposits and older young wash deposits; intermixed.											1												**1**
	Qyw - Young wash deposits														97		26							**123**
	Qyw - Young wash deposits; inactive wash deposits in terraces above active washes; loose moderately to poorly sorted sand, gravel, cobbles, and boulders	13																						**13**
	Qyw - Young wash deposits; largely inactive fluvial wash deposits; moderately to poorly sorted, loose sand and gravel.						47																	**47**
	Qyw - Young wash deposits; mixed clastic sediment ranging from fine sand to boulders; abandoned surfaces; poorly cemented and consolidated.											14												**14**
	Qyw - Young wash deposits; moderately to poorly sorted sand and silt, sandy gravel; weak to no soil development; prone to channelized flow and flooding during and after heavy rains			49																				**49**
	Qyw/Qiw - Young wash deposits overlie intermediate wash deposits	3																						**3**
	Qyw+Qiw - Young wash deposits and intermediate wash deposits; intermixed	1																						**1**
	Qyw+Qiw - Young wash deposits and intermediate wash deposits; intermixed.						4																	**4**
	Qyw+Qye - Young wash deposits and young eolian sand deposits; intermixed	3																						**3**
	Qyw+Qye - Young wash deposits and young eolian sand deposits; intermixed.						3																	**3**
	Qyw1 - Young wash deposits, Unit 1														11									**11**
	Qyw2 - Young wash deposits, Unit 2														8									**8**
	Qyw3 - Young wash deposits, Unit 3														5									**5**
	Qywey - Younger young mixed wash and eolian sand deposits; clastic sediment ranging from fine sand to boulders interstratified with lesser amounts of thinly bedded eolian sand.											3												**3**
	Qywo - Older young wash deposits; characterized by small patches of desert pavement with slightly dark varnish.											2												**2**
	Qywo/Qiwy - Older young wash deposits overlie younger intermediate wash deposits.											1												**1**
	Qywo+Qywy - Older young wash deposits and younger young wash deposits; intermixed.											1												**1**

Updated Ptype and Description	Source Ptype and Description	100K Quadrangle Counts																						
		Amboy 30' x 60'	Blythe 30' x 60'	Cuddeback Lake 30' x 60'	Cuyama 30' x 60'	El Cajon 30' x 60'	Ivanpah 30' x 60'	Lancaster 30' x 60'	Long Beach 30' x 60'	Los Angeles 30' x 60'	Mesquite Lake 30' x 60'	Newberry Springs 30' x 60'	Oceanside 30' x 60'	Palm Springs 30' x 60'	San Bernardino 30' x 60'	San Diego 30' x 60'	Santa Ana 30' x 60'	Santa Barbara (east) 30' x 60'	Santa Barbara (west) 30' x 60'	Sheep Hole Mts. 30' x 60'	Soda Mountains 30' x 60'	Taft (east) 30' x 60'	Tehachapi 30' x 60'	Grand Total
	QywoMR - Older young wash deposits of the Mojave River; forms wide plain east of Daggett.											19												**19**
	QywoMR? - Older young wash deposits of the Mojave River; forms wide plain east of Daggett.											2												**2**
	Qywy - Younger young wash deposits; wash deposits characterized by abandoned surfaces; no desert pavement; varnish on some clasts; poorly developed soil.											4												**4**
	Qywy+Qyay - Younger young wash deposits and younger young alluvial fan deposits; intermixed.											1												**1**
	Qywy+Qywyg - Younger young wash deposits and younger young wash deposits that weather to grus; intermixed.											1												**1**
	QywyMR - Younger young locally designated grussy Mojave River deposits; typically form terraces along river channel.											29												**29**
Qyf - Young Alluvial Fan Deposits		**481**	**35**	**765**			**1,105**	**205**	**129**	**752**	**887**	**2,417**	**43**	**3,962**	**2,747**		**887**	**4**		**237**	**446**	**82**	**404**	**15,588**
	-									1														**1**
	Qa5 - Alluvial-fan deposits, Unit 5; sand and gravel; relatively young, undissected to little dissected, unvarnished to slightly varnished surfaces; some surfaces, bars and swales modified by recent stream flows; moderately dense vegetation		35																					**35**
	Qhff - Alluvial fan deposits, fine																	4						**4**
	Qia+Qya - Intermediate alluvial fan deposits and young alluvial fan deposits; intermixed	95									182													**277**
	Qia+Qya - Intermediate alluvial fan deposits and young alluvial fan deposits; intermixed.						174					99												**273**
	Qia+Qya - Intermediate-age alluvial fan deposits and young alluvial fan deposits; intermixed			79																				**79**
	Qia+Qya/ca+sl - Intermediate alluvial fan deposits and young alluvial fan deposits overlie carbonate rocks and siliciclastic rocks										1													**1**
	Qia+Qya/fpg - Intermediate-age alluvial fan deposits and young alluvial fan deposits overlie felsic plutonic rocks that weather to grus			1																				**1**
	Qia+Qya/fv - Intermediate-age alluvial fan deposits and young alluvial fan deposits overlie felsic volcanic rocks			1																				**1**
	Qia+Qya? - Intermediate alluvial fan deposits and young alluvial fan deposits; intermixed.											2												**2**

Updated Ptype and Description	100K Quadrangle Counts																						
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
Qia+Qyag - Intermediate alluvial fan deposits and young alluvial fan deposits composed of grus; intermixed										9													**9**
Qia+Qyag - Intermediate alluvial fan deposits and young alluvial fan grus deposits; intermixed.											1												**1**
Qia+Qyao - Intermediate alluvial fan deposits and older young alluvial deposits; intermixed	1																						**1**
Qia+Qyao - Intermediate alluvial fan deposits and older young alluvial fan deposits; intermixed										3													**3**
Qia+Qyao - Intermediate alluvial fan deposits and older young alluvial fan deposits; intermixed.											18												**18**
Qia+Qyao - Intermediate-age alluvial fan deposits and older young alluvial fan deposits; intermixed			6																				**6**
Qia+Qyao/fpg - Intermediate-age alluvial fan deposits and older young alluvial fan deposits overlie felsic plutonic bedrock that weathers to grus			2																				**2**
Qia+Qyaog - Intermediate alluvial fan deposits and older young alluvial fan deposits composed of grus; intermixed										1													**1**
Qia+Qyay - Intermediate alluvial fan deposits and younger young alluvial fan deposits; intermixed.											2												**2**
Qia+Qyes - Intermediate-age alluvial fan deposits and young eolian sand sheet deposits; intermixed			2																				**2**
Qiae+Qyae - Intermediate mixed alluvial and eolian sand deposits and young mixed alluvial and eolian sand deposits; intermixed.											8												**8**
Qiae+Qyaeo - Intermediate mixed alluvial and eolian sand deposits and older young mixed alluvial and eolian sand deposits; intermixed.											4												**4**
Qiaeg+Qyaog - Intermediate mixed alluvial grus and eolian deposits and older young alluvial fan grus deposits.											1												**1**
Qiaeo+Qyae - Older intermediate mixed alluvial and eolian sand deposits and young mixed alluvial and eolian sand deposits; intermixed.											1												**1**
Qiaey - Younger intermediate mixed alluvial and eolian deposits; characterized by abandoned surfaces, weakly developed desert pavement and moderately dark varnish on clasts.											17												**17**

Updated Ptype and Description		100K Quadrangle Counts																						
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	Qiaey/fv - Younger intermediate mixed alluvial and eolian deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, dacite, felsite).											1												**1**
	Qiaey+Qyae - Younger intermediate mixed alluvial and eolian deposits and young mixed alluvial and eolian sand deposits; intermixed.											5												**5**
	Qiag+Qyae - Intermediate alluvial fan deposits with clasts from granitic sources that weather to grus and young mixed alluvial and eolian sand deposits; intermixed	1																						**1**
	Qiag+Qyag - Intermediate alluvial fan deposits composed of grus and young alluvial fan deposits composed of grus; intermixed										34													**34**
	Qiag+Qyag - Intermediate alluvial fan deposits composed of grus and young alluvial fan deposits composed of grus; intermixed.						43																	**43**
	Qiag+Qyag - Intermediate alluvial fan deposits with clasts from granitic sources that weather to grus and young alluvial fan deposits with clasts from granitic sources that weather to grus; intermixed	10																						**10**
	Qiag+Qyag - Intermediate alluvial fan grus deposits and young alluvial fan grus deposits; intermixed.											9												**9**
	Qiag+Qyag - Intermediate-age alluvial fan deposits composed of grus and young alluvial fan deposits composed of grus; intermixed			23																				**23**
	Qiag+Qyag/fpg - Intermediate-age alluvial fan deposits composed of grus and young alluvial fan deposits composed of grus overlie felsic plutonic bedrock that weathers to grus			1																				**1**
	Qiag+Qyag/QToa - Intermediate-age alluvial fan deposits composed of grus and young alluvial fan deposits composed of grus overlie extremely old alluvial fan deposits			1																				**1**
	Qiag+Qyag? - Intermediate alluvial fan grus deposits and young alluvial fan grus deposits; intermixed.											12												**12**
	Qiag+Qyaog - Intermediate alluvial fan grus deposits and older young alluvial fan grus deposits; intermixed.											2												**2**
	Qiag+Qyaog - Intermediate-age alluvial fan deposits composed of grus and older young alluvial fan deposits composed of grus; intermixed			5																				**5**

Updated Ptype and Description		100K Quadrangle Counts																						
	Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
	Qiag+Qyaog/fpg - Intermediate-age alluvial fan deposits composed of grus and older young alluvial fan deposits composed of grus overlie felsic plutonic bedrock that weathers to grus			1																				**1**
	Qiao+Qya - Older intermediate alluvial fan deposits and young alluvial fan deposits; intermixed.											1												**1**
	Qiao+Qyao - Older intermediate alluvial fan deposits and older young alluvial fan deposits; intermixed.											3												**3**
	Qiay - Younger intermediate alluvial fan deposits; characterized by abandoned surfaces, moderately to strongly developed desert pavement with dark varnish on clasts.											340												**340**
	Qiay/fpg - Younger intermediate alluvial fan deposits overlie felsic plutonic rocks that weather to grus.											1												**1**
	Qiay/fv - Younger intermediate alluvial fan deposits overlie felsic volcanic rock (rhyolite, rhyodacite, dacite, felsite).											3												**3**
	Qiay/mv - Younger intermediate alluvial fan deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											3												**3**
	Qiay/pc - Younger intermediate alluvial fan deposits overlie partly consolidated sediments.											2												**2**
	Qiay? - Younger intermediate alluvial fan deposits; characterized by abandoned surfaces, moderately to strongly developed desert pavement with dark varnish on clasts.											2												**2**
	Qiay?+Qyay - Younger intermediate alluvial fan deposits and younger young alluvial fan deposits; intermixed.											1												**1**
	Qiay+Qiayg - Younger intermediate alluvial fan deposits and younger intermediate alluvial fan grus deposits; intermixed.											1												**1**
	Qiay+Qya - Younger intermediate alluvial fan deposits and young alluvial fan deposits; intermixed.											6												**6**
	Qiay+Qyao - Younger intermediate alluvial fan deposits and older young alluvial fan deposits; intermixed.											14												**14**
	Qiay+Qyay - Younger intermediate alluvial fan deposits and younger young alluvial fan deposits; intermixed.											14												**14**
	Qiayg - Younger intermediate alluvial fan grus deposits; coarse sandy to gravelly derived from granitic sources that weather to grus.											9												**9**

Updated Ptype and Description		100K Quadrangle Counts																						
	Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
	Qie+Qya - Intermediate eolian sand deposits and young alluvial fan deposits; intermixed	2																						**2**
	Qil+Qya - Intermediate-age lacustrine deposits and young alluvial fan deposits; intermixed			14																				**14**
	Qoa?+Qya - Old alluvial fan deposits and young alluvial fan deposits; intermixed	1																						**1**
	Qoa+Qya - Old alluvial fan deposits and young alluvial fan deposits; intermixed	1		1																				**2**
	Qoag+Qyag - Old alluvial fan deposits composed of grus and young alluvial fan deposits composed of grus; intermixed			1																				**1**
	QToa+Qya - Extremely old alluvial fan deposits and young alluvial fan deposits; intermixed			1																				**1**
	Qya - Young alluvial fan deposits; moderately to poorly sorted sand and silt, sandy gravel; abandoned surfaces receive material infrequently; little or no soil development			346							356													**702**
	Qya - Young alluvial fan deposits; moderately to poorly sorted; loose to slightly compacted sand and sandy gravel; no or weak desert pavement; weak varnish on clasts	101																						**101**
	Qya - Young alluvial fan deposits; poorly to moderately sorted fine sand to boulders deposited by ephemeral streams; poorly cemented; loose to slightly compacted.											416												**416**
	Qya - Young alluvial fan deposits; surfaces abandoned, receive infrequent flood deposits; poorly sorted sand and gravel, loosely compacted.						358																	**358**
	Qya - Younger alluvium; forms alluvial fans; sand and poorly sorted sandy gravel with angular clasts																			237				**237**
	Qya/ca - Young alluvial fan deposits overlie carbonate rocks										4													**4**
	Qya/fp - Young alluvial fan deposits overlie felsic plutonic rocks (granite, granodiorite).						1																	**1**
	Qya/fpg - Young alluvial fan deposits overlie felsic plutonic rocks (granite, granodiorite) that weather to grus.						1																	**1**
	Qya/fpg - Young alluvial fan deposits overlie felsic plutonic rocks that weather to grus			1																				**1**
	Qya/fpg - Young alluvial fan deposits overlie felsic plutonic rocks that weather to grus.											2												**2**
	Qya/fv - Young alluvial fan deposits overlie felsic volcanic rocks			2																				**2**

Updated Ptype and Description	100K Quadrangle Counts																						
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
Qya/mp - Young alluvial fan deposits overlie intermediate to mafic plutonic rocks (gabbro, diorite, monzodiorite, syenite, alkalic rocks) .											1												**1**
Qya/mr - Young alluvial fan deposits overlie metamorphic rocks (gneiss, migmatite, mixed lithology).						1																	**1**
Qya/mv - Young alluvial fan deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											3												**3**
Qya/mv - Young alluvial fan deposits overlie mafic volcanic rocks (dacite, andesite, basalt).						1																	**1**
Qya/pc - Young alluvial fan deposits overlie partially consolidated sedimentary deposits			1																				**1**
Qya/pc - Young alluvial fan deposits overlie partially consolidated sedimentary rocks										1													**1**
Qya/pc - Young alluvial fan deposits overlie partly consolidated sedimentary rocks (sandstone, conglomerate).						2																	**2**
Qya/pc - Young alluvial fan deposits overlie partly consolidated sediments.											3												**3**
Qya/Qia - Young alluvial fan deposits overlie intermediate alluvial fan deposits	43									16													**59**
Qya/Qia - Young alluvial fan deposits overlie intermediate alluvial fan deposits.						27					46												**73**
Qya/Qia - Young alluvial fan deposits overlie intermediate-age alluvial fan deposits			24																				**24**
Qya/Qia? - Young alluvial fan deposits overlie intermediate alluvial fan deposits.											4												**4**
Qya/Qig - Young alluvial fan deposits overlie intermediate groundwater discharge deposits										1													**1**
Qya/Qigw - Young alluvial fan deposits overlie intermediate groundwater-discharge wetland deposits.						2																	**2**
Qya/Qil - Young alluvial fan deposits overlie intermediate lacustrine deposits										1													**1**
Qya/Qil - Young alluvial fan deposits overlie intermediate lacustrine deposits.						2																	**2**
Qya/Qil - Young alluvial fan deposits overlie intermediate-age lacustrine deposits			3																				**3**
Qya/Qipw - Young alluvial fan deposits overlie intermediate wet playa deposits										1													**1**
Qya/Qmv - Young alluvial fan deposits overlie Quaternary age mafic volcanic rocks (lava flows and cinder cones of basaltic composition).						1																	**1**
Qya/Qoa - Young alluvial fan deposits overlie old alluvial fan deposits	5		15																				**20**
Qya/Qoa - Young alluvial fan deposits overlie old alluvial fan deposits.						2					2												**4**

Updated Ptype and Description	100K Quadrangle Counts																						
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
Qya/Qoa? - Young alluvial fan deposits overlie intermediate alluvial fan deposits	1																						**1**
Qya/Qoa? - Young alluvial fan deposits overlie old alluvial fan deposits.											1												**1**
Qya/Qov - Young alluvial fan deposits overlie older valley-axis deposits										1													**1**
Qya/Qv - Young alluvial fan deposits overlie Quaternary age volcanic rocks.											1												**1**
Qya/Qygw - Young alluvial fan deposits overlie young groundwater wetland deposits			1																				**1**
Qya/Qygw - Young alluvial fan deposits overlie young groundwater-discharge wetland deposits.						1																	**1**
Qya/Qyp? - Young alluvial fan deposits overlie young playa deposits.											2												**2**
Qya/sl - Young alluvial fan deposits overlie siliciclastic rocks			1																				**1**
Qya+mr - Young alluvial fan deposits and metamorphic rock (gneiss, migmatite, structurally mixed rocks); intermixed.											1												**1**
Qya+Qia - Young alluvial fan deposits and intermediate alluvial fan deposits; intermixed	71									151													**222**
Qya+Qia - Young alluvial fan deposits and intermediate alluvial fan deposits; intermixed.						220					72												**292**
Qya+Qia - Young alluvial fan deposits and intermediate-age alluvial fan deposits; intermixed			61																				**61**
Qya+Qia/ca+sl - Young alluvial fan deposits and intermediate alluvial fan deposits overlie carbonate and siliciclastic rocks										1													**1**
Qya+Qia/fpg - Young alluvial fan deposits and intermediate-age alluvial fan deposits overlie felsic plutonic rocks that weather to grus			1																				**1**
Qya+Qia? - Young alluvial fan deposits and intermediate alluvial fan deposits; intermixed.											2												**2**
Qya+Qiao - Young alluvial fan deposits and older intermediate alluvial fan deposits; intermixed.											1												**1**
Qya+Qiay - Young alluvial fan deposits and younger intermediate alluvial fan deposits; intermixed.											3												**3**
Qya+Qoa - Young alluvial fan deposits and old alluvial fan deposits; intermixed	1																						**1**
Qya+Qoa - Young alluvial fan deposits and older alluvial fan deposits; intermixed										1													**1**
Qya+Qyad - Young alluvial fan deposits and young alluvial fan deposits composed of debris flow deposits; intermixed										2													**2**

Updated Ptype and Description	100K Quadrangle Counts																						
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Qya+Qyae - Young alluvial fan deposits and young mixed alluvial and eolian sand deposits; intermixed.						4					2												**6**
Qya+Qyao - Young alluvial fan deposits and older young alluvial fan deposits; intermixed	3									15													**18**
Qya+Qyao - Young alluvial fan deposits and older young alluvial fan deposits; intermixed.											9												**9**
Qya+Qye - Young alluvial fan deposits and young eolian sand deposits; intermixed	4																						**4**
Qya+Qyea - Young alluvial fan deposits and young mixed eolian sand and alluvial deposits; intermixed.						2																	**2**
Qya+Qyg - Young alluvial fan deposits and young groundwater discharge deposits; intermixed	1																						**1**
Qya+Qyw - Young alluvial fan deposits and young wash deposits; intermixed			14																				**14**
Qyad - Young alluvial fan deposits; dominated by debris flows of bouldery, matrix-supported material	3																						**3**
Qyae - Young mixed alluvial and eolian sand deposits; alluvial process dominant; loose gravelly sand; little or no soil development	5																						**5**
Qyae - Young mixed alluvial and eolian sand deposits; thoroughly mixed with alluvial processes dominating.						36																	**36**
Qyae - Young mixed alluvial and eolian sand deposits; young alluvial fan deposits interstratified with lesser amounts of eolian sand; loose to moderately compacted gravelly sand with thin bedding.											128												**128**
Qyae/mv - Young mixed alluvial and eolian sand deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											3												**3**
Qyae/Qia - Young mixed alluvial and eolian sand deposits overlie intermediate alluvial fan deposits	2																						**2**
Qyae/Qia - Young mixed alluvial and eolian sand deposits overlie intermediate alluvial fan deposits.											8												**8**
Qyae/Qiae - Young mixed alluvial and eolian sand deposits overlie intermediate mixed alluvial and eolian sand deposits.						3					21												**24**
Qyae/Qiag - Young mixed alluvial and eolian sand deposits overlie intermediate alluvial fan grus deposits.											2												**2**
Qyae/Qiao - Young mixed alluvial and eolian sand deposits overlie older intermediate alluvial fan deposits.											3												**3**

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Qyae/Qilc - Young mixed alluvial and eolian sand deposits overlie coarse lacustrine-alluvial sediments.											1												**1**
Qyae/Qoa - Young mixed alluvial and eolian sand deposits overlie old alluvial fan deposits.											2												**2**
Qyae/Qyao - Young mixed alluvial and eolian sand deposits overlie older young alluvial fan deposits.											4												**4**
Qyae/Qyaod - Young mixed alluvial and eolian sand deposits overlie older young alluvial fan debris flow deposits.											5												**5**
Qyae/Qygw - Young mixed alluvial and eolian sand deposits overlie young groundwater-discharge wetland deposits.						4																	**4**
Qyae/QywoMR - Young mixed alluvial and eolian sand deposits overlie older young wash deposits of the Mojave River.											1												**1**
Qyae+Qia - Young mixed alluvial and eolian sand deposits and intermediate alluvial fan deposits; intermixed	1																						**1**
Qyae+Qia - Young mixed alluvial and eolian sand deposits and intermediate alluvial fan deposits; intermixed.											6												**6**
Qyae+Qiae - Young mixed alluvial and eolian sand deposits and intermediate mixed alluvial and eolian sand deposits; intermixed	1																						**1**
Qyae+Qiae - Young mixed alluvial and eolian sand deposits and intermediate mixed alluvial and eolian sand deposits; intermixed.						4					3												**7**
Qyae+Qiaey - Young mixed alluvial and eolian sand deposits and younger intermediate mixed alluvial and eolian sand deposits; intermixed.											4												**4**
Qyae+Qiea - Young mixed alluvial and eolian sand deposits and intermediate mixed eolian sand and alluvial deposits; intermixed.											1												**1**
Qyae+Qig - Young mixed alluvial and eolian sand deposits and intermediate groundwater discharge deposits; intermixed.											1												**1**
Qyae+Qoae - Young mixed alluvial and eolian sand deposits and old mixed alluvial and eolian sand deposits; intermixed.											1												**1**
Qyae+Qya - Young mixed alluvial and eolian sand deposits and young alluvial fan deposits; intermixed	2																						**2**
Qyae+Qya - Young mixed alluvial and eolian sand deposits and young alluvial fan deposits; intermixed.						5					3												**8**

Updated Ptype and Description		100K Quadrangle Counts																						
	Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
	Qyae+Qyaeo - Young mixed alluvial and eolian sand deposits and older young mixed alluvial and eolian sand deposits, intermixed.											2												**2**
	Qyae+Qyao - Young mixed alluvial and eolian sand deposits and older young alluvial fan deposits; intermixed.											1												**1**
	Qyae+Qyea - Young mixed alluvial and eolian sand deposits and young mixed eolian sand and alluvial deposits; intermixed.											1												**1**
	Qyaeg/Qiag - Young mixed alluvial grus and eolian sand deposits overlie intermediate alluvial fan grus deposits; intermixed.											1												**1**
	Qyaeo - Older young mixed alluvial and eolian sand deposits; moderately compacted sand and gravelly sand; patches of pavement with stone.											29												**29**
	Qyaey - Younger young mixed alluvial and eolian sand deposits; loose sand and gravelly sand; soil development absent or incipient.											39												**39**
	Qyaey/Qyao - Younger young mixed alluvial and eolian sand deposits overlie older young alluvial fan deposits.											1												**1**
	Qyaf - Young alluvial fan deposits; dominated by fine-grained sediments in extreme distal portions of fans; mixed with eolian deposits	1																						**1**
	Qyag - Young alluvial fan deposits composed of grus; clasts from granitic sources range in size from coarse sand to gravel										36													**36**
	Qyag - Young alluvial fan deposits composed of grus; clasts from granitic sources that weather to grus.						112																	**112**
	Qyag - Young alluvial fan deposits composed of grus; moderately to poorly sorted sand and fine gravel derived from granitic sources; abandoned surfaces receive material infrequently; little or no soil development			118																				**118**
	Qyag - Young alluvial fan deposits; consist of clasts from granitic sources that weather to grus	48																						**48**
	Qyag - Young alluvial fan grus deposits; moderately to well sorted coarse sand to fine gravel derived from granitic sources that weather to grus.											118												**118**
	Qyag/fp - Young alluvial fan deposits composed of grus overlie felsic plutonic rocks										1													**1**

Updated Ptype and Description		100K Quadrangle Counts																						
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	Qyag/fpg - Young alluvial fan deposits composed of grus overlie felsic plutonic rocks (granite, granodiorite) that weather to grus.						9																	**9**
	Qyag/Qia - Young alluvial fan deposits composed of grus overlie intermediate alluvial fan deposits										14													**14**
	Qyag/Qia - Young alluvial fan deposits with clasts from granitic sources that weather to grus overlie intermediate alluvial fan deposits	6																						**6**
	Qyag/Qia - Young alluvial fan grus deposits overlie intermediate alluvial fan deposits.											6												**6**
	Qyag/Qiag - Young alluvial fan deposits composed of grus overlie intermediate alluvial fan deposits composed of weather to grus.						13																	**13**
	Qyag/Qiag - Young alluvial fan deposits composed of grus overlie intermediate-age alluvial fan deposits composed of grus			2																				**2**
	Qyag/Qiag - Young alluvial fan deposits with clasts from granitic sources that weather to grus overlie intermediate alluvial fan deposits with clasts from granitic sources that weather to grus	11																						**11**
	Qyag/Qiag - Young alluvial fan grus deposits overlie intermediate alluvial fan grus deposits.											9												**9**
	Qyag/Qiag? - Young alluvial fan grus deposits overlie intermediate alluvial fan grus deposits.											2												**2**
	Qyag/Qoa - Young alluvial fan deposits with clasts from granitic sources that weather to grus overlie old alluvial fan deposits	1																						**1**
	Qyag/Qoag - Young alluvial fan deposits composed of grus overlie old alluvial fan deposits composed of grus.						1																	**1**
	Qyag/Qoag - Young alluvial fan deposits with clasts from granitic sources that weather to grus overlie old alluvial fan deposits with clasts from granitic sources that weather to grus	1																						**1**
	Qyag/Qyaod - Young alluvial fan grus deposits overlie older young alluvial fan debris flow deposits.											2												**2**
	Qyag+Qia - Young alluvial fan deposits composed of grus and intermediate alluvial fan deposits; intermixed										2													**2**
	Qyag+Qia - Young alluvial fan deposits with clasts from granitic sources that weather to grus and intermediate alluvial fan deposits; intermixed	2																						**2**

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Qyag+Qia - Young alluvial fan grus deposits and intermediate alluvial fan deposits; intermixed.											3												**3**
Qyag+Qiag - Young alluvial fan deposits composed of grus and intermediate alluvial fan deposits composed of grus; intermixed										28													**28**
Qyag+Qiag - Young alluvial fan deposits composed of grus and intermediate alluvial fan deposits composed of grus; intermixed.						76																	**76**
Qyag+Qiag - Young alluvial fan deposits composed of grus and intermediate-age alluvial fan deposits composed of grus; intermixed			21																				**21**
Qyag+Qiag - Young alluvial fan deposits with clasts from granitic sources that weather to grus and intermediate alluvial fan deposits with clasts from granitic sources that weather to grus; intermixed	11																						**11**
Qyag+Qiag - Young alluvial fan grus deposits and intermediate alluvial fan grus deposits; intermixed.											37												**37**
Qyag+Qiag/fpg - Young alluvial fan deposits composed of grus and intermediate-age alluvial fan deposits composed of grus overlie felsic plutonic rocks that weather to grus			1																				**1**
Qyag+Qyad - Young alluvial fan deposits composed of grus and young alluvial fan deposits composed of debris flow deposits; intermixed										1													**1**
Qyag+Qyae - Young alluvial fan deposits composed of grus and young mixed alluvial and eolian sand deposits; intermixed										3													**3**
Qyag+Qyaeg - Young alluvial fan grus deposits and young mixed alluvial grus and eolian sand deposits; intermixed.											2												**2**
Qyag+Qyaog - Young alluvial fan deposits composed of grus and older young alluvial fan deposits composed of grus; intermixed										11													**11**
Qyag+Qyaog - Young alluvial fan grus deposits and older young alluvial fan grus deposits; intermixed.											3												**3**
Qyag+Qye - Young alluvial fan deposits with clasts from granitic sources that weather to grus and young eolian sand deposits; intermixed	2																						**2**
Qyag+Qyg - Young alluvial fan grus deposits and young groundwater discharge deposits; intermixed.											2												**2**

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	Qyag+Qypf - Young alluvial fan deposits composed of grus and young playa fringe deposits; intermixed										1													**1**
	Qyao - Older young alluvial fan deposits; abandoned surfaces characterized by small patches of weakly to moderately developed pavement.											427												**427**
	Qyao - Young alluvial fan deposits; older young alluvial deposits with weakly to moderately developed pavements; weak varnish			11																				**11**
	Qyao - Young alluvial fan deposits; older young alluvial deposits; weakly to moderately developed pavements; weak varnish	28																						**28**
	Qyao/fv - Older young alluvial fan deposits overlie felsic volcanic rocks (rhyolite, rhyodactite, dacite, felsite).											3												**3**
	Qyao/mv - Older young alluvial fan deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											2												**2**
	Qyao/Qia - Older young alluvial fan deposits overlie intermediate alluvial fan deposits	3																						**3**
	Qyao/Qia - Older young alluvial fan deposits overlie intermediate alluvial fan deposits.											17												**17**
	Qyao/Qil - Older young alluvial fan deposits overlie intermediate lacustrine deposits.											4												**4**
	Qyao/Qilf - Older young alluvial fan deposits overlie fine lacustrine sediments.											1												**1**
	Qyao/Qoa - Older young alluvial fan deposits overlie old alluvial fan deposits.											1												**1**
	Qyao/QToa - Older young alluvial fan deposits overlie extremely old Quaternary-Tertiary alluvial fan deposits.											10												**10**
	Qyao? - Older young alluvial fan deposits; abandoned surfaces characterized by small patches of weakly to moderately developed pavement.											1												**1**
	Qyao?/QTop - Older young alluvial fan deposits overlie extremely old playa-lacustrine and alluvial deposits.											1												**1**
	Qyao+Qia - Older young alluvial fan deposits and intermediate alluvial fan deposits; intermixed	3																						**3**
	Qyao+Qia - Older young alluvial fan deposits and intermediate alluvial fan deposits; intermixed.											35												**35**
	Qyao+Qia - Older young alluvial fan deposits and intermediate-age alluvial fan deposits; intermixed			2																				**2**

Updated Ptype and Description	100K Quadrangle Counts																					
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Qyao+Qiay - Older young alluvial fan deposits and younger intermediate alluvial fan deposits; intermixed.											8												**8**
Qyao+Qiv - Older young alluvial fan deposits and intermediate axial valley deposits; intermixed.											1												**1**
Qyao+Qya - Older young alluvial fan deposits and young alluvial fan deposits; intermixed	1									4													**5**
Qyao+Qya - Older young alluvial fan deposits and young alluvial fan deposits; intermixed.											10												**10**
Qyao+Qyae - Older young alluvial fan deposits and young mixed alluvial and eolian sand deposits; intermixed.											9												**9**
Qyao+Qyag - Older young alluvial fan deposits and young alluvial fan grus deposits; intermixed.											1												**1**
Qyao+Qyay - Older young alluvial fan deposits and younger young alluvial fan deposits; intermixed.											25												**25**
Qyaog - Older young alluvial fan deposits composed of grus from granitic sources; abandoned surfaces receive material infrequently; little to moderate soil development			1																				**1**
Qyaog - Older young alluvial fan grus deposits; characterized by weakly developed pavements that generally lack varnish.											11												**11**
Qyaog+Qiag - Older young alluvial fan grus deposits and intermediate alluvial fan grus deposits; intermixed.											1												**1**
Qyaog+Qyae - Older young alluvial fan deposits composed of grus and young alluvial and eolian sand deposits; intermixed										1													**1**
Qyaog+Qyag - Older young alluvial fan deposits composed of grus and young alluvial fan deposits composed of grus; intermixed										4													**4**
Qyaog+Qyayg - Older young alluvial fan grus deposits and younger young alluvial fan grus deposits; intermixed.											1												**1**
Qyay - Young alluvial fan deposits; younger alluvial deposits that lack deposits of Qyao	5																						**5**
Qyay - Younger young alluvial fan deposits; poorly developed soil; no desert pavement.											173												**173**
Qyay/mv - Younger young alluvial fan deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											1												**1**

Updated Ptype and Description	100K Quadrangle Counts																					
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Qyay/Qiag - Younger young alluvial fan deposits overlie intermediate alluvial fan grus deposits.											1												**1**
Qyay/Qiay - Younger young alluvial fan deposits overlie younger intermediate alluvial fan deposits.											10												**10**
Qyay/Qvss - Younger young alluvial fan deposits overlie Sunshine Cone flows.											2												**2**
Qyay/Qyao - Younger young alluvial fan deposits overlie older young alluvial fan deposits.											4												**4**
Qyay+mp - Younger young alluvial fan deposits and intermediate to mafic plutonic rocks (gabbro, diorite, monzodiorite, syenite, alkalic rocks); intermixed.											1												**1**
Qyay+mv - Younger young alluvial fan deposits and intermediate to mafic volcanic rocks (andesite, basalt); intermixed.											1												**1**
Qyay+Qia - Younger young alluvial fan deposits and intermediate alluvial fan deposits; intermixed.											2												**2**
Qyay+Qiao - Younger young alluvial fan deposits and older intermediate alluvial fan deposits; intermixed.											1												**1**
Qyay+Qiay - Younger young alluvial fan deposits and younger intermediate alluvial fan deposits; intermixed.											10												**10**
Qyay+Qiay? - Younger young alluvial fan deposits and younger intermediate alluvial fan deposits; intermixed.											1												**1**
Qyay+Qyao - Young alluvial fan deposits and older young alluvial deposits; intermixed	3																						**3**
Qyay+Qyao - Younger young alluvial fan deposits and older young alluvial fan deposits; intermixed.											27												**27**
Qyayg - Younger young alluvial fan grus deposits; sandy											6												**6**
Qyf - Young alluvial fan and valley deposits, undivided								5															**5**
Qyf - Young alluvial fan deposits												43											**43**
Qyf - Young alluvial fan deposits, undivided									90														**90**
Qyf - Young alluvial-fan deposits														940		559							**1,499**
Qyf1 - Young alluvial fan deposits, unit 1								3	267														**270**
Qyf1 - Young alluvial-fan deposits, Unit 1														524		43							**567**
Qyf2 - Young alluvial fan deposits, unit 2								9	291														**300**
Qyf2 - Young alluvial-fan deposits, Unit 2														127		2							**129**
Qyf3 - Young alluvial fan deposits, unit 3									63														**63**
Qyf3 - Young alluvial-fan deposits, Unit 3														613		74							**687**
Qyf4 - Young alluvial-fan deposits, Unit 4														295		22							**317**

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	Qyf5 - Young alluvial fan deposits, unit 5									40														**40**
	Qyf5 - Young alluvial-fan deposits, Unit 5														248		160							**408**
	Qyf6 - Young alluvial-fan deposits, Unit 6																5							**5**
	Qyf7 - Young alluvial-fan deposits, Unit 7																22							**22**
	Qyfa - Young alluvial fan and valley deposits, sand								34															**34**
	Qyfc - Young alluvial fan and valley deposits, clay								18															**18**
	Qyfs - Young alluvial fan and valley deposits, silt								60															**60**
Qya - Young Alluvial Valley Deposits		**7**		**66**	**586**	**97**	**2**	**354**	**18**	**1,974**	**37**	**20**	**282**	**450**	**706**	**141**	**927**	**14**			**14**	**18**	**168**	**5,881**
	Qac - Alluvium and colluvium, undivided				72																			**72**
	Qha1 - Alluvial deposits																	4						**4**
	Qha2 - Alluvial deposits																	4						**4**
	Qha3 - Alluvial deposits																	6						**6**
	Qiae+Qyae - Intermediate mixed alluvial and eolian sand deposits and young mixed alluvial and eolian sand deposits; intermixed										1													**1**
	Qiae+Qyae - Intermediate-age mixed alluvial and eolian deposits and young mixed alluvial and eolian deposits; intermixed			1																				**1**
	Qiv+Qyv - Intermediate axial valley deposits and young axial valley deposits; intermixed.											1												**1**
	Qoa - Older alluvium; sand , silt and gravel; moderately dissected terraces in stream valleys					97																		**97**
	Qya - Young alluvial flood-plain deposits								18				273			140								**431**
	Qya - Young alluvium, undivided									1,087														**1,087**
	Qya - Young axial-channel deposits														39		678							**717**
	Qya - Younger (inactive) alluvium				514																			**514**
	Qya and fault zone - Young alluvial flood-plain deposits and fault zone															1								**1**
	Qya1 - Young alluvium, unit 1									385														**385**
	Qya1 - Young axial-channel deposits, Unit 1														58									**58**
	Qya2 - Young alluvium, unit 2									487														**487**
	Qya2 - Young axial-channel deposits, Unit 2														6									**6**
	Qya3 - Young alluvium, unit 3									15														**15**
	Qya3 - Young axial-channel deposits, Unit 3														200		11							**211**
	Qya4 - Young axial-channel deposits, Unit 4														136		1							**137**
	Qya5 - Young axial-channel deposits, Unit 5														267		146							**413**
	Qya6 - Young axial-channel deposits, Unit 6																47							**47**
	Qyae - Young mixed alluvial and eolian deposit; mixed alluvial and eolian deposits generally inactive			44																				**44**

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	Qyae - Young mixed alluvial and eolian deposits; mixed deposits generally inactive										8													**8**
	Qyae/Qia - Young mixed alluvial and eolian deposits overlie intermediate alluvial fan deposits										1													**1**
	Qyae/Qia - Young mixed alluvial and eolian deposits overlie intermediate-age alluvial fan deposits			1																				**1**
	Qyae/Qiae - Young mixed alluvial and eolian deposits overlie intermediate-age mixed alluvial and eolian deposits			4																				**4**
	Qyae/Qig - Young mixed alluvial and eolian deposits overlie intermediate groundwater discharge deposits										4													**4**
	Qyae/Qil - Young mixed alluvial and eolian deposits overlie intermediate-age lacustrine deposits			2																				**2**
	Qyae/Qipw - Young mixed alluvial and eolian deposits overlie intermediate wet playa deposits										1													**1**
	Qyae/Qiv - Young mixed alluvial and eolian deposits overlie intermediate valley-axis deposits										1													**1**
	Qyae? - Young mixed alluvial and eolian deposits; mixed alluvial and eolian deposits generally inactive			1																				**1**
	Qyae+Qia - Young mixed alluvial and eolian deposits and intermediate alluvial fan deposits; intermixed										7													**7**
	Qyae+Qiae - Young mixed alluvial and eolian deposits and intermediate alluvial and eolian sand deposits; intermixed										1													**1**
	Qyae+Qiae - Young mixed alluvial and eolian deposits and intermediate-age mixed alluvial and eolian deposits; intermixed			6																				**6**
	Qyae+Qya - Young mixed alluvial and eolian deposits and young alluvial fan deposits; intermixed										1													**1**
	Qyaeo - Older young mixed alluvial and eolian deposits; mixed alluvial and eolian deposits generally inactive			2																				**2**
	Qyaeo/Qia - Older young mixed alluvial and eolian sand deposits overlie intermediate alluvial fan deposits.											2												**2**
	Qyaeo/Qiayg - Older young mixed alluvial and eolian sand deposits overlie intermediate alluvial fan grus deposits.											1												**1**
	Qyaeo+Qiae - Older young mixed alluvial and eolian sand deposits and intermediate mixed alluvial and eolian sand deposits; intermixed.											1												**1**

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	Qyv - Intermediate alluvial fan deposits; poorly sorted sand and gravel, loose to compact; moderately to well-developed desert pavement with varnish on clasts; fan surface partly incised by narrow channels.						2																	**2**
	Qyv - Young alluvial valley deposits												9											**9**
	Qyv - Young alluvial-valley deposits																43							**43**
	Qyv - Young axial valley deposits; moderately to poorly sorted sand, silt, and clay; occasionally flooded.											12												**12**
	Qyv - Young valley-axis deposits; fine grained, loose moderately to poorly sorted sand, silt, clay; characterized by anastomosing washes, interfluves and interfingering eolian depostis	6																						**6**
	Qyv - Young valley-axis deposits; fine-grained deposits in largely inactive valley axis locations										3													**3**
	Qyv - Young valley-axis deposits; sand to small gravels in valley axis locations; prone to flooding in heavy rains			5																				**5**
	Qyv/Qiag - Young valley-axis deposits overlie intermediate alluvial fan deposits composed of grus										1													**1**
	Qyv+Qia - Young valley-axis deposits and intermediate alluvial fan deposits; intermixed	1																						**1**
	Qyv+Qiv - Young valley-axis deposits and intermediate valley-axis deposits; intermixed										8													**8**
	Qyv1 - Young alluvial-valley deposits, Unit 1																1							**1**
	Qyvo - Older young axial valley deposits; poorly to moderately developed sandy soil.											3												**3**
Qyt - Young Terrace Deposits			**1**					**204**						**1**									**7**	**213**
	Qbmg - Alluvial deposits east of the Big Maria Mountains, Gravel-dominated deposits; overlie Pleistocene pavement-forming alluvial fans(Qa3)		1																					**1**
Qyl - Young Lacustrine, Playa and Estuarine (Paralic) Deposits		**2**		**29**			**2**	**48**	**14**		**4**	**20**		**60**						**27**	**3**	**15**	**3**	**227**
	Qpb - Playa deposits, playa-bar deposits																			8				**8**
	Qps - Playa deposits, silt and clay																			14				**14**
	Qpsg - Playa deposits, silt, clay, gypsum, and celestite																			5				**5**
	Qygw - Young groundwater wetland deposits; silt and fine sand; some groundwater carbonates, badlands			3																				**3**

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	Qygw? - Young groundwater wetland deposits; silt and fine sand; some groundwater carbonates, badlands			1																				**1**
	Qyp - Young playa deposits; fine sand and silt to sandy clay; typically capped by sand crust.											9												**9**
	Qyp - Young playa deposits; rarely flooded; fine sand, silt and clay with some salts; weak to moderate cement; prone to flooding during heavy rains			15																				**15**
	Qype - Young paralic estuarine deposits								14															**14**
	Qypf - Young playa deposits; playa fringe deposits of mixed eolian, lacustrine, playa, alluvial groundwater origins	2																						**2**
	Qypf - Young playa fringe deposits; loose and unconsolidated; mixed materials form halo around playas										2													**2**
	Qypf - Young playa fringe deposits; of mixed eolian, lacustrine, playa, alluvial and groundwater origins.						2																	**2**
	Qypf - Young playa fringe deposits; poorly to moderately sorted sand and silt with minor amounts of cobbles, gravel and clay; loose and unconsolidated.											8												**8**
	Qypf - Young playa fringe of mixed eolian, alluvial, lacustrine, groundwater discharge and playa deposits; flat, barren, poorly vegetated			7																				**7**
	Qypf/Qipw - Young playa fringe deposits overlie intermediate wet playa deposits										1													**1**
	Qypf+Qypof - Young playa fringe deposits and older young playa fringe deposits; intermixed.											1												**1**
	Qypof? - Older young playa fringe deposits; clay, silt, sand, and tufa deposits; material of complexly mixed eolian, lacustrine, playa, alluvial and groundwater discharge origin.											2												**2**
	Qyps - Young sandy facies of playa deposits; generally inactive			3																				**3**
	Qypw - Young wet playa deposit; fine-grained sand and silt to sandy clay loam; irregular weakly cemented crusted surface										1													**1**
Qye - Young Eolian and Dune Deposits		**49**		**107**			**149**	**49**	**1**		**118**	**283**		**139**	**44**		**3**			**6**	**157**		**2**	**1,107**
	Qia+Qyea - Intermediate alluvial fan deposits and young mixed eolian sand and alluvial deposits; intermixed.											1												**1**
	Qiae+Qye - Intermediate mixed alluvial and eolian sand deposits and young eolian sand deposits; intermixed.						3																	**3**

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Qiae+Qyea - Intermediate mixed alluvial and eolian sand deposits and young mixed eolian sand and alluvial deposits; intermixed.						1																	**1**
Qiea+Qyea - Intermediate mixed eolian sand and alluvial deposits and young mixed eolian sand and alluvial deposits; intermixed.						2																	**2**
Qieay - Younger intermediate mixed eolian sand and alluvial deposits; abandoned surfaces typically incised by channels.											7												**7**
Qig+Qye - Intermediate groundwater discharge deposits and young eolian sand deposits; intermixed										1													**1**
Qimc+Qye - Intermediate colluvial deposits and young eolian sand deposits; intermixed										2													**2**
QiwMR+Qye - Intermediate wash deposits of the Mojave River and young eolian sand deposits; intermixed.											4												**4**
Qoa+Qye - Old alluvial fan deposits and young eolian deposits; intermixed.						2																	**2**
Qomc+Qye - Older colluvial deposits and young eolian sand deposits; intermixed										1													**1**
Qwo - Older windblown sand; stabilized dunes																			6				**6**
Qye - Young eolian deposits								1						36		3							**40**
Qye - Young eolian deposits; generally inactive,loose sediments; little or no soil development; may show carbonate accumulation downwind of playas and dry lakes			9																				**9**
Qye - Young eolian sand deposits; generally inactive; loose to moderately well sorted, moderately to weaky bedded fine to medium grained sand	4																						**4**
Qye - Young eolian sand deposits; moderately to well sorted, fine to medium sand; moderately cross-laminated; loose to slightly compacted.											8												**8**
Qye - Young eolian sand deposits; well-sorted sand deposits; generally inactive, loose										10													**10**
Qye/ca - Young eolian sand deposits overlie carbonate rocks (marble, limestone, dolomite).						10																	**10**
Qye/fp - Young eolian deposits overlie felsic plutonic rocks			1																				**1**
Qye/fp - Young eolian sand deposits overlie felsic plutonic rocks (granite, granodiorite)	4																						**4**
Qye/fp - Young eolian sand deposits overlie felsic plutonic rocks (granite, granodiorite).						3					7												**10**
Qye/fpg - Young eolian deposits overlie felsic plutonic rocks that weather to grus			1																				**1**

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	Qye/fpg - Young eolian sand deposits overlie felsic plutonic rocks that weather to grus.											1												**1**
	Qye/fv - Young eolian sand deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, dacite, felsite).											2												**2**
	Qye/fv - Young eolian sand deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, felsite)	1																						**1**
	Qye/fv - Young eolian sand deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, felsite).						11																	**11**
	Qye/mp - Young eolian sand deposits overlie intermediate to mafic plutonic rocks (gabbro, diorite, monzodiorite, syenite, alkalic rocks).											1												**1**
	Qye/mp - Young eolian sand deposits overlie mafic plutonic rocks (gabbro, diorite, monzodiorite, syenite, alkalic rocks)	3																						**3**
	Qye/mp - Young eolian sand deposits overlie mafic plutonic rocks (gabbro, diorite, monzodiorite, syenite, and alkalic rocks).						26																	**26**
	Qye/mr - Young eolian sand deposits overlie metamorphic rocks (gneiss, migmatite, mixed lithology).						1																	**1**
	Qye/mv - Young eolian deposits overlie mafic volcanic rocks			4																				**4**
	Qye/mv - Young eolian sand deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											26												**26**
	Qye/mv - Young eolian sand deposits overlie mafic volcanic rocks (dacite, andesite, basalt)	1																						**1**
	Qye/mv? - Young eolian sand deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											1												**1**
	Qye/pc - Young eolian deposits overlie partially consolidated sedimentary deposits			2																				**2**
	Qye/pc - Young eolian sand deposits overlie partially consolidated sedimentary deposits										1													**1**
	Qye/pc - Young eolian sand deposits overlie partly consolidated sediments.											7												**7**
	Qye/pc? - Young eolian sand deposits overlie partly consolidated sediments.											3												**3**
	Qye/Qia - Young eolian sand deposits overlie intermediate alluvial fan deposits										17													**17**
	Qye/Qia - Young eolian sand deposits overlie intermediate alluvial fan deposits.											4												**4**
	Qye/Qiae - Young eolian sand deposits overlie intermediate mixed alluvial and eolian sand deposits.											2												**2**

Updated Ptype and Description	100K Quadrangle Counts																						
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
Qye/Qiag - Young eolian sand deposits overlie intermediate alluvial fan deposits composed of grus										2													**2**
Qye/Qiag - Young eolian sand deposits overlie intermediate alluvial fan deposits with clasts from granitic sources that weather to grus	2																						**2**
Qye/Qie - Young eolian sand deposits overlie intermediate eolian sand deposits										2													**2**
Qye/Qie/pc - Young eolian sand deposits overlie intermediate eolian sand deposits overlie partially consolidated sedimentary deposits										2													**2**
Qye/Qiea - Young eolian sand deposits overlie intermediate mixed eolian sand and alluvial deposits.						2																	**2**
Qye/Qig - Young eolian sand deposits overlie intermediate groundwater discharge deposits										1													**1**
Qye/Qilc - Young eolian sand deposits overlie coarse lacustrine-alluvial sediments.											6												**6**
Qye/Qiv - Young eolian sand deposits overlie intermediate valley-axis deposits										6													**6**
Qye/Qoa - Young eolian sand deposits overlie old alluvial fan deposits										6													**6**
Qye/Qoa - Young eolian sand deposits overlie old alluvial fan deposits.											1												**1**
Qye/Qoae - Young eolian sand deposits overlie old mixed alluvial and eolian sand deposits.											1												**1**
Qye/Qoe - Young eolian sand deposits overlie old eolian sand deposits										1													**1**
Qye/QToa - Young eolian sand deposits overlie extremely old alluvial fan deposits	3																						**3**
Qye/QTop - Young eolian sand deposits overlie extremely old playa-lacustrine and alluvial deposits.											4												**4**
Qye/Qvp1 - Young eolian sand deposits overlie Pisgah crater flows and cinder cones.											11												**11**
Qye/Qvp2 - Young eolian sand deposits overlie Pisgah crater flows and cinder cones.											1												**1**
Qye/Qvp3 - Young eolian sand deposits overlie Pisgah crater flows and cinder cones.											6												**6**
Qye/Qya - Young eolian sand deposits overlie young alluvial fan deposits										3													**3**
Qye/Qyag - Young eolian sand deposits overlie young alluvial fan deposits composed of grus										1													**1**

Updated Ptype and Description	100K Quadrangle Counts																						
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
Qye/Qyag - Young eolian sand deposits overlie young alluvial fan deposits with clasts from granitic sources that weather to grus	1																						**1**
Qye/Qyao - Young eolian sand deposits overlie older young alluvial fan deposits	2																						**2**
Qye/Qyvo - Young eolian sand deposits overlie older young valley-axis deposits	4																						**4**
Qye/QywoMR - Young eolian sand deposits overlie older young wash deposits of the Mojave River.											14												**14**
Qye/QywyMR - Young eolian sand deposits overlie younger young wash deposits of the Mojave River.											4												**4**
Qye/sl - Young eolian sand deposits overlie siliciclastic rocks (silicic sedimentary and metamorphic rocks, i.e., sandstone, quartzite, shale, siltstone).						8																	**8**
Qye/sl - Young eolian sand deposits overlie siliciclastic rocks (silicic sedimentary and metamorphic rocks, such as quartz-rich sandstone, shale, siltstone; quartzite).											1												**1**
Qye+Qia - Young eolian sand deposits and intermediate alluvial fan deposits; intermixed	5																						**5**
Qye+Qyed - Young eolian sand deposits and young eolian sand dune deposits; intermixed.											2												**2**
Qyea - Young mixed eolian and alluvial deposits; mixed eolian and alluvial deposits generally inactive			42																				**42**
Qyea - Young mixed eolian and alluvial deposits; young deposits of eolian sand interstratified with lenses of alluvial fan deposits; loose, fine to medium sand with thin cross-bedding.											50												**50**
Qyea - Young mixed eolian sand and alluvial deposits; eolian processes dominate										7													**7**
Qyea - Young mixed eolian sand and alluvial deposits; eolian processes dominate; loose mixed sand with sparse gravel	10																						**10**
Qyea - Young mixed eolian sand and alluvial deposits; thoroughly mixed with eolian processes dominating.						19																	**19**
Qyea/fp - Young mixed eolian and alluvial deposits overlie felsic plutonic rocks (granite, granodiorite).											1												**1**
Qyea/mv - Young mixed eolian and alluvial deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											6												**6**

Updated Ptype and Description	100K Quadrangle Counts																						
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
Qyea/pc - Young mixed eolian and alluvial deposits overlie partially consolidated sedimentary deposits			1																				**1**
Qyea/Qia - Young mixed eolian and alluvial deposits overlie intermediate alluvial fan deposits.											10												**10**
Qyea/Qia - Young mixed eolian and alluvial deposits overlie intermediate-age alluvial fan deposits			1																				**1**
Qyea/Qia - Young mixed eolian sand and alluvial deposits overlie intermediate alluvial fan deposits	1									2													**3**
Qyea/Qia? - Young mixed eolian sand and alluvial deposits overlie intermediate alluvial fan deposits	1																						**1**
Qyea/Qiae - Young mixed eolian and alluvial deposits overlie intermediate mixed alluvial and eolian sand deposits.											12												**12**
Qyea/Qiag - Young mixed eolian and alluvial deposits and intermediate-age alluvial fan deposits composed of grus; intermixed			1																				**1**
Qyea/Qiag - Young mixed eolian and alluvial deposits overlie intermediate alluvial fan grus deposits.											1												**1**
Qyea/Qiao - Young mixed eolian and alluvial deposits overlie older intermediate alluvial fan deposits.											4												**4**
Qyea/Qiay - Young mixed eolian and alluvial deposits overlie younger intermediate alluvial fan deposits.											2												**2**
Qyea/Qoa - Young mixed eolian and alluvial deposits overlie old alluvial fan deposits.											8												**8**
Qyea/Qoa - Young mixed eolian sand and alluvial deposits overlie old alluvial fan deposits										25													**25**
Qyea/QToa - Young mixed eolian and alluvial deposits overlie extremely old Quaternary-Tertiary alluvial fan deposits.											4												**4**
Qyea/QToa - Young mixed eolian and alluvial deposits overlie extremely old playa-lacustrine and alluvial deposits.											1												**1**
Qyea/Qya - Young mixed eolian and alluvial deposits overlie young alluvial fan deposits.											1												**1**
Qyea/Qya - Young mixed eolian sand and alluvial deposits overlie young alluvial fan deposits										1													**1**
Qyea/Qyaeo - Young mixed eolian and alluvial deposits overlie older young mixed alluvial and eolian sand deposits.											1												**1**

Updated Ptype and Description	100K Quadrangle Counts																						
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
Qyea/Qyag - Young mixed eolian and alluvial deposits overlie young alluvial fan deposits composed of grus; intermixed			7																				**7**
Qyea/Qyao - Young mixed eolian and alluvial deposits overlie older young alluvial fan deposits.											4												**4**
Qyea/Qyaog - Young mixed eolian and alluvial deposits overlie older young alluvial fan grus deposits.											2												**2**
Qyea/QywoMR - Young mixed eolian and alluvial deposits overlie older young wash deposits of the Mojave River.											6												**6**
Qyea/QywyMR - Young mixed eolian and alluvial deposits overlie younger young wash deposits of the Mojave River.											7												**7**
Qyea+Qia - Young mixed eolian and alluvial deposits and intermediate alluvial fan deposits; intermixed.											1												**1**
Qyea+Qiae - Young mixed eolian and alluvial deposits and intermediate mixed alluvial and eolian sand deposits; intermixed.											1												**1**
Qyea+Qiea - Young mixed eolian sand and alluvial deposits and intermediate mixed eolian sand and alluvial deposits; intermixed.						1																	**1**
Qyea+Qipw - Young mixed eolian sand and alluvial deposits and intermediate wet playa deposits; intermixed										1													**1**
Qyea+Qya - Young mixed eolian and alluvial deposits and young alluvial fan deposits; intermixed.											1												**1**
Qyea+Qya - Young mixed eolian sand and alluvial deposits and young alluvial fan deposits; intermixed										5													**5**
Qyea+Qya - Young mixed eolian sand and alluvial deposits and young alluvial fan deposits; intermixed.						3																	**3**
Qyea+Qyae - Young mixed eolian and alluvial deposits and young mixed alluvial and eolian sand deposits; intermixed.											1												**1**
Qyea+Qyeao - Young mixed eolian and alluvial deposits and older young mixed eolian sand and alluvial deposits; intermixed.											1												**1**
Qyeag - Young mixed eolian sand and alluvial grus deposits; fine to medium sand; also contains coarse sand and pebbles derived from granitic rocks weathered to grus.											3												**3**
Qyeao - Older young mixed eolian sand and alluvial deposits; east of Mojave River in Cady Mountains.											3												**3**

Updated Ptype and Description	100K Quadrangle Counts																					
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Qyeao/mv - Older young mixed eolian sand and alluvial deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											1												**1**
Qyeao/Qia - Older young mixed eolian sand and alluvial deposits overlie intermediate alluvial fan deposits.											3												**3**
Qyeao+Qyaeo - Older young mixed eolian sand and alluvial deposits and older young mixed alluvial and eolian sand deposits; intermixed.											1												**1**
Qyeay - Younger young mixed eolian sand and alluvial deposits; surfaces abandoned or receive materials infrequently; secondary alluvial deposits present; little or no soil development.											5												**5**
Qyed - Young eolian dune deposits; relatively stable dune deposits										8													**8**
Qyed - Young eolian sand deposits; dune deposits; commonly steep, well bedded with steep slip faces	2																						**2**
Qyed - Young eolian sand dune deposits; generally inactive			13																				**13**
Qyed - Young eolian sand dune deposits; moderately to well sorted, fine to medium sand; strongly cross-laminated; surfaces typically inactive.											6												**6**
Qyed - Young eolian sand dune deposits; well-sorted sand in subdued, somewhat eroded dune landforms.						7																	**7**
Qyed/Qia - Young eolian dune deposits overlie intermediate alluvial fan deposits										3													**3**
Qyed/Qiea - Young eolian sand dune deposits overlie intermediate intermixed eolian sand and alluvial deposits.						2																	**2**
Qyed/Qig - Young eolian dune deposits overlie intermediate groundwater discharge deposits										8													**8**
Qyed/Qipw - Young eolian dune deposits and intermediate wet playa deposits; intermixed										1													**1**
Qyed/Qya - Young eolian sand dune deposits overlie young alluvial fan deposits			2																				**2**
Qyed/QywyMR - Young eolian sand dune deposits overlie younger young wash deposits of the Mojave River.											10												**10**
Qyed+Qipw - Young eolian dune deposits overlie intermediate wet playa deposits										1													**1**
Qyed+Qyes - Young eolian sand dune deposits and young eolian sand sheet deposits; intermixed			1																				**1**
Qyed1 - Young eolian deposits (dune sand), Unit 1														2									**2**

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	Qyer - Young eolian sand ramp deposits; generally inactive			3																				**3**
	Qyer - Young eolian sand ramp deposits; sand and rock on steep hillsides; represent climbing and falling dunes; often cut by small streams.						34																	**34**
	Qyer/fp - Young eolian sand deposits on inclined surface overlie felsic plutonic rocks (rhyolite, rhyodacite, felsite)	1																						**1**
	Qyer/mv - Young eolian sand deposits on inclined surface overlie metamorphic rocks (gneiss, migmatite, mixed rocks)	1																						**1**
	Qyer/pc - Young eolian sand ramp deposits overlie partly consolidated sedimentary deposits (sandstone, conglomerate).						2																	**2**
	Qyes - Young eolian dune deposits; well to moderately sorted sand sheet deposits generally forming sub-horizontal surface over unconsolidated deposits	2																						**2**
	Qyes - Young eolian sand sheet deposits; generally inactive			6																				**6**
	Qyes - Young eolian sand sheet deposits; low sheets of well-sorted sand generally devoid of dune form.						7																	**7**
	Qyes/Qia - Young eolian sand sheet deposits overlie intermediate-age alluvial fan deposits			7																				**7**
	Qyes/Qiag - Young eolian sand sheet deposits overlie intermediate-age alluvial fan deposits composed of grus			4																				**4**
	Qyes/Qiea - Young eolian dune deposits overlie intermediate mixed eolian and alluvial sand deposits	1																						**1**
	Qyes/Qiea - Young eolian sand sheet overlies intermediate mixed eolian sand and alluvial deposits.						5																	**5**
	Qyes+Qya - Young eolian sand sheet deposits and young alluvial fan deposits; intermixed			1																				**1**
	Qyes+Qyed - Young eolian sand sheet deposits and young eolian sand dune deposits; intermixed			1																				**1**
	Qyes1 - Young eolian deposits (sheet sand), Unit 1														6									**6**
	Qyewy - Younger young mixed eolian sand and wash deposits; fine to medium sand with faint to well defined thin bedding interstratified with lenses of coarse sand to cobbles.											1												**1**
Qow - Old Alluvial Wash Deposits		**1**		**7**			**11**					**5**					**3**				**6**		**8**	**41**

Updated Ptype and Description	Source Ptype and Description	100K Quadrangle Counts																						
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	Qiw - Intermediate wash deposits; inactive remnant sediments; generally form high terraces along edges of major washes.						11																	**11**
	Qiw - Intermediate wash deposits; inactive wash sediments; form high terraces along active washes	1																						**1**
	Qiw - Intermediate wash deposits; poorly to moderately sorted fine sand to boulder gravel; form abandoned surfaces along active washes; moderately to strongly developed desert pavement.											2												**2**
	Qiw - Intermediate-age wash deposits; parent material moderately to poorly sorted sand and silt, sandy gravel; poorly to moderately consolidated and bedded			7																				**7**
	QiwMR - Intermediate wash deposits of the Mojave River.											2												**2**
	QiwMR? - Intermediate wash deposits of the Mojave River.											1												**1**
	Qow - Old wash deposits																3							**3**
Qof - Old Alluvial Fan Deposits		**519**	**7**	**562**			**1,105**	**977**	**21**	**571**	**957**	**1,587**	**24**	**1,230**	**1,316**		**288**	**75**		**621**	**1,458**	**48**	**395**	**11,761**
	ml/Qiay - Modified land or artificial fill overlies younger intermediate alluvial fan deposits.											1												**1**
	pc+Qia - Partly consolidated sediments and intermediate alluvial fan deposits; intermixed.											6												**6**
	Qa4 - Alluvial-fan deposits, Unit 4; sand and gravel; relatively old, dissected surfaces; pavement forming but generally unvarnished		7																					**7**
	Qia - Intermediate alluvial fan deposits; poorly sorted sand and gravel, loose to compact; moderately to well-developed desert pavement with varnish on clasts; fan surface partly incised by narrow channels.						737																	**737**
	Qia - Intermediate alluvial fan deposits; poorly sorted sandy gravel; moderately to well developed desert pavement; moderate to strong varnish	353																						**353**
	Qia - Intermediate alluvial fan deposits; typically compact, but can be loose; moderately to well developed desert pavement										815													**815**
	Qia - Intermediate alluvial fan deposits; typically compact, but can be loose; moderately to well developed desert pavement.											957												**957**
	Qia - Intermediate-age alluvial fan deposits; moderately to poorly sorted sand and silt, sandy gravel; moderate to strong soil development			340																				**340**

Updated Ptype and Description		100K Quadrangle Counts																						
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	Qia/ca - Intermediate alluvial fan deposits overlie carbonate rocks										12													**12**
	Qia/ca+sl - Intermediate alluvial fan deposits overlie carbonate rocks and siliciclastic rocks										6													**6**
	Qia/fp - Intermediate alluvial fan deposits overlie felsic plutonic rocks										2													**2**
	Qia/fp - Intermediate alluvial fan deposits overlie felsic plutonic rocks (granite, granodiorite)	5																						**5**
	Qia/fp - Intermediate alluvial fan deposits overlie felsic plutonic rocks (granite, granodiorite).						4					9												**13**
	Qia/fp - Intermediate-age alluvial fan deposits overlie felsic plutonic bedrock			1																				**1**
	Qia/fpg - Intermediate alluvial fan deposits overlie felsic plutonic rocks (granite, granodiorite) that weather to grus.						3																	**3**
	Qia/fpg - Intermediate-age alluvial fan deposits overlie felsic plutonic bedrock that weathers to grus			3																				**3**
	Qia/fv - Intermediate alluvial fan deposits overlie felsic volcanic rocks										2													**2**
	Qia/fv - Intermediate alluvial fan deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, dacite, felsite).											21												**21**
	Qia/fv - Intermediate alluvial fan deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, felsite)	2																						**2**
	Qia/fv - Intermediate-age alluvial fan deposits overlie felsic volcanic bedrock			4																				**4**
	Qia/mp - Intermediate alluvial fan deposits overlie intermediate to mafic plutonic rocks (gabbro, diorite, monzodiorite, syenite, alkalic rocks).											16												**16**
	Qia/mr - Intermediate alluvial fan deposits overlie metamorphic rocks of mixed lithology (gneiss, migmatite, mixed lithology).						7																	**7**
	Qia/mv - Intermediate alluvial fan deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											9												**9**
	Qia/mv - Intermediate alluvial fan deposits overlie mafic volcanic rocks										10													**10**
	Qia/mv - Intermediate alluvial fan deposits overlie mafic volcanic rocks (dacite, andesite, basalt).						4																	**4**
	Qia/pc - Intermediate alluvial fan deposits overlie partially consolidated sedimentary rocks										7													**7**

Updated Ptype and Description		100K Quadrangle Counts																						
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	Qia/pc - Intermediate alluvial fan deposits overlie partly consolidated sedimentary deposits	6																						**6**
	Qia/pc - Intermediate alluvial fan deposits overlie partly consolidated sedimentary deposits (sandstone, conglomerate) .						6																	**6**
	Qia/pc - Intermediate alluvial fan deposits overlie partly consolidated sediments.											81												**81**
	Qia/pc - Intermediate-age alluvial fan deposits overlie partly consolidated sedimentary deposits			5																				**5**
	Qia/pc? - Intermediate alluvial fan deposits overlie partly consolidated sediments.											2												**2**
	Qia/Qig - Intermediate alluvial fan deposits overlie intermediate groundwater discharge deposits										1													**1**
	Qia/Qigw - Intermediate-age alluvial fan deposits overlie intermediate-age groundwater wetland deposits			4																				**4**
	Qia/Qilc - Intermediate alluvial fan deposits overlie coarse lacustrine-alluvial sediments.											2												**2**
	Qia/Qmv - Intermediate alluvial fan deposits overlie lava flows and cinder cones of basaltic composition.						2																	**2**
	Qia/Qoa - Intermediate alluvial fan deposits overlie old alluvial fan deposits	3									8													**11**
	Qia/Qoa - Intermediate alluvial fan deposits overlie old alluvial fan deposits.						18					23												**41**
	Qia/Qoa - Intermediate-age alluvial fan deposits overlie old alluvial fan deposits			7																				**7**
	Qia/Qoa? - Intermediate alluvial fan deposits overlie old alluvial fan deposits.											2												**2**
	Qia/Qpi - Intermediate alluvial fan deposits overlie incised pediments.											3												**3**
	Qia/QToa - Intermediate alluvial fan deposits overlie extremely old Quaternary-Tertiary alluvial fan deposits.											17												**17**
	Qia/QToa - Intermediate-age alluvial fan deposits overlie extremely old alluvial fan deposits			1																				**1**
	Qia/QToa? - Intermediate alluvial fan deposits overlie extremely old Quaternary-Tertiary alluvial fan deposits.											5												**5**
	Qia? - Intermediate alluvial fan deposits	53																						**53**
	Qia? - Intermediate alluvial fan deposits; typically compact, but can be loose; moderately to well developed desert pavement.											51												**51**
	Qia+fp - Intermediate alluvial fan deposits and felsic plutonic rocks (granite, granodiorite); intermixed.											1												**1**

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Qia+Qiae - Intermediate alluvial fan deposits and intermediate mixed alluvial and eolian sand deposits; intermixed.											2												**2**
Qia+Qigw - Intermediate alluvial fan deposits and intermediate groundwater-discharge wetland deposits; intermixed.						16																	**16**
Qia+Qigw - Intermediate-age alluvial fan deposits and intermediate-age groundwater wetland deposits; intermixed			1																				**1**
Qia+Qimc - Intermediate alluvial fan deposits and intermediate mass-movement colluvial deposits; intermixed.						4																	**4**
Qia+Qoa - Intermediate alluvial fan deposits and old alluvial fan deposits; intermixed	3									17													**20**
Qia+Qoa - Intermediate alluvial fan deposits and old alluvial fan deposits; intermixed.						15																	**15**
Qia+Qoa - Intermediate-age alluvial fan deposits and old alluvial fan deposits; intermixed			14																				**14**
Qia+Qoa/ca+sl - Intermediate alluvial fan deposits and old alluvial fan deposits overlie carbonate rocks and siliciclastic rocks										2													**2**
Qia+QToa - Intermediate alluvial fan deposits and extremely old Quaternary-Tertiary alluvial fan deposits; intermixed.											1												**1**
Qia+QToa? - Intermediate alluvial fan deposits and extremely old Quaternary-Tertiary alluvial fan deposits; intermixed.											1												**1**
Qiae - Intermediate mixed alluvial and eolian sand deposits; alluvial processes dominate; gravelly sand with vague to well-defined, thin bedding; inconsistently developed pavement.						40																	**40**
Qiae - Intermediate mixed alluvial and eolian sand deposits; intermediate alluvial fan deposits interstratified with lesser amounts of eolian sand; typically compact, varnished.											89												**89**
Qiae/mv - Intermediate mixed alluvial and eolian sand deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											2												**2**
Qiae/pc - Intermediate mixed alluvial and eolian sand deposits overlie partly consolidated sediments.											12												**12**
Qiae/pc? - Intermediate mixed alluvial and eolian sand deposits overlie partly consolidated sediments.											1												**1**
Qiae/QToa - Intermediate mixed alluvial and eolian sand deposits overlie extremely old Quaternary-Tertiary alluvial fan deposits.											2												**2**

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Qiae+Qiv - Intermediate mixed alluvial and eolian sand deposits and intermediate axial valley deposits; intermixed.											1												**1**
Qiaeg - Intermediate mixed alluvial grus and eolian deposits; intermediate alluvial fan deposits interstratified with lesser amounts of eolian sand; contains coarse sand and pebbles derived from granitic rocks that wether to grus.											3												**3**
Qiaeg/QToa - Intermediate mixed alluvial grus and eolian deposits overlie extremely old Quaternary-Tertiary alluvial fan deposits.											2												**2**
Qiaeo - Older intermediate mixed alluvial and eolian sand deposits; characterized by abandoned surfaces and degraded pavement with dark varnish.											12												**12**
Qiaeo+Qiao - Older intermediate mixed alluvial and eolian sand deposits and older intermediate alluvial fan deposits; intermixed.											3												**3**
Qiag - Intermediate alluvial fan deposits composed of grus; clasts from granitic sources that weather to grus.						197																	**197**
Qiag - Intermediate alluvial fan deposits composed of grus; fan made of clasts from granitic sources that weather to grus										47													**47**
Qiag - Intermediate alluvial fan deposits; consist of clasts from granitic sources that weather to grus; surface poorly developed; weak to no pavement	61																						**61**
Qiag - Intermediate alluvial fan grus deposits; coarse sandy to gravelly deposits derived from granitic sources that weather to grus.											60												**60**
Qiag - Intermediate-age alluvial fan deposits composed of grus; moderately to poorly sorted sand and silt derived from granitic sources; moderately consolidated; moderate to strong soil development			131																				**131**
Qiag/fp - Intermediate alluvial fan deposits composed of grus overlie felsic plutonic rocks										4													**4**
Qiag/fpg - Intermediate alluvial fan deposits composed of grus overlie felsic plutonic rocks										2													**2**
Qiag/fpg - Intermediate alluvial fan deposits composed of grus overlie felsic plutonic rocks (granite, granodiorite) that weather to grus.						15																	**15**
Qiag/fpg - Intermediate alluvial fan deposits with clasts from granitic sources that weather to grus overlie felsic plutonic rocks that weather to grus	6																						**6**

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Qiag/fpg - Intermediate alluvial fan grus deposits overlie felsic plutonic rocks that weather to grus (granite, granodiorite).											2												**2**
Qiag/fpg - Intermediate-age alluvial fan deposits composed of grus overlie felsic plutonic bedrock that weathers to grus			5																				**5**
Qiag/mp - Intermediate alluvial fan deposits composed of grus overlie mafic plutonic rocks (gabbro, diorite, monozodiorite, syenite, alkalic rocks).						1																	**1**
Qiag/pc - Intermediate alluvial fan deposits composed of grus overlie partly consolidated sedimentary deposits (sandstone, conglomerate).						2																	**2**
Qiag/Qoag - Intermediate alluvial fan deposits composed of grus overlie old alluvial fan deposits composed of grus.						10																	**10**
Qiag/Qoag - Intermediate alluvial fan grus deposits overlie old alluvial fan grus deposits.											1												**1**
Qiag/Qoag - Intermediate-age alluvial fan deposits composed of grus overlie old alluvial fan deposits composed of grus			11																				**11**
Qiag? - Intermediate alluvial fan deposits with clasts from granitic sources that weather to grus	1																						**1**
Qiag? - Intermediate alluvial fan grus deposits; coarse sandy to gravelly deposits derived from granitic sources that weather to grus.											7												**7**
Qiag+Qigw - Intermediate alluvial fan deposits composed of grus and intermediate groundwater-discharge wetland deposits; intermixed.						7																	**7**
Qiag+Qoag - Intermediate alluvial fan deposits composed of grus and old alluvial fan deposits composed of grus; intermixed.						9																	**9**
Qiag+Qoag - Intermediate-age alluvial fan deposits composed of grus and old alluvial fan deposits composed of grus; intermixed			10																				**10**
Qiag+Qoag/fpg - Intermediate-age alluvial fan deposits composed of grus and old alluvial fan deposits composed of grus overlie felsic plutonic bedrock that weathers to grus			4																				**4**
Qiao - Intermediate alluvial fan deposits; older intermediate fan deposits; degraded or moderately developed pavement	21																						**21**
Qiao - Older intermediate alluvial fan deposits; strongly developed interlocking pavement; locally degraded; dark varnish on clasts.											116												**116**

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Qiao/fp - Older intermediate alluvial fan deposits overlie felsic plutonic rocks (granite, granodiorite).											1												**1**
Qiao/mv - Older intermediate alluvial fan deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											9												**9**
Qiao/pc - Older intermediate alluvial fan deposits overlie partly consolidated sediments.											28												**28**
Qiao/QToa - Older intermediate alluvial fan deposits overlie extremely old Quaternary-Tertiary alluvial fan deposits.											1												**1**
Qiao? - Older intermediate alluvial fan deposits; strongly developed interlocking pavement; locally degraded; dark varnish on clasts.											5												**5**
Qiao+mv - Older intermediate alluvial fan deposits and intermediate to mafic volcanic rocks (andesite, basalt); intermixed.											3												**3**
Qiao+Qia - Intermediate alluvial fan deposits and older intermediate fan deposits; intermixed	1																						**1**
Qiao+Qiay - Older intermediate alluvial fan deposits and younger intermediate alluvial fan deposits; intermixed.											3												**3**
Qiao+Qoa - Intermediate alluvial fan deposits and old alluvial fan deposits; intermixed	1																						**1**
Qiaog - Intermediate alluvial fan deposits; older intermediate deposits; consist of clasts from granitic sources that weather to grus; degraded or moderately developed pavement	1																						**1**
Qiaog - Older intermediate alluvial fan grus deposits; consist of clasts from granitic sources that weather to grus.											3												**3**
Qiay+Qiao - Younger intermediate alluvial fan deposits and older intermediate alluvial fan deposits; intermixed.											2												**2**
Qiay+Qig - Younger intermediate alluvial fan deposits and intermediate groundwater discharge deposits; intermixed.											2												**2**
Qoa - Older alluvium; forms partly dissected fans, benches and terraces; dark pavement of varnished stones common; red soil under surface																			621				**621**
Qoa+Qia - Old alluvial fan deposits and intermediate alluvial fan deposits; intermixed	2									17													**19**
Qoa+Qia - Old alluvial fan deposits and intermediate alluvial fan deposits; intermixed.						8					1												**9**

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	Qoa+Qia - Old alluvial fan deposits and intermediate-age alluvial fan deposits; intermixed			12																				**12**
	Qoa+Qia/ca+sl - Old alluvial fan deposits and intermediate alluvial fan deposits overlie carbonate and siliciclastic rocks										3													**3**
	Qoa+Qia/sl - Old alluvial fan deposits and intermediate alluvial fan deposits overlie siliciclastic rocks										2													**2**
	Qoa+Qiao - Old alluvial fan deposits and older intermediate alluvial fan deposits; intermixed.											5												**5**
	Qoae+Qiaeo - Old mixed alluvial and eolian sand deposits and older intermediate mixed alluvial and eolian sand deposits; intermixed.											1												**1**
	Qoag+Qiag - Old alluvial fan deposits composed of grus and intermediate-age alluvial fan deposits composed of grus; intermixed			4																				**4**
	Qoag+Qiag/fpg - Old alluvial fan deposits composed of grus and intermediate-age alluvial fan deposits composed of grus overlie felsic plutonic bedrock that weathers to grus			4																				**4**
	Qof - Old alluvial fan deposits, undivided									73			3											**76**
	Qof - Old alluvial-fan deposits														607		162							**769**
	Qof1 - Old alluvial fan deposits, Unit 1									248			12											**260**
	Qof1 - Old alluvial-fan deposits, Unit 1														105		17							**122**
	Qof2 - Old alluvial fan deposits, Unit 2									155			9											**164**
	Qof2 - Old alluvial-fan deposits, Unit 2														208									**208**
	Qof3 - Old alluvial fan deposits, unit 3									42														**42**
	Qof3 - Old alluvial-fan deposits, Unit 3														396		57							**453**
	Qof4 - Old alluvial fan deposits, unit 4									53														**53**
	Qofa - Old alluvial fan and valley deposits, sand								3															**3**
	Qofc - Old alluvial fan and valley deposits, clay								6															**6**
	Qofs - Old alluvial fan and valley deposits, silt								12															**12**
	Qofv - Old alluvial-fan deposits and young alluvial-valley deposits																1							**1**
	Qopf - Old paralic deposits overlain by alluvial-fan deposits																51							**51**
	Qpf - Old alluvial fan deposits																	42						**42**
	Qpf1 - Old alluvial fan deposits																	13						**13**
	Qpf2 - Old alluvial fan deposits																	20						**20**
	QToa+Qia - Extremely old alluvial fan deposits and intermediate-age alluvial fan deposits; intermixed			1																				**1**

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Qoa - Old Alluvial Valley Deposits				**28**	**754**		**1**	**385**	**51**	**1,659**	**21**	**2**	**429**	**262**	**264**	**121**	**245**	**198**	**236**		**1**	**2**	**14**	**4,673**
	-									1														**1**
	? -									1														**1**
	Qia - Intermediate alluvial deposits																		43					**43**
	Qia? - Intermediate alluvial deposits, uncertain																		40					**40**
	Qiae - Intermediate mixed alluvial and eolian sand deposits; alluvial processes dominate										9													**9**
	Qiae - Intermediate-age mixed alluvial and eolian deposits; dominated by alluvial processes; well-defined thin bedding; soil development variable			26																				**26**
	Qiae/Qig - Intermediate mixed alluvial and eolian sand deposits ovelie intermediate groundwater discharge deposits										10													**10**
	Qiae/QToa - Intermediate-age mixed alluvial and eolian deposits; dominated by alluvial processes; well-defined thin bedding; soil development variable			1																				**1**
	Qiae? - Intermediate-age mixed alluvial and eolian deposits; dominated by alluvial processes; well-defined thin bedding; soil development variable			1																				**1**
	Qiv - Intermediate alluvial fan deposits composed of grus; clasts from granitic sources that weather to grus.						1																	**1**
	Qiv - Intermediate axial valley deposits; medium to fine grained sand to silt and clay with interbedded coarse sand to gravel.											2												**2**
	Qiv - Intermediate valley-axis deposits; medium to fine grained sand to silt and clay with interbedded coarse sand to gravel										2													**2**
	Qoa - Old alluvial flood-plain deposits, undivided								51				275			121								**447**
	Qoa - Old alluvium, undivided									1,415														**1,415**
	Qoa - Old axial-channel deposits														188		191							**379**
	Qoa - Older alluvial deposits																		149					**149**
	Qoa - Older alluvium				754													100						**854**
	Qoa? - Older alluvial deposits, uncertain																		4					**4**
	Qoa1 - Old alluvium, unit 1									167														**167**
	Qoa1 - Old axial-channel deposits, Unit 1														34		41							**75**
	Qoa1-2 - Old alluvial flood-plain deposits, Units 1-2												19											**19**
	Qoa2 - Old alluvium, unit 2									74														**74**
	Qoa2 - Old axial-channel deposits, Unit 2														25									**25**
	Qoa2-6 - Old alluvial flood-plain deposits, Units 2-6												33											**33**

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	Qoa3 - Old alluvium, unit 3									1														**1**
	Qoa3 - Old axial-channel deposits, Unit 3														17									**17**
	Qoa5 - Old alluvial flood-plain deposits, Unit 5												1											**1**
	Qoa6 - Old alluvial flood-plain deposits, Unit 6												31											**31**
	Qoa7 - Old alluvial flood-plain deposits, Unit 7												70											**70**
	Qoa7 - Old axial-channel deposits, Unit 7																7							**7**
	Qov - Old alluvial-valley deposits																6							**6**
	Qpa - Old alluvial plain deposits																	95						**95**
	Qpa1 - Old alluvial plain deposits																	2						**2**
	Qpa2 - Old alluvial plain deposits																	1						**1**
Qot - Old Terrace Deposits			**21**					**168**		**1**									**74**				**4**	**268**
	Qbm - Alluvial deposits east of the Big Maria Mountains; dissected hills and terraces 10 to 40 m above flood plain; lacks desert varnish		9																					**9**
	Qbms - Alluvial deposits east of the Big Maria Mountains, Sand-dominated deposits		5																					**5**
	Qm1 - Marine terrace deposits									1														**1**
	Qmt - Marine-terrace deposits																		65					**65**
	Qmt? - Marine-terrace deposits, uncertain																		9					**9**
	Qpv - Alluvial deposits of Palo Verde Mesa; prominent terrace 20 to 25 m above flood plain		7																					**7**
Qol - Old Lacustrine, Playa and Estuarine (Paralic) Deposits				**27**				**31**	**395**	**165**	**5**	**46**	**116**		**3**	**165**	**73**			**8**	**35**			**1,069**
	Qch - Sedimentary deposits of Campbell Hill, fluvial and lacustrine beds																			8				**8**
	Qigw - Intermediate-age groundwater wetland deposits; silt and fine sand; some carbonates; commonly forms badlands			9																				**9**
	Qigw/Qoag - Intermediate-age groundwater wetland deposits overlie intermediate-age alluvial fan deposits composed of grus			3																				**3**
	Qigw? - Intermediate-age groundwater wetland deposits; silt and fine sand; some carbonates; commonly forms badlands			3																				**3**
	Qil - Intermediate lacustrine deposits; pluvial lake deposits; include clay, silt, sandy silt, fine to coarse sand, rounded beach gravel, and pebbly to cobbly fan and/or deltaic deposits.											10												**10**
	Qil/Qiae - Intermediate-age lacustrine deposits overlie intermediate-age mixed eolian and alluvial deposits			1																				**1**

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Qil/QToa - Intermediate-age lacustrine deposits overlie extremely old alluvial fan deposits			5																				**5**
Qilf - Fine lacustrine sediment; clay to sandy silt.											20												**20**
Qilf/Qilc - Fine lacustrine sediment overlies coarse lacustrine-alluvial sediment (fine sand to pebbly or cobbly coarse sand).											8												**8**
Qilg - Intermediate-age lacustrine gravel deposits; gravels associated with beaches and barrier bars			5																				**5**
Qilg - Lacustrine beach gravel; rounded gravel and gravelly sand.											5												**5**
Qils - Intermediate-age lacustrine sand; sandy lacustrine deposits are inactive; sparsely vegetated to barren			1																				**1**
Qils - Lacustrine sand; well sorted.											3												**3**
Qipc - Intermediate crystal body playa deposits; poorly sorted silt, clay and sand; locally dominated by salts and crystalline gypsum										1													**1**
Qipw - Intermediate wet playa deposits; fine grained sand and silt; pronounced soil development; gypsum cement present; some salts										4													**4**
Qolb - Old lacustrine deposits (bar)														3									**3**
Qop - Old paralic deposits, undivided								368	162			7			1	17							**555**
Qop? - Old paralic deposits, undivided									3														**3**
Qop1 - Old paralic deposits, Unit 1												9				18							**27**
Qop1-2 - Old paralic deposits, Units 1-2												28											**28**
Qop1-Qvop13 - Old paralic deposits, Unit 1 and very old paralic deposits, Unit 13												4											**4**
Qop2 - Old paralic deposits, Unit 2																11							**11**
Qop2-4 - Old paralic deposits, Units 2-4												11											**11**
Qop2-4 - Old paralic deposits, Units 2-4, undivided															9								**9**
Qop2-6 - Old paralic deposits, Units 2-6												27											**27**
Qop2-6 - Old paralic deposits, Units 2-6, undivided																11							**11**
Qop3 - Old paralic deposits, Unit 3												4				9							**13**
Qop3-6 - Old paralic deposits, Units 3-6, undivided																1							**1**
Qop4 - Old paralic deposits, Unit 4												4				3							**7**
Qop4-6 - Old paralic deposits, Units 4-6												1											**1**
Qop6 - Old paralic deposits, Unit 6												8			137	2							**147**
Qop6 and fault zone - Old paralic deposits, Unit 6 and fault zone															1								**1**
Qop6-7 - Old paralic deposits, Units 6-7												11											**11**

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	Qop7 - Old paralic deposits, Unit 7												1			17								**18**
	Qop7? - Old paralic deposits, Unit 7, uncertain																1							**1**
	Qop7-8 - Old paralic deposits, Units 7-8												1											**1**
	Qopa - Old paralic deposits, sand								10															**10**
	Qopc - Old paralic deposits, clay								6															**6**
	Qops - Old paralic deposits, silt								11															**11**
Qoe - Old Eolian and Dune Deposits		**2**		**1**			**25**	**10**	**6**		**26**	**9**			**19**						**14**			**112**
	Qie - Intermediate eolian sand deposits; eolian sand sediments generally inactive; flat, moderately compact sufaces; sparsely vegetated	2																						**2**
	Qie - Intermediate eolian sand deposits; well sorted, inactive sands; moderately compacted with bedding										15													**15**
	Qie/pc - Intermediate eolian sand deposits; well sorted, inactive sands; moderately compacted with bedding										2													**2**
	Qie/Qoa - Intermediate eolian sand deposits overlie old alluvial fan deposits										2													**2**
	Qie/Qoe - Intermediate eolian sand deposits overlie old eolian sand deposits										7													**7**
	Qiea - Intermediate mixed eolian sand and alluvial deposits; moderately to well sorted sand with minor lenses of poorly to moderately sorted silt, gravel and cobbles; eolian processes dominate; patches of sandy desert pavement.											8												**8**
	Qiea - Intermediate mixed eolian sand and alluvial deposits; sediments are thoroghtly mixed with eolian processes dominating.						24																	**24**
	Qiea - Intermediate-age mixed eolian and alluvial deposits; dominated by eolian processes; poor to moderate desert pavement; weak soil development			1																				**1**
	Qiea/Qoa - Intermediate mixed eolian sand and alluvial deposits overlie old alluvial fan deposits.						1																	**1**
	Qieao - Older intermediate mixed eolian sand and alluvial deposits; abandoned surfaces typically incised by channels; generally proximal to mountain fronts.											1												**1**
	Qoe - Old eolian deposits								6						2									**8**
	Qoed3 - Old eolian deposits (dune sand), Unit 3														14									**14**
	Qoes3 - Old eolian deposits (sheet sand), Unit 3														3									**3**

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Qvof - Very Old Alluvial Fan Deposits		**229**	**292**	**313**	**65**	**215**	**458**	**481**		**52**	**849**	**445**	**22**	**473**	**1,067**		**796**			**126**	**445**	**23**	**215**	**6,566**
	Qa3 - Alluvial-fan deposits, Unit 3; sand and gravel; relatively old, dissected surfaces characterized by smooth, varnished desert pavements		231																					**231**
	Qm - Mesa Conglomerate; sand and gravel of extremely dissected alluvial fan and terrace deposits; paved with well developed desert varnish					215																		**215**
	Qo - Oldest alluvium; commonly tilted, faulted, and dissected; dark desert pavement in places																			126				**126**
	Qoa - Old alluvial fan deposits; degraded remnants of abandoned surfaces forming bouldery ridges; poorly sorted sand and gravel, compacted to well cemented; most upper soil horizons stripped by erosion; some remnant varnished pavement clasts	106																						**106**
	Qoa - Old alluvial fan deposits; moderately to poorly sorted sand and sandy gravel; deeply incised fan remnants			184																				**184**
	Qoa - Old alluvial fan deposits; poorly to moderately sorted fine sand to boulders; degraded remnants of abandoned surfaces commonly form deeply dissected ridges.											129												**129**
	Qoa - Old alluvial fan deposits; rounded, deeply dissected terrane forming pale-colored ballenas above active washes in upper parts of alluvial fans near mountain fronts.						269																	**269**
	Qoa - Old alluvial fan deposits; silt, sand, gravel and cobbles; compact to cemented; most soil stripped by erosion; some remnant varnish										748													**748**
	Qoa/ca - Old alluvial fan deposits overlie carbonate rocks										7													**7**
	Qoa/ca+sl - Old alluvial fan deposits overlie carbonate rocks and siliciclastic rocks										4													**4**
	Qoa/fp - Old alluvial fan deposits overlie felsic plutonic bedrock			1																				**1**
	Qoa/fp - Old alluvial fan deposits overlie felsic plutonic rocks (granite, granodiorite)	4																						**4**
	Qoa/fv - Old alluvial fan deposits overlie felsic volcanic bedrock			3																				**3**
	Qoa/fv - Old alluvial fan deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, dacite, felsite).											5												**5**
	Qoa/fv - Old alluvial fan deposits overlie volcanic plutonic rocks (dacite, andesite, basalt)	10																						**10**

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Qoa/mr - Old alluvial fan deposits overlie metamorphic rocks	1																						**1**
Qoa/mr - Old alluvial fan deposits overlie metamorphic rocks (gneiss, migmatite, mixed lithology).						4																	**4**
Qoa/mv - Old alluvial fan deposits overlie mafic volcanic rocks										1													**1**
Qoa/pc - Old alluvial fan deposits overlie partially consolidated sedimentary deposits										8													**8**
Qoa/pc - Old alluvial fan deposits overlie partly consolidated sedimentary deposits	1																						**1**
Qoa/pc - Old alluvial fan deposits overlie partly consolidated sedimentary rocks (sandstone, conglomerate).						1																	**1**
Qoa/pc - Old alluvial fan deposits overlie partly consolidated sediments.											13												**13**
Qoa/sl - Old alluvial fan deposits overlie siliciclastic bedrock			7																				**7**
Qoa/sl - Old alluvial fan deposits overlie siliciclastic rocks										1													**1**
Qoa? - Old alluvial fan deposits	18																						**18**
Qoa? - Old alluvial fan deposits; moderately to poorly sorted sand and sandy gravel; deeply incised fan remnants			10																				**10**
Qoa? - Old alluvial fan deposits; poorly to moderately sorted fine sand to boulders; degraded remnants of abandoned surfaces commonly form deeply dissected ridges.											53												**53**
Qoa?/mv - Old alluvial fan deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											3												**3**
Qoa+QToa - Old alluvial fan deposits and extremely old alluvial fan deposits; intermixed			2																				**2**
Qoad - Old alluvial fan deposits; dominated by debris flows of bouldery, matrix-supported material	4																						**4**
Qoae - Old mixed alluvial and eolian sand deposits; old alluvial fan deposits interstratified with lesser amounts of eolian sand.											6												**6**
Qoae/mv - Old mixed alluvial and eolian sand deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											1												**1**
Qoag - Old alluvial fan deposits composed of grus; clasts from granitic sources that weather to grus.						79																	**79**
Qoag - Old alluvial fan deposits composed of grus; moderately to poorly sorted sand and silt derived from granitic sources										8													**8**

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Qoag - Old alluvial fan deposits composed of grus; moderately to poorly sorted sand and silt derived from granitic sources; deeply incised fan remnants			23																				**23**
Qoag - Old alluvial fan deposits; consist of clasts from granitic sources that weather to grus	3																						**3**
Qoag - Old alluvial fan grus deposits; coarse sandy deposits derived from granitic sources that weather to grus.											2												**2**
Qoag/fp - Old alluvial fan deposits composed of grus overlie felsic plutonic rocks										1													**1**
Qoag/fpg - Old alluvial fan deposits composed of grus overlie felsic plutonic rocks (granite, granodiorite) that weather to grus.						1																	**1**
Qoag/fpg - Old alluvial fan deposits composed of grus overlie felsic plutonic rocks that weather to grus										1													**1**
Qoag/fv - Old alluvial fan deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, felsite)	1																						**1**
Qoag/mp - Old alluvial fan deposits composed of grus overlie mafic plutonic rocks (gabbro, diorite, monozodiorite, syenite, alkalic rocks).						3																	**3**
Qoag? - Old alluvial fan grus deposits; coarse sandy deposits derived from granitic sources that weather to grus.											3												**3**
QTa2 - Alluvial-fan deposits, Unit 2; fine to coarse, poorly sorted gravel and sand; high, deeply dissected, narrow ridges		61																					**61**
QTd - Boulder diamicton, some remains of debris flows and alluvial flows				65																			**65**
QToa - Extremely old alluvial fan deposits; deeply dissected, typically steep terrane with little or no remnants of abandoned surfaces										59													**59**
QToa - Extremely old alluvial fan deposits; deeply eroded alluvial fan deposits; no remnant abandoned surfaces or intact soil horizons; compact, bouldery.						99																	**99**
QToa - Extremely old alluvial fan deposits; degraded remnants of abandoned surfaces			76																				**76**
QToa - Extremely old alluvial fan deposits; lack of original landform and soil horizons; poorly sorted, compact bouldery gravel and sand; deeply dissected terrain	70																						**70**

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QToa - Extremely old Quaternary-Tertiary alluvial fan deposits; locally cemented and compact boulder bearing deposits forming deeply dissected, rugged terrain with little or no depositional remnants.											175												**175**
QToa/ca - Extremely old alluvial fan deposits overlie carbonate rocks (marble, limestone, dolomite).						1																	**1**
QToa/fp+mr - Extremely old alluvial fan deposits overlie felsic plutonic rocks and metamorphic rocks										1													**1**
QToa/fpg - Extremely old alluvial fan deposits over lie felsic plutonic rocks (granite, granodiorite) that weather to grus	3																						**3**
QToa/fv - Extremely old Quaternary-Tertiary alluvial fan deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, dacite, felsite).											2												**2**
QToa/mp - Extremely old alluvial fan deposits overlie mafic plutonic rocks (gabbro, diorite, monozodiorite, syenite, alkalic rocks).						1																	**1**
QToa/mp - Extremely old alluvial fan deposits overlie mafic plutonic rocks (gabbro, diorite, monzodiorite, syenite, alkalic rocks)	1																						**1**
QToa/mv - Extremely old alluvial fan deposits overlie mafic volcanic rocks										10													**10**
QToa/pc - Extremely old Quaternary-Tertiary alluvial fan deposits overlie partly consolidated sediments.											1												**1**
QToa? - Extremely old alluvial fan deposits	7																						**7**
QToa? - Extremely old alluvial fan deposits; degraded remnants of abandoned surfaces			3																				**3**
QToa? - Extremely old Quaternary-Tertiary alluvial fan deposits; locally cemented and compact boulder bearing deposits forming deeply dissected, rugged terrain with little or no depositional remnants.											48												**48**
QToa+fp - Extremely old Quaternary-Tertiary alluvial fan deposits and felsic plutonic rocks (granite, granodiorite); intermixed.											1												**1**
QToa+Qoa - Extremely old alluvial fan deposits and old alluvial fan deposits; intermixed			2																				**2**
QToa+Qoag - Extremely old alluvial fan deposits and old alluvial fan deposits that weather to grus; intermixed			2																				**2**
QToag - Extremely old alluvial fan grus deposits; coarse sandy deposits derived from granitic sources that weather to grus.											3												**3**
Qvof - Very old alluvial fan deposits									23			22											**45**
Qvof - Very old alluvial-fan deposits														373		661							**1,034**

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	Qvof1 - Very old alluvial-fan deposits, Unit 1														168		57							**225**
	Qvof2 - Very old alluvial fan deposits, unit 2									29														**29**
	Qvof2 - Very old alluvial-fan deposits, Unit 2														294									**294**
	Qvof3 - Very old alluvial-fan deposits, Unit 3														232		78							**310**
Qvoa - Very Old Alluvial Valley Deposits			**10**		**84**			**21**		**286**	**7**		**89**	**8**	**185**	**2**	**533**							**1,225**
	Qoae - Old mixed alluvial and eolian sand deposits; alluvial processes dominate										2													**2**
	Qov - Older valley-axis deposits; fine to medium grained sandstone interbedded with mudstone and claystone										5													**5**
	QTa - Old alluvium, locally deformed				84																			**84**
	QTmm - Alluvial deposits of the Mule Mountains; weakly to moderately consolidated sand and pebbly sand deposits; form deeply dissected hills		4																					**4**
	QTmw - Alluvial deposits of the McCoy Wash area; deposits of gravel forming several broad hills 15 to 25 m above Palo Verde Mesa; mostly varnished		6																					**6**
	Qvoa - Very old alluvial deposits															2								**2**
	Qvoa - Very old alluvial flood-plain deposits, undivided												48											**48**
	Qvoa - Very old alluvium, undivided									29														**29**
	Qvoa - Very old axial-channel deposits														29		355							**384**
	Qvoa? - Very old alluvium, undivided									3														**3**
	Qvoa1 - Very old alluvium, unit 1									204														**204**
	Qvoa1 - Very old axial-channel deposits, Unit 1														4		57							**61**
	Qvoa1? - Very old axial-channel deposits, Unit 1, uncertain																1							**1**
	Qvoa11 - Very old alluvial flood-plain deposits, Unit 11												10											**10**
	Qvoa12 - Very old alluvial flood-plain deposits, Unit 12												12											**12**
	Qvoa13 - Very old alluvial flood-plain deposits, Unit 13												19											**19**
	Qvoa2 - Very old alluvium, unit 2									42														**42**
	Qvoa2 - Very old axial-channel deposits, Unit 2														4		60							**64**
	Qvoa3 - Very old axial-channel deposits, Unit 3														148		42							**190**
	Qvoa4 - Very old axial-channel deposits, Unit 4																4							**4**
	Qvoa5 - Very old axial-channel deposits, Unit 5																6							**6**
	Qvoab - Very old alluvium									4														**4**
	Qvoab? - Very old alluvium									3														**3**

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	Qvov - Very old alluvial-valley deposits																8							**8**
	water -									1														**1**
Qvot - Very Old Terrace Deposits			**15**			**83**		**16**																**114**
	Qt - Terrace deposits; sand, silt and gravel of highly dissected alluvial terraces; capped by desert pavement					83																		**83**
	QTe - Alluvial deposits of the Ehrenberg area; dissected bluffs and mesas on the east side of the river		13																					**13**
	QTes - Alluvial deposits of the Ehrenberg area, Sand-dominated deposits; partly underlie QTe		2																					**2**
Qvol - Very Old Lacustrine, Playa and Estuarine (Paralic) Deposits							**2**					**22**	**409**			**489**	**44**							**966**
	QTop - Extremely old playa deposits; exhumed playa and/or groundwater-discharge deposits; forms reddish, vaugely bedded badlands						2																	**2**
	QTop - Extremely old playa-lacustrine and alluvial deposits; clayey silt to fine to medium sand; contains interbeds of volcanic ash; locally gypsiferous; forms badland topography.											22												**22**
	Qvop - Very old paralic deposits																43							**43**
	Qvop - Very old paralic deposits, undivided												61			181								**242**
	Qvop? - Very old paralic deposits, uncertain																1							**1**
	Qvop1 - Very old paralic deposits, Unit 1												6			1								**7**
	Qvop10 - Very old paralic deposits, Unit 10												27			67								**94**
	Qvop10 and fault zone - Very old paralic deposits, Unit 10 and fault zone															2								**2**
	Qvop10-11 - Very old paralic deposits, Units 10-11												5											**5**
	Qvop10-13 - Very old paralic deposits, Units 10-13												38											**38**
	Qvop10a - Very old paralic deposits, Unit 10a															12								**12**
	Qvop11 - Very old paralic deposits, Unit 11												51			31								**82**
	Qvop11 and fault zone - Very old paralic deposits, Unit 11 and fault zone															1								**1**
	Qvop11-12 - Very old paralic deposits, Units 11-12												6											**6**
	Qvop11a - Very old paralic deposits, Unit 11a															1								**1**
	Qvop12 - Very old paralic deposits, Unit 12												38			2								**40**
	Qvop13 - Very old paralic deposits, Unit 13												19			1								**20**
	Qvop2 - Very old paralic deposits, Unit 2												6			4								**10**

Updated Ptype and Description	Source Ptype and Description	100K Quadrangle Counts																						
		Amboy 30' x 60'	Blythe 30' x 60'	Cuddeback Lake 30' x 60'	Cuyama 30' x 60'	El Cajon 30' x 60'	Ivanpah 30' x 60'	Lancaster 30' x 60'	Long Beach 30' x 60'	Los Angeles 30' x 60'	Mesquite Lake 30' x 60'	Newberry Springs 30' x 60'	Oceanside 30' x 60'	Palm Springs 30' x 60'	San Bernardino 30' x 60'	San Diego 30' x 60'	Santa Ana 30' x 60'	Santa Barbara (east) 30' x 60'	Santa Barbara (west) 30' x 60'	Sheep Hole Mts. 30' x 60'	Soda Mountains 30' x 60'	Taft (east) 30' x 60'	Tehachapi 30' x 60'	Grand Total
	Qvop2-3 - Very old paralic deposits, Units 2-3												3											**3**
	Qvop3 - Very old paralic deposits, Unit 3												23			9								**32**
	Qvop4 - Very old paralic deposits, Unit 4												17			19								**36**
	Qvop5 - Very old paralic deposits, Unit 5												12			18								**30**
	Qvop6 - Very old paralic deposits, Unit 6															19								**19**
	Qvop7 - Very old paralic deposits, Unit 7												37			20								**57**
	Qvop7-8 - Very old paralic deposits, Units 7-8												7											**7**
	Qvop8 - Very old paralic deposits, Unit 8												26			49								**75**
	Qvop8-9 - Very old paralic deposits, Units 8-9												4											**4**
	Qvop8a - Very old paralic deposits, Unit 8a															2								**2**
	Qvop9 - Very old paralic deposits, Unit 9												15			44								**59**
	Qvop9-10 - Very old paralic deposits, Units 9-10												8											**8**
	Qvop9a - Very old paralic deposits, Unit 9a															6								**6**
Qvoe - Very Old Eolian and Dune Deposits											**6**													**6**
	Qoe - Old eolian sand deposits; well sorted, moderately to poorly cemented sand										6													**6**
Qss - Coarse-grained formations of Pleistocene age and younger; primarily sandstone and conglomerate					**53**	**46**		**173**	**130**	**814**			**50**	**192**	**799**		**328**	**213**	**15**	**19**	**18**	**41**	**13**	**2,904**
	Qb - Sedimentary breccia of Meisling (1984)														2									**2**
	Qbr - Sedimentary breccia																			6				**6**
	Qbx - Shale-clast sedimentary breccia																		2					**2**
	Qca - Casitas Formation, poorly consolidated sandstone, siltstone																	8	10					**18**
	Qca? - Casitas Formation, uncertain																		1					**1**
	Qcg - Conglomeratic unit																		1					**1**
	Qd - Dripping Springs Formation, fanglomerate												3											**3**
	Qh - Harold Formation, sandstone and conglomeratic sandstone														224									**224**
	Ql - Lindavista Formation of Kennedy (1975); interbedded sandstone and conglomerate (Note: Label was changed to Qvol in places for edge match with San Diego quadrangle)					10																		**10**
	Qlh - La Habra Formation, undivided								2															**2**
	Qlp - Las Posas Formation, weakly consolidated sandstone																	90						**90**
	Qom? - Old marine deposits, undivided								2															**2**
	Qpa - Pacoima Formation, fanglomerate									32														**32**

Updated Ptype and Description	100K Quadrangle Counts																						
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Qpf - Pauba Formation, fanglomerate facies												4											**4**
Qpf - Pauba Formation, fanglomerate, coarse sandstone, and mudstone																14							**14**
Qpf? - Pauba Formation, uncertain																16							**16**
Qps - Pauba Formation, cross-bedded sandstone																114							**114**
Qps - Pauba Formation, sandstone facies												38											**38**
Qps, depression - Depression in Pauba Formation, sandstone facies												5											**5**
Qs - Saugus Formation, undivided, sandstone									16														**16**
Qs - Saugus Formation, weakly consolidated alluvial deposits																	105						**105**
Qsbc - Santa Barbara Conglomerate																	10						**10**
Qsc - Saugus Formation, upper coarse grained facies									22														**22**
Qsg - Saugus Formation, basal conglomerate									16														**16**
Qsh - Shoemaker Gravel														124									**124**
Qsm - Saugus Formation, marine sandstone									70														**70**
Qsm? - Saugus Formation, marine sandstone									10														**10**
Qsp - San Pedro Formation, marine sandstone																33							**33**
Qsp - San Pedro Formation, unconsolidated sandy unit									15														**15**
Qsp - San Pedro Formation, undivided								105															**105**
Qsp2 - San Pedro Formation, sandstone and conglomerate																15							**15**
Qsp4 - San Pedro Formation, sandstone and conglomerate																3							**3**
Qspl - Lomita Marl Member								21															**21**
Qss - Sandstone																			13				**13**
Qss - Sandstone unit																		1					**1**
Qstcq - San Timoteo Beds, quartz-bearing conglomerate														1									**1**
Qstr - San Timoteo Beds, Reche Canyon Member, arkosic sandstone														34									**34**
Qsts - San Timoteo Beds, conglomerate, sandstone in upper member																1							**1**
Qstu - San Timoteo Beds, upper member, sandstone														115		43							**158**
Qsu - Saugus Formation, sandstone, siltstone, conglomerate									52														**52**
Qsv - Saugus Formation, breccia conglomerate									1														**1**
QTc - Conglomeratic sedimentary rocks of Riverside West 7.5' quadrangle																6							**6**
QTf - Fanglomerate					36																		**36**

Updated Ptype and Description	100K Quadrangle Counts																						
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
QTfz - Crushed rock in fault zones														89									**89**
QTjh - Juniper Hills Formation, undifferentiated														148									**148**
QTjha - Juniper Hills Formation, arskosic sandstone unit														9									**9**
QTjhb - Juniper Hills Formation, arkosic breccia														5									**5**
QTjhcs - Juniper Hills Formation, conglomeratic sandstone unit														8									**8**
QTjhr - Juniper Hills Formation, red arkose unit														1									**1**
QTjhsb - Juniper Hills Formation, sedimentary breccia unit														8									**8**
QTjhv - Juniper Hills Formation, volcanic clast unit, conglomerate														9									**9**
QTlp - Las Posas Formation, sandstone									18														**18**
QTm - Morales Formation, undivided, arkosic fluvial sandstone				41																			**41**
QTmu - Morales Formation, upper member, sandstone and pebble conglomerate				4																			**4**
QTn - Sedimentary rocks of Norco area																27							**27**
QTs - Saugus Formation, undivided									510														**510**
QTs - Unnamed sedimentary rocks in Riverside and Corona areas																9							**9**
QTs? - Saugus Formation, undivided									2														**2**
QTsb - Conglomerate, conglomeratic arkose, and clayey arkose														22									**22**
QTsm - Saugus Formation, marine sandstone									27														**27**
QTss - Saugus Formation, pebbly sandstone									13														**13**
QTsv - Saugus Formation, breccia conglomerate									2														**2**
QTt - Conglomerate of Temescal area																1							**1**
QTt - Tulare Formation, nonmarine arkosic sandstone, conglomerate and siltstone				8																			**8**
QTwc - Sandstone and conglomerate of Wildomar area, conglomerate unit																6							**6**
QTws - Sandstone and conglomerate of Wildomar area, sandstone unit																40							**40**
Qvob - Shale-clast sedimentary breccia									4														**4**
Qvob? - Shale-clast sedimentary breccia									1														**1**
TQsm - Saugus Formation, marine sandstone									3														**3**

Updated Ptype and Description	Source Ptype and Description	100K Quadrangle Counts																						
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Qsh - Fine-grained formations of Pleistocene age and younger; includes fine-grained sandstone, siltstone, mudstone, shale, siliceous and calcareous sediments					**18**	**142**		**27**	**19**	**18**					**99**		**129**	**172**	**34**					**658**
	Qas - Asphalt deposits																		2					**2**
	Qch - Coyote Hills Formation, 60% mudstone, 40% sandstone																26							**26**
	Qi - Inglewood Formation								14															**14**
	Qlh - La Habra Formation, mudstone, sandstone, and conglomerate																68							**68**
	Qpi - Inglewood Formation, siltstone, fine sandstone									12														**12**
	Qsb - Santa Barbara Claystone																	172						**172**
	Qsb - Santa Barbara Formation, fine- to medium-grained sandstone																		21					**21**
	Qsb? - Santa Barbara Formation, uncertain																		3					**3**
	Qsp1 - San Pedro Formation, siltstone and clay																13							**13**
	Qsp3 - San Pedro Formation, siltstone and clay																22							**22**
	Qspt - Timms Point Silt Member								5															**5**
	QTjhc - Juniper Hills Formation, clay-shale unit														9									**9**
	QTjhf - Juniper Hills Formation, fine-grained unit														17									**17**
	QTjhp - Juniper Hills Formation, playa deposit unit, clayey siltstone and claystone														11									**11**
	QTjhs - Juniper Hills Formation, siltstone unit														2									**2**
	QTml - Morales Formation, lower member, claystone				18																			**18**
	QTpm - Pico Formation, Mudpit Claystone Member									6														**6**
	QTpp - Phelan Peak deposits of Weldon (1984), undifferentiated siltstone, claystone														24									**24**
	QTpp3 - Phelan Peak deposits of Weldon (1984), claystone and siltstone														36									**36**
	QTps - Palm Spring Formation; nonmarine sandstone siltstone and claystone					142																		**142**
	QTst - Siltstone unit																		4					**4**
	QTst? - Siltstone unit, uncertain																		4					**4**
Qv - Pleistocene age and younger formations of volcanic origin		**18**					**22**					**57**								**15**				**112**

Updated Ptype and Description		100K Quadrangle Counts																						
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	ml/Qvp1 - Modified land or artificial fill overlies Pisgah crater volcanic flows and cinder cones of olivine basalt.											2												**2**
	ml/Qvp2 - Modified land or artificial fill overlies Pisgah crater volcanic flows and cinder cones of olivine basalt.											1												**1**
	ml/Qvp3 - Modified land or artificial fill overlies Pisgah crater volcanic flows and cinder cones of olivine basalt.											1												**1**
	Qae/Qmv - Active eolian sand deposits overlie mafic volcanic rocks (ejecta and lava flows); primarily in vincinity of Amboy Crater	5																						**5**
	Qba - Basalt of Amboy																			5				**5**
	Qbl - Basalt of Lead Mountain																			9				**9**
	Qblc - Basalt of Lead Mountain, basalt cinders																			1				**1**
	Qha/Qmv - Abundant hillslope deposits overlie mafic volcanic rocks (ejecta and lava flows); hillslope deposits generally less than 2 meters thick or patchy; disaggregated cover greater than rock exposure; includes basaltic rocks of Amboy Crater, cinder	7																						**7**
	Qha/QTmv - Abundant hillslope deposits overlie mafic volcanic rocks (ejecta and lava flows); hillslope deposits generally less than 2 meters thick or patchy; disaggregated cover greater than rock exposure	2																						**2**
	Qhs/Qvss - Sparse hillslope deposits overlie Sunshine Cone flows.											9												**9**
	Qmv - Mafic volcanic rocks; lava flows and cinder cones of basaltic composition in Cinder Cone Lava Beds.						22																	**22**
	QTv - Lava flows; age based on degree of surface weathering.											10												**10**
	Qv - Volcanic rocks; lava flows and cinder cones of basaltic composition.											3												**3**
	Qvp1 - Pisgah crater flows and cinder cones of olivine basalt; first eruptive phase; alkali-olivine basalt with rare olivine phenocrysts.											3												**3**
	Qvp2 - Pisgah crater flows and cinder cones of olivine basalt; second eruptive phase; porphrytic basalt with olivine and plagioclase phenocrysts; mostly aa flows.											5												**5**
	Qvp3 - Pisgah crater flows and cinder cones of olivine basalt; final eruptive phase; porphrytic basalt with plagioclase phenocrysts larger than 10 mm and clustered olivine phenocrysts 5-6 mm; pahoehoe flows.											10												**10**

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	Qvpc - Cinders; form rim and slopes of Pisgah crater.											1												**1**
	Qvsl - Sunshine crater lavic flows; porphrytic alkali-olivine basalt with phenocrysts of olivine and plagioclase; sparse titanaugite phenocrysts.											6												**6**
	Qvss - Sunshine crater Sunshine Cone flows; alkali-olivine basalt with olivine phenocrysts and occasional plagioclase phenocrysts.											6												**6**
	Qye/Qmv - Young eolian sand deposits overlie mafic volcanic rocks (ejecta and lava flows)	3																						**3**
	Qye+Qmv - Young eolian sand deposits and mafic volcanic rocks (ejecta and lava flows); intermixed	1																						**1**
Tss - Coarse-grained Tertiary age formations of sedimentary origin		**107**	**83**	**244**	**1,784**	**190**	**310**	**747**	**65**	**2,411**	**235**	**392**	**321**	**258**	**845**	**827**	**1,827**	**194**	**229**	**25**	**290**	**48**	**139**	**11,571**
	pc+mv - Partly consolidated sediments and intermediate to mafic volcanic rocks (andesite, basalt); intermixed.											2												**2**
	Qha/pc - Abundant hillslope deposits overlie partly consolidated sedimentary deposits			42							121													**163**
	Qha/pc - Abundant hillslope deposits overlie partly consolidated sedimentary deposits (sandstone, conglomerate).						279																	**279**
	Qha/pc - Abundant hillslope deposits overlie partly consolidated sedimentary deposits; hillslope deposits generally less than 2 meters thick or patchy; disaggregated cover greater than rock exposure; locally includes volcanic or highly altered rocks	97																						**97**
	Qha/pc - Abundant hillslope deposits overlie partly consolidated sediments.											366												**366**
	Qha/pc? - Abundant hillslope deposits overlie partly consolidated sedimentary deposits			1																				**1**
	Qha/pc? - Abundant hillslope deposits overlie partly consolidated sedimentary deposits; hillslope deposits generally less than 2 meters thick or patchy; disaggregated cover greater than rock exposure; locally includes volcanic or highly altered rocks	3																						**3**
	Qha/pc? - Abundant hillslope deposits overlie partly consolidated sediments.											3												**3**
	Qha/sl - Abundant hillslope deposits overlie siliciclastic bedrock			158																				**158**

Updated Ptype and Description	100K Quadrangle Counts																						
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Qha/sl - Abundant hillslope deposits overlie siliciclastic rocks (sandstone, quartzite, shale, siltstone)										95													**95**
Qha/sl - Abundant hillslope deposits overlie siliciclastic rocks (silicic sedimentary and metamorphic rocks, i.e., sandstone, quartzite, shale, siltstone).						23																	**23**
Qha/sl - Abundant hillslope deposits overlie siliciclastic rocks (silicic sedimentary and metamorphic rocks; quartz-rich sandstone, shale, siltstone, quartzite).											13												**13**
Qha/sl - Abundant hillslope deposits overlie siliciclastic rocks (silicic sedimentary and metamorphic rocks; sandstone, quartzite, shale, siltstone); hillslope deposits generally less than 2 meters thick, patchy; disaggregated cover greater than rock exp	5																						**5**
Qha/sl? - Abundant hillslope deposits overlie siliciclastic rocks (silicic sedimentary and metamorphic rocks; sandstone, quartzite, shale, siltstone); hillslope deposits generally less than 2 meters thick, patchy; disaggregated cover greater than rock ex	1																						**1**
Qha/sl+ca - Abundant hillslope deposits overlie siliciclastic rocks and carbonate rocks										8													**8**
Qha/sl+mv - Abundant hillslope deposits overlie siliciclastic and mafic volcanic bedrock			4																				**4**
Qha/sl+pc - Abundant hillslope deposits overlie siliciclastic and partly consolidated sedimentary deposits			7																				**7**
Qhs/pc - Sparse hillslope deposits overlie partly consolidated sedimentary deposits										2													**2**
Qhs/sl - Sparse hillslope deposits overlie siliciclastic bedrock			32																				**32**
Qhs/sl - Sparse hillslope deposits overlie siliciclastic rocks (sandstone, quartzite, shale, siltstone)										1													**1**
Qigs/pc - Intermediate groundwater discharge spring mound deposits overlie partly consolidated sediments.											1												**1**
Qigw/pc - Intermediate groundwater discharge wetland deposits overlie partly consolidated sediments.											1												**1**
Qimc/pc - Intermediate colluvial deposits overlie partially consolidated sedimentary deposits										8													**8**
Qpd-pc - Deeply dissected pediment within partly consolidated sedimentary deposits (sandstone, conglomerate).						1																	**1**

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	Qpi-pc - Incised pediment within partly consolidated sedimentary deposits	1																						**1**
	Qpi-pc - Incised pediment within partly consolidated sedimentary deposits (sandstone, conglomerate).						3																	**3**
	Qpi-pc - Incised pediment within partly consolidated sediments.											6												**6**
	Qpv-pc - Veneered pediment within partially consolidated sedimentary rocks (sandstone, conglomerate).						4																	**4**
	QTp - Pico Formation, undivided									20														**20**
	QTpc - Pico Formation, conglomerate									66														**66**
	Ta - Anza Formation; arkosic sandstone and conglomerate					52																		**52**
	Ta1 - Alluvial-fan deposits, Unit 1; sand and gravel; well consolidated sandy conglomerate; underlie limestone and tuff of Bouse Formation		6																					**6**
	Tav - Anaverde Formation, undifferentiated														4									**4**
	Tavb - Anaverde Formation, pale tan arkose unit														3									**3**
	Tavr - Anaverde Formation, red arkose unit														2									**2**
	Tavw - Anaverde Formation, white arkose unit														6									**6**
	Tbg - Sedimentary breccia, granitic-clast breccia																			8				**8**
	Tbl - Branch Canyon Sandstone, lower sandstone member				45																			**45**
	Tbst - Breccia, sandstone, and tuff																			1				**1**
	Tbu - Branch Canyon Sandstone, upper member, sandstone				30																			**30**
	Tbv - Sedimentary breccia, volcanic-clast breccia																			3				**3**
	Tbx - Sedimentary breccia; unbedded, unsorted angular gravel and slide blocks; interpreted as old landslide deposits		37																					**37**
	Tbx? - Sedimentary breccia, uncertain		1																					**1**
	Tc - Alluvial conglomerate																			8				**8**
	Tc - Caliente Formation, undivided, fluvial sedimentary rocks				40																			**40**
	Tc - Capistrano Formation, marine sandstone and siltstone																10							**10**
	Tcc - Caliente Formation, upper sandstone and conglomerate				31																			**31**
	Tcc - Coal Canyon Formation, sandstone, conglomerate, siltstone									44														**44**
	Tcc - Conglomerate of Crestline														4									**4**
	Tcd - Conglomerate and sandstone, San Sevaine Canyon area														4									**4**

Updated Ptype and Description		100K Quadrangle Counts																						
	Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
	Tcd - Topanga Group, Calabasas Formation, Dry Canyon Sandstone Member									11														**11**
	Tcds - Cozy Dell Shale, sandstone member				32																			**32**
	Tcf - Conglomerate of Fredalba														5									**5**
	Tcg - Caliente Formation, sedimentary breccia, conglomerate and sandstone				31																			**31**
	Tcg - Conglomerate of Lake Mathews area																2							**2**
	Tcga - Conglomerate of Arlington Mountain																4							**4**
	Tcgr - Rhyolite-clast conglomerate of Lake Mathews area																4							**4**
	Tch - Sandstone and conglomerate in southeastern Chino Hills																5							**5**
	Tcl - Topanga Group, Calabasas Formation, Latigo Canyon Sedimentary Breccia Member									3														**3**
	Tclc - Topanga Group, Calabasas Formation, Latigo Canyon Breccia Member									1														**1**
	Tcmp - Topanga Group, Calabasas Formation, Mesa Peak Breccia Member									2														**2**
	Tcn - Topanga Group, Calabasas Formation, Newell Sandstone Member									1														**1**
	Tco - Capistrano Formation, Oso Member sandstone																102							**102**
	Tcr - Caliente Formation, gypsiferous red sandstone and mudstone member				8																			**8**
	Tcr - Crowder Formation, arkosic sandstone, conglomerate														85									**85**
	Tcr1 - Crowder Formation, arkosic sandstone														1									**1**
	Tcr2 - Crowder Formation, lithic arkose, badlands														1									**1**
	Tcr3 - Crowder Formation, arkosic sandstone, conglomerate														1									**1**
	Tcr5 - Crowder Formation, pebbly arkose and conglomerate														2									**2**
	Tcs - Conglomerate and sandstone																			2				**2**
	Tcsc - Caliente Formation, sandstone and conglomerate member				56																			**56**
	Tcsc - Topanga Group, Calabasas Formation, Stokes Canyon Breccia Member									2														**2**
	Tcsl - Caliente Formation, lower sandstone and conglomerate member				8																			**8**
	Tct - Capistrano Formation, turbidite facies												8											**8**
	Tcu - Caliente Formation, upper member, sandstone and mudstone				51																			**51**
	Tcu - Conglomerate and arkose, undifferentiated														10									**10**
	Tcv1 - Cajon Valley Formation, arkosic conglomerate and conglomeratic sandstone														17									**17**

Updated Ptype and Description	100K Quadrangle Counts																						
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
Tcv2 - Cajon Valley Formation, conglomerate and conglomeratic sandstone														17									**17**
Tcv3 - Cajon Valley Formation, arkosic conglomerate and conglomeratic sandstone														32									**32**
Tcv4 - Cajon Valley Formation, arkosic conglomerate and conglomeratic sandstone														5									**5**
Tcv5 - Cajon Valley Formation, conglomerate and conglomeratic sandstone														36									**36**
Tcv5a - Cajon Valley Formation, conglomerate and conglomeratic sandstone														3									**3**
Tcv6 - Cajon Valley Formation, conglomeratic sandstone and sandstone														5									**5**
Tcw - Coldwater Formation, arkosic sandstone									8														**8**
Tcw - Coldwater Formation, sandstone facies																	35						**35**
Tcw - Coldwater Sandstone																		33					**33**
Tcw - Coldwater Sandstone, sandstone member				65																			**65**
Tcwm - Coldwater Sandstone, mixed sandstone and shale member				19																			**19**
Tcww - Coldwater Formation, locally pebbly sandstone									7														**7**
Tcx - Caliente Formation, basal breccia member				8																			**8**
Td+Tf - Delmar and Friars Formations, undivided															6								**6**
Tdc - Duarte conglomerate of Shelton (1946)														10									**10**
Tep - Sedimentary Rocks of Chatsworth Reservoir									4														**4**
Tf - Fanglomerate					15																		**15**
Tf - Friars Formation, nonmarine and lagoonal sandstone and claystone												30			87								**117**
Tfbx - Fanglomerate, sedimentary breccia, and slide blocks, undivided; poorly to well-sorted conglomerate and sandstone containing clasts of local origin; includes basal red sandstone 100 to 150 m thick		15																					**15**
Tfl - Fernando Formation, Lower Member								20															**20**
Tfl - Fernando Formation, lower member, silty sandstone and siltstone, conglomerate									29														**29**
Tfl? - Fernando Formation, lower member, silty sandstone and siltstone, conglomerate									2														**2**
Tflc - Fernando Formation, conglomerate														13		8							**21**
Tflc - Fernando Formation, Lower Member								15															**15**
Tflc - Fernando Formation, lower member, conglomerate									26														**26**
Tfr - Friars Formation; sandstone and claystone					5																		**5**

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Tfu - Fernando Formation, Upper Member								1															**1**
Tfu - Fernando Formation, upper member, sandstone and conglomerate														11		35							**46**
Tfu - Fernando Formation, upper member, silty sandstone									48														**48**
Tfuc - Fernando Formation, conglomerate														8		41							**49**
Tfuc - Fernando Formation, sandstone, conglomerate									40														**40**
Tfuf - Fernando Formation, fossiliferous sandstone									1														**1**
Tg - Gravel																			3				**3**
Tgcg - Granitic-clast conglomerate				4																			**4**
Tj - Juncal Formation, undivided				16																			**16**
Tjc - Juncal Formation, conglomerate member				16																			**16**
Tjm - Juncal Formation, mixed sandstone and mudstone member				41																			**41**
Tjs - Juncal Formation, sandstone facies																	2						**2**
Tjs - Juncal Formation, sandstone member				127																			**127**
Tlc - Llajas Formation, conglomerate									6														**6**
Tll - Llajas Formation, sandstone, siltstone, conglomerate									5														**5**
Tls - Detrital sediments of Lindero Canyon, sandstone									1														**1**
Tlv - Las Virgenes Formation, sandstone									1														**1**
Tm2 - Modelo Formation, lower sandstone unit									17														**17**
Tm4 - Modelo Formation, upper sandstone unit									17														**17**
Tma - Matilija Formation, sandstone									7														**7**
Tma - Matilija Formation, sandstone facies																	19						**19**
Tma - Matilija Sandstone, sandstone member				65																			**65**
Tma - Mill Creek Formation of Gibson (1971), arkose unit														8									**8**
Tmas - Matilija Sandstone, mixed sandstone and shale member				45																			**45**
Tmasl - Matilija Formation, sandstone interbedded with shale									1														**1**
Tmc - Mint Canyon Formation, undivided, fluvial and lacustrine deposits									36														**36**
Tmc? - Mint Canyon Formation, undivided, fluvial and lacustrine deposits									1														**1**
Tmc1 - Mint Canyon Formation, lacustrine and fluvial									80														**80**
Tmc2 - Mint Canyon Formation, lacustrine bottom facies, interbedded sandstone									138														**138**
Tmc3 - Mint Canyon Formation, lacustrine deltaic facies									208														**208**

Updated Ptype and Description	100K Quadrangle Counts																						
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
Tmcg - Mint Canyon Formation, conglomerate, fanglomerate									5														**5**
Tmcp - Mill Creek Formation of Gibson (1971), Pelona schist-bearing conglomerate unit														4									**4**
Tmcv - Mill Creek Formation of Gibson (1971), sandstone and pebble sandstone														4									**4**
Tmcv - Mint Canyon Formation, arkosic sandstone									8														**8**
Tme - Mount Eden Formation of Fraser (1931), undifferentiated																2							**2**
Tmea - Mount Eden Formation of Fraser (1931), arkosic sandstone and conglomerate																40							**40**
Tmeb - Mount Eden Formation of Fraser (1931), boulder breccia																10							**10**
Tmec - Mount Eden Formation of Fraser (1931), coarse sandstone and conglomerate																2							**2**
Tmeh - Mount Eden Formation of Fraser (1931), sandstone and limestone																11							**11**
Tms - Mill Creek Formation of Gibson (1971), sandstone unit														21									**21**
Tms - Monterey Formation, sandstone member				11																			**11**
Tmsc - Mount Soledad Formation, cobble conglomerate															13								**13**
Tmss - Modelo Formation, sandstone and shale									39														**39**
Tmss - Monterey Formation, basal sandstone member				25																			**25**
Tmss - Mount Soledad Formation, sandstone															14								**14**
Tmss? - Modelo Formation, sandstone and shale									1														**1**
Tmsu - Monterey Formation, upper sandstone member, arkose									29														**29**
Tmsu - Unnamed sandstone				19																			**19**
Tmt - Monterey Formation, sandstone				7																			**7**
Tmv - Mission Valley Formation, marine and nonmarine sandstone												4			72								**76**
Tmv - Mission Valley Formation; marine sandstone					18																		**18**
Tmz - Martinez Formation, sandstone									3														**3**
Tn - Niguel Formation, marine sandstone interbedded with sandy siltstone												12				83							**95**
Tn? - Niguel Formation, uncertain																2							**2**
Tncb - Nonmarine rocks of Santa Barbara Canyon, conglomerate and breccia member				11																			**11**
Tnp - Nonmarine rocks of Santa Barbara Canyon, red pebble-boulder conglomerate and conglomeratic sandstone member				12																			**12**

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Tns - Sandstone of Nettle Springs of Stone and Cossette (2000), Lockwood Clay, and upper part of Caliente Formation, undivided				1																			**1**
Tns - Sandstone of Norco area																24							**24**
Tnsc - Nonmarine rocks of Santa Barbara Canyon, sandstone and conglomerate unit				19																			**19**
Tnv - Nonmarine rocks of Santa Barbara Canyon, variegated member, sandstone, mudstone and claystone				7																			**7**
To - Otay Formation, arkosic sandstone															92								**92**
To - Otay Formation; sandstone and claystone					11																		**11**
Tp - Pattiway Formation, interbedded sandstone and shale				14																			**14**
Tp - Pomerado Conglomerate					23										32								**55**
Tp? - Pliocene, undifferentiated																	1						**1**
Tpbb - Punchbowl Formation, breccia unit, megabreccia														3									**3**
Tpbd - Punchbowl Formation, diorite clast unit, arkosic sandstone and pebble sandstone														28									**28**
Tpbs - Punchbowl Formation, sandstone									2														**2**
Tpbv - Punchbowl Formation, volcanic clast member, arkosic sandstone, and limestone														54									**54**
Tpls - Pleito Formation, sandstone member				42																			**42**
Tpls - Puente Formation, Soquel and La Vida Members, sandstone and siltstone														2									**2**
Tpm - Pomerado Conglomerate, Miramar Sandstone Member															2								**2**
Tpp2 - Phelan Peak deposits of Weldon (1984), conglomerate and sandstone														49									**49**
Tprc - Plush Ranch Formation of Carman (1964), basal conglomerate member				8																			**8**
Tprr - Plush Ranch Formation of Carman (1964), granite and gneiss breccia member, conglomerate and sedimentary breccia				18																			**18**
Tprs - Plush Ranch Formation of Carman (1964), sandstone member				22																			**22**
Tprx - Plush Ranch Formation of Carman (1964), megabreccia member				13																			**13**
Tps - Pico Formation, sandstone facies																	2						**2**
Tps - Puente Formation, Soquel Member								4															**4**
Tpsc - Pico and Sycamore Canyon Formations, sandstone, conglomerate																	1						**1**
Tpsc - Puente Formation, Sycamore Canyon Member								14															**14**
Tpsc - Puente Formation, Sycamore Canyon Member, sandstone									20														**20**

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	Tpsc - Puente Formation, Sycamore Canyon Member, sandstone and conglomerate														30		159							**189**
	Tpscc - Puente Formation, Sycamore Canyon Member								11															**11**
	Tpscc - Puente Formation, Sycamore Canyon Member, conglomerate									25					46		58							**129**
	Tpsg - Puente Formation, Soquel Member, sandstone and siltstone									15														**15**
	Tpsq - Puente Formation, Soquel Member, sandstone and silt														55									**55**
	Tpsq - Puente Formation, Soquel Member, sandstone and siltstone																118							**118**
	Tpsqc - Puente Formation, Soquel Member, conglomerate														22									**22**
	Tpss - Puente Formation, sandstone									62														**62**
	Tpyc - Puente Formation, Yorba Member, conglomerate																5							**5**
	Tqc - Quatal Formation, conglomeratic member				4																			**4**
	Tqcc - Quatal Formation, coarse conglomerate member				5																			**5**
	Tqs - Quatal Formation, upper sandstone member				28																			**28**
	Tqw - Quatal Formation, white sandstone member				28																			**28**
	Tqx - Quatal Formation, sedimentary breccia				11																			**11**
	Trm - Sandstone of Redonda Mesa, coarse-grained sandstone												1											**1**
	Trp - Rincon Shale, Piedra Blanca Sandstone Member				30																			**30**
	Ts - Sand				12																			**12**
	Ts - Sespe Formation, non-marine conglomerate, sandstone																148							**148**
	Ts - Sespe Formation, sandstone and mud facies																	72						**72**
	Ts - Sespe Formation, undivided, conglomerate, sandstone									85														**85**
	Ts? - Sespe Formation, uncertain																1							**1**
	Tsa - Santiago Formation, sandstone and conglomerate																166							**166**
	Tsa - Santiago Formation, sandstone, conglomerate and claystone												130											**130**
	Tsb - Slide blocks; large angular blocks and slabs of brecciated carbonate rocks and quartzite; probably deposited by landslides		22																					**22**
	Tsb? - Slide blocks, uncertain		2																					**2**
	Tsc - Scripps Formation, sandstone with conglomerate interbeds															110								**110**
	Tsc - Simi Conglomerate, undivided, sandstone and cobble conglomerate									10														**10**

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Tsc - Simmler Formation, conglomerate, sandstone and shale member				24																			**24**
Tsc and fault zone - Scripps Formation and fault zone															3								**3**
Tsc1 - Simi Conglomerate, conglomerate unit									5														**5**
Tsc3 - Simi Conglomerate, sandstone unit									5														**5**
Tscg - Simmler Formation, fanglomerate member				19																			**19**
Tscu - Scripps Formation, tongue in Carroll Canyon															13								**13**
Tsd - San Diego Formation, undivided															34								**34**
Tsd - San Diego Formation; marine sandstone and conglomerate					18																		**18**
Tsd and fault zone - San Diego Formation, undivided, and fault zone															2								**2**
Tsdcg - San Diego Formation, pebble and cobble conglomerate															32								**32**
Tsdss - San Diego Formation, fossiliferous marine sandstone															147								**147**
Tses - San Emigdio Formation, sandstone member				35																			**35**
Tsf - San Francisquito Formation, sandstone and conglomerate														24									**24**
Tsfb - San Francisquito Formation, basal boulder conglomerate														5									**5**
Tsfc - San Francisquito Formation, conglomerate unit														11									**11**
Tsg - Conglomerate, sandstone, and arkose														65									**65**
Tsi - Silverado Formation, sandstone, siltstone, and conglomerate																189							**189**
Tsi - Silverado Formation, sandstone, siltstone, shale and conglomerate												16											**16**
Tsi - Simi Conglomerate, undivided, sandstone and cobble conglomerate									4														**4**
Tsicg - Silverado Formation, basal conglomerate																4							**4**
Tsm - Santa Margarita Sandstone, undivided, marine sandstone and mudstone				8																			**8**
Tsm - Split Mountain Formation; nonmarine conglomerate and sandstone					35																		**35**
Tsml - Santa Margarita Sandstone, lower sandstone, conglomerate and claystone member				21																			**21**
Tsms - Santa Margarita Sandstone, sandstone and mudstone member				16																			**16**
Tsmu - Santa Margarita Sandstone, upper sandstone member				14																			**14**
Tso - San Onofre Breccia, breccia facies												74											**74**
Tsob - San Onofre Breccia, marine sedimentary breccia																73							**73**

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	Tsoss - San Onofre Breccia, sandstone facies												6											**6**
	Tsp - Sespe Formation, interbedded conglomerate, sandstone, siltstone and claystone				84																			**84**
	Tsp - Sespe Formation, Piuma Member, sandstone									195														**195**
	Tspc - Sespe Formation, lower conglomerate member				28																			**28**
	Tspl - Sespe Formation, lower conglomerate and sandstone unit																		39					**39**
	Tspm - Sespe Formation, middle conglomerate and sandstone unit																		37					**37**
	Tspu - Sespe Formation, upper sandstone and mudstone unit																		64					**64**
	Tsqs - Sisquoc Formation, sandstone									4														**4**
	Tsr - Saugus Formation, Sunshine Ranch Member, sandstone									60														**60**
	Tsrl - Saugus Formation, Lower Sunshine Ranch Member, sandstone									24														**24**
	Tsrl? - Saugus Formation, Lower Sunshine Ranch Member, sandstone									3														**3**
	Tss - Santa Ana Sandstone														24									**24**
	Tss - Simmler Formation, sandstone and shale member				29																			**29**
	Tst - Stadium Conglomerate					13										116								**129**
	Tst - Stadium Conglomerate, cobble conglomerate with coarse-grained sandstone matrix												15											**15**
	Tstd - San Timoteo Beds, conglomerate																27							**27**
	Tstl - San Timoteo Beds, lower member, sandstone														6		37							**43**
	Tstl1 - San Timoteo Beds, arkosic sandstone																30							**30**
	Tstm - San Timoteo Beds, middle member, sandstone and conglomerate																15							**15**
	Tstrl - San Timoteo Beds, lower member, sandstone and mudrock																10							**10**
	Tsv - Sespe and Vaqueros Formations, undivided												1											**1**
	Tsx - Mixed marine and nonmarine sedimentary rocks														3									**3**
	Tt - Topanga Group, marine sandstone, siltstone, and shale														50		132							**182**
	Tt - Topanga Group, undivided, sedimentary and volcanic rocks									85														**85**
	Tt - Torrey Sandstone															52								**52**
	Tt - Torrey Sandstone, arkosic sandstone												7											**7**
	Tt? - Topanga Group									7														**7**

Updated Ptype and Description	100K Quadrangle Counts																						
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
Tt4 - Topanga Group, unit 4, sandstone interbedded with siltstone and conglomerate									5														**5**
Tta - Temecula Arkose																9							**9**
Tta - Temecula Arkose, finer and coarser grained interbeds common												10											**10**
Tta, depression - Depression in Temecula Arkose												6											**6**
Ttb - Topanga Group, Bommer Formation, sandstone																50							**50**
Ttbp - Topanga Group, Buzzard Peak Conglomerate														9									**9**
Ttc - Tecuya Formation, sandstone and clay member				37																			**37**
Ttc - Topanga Canyon Formation, undivided, sandstone with interbedded siltstone									42														**42**
Ttc1 - Topanga Canyon Formation									64														**64**
Ttc1? - Topanga Canyon Formation									4														**4**
Ttc2 - Topanga Canyon Formation									46														**46**
Ttc2? - Topanga Canyon Formation									4														**4**
Ttcc - Topanga Canyon Formation, Cold Creek Member, sandstone, siltstone									29														**29**
Ttcg - Topanga Group, conglomerate									36														**36**
Ttf - Topanga Canyon Formation, Fernwood Member, paralic-fluvial, estuarine and marine sandstone									30														**30**
Ttg - Tecuya Formation, conglomerate and minor sandstone member				23																			**23**
Ttk - Tick Canyon Formation, undivided, sandstone, siltstone, claystone, conglomerate									38														**38**
Ttkc - Tick Canyon Formation, conglomerate									5														**5**
Ttls - Topanga Canyon Formation, lower, sandstone									39														**39**
Ttlsv - Topanga Canyon Formation, lower, sandstone with conglomerate									13														**13**
Ttm - Tejon Formation, Metralla Sandstone Member				30																			**30**
Tto - Topanga Formation, tuffaceous sandstone and siltstone												1											**1**
Tto - Towsley Formation, sandstone with micaceous claystone									1														**1**
Ttog - Towsley Formation, basal conglomerate									20														**20**
Ttos - Towsley Formation, sandstone with some claystone									23														**23**
Tts - Temblor Formation, sandstone member				108																			**108**
Tts - Topanga Canyon Formation, Saddle Peak Member, sandstone and conglomerate									39														**39**
Tts - Topanga Formation, sandstone facies																	5						**5**

Updated Ptype and Description	100K Quadrangle Counts																						
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
Ttsp - Topanga Canyon Formation, Saddle Peak Member, sandstone and conglomerate									2														**2**
Ttss - Topanga Canyon Formation, sandstone									30														**30**
Ttss? - Topanga Canyon Formation, sandstone									2														**2**
Tttc - Topanga Canyon Formation, Cold Creek Member, sandstone, siltstone									8														**8**
Ttu - Tejon Formation, Uvas Conglomerate Member				32																			**32**
Ttub - Topanga Canyon Formation, upper blueschist breccia									5														**5**
Ttus - Topanga Canyon Formation, upper sandstone									10														**10**
Tuc - Unnamed marine units, conglomerate				7																			**7**
Tum - Unnamed marine units, mixed sandstone and shale				10																			**10**
Tus - Unnamed marine units, sandstone and minor mudstone				66																			**66**
Tusg - Sandstone and conglomerate				1																			**1**
Tv - Vaqueros Formation, sandstone														22		151	48	56					**277**
Tv - Vaqueros Formation, undivided, sandstone with interbedded siltstone and mudstone									74														**74**
Tv? - Vaqueros Formation, sandstone, uncertain																2							**2**
Tvc - Conglomerate and sandstone, San Sevaine Canyon area														1									**1**
Tvca - Vasquez Formation, conglomerate, fanglomerate, breccia									3														**3**
Tvcal - Vasquez Formation, coarse conglomerate, fanglomerate, breccia									3														**3**
Tvcg - Vasquez Formation, coarse conglomerate, fanglomerate, breccia									33														**33**
Tvcs - Vasquez Formation, conglomerate									33														**33**
Tvpr - Vaqueros Formation, Painted Rock Sandstone Member				62																			**62**
Tvq - Vaqueros Formation, Quail Canyon Sandstone Member				28																			**28**
Tvs - Vaqueros and Sespe Formations, sandstone																	9						**9**
Tvs - Vaqueros and Sespe Formations, undifferentiated																57							**57**
Tvs - Vaqueros and Sespe Formations, undivided, sandstone									1														**1**
Tvsb - Vasquez Formation, marker bed									1														**1**
Tvss - Vaqueros Formation, sandstone member				10																			**10**
Tvss - Vaqueros, Sespe, Santiago, and Silverado Formations, undifferentiated																1							**1**

Updated Ptype and Description	Source Ptype and Description	100K Quadrangle Counts																						
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	Tvss - Vasquez Formation, arkosic sandstone									22														**22**
	Tvssl - Vasquez Formation, sandstone with granitic pebbles									6														**6**
	Tvz - Vasquez Formation, undivided, sandstone and conglomerate interbedded with andesite-basalt									32														**32**
	Tw - Formation of Warm Springs Canyon, sandstone and conglomerate														14									**14**
	Tw - Towsley Formation, undivided, sandstone,									107														**107**
	Twc - Towsley Formation, conglomerate									72														**72**
	Tws - White arkosic sandstone and conglomerate				7																			**7**
Tsh - Fine-grained Tertiary age formations of sedimentary origin			**17**		**1,391**	**156**		**399**	**132**	**1,382**			**205**	**47**	**248**	**143**	**685**	**511**	**252**			**40**	**26**	**5,634**
	QTps - Pico Formation, siltstone									136														**136**
	Ta - Ardath Shale															112								**112**
	Ta and fault zone - Ardath Shale and fault zone															9								**9**
	Tavc - Anaverde Formation, clay-shale unit														2									**2**
	Tbl - Bouse Formation, Limestone		14																					**14**
	Tbm - Branch Canyon Sandstone, middle claystone member				5																			**5**
	Tbs - Bouse Formation, Fine-grained clastic sedimentary rocks		3																					**3**
	Tbw - Bitterwater Creek Shale, mudstone				7																			**7**
	Tca - Castaic Formation, marine shale with sandstone beds									4														**4**
	Tcb - Topanga Group, Calabasas Formation, undivided, clayey to silty sandstone and silty shale									10														**10**
	Tccl - Coal Canyon Formation, algal limestone									19														**19**
	Tcd - Cozy Dell Shale																	45						**45**
	Tcd - Cozy Dell Shale, shale member				85																			**85**
	Tce - Topanga Group, Calabasas Formation, Escondido Canyon Shale Member									6														**6**
	Tcl - Caliente Formation, lower red and white banded member, mudstone and sandstone				25																			**25**
	Tcr4 - Crowder Formation, medium to fine arkosic sandstone, silt and clay														2									**2**
	Tcs - Caliente Formation, mudstone and sandstone member				6																			**6**
	Tcs - Capistrano Formation, siltstone facies												79											**79**
	Tcs - Capistrano Formation, siltstone facies, mudstone																42							**42**

Updated Ptype and Description	100K Quadrangle Counts																						
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
Tcs - Castaic Formation, undivided, tuffaceous or diatomaceous shale									55														**55**
Tcs? - Capistrano Formation, uncertain																1							**1**
Tcsh - Caliente Formation, variegated mudstone and sandstone member				30																			**30**
Tcwsh - Coldwater Formation, shale facies																	7						**7**
Tcz - Cozy Dell Shale									3														**3**
Td - Delmar Formation, claystone interbedded with sandstone												16											**16**
Td - Delmar Formation, sandy claystone interbedded with sandstone															22								**22**
Te - Etchegoin Formation, marine siltstone and sandstone				2																			**2**
Tem - Marine shale and minor sandstone				5																			**5**
Tf - Fernando Formation, siltstone and conglomerate																10							**10**
Tfc - Fish Creek Gypsum					14																		**14**
Tfl - Fernando Formation, siltstone, sandstone, and conglomerate														11		55							**66**
Ti - Imperial Formation; feldspathic arenite, siltstone and sandstone interbedded with limestone					142																		**142**
Tj - Juncal Formation, shale facies																	35						**35**
Tjsh - Juncal Formation, shale member				147																			**147**
TKbx - Green silicified clastic rocks, siltstone, sandstone, conglomerate and breccia				3																			**3**
TKm - Mudstone, claystone, and minor sandstone				31																			**31**
TKs - Mudstone and minor sandstone				52																			**52**
Tl - Llajas Formation, very fine sandstone and siltstone									26														**26**
Tlc - Lockwood Clay				70																			**70**
Tlm - Lake Mathews Formation, massive mudstone																12							**12**
Tlm? - Lake Mathews Formation, massive mudstone, uncertain																1							**1**
Tm - Modelo Formation, undivided, mudstone, siltstone, shale									308														**308**
Tm - Monterey and Modelo Formations, diatomaceous shale and shale																	9						**9**
Tm - Monterey Formation, interbedded siltstone and sandstone												61											**61**
Tm - Monterey Formation, marine siltstone																131							**131**
Tm - Monterey Formation, undivided				71																			**71**
Tm? - Modelo Formation, undivided, mudstone, siltstone, shale									5														**5**
Tm1 - Modelo Formation, lower shale unit									8														**8**

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	Tm3 - Modelo Formation, middle shale unit									20														**20**
	Tma - Monterey Formation, Altamira Shale Member								65															**65**
	Tmash - Matilija Formation, shale facies																	12						**12**
	Tmb - Modelo Formation, shale									8														**8**
	Tmb - Modelo Formation, shale facies																	2						**2**
	Tmb - Monterey Formation, black siliceous shale				19																			**19**
	Tmcl - Mint Canyon Formation, siltstone and claystone									8														**8**
	Tmd - Modelo Formation, diatomaceous shale									71														**71**
	Tmg - Monterey Formation, Gould Shale Member				21																			**21**
	Tml - Monterey Formation, lower calcareous member, shale				31																			**31**
	Tml - Monterey Formation, lower calcareous unit																		47					**47**
	Tml - Monterey Formation, mudstone									5														**5**
	Tml? - Monterey Formation, lower calcareous unit, uncertain																		2					**2**
	Tmlb - Monterey Formation, breccia facies																		1					**1**
	Tmls - Limestone of Bee Rock, limestone and shale				6																			**6**
	Tmm - Mill Creek Formation of Gibson (1971), mudstone unit														27									**27**
	Tmm - Monterey Formation, Malaga Mudstone Member								25															**25**
	Tmm - Monterey Formation, middle shale unit																		26					**26**
	Tmo - Modelo Formation, marine shale and sandstone									13														**13**
	Tms - Modelo Formation, siltstone, shale, clay shale									78														**78**
	Tmsh - Monterey Formation, Saltos Shale Member				21																			**21**
	Tmu - Monterey Formation, mudstone									3														**3**
	Tmu - Monterey Formation, upper siliceous unit																		21					**21**
	Tmu? - Monterey Formation, upper siliceous unit, uncertain																		1					**1**
	Tmvd - Monterey Formation, Valmonte Diatomite Member								31															**31**
	Tmy - Monterey Formation, shale, mudstone, dolomite																	18						**18**
	Tmy? - Monterey Formation, uncertain																	4						**4**
	Tmyl - Monterey Formation, lower section, thin bedded shale																	34						**34**
	Tmyu - Monterey Formation, upper section, siliceous thin bedded shale																	17						**17**

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Tng - Nonmarine rocks of Santa Barbara Canyon, gypsiferous mudstone member				11																			**11**
Tp - Pico Formation, clay facies, claystone, siltstone and sandstone																	209						**209**
Tp - Pico Formation, clayey siltstone, sandy siltstone									77														**77**
Tp - Puente Formation, marine siltstone, shale, and sandstone														5		13							**18**
Tp? - Pico Formation									1														**1**
Tpbc - Punchbowl Formation, claystone									6														**6**
Tpds - Puente Formation, diatomaceous shale									16														**16**
Tph - Marine shale, sandstone, and limestone of "Peanut Hill"				7																			**7**
Tpl - Pleito Formation, claystone and shale member				33																			**33**
Tplv - Puente Formation, La Vida Member								5															**5**
Tplv - Puente, Formation, La Vida Member, siltstone														43		108							**151**
Tpn - Puente Formation, undivided, siltstone, sandstone, shale									2														**2**
Tpp1 - Phelan Peak deposits of Weldon (1984), claystone and siltstone														46									**46**
Tprl - Plush Ranch Formation of Carman (1964), lacustrine member, mudstone, shale, siltstone, evaporites, and very fine sandstone				29																			**29**
Tps - Pico Formation, siltstone									93														**93**
Tpsh - Puente Formation, La Vida Member, shale									39														**39**
Tpsl - Puente Formation, siltstone and very fine sandstone									74														**74**
Tpy - Puente Formation, Yorba Member								6															**6**
Tpy - Puente Formation, Yorba Member, siltstone									1					68		164							**233**
Tq - Quatal Formation, undivided, mudstone, siltstone, sandstone, conglomerate				100																			**100**
Tqb - Quatal Formation, brown clay member				5																			**5**
Tqg - Quatal Formation, green mudstone member				20																			**20**
Tqp - Quatal Formation, gypsiferous member, white gypsum				4																			**4**
Tqu - Quatal Formation, upper member, claystone				8																			**8**
Tr - Rincon Shale				54													47	125					**226**
Tr - Trancas Formation, undivided, mudstone, silty shale, claystone									56														**56**
Trn - Rincon Formation, shale									9														**9**
Trs - Rincon Shale, siliceous shale interval																		11					**11**

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	Tsb - Sierra Blanca Limestone				29																			**29**
	Tsc2 - Simi Conglomerate, shale unit									9														**9**
	Tse - San Emigdio Formation, shale member				42																			**42**
	Tsfl - San Francisquito Formation, limestone lenses														1									**1**
	Tsfs - San Francisquito Formation, shale unit														43									**43**
	Tsh - Simmler Formation, shale member				41																			**41**
	Tsis - Silverado Formation, Serrano Clay Unit																18							**18**
	Tsm - San Mateo Formation, marine and paralic siltstone, sandstone and conglomerate												49											**49**
	Tsmc - Santa Margarita Sandstone, claystone member				15																			**15**
	Tsmg - Santa Margarita Sandstone, gypsum member				8																			**8**
	Tsq - Sisquoc Formation, mud and shale facies																	31						**31**
	Tsq - Sisquoc Formation, mudstone and shale facies																		16					**16**
	Tsq - Sisquoc Formation, mudstone,shale									23														**23**
	Tsql - Sisquoc Formation, lower clay-shale and diatomaceous shale									2														**2**
	Tsqu - Sisquoc Formation, upper silty clay shale									1														**1**
	Tsru - Saugus Formation, Upper Sunshine Ranch Member, siltstone and mudstone									5														**5**
	Tss - Santa Susana Formation, clay and mudrock									34														**34**
	Tstf - San Timoteo Beds, fine-grained member, mudrock																25							**25**
	Tstl2 - San Timoteo Beds, claystone, siltstone and sandstone																14							**14**
	Tsu - Santa Susana Formation, shale, sandstone and basal conglomerate									1														**1**
	Tt - Temblor Formation, shale and sandstone				92																			**92**
	Tt - Topanga Group, undivided, siltstone, shale and sandstone																	41						**41**
	Ttce - Topanga Canyon Formation, Encinal Member, siltstone and mudstone									6														**6**
	Ttl - Tejon Formation, Live Oak Shale Member				59																			**59**
	Ttlc - Topanga Canyon Formation, lower, micaceous clay-shale									34														**34**
	Ttlcv - Topanga Canyon Formation, lower, gray micaceous shale									3														**3**
	Ttlt - Topanga Group, Los Trancas Formation, siltstone																45							**45**
	Ttlt? - Topanga Group, uncertain																1							**1**
	Ttoc - Towsley Formation, silty claystone and siltstone									30														**30**

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	Ttp - Topanga Group, Paulerino Formation, siltstone and tuffaceous sandstone																45							**45**
	Ttsl - Topanga Canyon Formation, siltstone, sandstone and siliceous shale									32														**32**
	Tu - Unnamed mudstone																		2					**2**
	Tucl - Claystone				5																			**5**
	Tush - Unnamed marine units, claystone, mudstone and shale				37																			**37**
	Tv - Vaqueros Formation, undivided siltstone and sandstone				75																			**75**
	Tvcd - Vaqueros Formation, Danielson Member, siltstone and mudstone									5														**5**
	Tvcgl - Vasquez Formation, reddish clay paleosol									16														**16**
	Tvq - Vaqueros Formation, fine-grained sandstone									8														**8**
	Tvs - Vaqueros Formation, Soda Lake Shale Member				80																			**80**
	Tws - Towsley Formation, siltstone									13														**13**
Tv - Tertiary age formations of volcanic origin		**261**	**13**	**421**	**54**	**127**	**361**	**153**	**140**	**1,230**	**126**	**578**	**21**	**17**	**362**	**1**	**67**	**332**		**75**	**221**		**84**	**4,644**
	-									4														**4**
	Qha/fv - Abundant hillslope deposits overlie felsic volcanic bedrock			140																				**140**
	Qha/fv - Abundant hillslope deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, dacite, felsite).											151												**151**
	Qha/fv - Abundant hillslope deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, felsite)										8													**8**
	Qha/fv - Abundant hillslope deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, felsite); hillslope deposits generally less than 2 meters thick or patchy; disaggregated cover greater than rock exposure	160																						**160**
	Qha/fv - Abundant hillslope deposits overlie felsic volcanic rocks (rhyolite, rhyodactie, felsite).						160																	**160**
	Qha/fv? - Abundant hillslope deposits overlie felsic volcanic bedrock			1																				**1**
	Qha/fv? - Abundant hillslope deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, felsite); hillslope deposits generally less than 2 meters thick or patchy; disaggregated cover greater than rock exposure	1																						**1**
	Qha/mv - Abundant hillslope deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											416												**416**

Updated Ptype and Description		100K Quadrangle Counts																						
	Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
	Qha/mv - Abundant hillslope deposits overlie mafic volcanic bedrock			207																				**207**
	Qha/mv - Abundant hillslope deposits overlie mafic volcanic rocks										92													**92**
	Qha/mv - Abundant hillslope deposits overlie mafic volcanic rocks (dacite, andesite, basalt).						188																	**188**
	Qha/mv - Abundant hillslope deposits overlie mafic volcanic rocks (dacite, andesite, basalt); hillslope deposits generally less than 2 meters thick or patchy; disaggregated cover greater than rock exposure	90																						**90**
	Qha/mv? - Abundant hillslope deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											2												**2**
	Qha/mv? - Abundant hillslope deposits overlie mafic volcanic rocks (dacite, andesite, basalt); hillslope deposits generally less than 2 meters thick or patchy; disaggregated cover greater than rock exposure	6																						**6**
	Qha/mv+sl - Abundant hillslope deposits overlie mafic volcanic and siliciclastic bedrock			5																				**5**
	Qhs/fv - Sparse hillslope deposits overlie felsic volcanic bedrock			24																				**24**
	Qhs/fv - Sparse hillslope deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, felsite).						10																	**10**
	Qhs/fv - Sparse hillslope deposits overlie felsic volcanic rocks (rhyolite, rhyodacite, felsite); hillslope deposits generally less than 2 meters thick and patchy; disaggregated cover less than rock exposure	4																						**4**
	Qhs/mv - Sparse hillslope deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											2												**2**
	Qhs/mv - Sparse hillslope deposits overlie mafic volcanic bedrock			44																				**44**
	Qhs/mv - Sparse hillslope deposits overlie mafic volcanic rocks										1													**1**
	Qig/mv - Intermediate groundwater discharge deposits overlie intermediate to mafic volcanic rocks (andesite, basalt).											2												**2**
	Qimc/mv - Intermediate colluvial deposits overlie mafic volcanic rocks										25													**25**
	Qpd-fv - Deeply incised pediment within felsic volcanic rocks (rhyolite, rhyodacite, dacite, felsite).											2												**2**

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	Qpi-fv - Incised pediment within felsic volcanic rocks (rhyolite, rhyodacite, dacite, felsite).											2												**2**
	Qpi-fv - Incised pediment within felsic volcanic rocks (rhyolite, rhyodacite, felsite) that weather to grus.						3																	**3**
	Qpv-fv - Veneered pediments within felsic volcanic rocks (rhyolite, rhyodacite, dacite, felsite).											1												**1**
	Ta - Andesite sill																	3						**3**
	Tab - Amygdaloidal basalt																			4				**4**
	Tad - Andesite dikes														3									**3**
	Tal - Alverson Andesite					68																		**68**
	Tal - Andesite dike rocks														4									**4**
	Tb - Basalt dikes														2									**2**
	Tb - Basalt dikes, flows and breccias									22														**22**
	Tb - Basalt in Iron Mountains																			2				**2**
	Tba - Basaltic-andesite dike															1								**1**
	Tbl - Basalt of Deadman Lake Volcanic Field																			4				**4**
	Tblc - Basalt of Deadman Lake Volcanic Field, basalt cinders																			2				**2**
	Tc - Conejo Volcanics, undifferentiated									126														**126**
	Tc? - Conejo Volcanics, undifferentiated									2														**2**
	Tcab - Conejo Volcanics; andesite, dacite, breccia									30														**30**
	Tcb - Caliente Formation, basalt flows				10																			**10**
	Tcbb - Conejo Volcanics, basalt dacite flows									9														**9**
	Tco - Conejo Volcanics, undivided									52														**52**
	Tcoa - Conejo Volcanics, andesitic central zone, andesite									1														**1**
	Tcob - Conejo Volcanics, basaltic lower zone, basalt and andesitic basalt									118														**118**
	Tcof - Conejo Volcanics, basaltic and andesitic flows									114														**114**
	Tcof? - Conejo Volcanics, basaltic and andesitic flows									1														**1**
	Tcom - Conejo Volcanics, Malibu Bowl tongue, andesitic and basaltic flows and flow breccia									1														**1**
	Tcop - Conejo Volcanics, basaltic lower zone, pillow basalt									55														**55**
	Tcor - Conejo Volcanics, Ramera Canyon tongue, basaltic and andesitic breccia, tuff breccia									22														**22**
	Tcos - Conejo Volcanics, Solstice Canyon tongue, basaltic and andesitic flow breccia, tuff									31														**31**

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	Tcosc - Conejo Volcanics, basaltic and andesitic flows, breccia, tuff, and sandstone									2														**2**
	Tcosr - Conejo Volcanics, Solstice Canyon and Ramera Canyon tongues, undifferentiated									4														**4**
	Tcv - Conejo Volcanics, basalt flows, breccia, diabase									8														**8**
	Tcva - Conejo Volcanics, andesitic breccia									21														**21**
	Tcvab - Conejo Volcanics, andesitic flow breccia									62								13						**75**
	Tcvadb - Conejo Volcanics, andesitic and basaltic flow breccias																	291						**291**
	Tcvai - Conejo Volcanics, andesite																	1						**1**
	Tcvb - Conejo Volcanics, basaltic flows																	11						**11**
	Tcvb - Conejo Volcanics, basaltic flows and flow breccia									93														**93**
	Tcvb? - Conejo Volcanics, basaltic flows and flow breccia									5														**5**
	Tcvbb - Conejo Volcanics, basaltic flow breccia									12								2						**14**
	Tcvbs - Conejo Volcanics, basalt interbedded with sandstone, siltstone																	3						**3**
	Tcvdb - Conejo Volcanics, dacite flow breccia									37														**37**
	Tcvdb - Conejo Volcanics, dacitic flow breccia																	7						**7**
	Tcvdi - Conejo Volcanics, intrusive dacitic rock																	1						**1**
	Tcvi - Conejo Volcanics, basaltic intrusions									4														**4**
	Td - Dacite dikes														3									**3**
	Td - Dacitic rocks																			12				**12**
	Td - Dikes of basaltic composition									1														**1**
	Td1 - Dikes of basaltic composition									31														**31**
	Td2 - Dikes of basaltic composition									1														**1**
	Tda - Dacite stock												1											**1**
	Tdi - Dacitic rocks, intrusive dacite																			23				**23**
	Tdv - Dacitic rocks, dacitic volcanic rocks																			21				**21**
	Tdvc - Dacitic rocks, volcaniclastic rocks																			3				**3**
	Tg - Glendora Volcanics, rhyolite, basalt flows, undifferentiated														22									**22**
	Tga - Glendora Volcanics, andesite flows														69									**69**
	Tgb - Glendora Volcanics, basalt flows														30									**30**
	Tgbt - Glendora Volcanics, tuff and pillow lava														8									**8**
	Tgc - Glendora Volcanics, volcanic conglomerate														18									**18**

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	Tgf - Glendora Volcanics, fine-grained andesite														43									**43**
	Tgi - Glendora Volcanics, andesite dikes														7									**7**
	Tgj - Glendora Volcanics, tuff breccia														56									**56**
	Tgr - Glendora Volcanics, rhyolite and dacite flows														10									**10**
	Tgrb - Glendora Volcanics, rhyolite and dacite breccia														1									**1**
	Ti - Felsic intrusive rocks; rhyolitic to dacitic		7																					**7**
	Ti - Intrusive rocks, undivided									219														**219**
	Tib - Intrusive basalt				1																			**1**
	Tj - Jacumba Volcanics					59																		**59**
	Tmd - Mountain Meadows Dacite														13									**13**
	Tmv - Volcanic rocks within the Monterey Formation								140															**140**
	Tprb - Plush Ranch Formation of Carman (1964), basalt member				7																			**7**
	Tr - Rhyolite porphyry dikes														52									**52**
	Ttb - Basalt sills and flows									9														**9**
	Ttb? - Basalt sills and flows									1														**1**
	Ttv - Topanga Canyon Formation, interbedded andesite and basalt flows									13														**13**
	Tv - Volcanic rocks, undivided												8											**8**
	Tv - Volcanic rocks; rhyolitic to basaltic		6																					**6**
	Tva - Vasquez Formation, andesitic volcanic rocks									53														**53**
	Tvb - Tecuya Formation, basalt member				22																			**22**
	Tvb - Vasquez Formation, basaltic and andesitic volcanic rocks									38														**38**
	Tvd - Tecuya Formation, dacite and andesite member				14																			**14**
	Tvem - El Modeno Volcanics, undifferentiated																3							**3**
	Tvema - El Modeno Volcanics, andesite																17							**17**
	Tvemb - El Modeno Volcanics, basalt																9							**9**
	Tvemt - El Modeno Volcanics, tuff and breccia																14							**14**
	Tvep - Basalt of Elsinore Peak, vesicular basalt																2							**2**
	Tvh - Basalt of Hogbacks, channel-filling flows																6							**6**
	Tvm - Basalt of Valley Mountain																			4				**4**
	Tvsr - Santa Rosa basalt of Mann (1955)												7											**7**
	Tvsr - Santa Rosa basalt of Mann (1955), olivine basalt																13							**13**
	Tvt - Basalt of Temecula area												5											**5**

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	Tvt - Vasquez Formation, tuffaceous rocks and tuff breccia														2									**2**
	Tvtb - Basalt of Temecula area, vesicular basalt																3							**3**
	Tvv - Vasquez Formation, andesite to basalt, volcanic breccia														19									**19**
	Tvv - Vasquez Formation, interbedded volcanics									3														**3**
	Tz - Zuma Volcanics									25														**25**
Kss - Coarse-grained Cretaceous age formations of sedimentary origin			**38**		**229**	**17**				**133**			**61**		**12**	**68**	**279**	**4**						**841**
	Kc - Chatsworth Formation, sandstone									58														**58**
	Kcc - Cabrillo Formation, cobble conglomerate facies															11								**11**
	Kcd - Sedimentary rocks of Cosy Dell area, arkosic sandstone and siltstone														6									**6**
	Kcdc - Sedimentary rocks of Cosy Dell area, conglomerate														6									**6**
	Kcg - Conglomerate				22																			**22**
	Kcs - Cabrillo Formation, sandstone facies															48								**48**
	Kcs and fault zone - Cabrillo Formation, sandstone facies, and fault zone															2								**2**
	Kl - Ladd Formation, undifferentiated																9							**9**
	Kl - Lusardi Formation															7								**7**
	Kl - Lusardi Formation, cobble and boulder conglomerate with thin lenses of sandstone												19											**19**
	Kl - Lusardi Formation; cobble and boulder fanglomerate					17																		**17**
	Klbc - Ladd Formation, Baker Canyon Conglomerate																55							**55**
	Klhsc - Ladd Formation, Holz Sandstone and Conglomerate																13							**13**
	Kmf - McCoy Mountains Formation, Member F, arkosic sandstone and conglomerate		13																					**13**
	Kmg - McCoy Mountains Formation, Member G, arkosic to volcanic-lithic sandstone (upper part), phyllitic and calcareous shale, calcareous sandstone, and conglomerate (lower part)		4																					**4**
	Kmh - McCoy Mountains Formation, Member H, arkosic sandstone, conglomeratic sandstone, and shale		5																					**5**
	Kmi - McCoy Mountains Formation, Member I, arkosic and micaceous sandstone, conglomeratic sandstone, and conglomerate		2																					**2**

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	Kmi? - McCoy Mountains Formation, Member I, arkosic and micaceous sandstone, conglomeratic sandstone, and conglomerate, uncertain		1																					**1**
	Kmj - McCoy Mountains Formation, Member J, arkosic to volcanic-lithic sandstone and conglomerate		9																					**9**
	Kml - McCoy Mountains Formation, Member L, arkosic sandstone, conglomerate, and minor shale		4																					**4**
	Kms - Sandstone and minor mudstone				75																			**75**
	Kss - Sandstone and subordinate mudstone and conglomerate				119																			**119**
	Ksw - White sandstone of Big Pine Mountain				13																			**13**
	Kt - Tuna Canyon Formation, undivided marine sandstone, siltstone, conglomerate									44														**44**
	Ktb - Tuna Canyon Formation, sandstone									9														**9**
	Ktc - Tuna Canyon Formation, pebble conglomerate									18														**18**
	Ktr - Trabuco Formation, conglomerate									3														**3**
	Ktr - Trabuco Formation, nonmarine conglomerate with sandstone and siltstone interbeds												13											**13**
	Ktr - Trabuco Formation, non-marine conglomerate, sandstone, and siltstone																17							**17**
	Ktrl - Trabuco Formation, lower unit, fanglomerate																18							**18**
	Ktru - Trabuco Formation, upper unit, conglomerate																10							**10**
	Ktt - Tuna Canyon Formation, marine sandstone									1														**1**
	Ku - Unnamed conglomerate																	4						**4**
	Kwl - Williams and Ladd Formations, undifferentiated																7							**7**
	Kwp - Williams Formation, Pleasant Sandstone Member												9											**9**
	Kwps - Williams Formation, Pleasant Sandstone Member																73							**73**
	Kwps? - Williams Formation, conglomeratic sandstone, uncertain																3							**3**
	Kwps1 - Williams Formation, conglomeratic sandstone																1							**1**
	Kwsr - Williams Formation, Schultz Ranch Sandstone Member												20											**20**
	Kwsr - Williams Formation, Shultz Ranch Member, sandstone and conglomerate																61							**61**
	Kwsr? - Williams Formation, Shultz Ranch Member, sandstone and conglomerate, uncertain																1							**1**

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	Kwsru - Williams Formation, Shultz Ranch Upper Sandstone																1							**1**
	Kwst - Williams Formation, Starr Member, fanglomerate																10							**10**
Ksh - Fine-grained Cretaceous age formations of sedimentary origin			**22**		**226**					**35**			**2**			**72**	**68**			**6**				**431**
	Jl - Limestone																			6				**6**
	Kc - Carbonate-silicate rock																1							**1**
	KJe - Espada Formation, shale with sandstone interbeds				35																			**35**
	KJmb - McCoy Mountains Formation, Member B, mudstone and siltstone		3																					**3**
	Klhs - Ladd Formation, Holz Shale																66							**66**
	Kmc - McCoy Mountains Formation, Member C, very fine to fine-grained volcanic-lithic sandstone and siltstone, mudstone and minor conglomerate		2																					**2**
	Kmd - McCoy Mountains Formation, Member D, phyllitic shale and silty to sandy shale		4																					**4**
	Kmd - Mudstone and minor sandstone				68																			**68**
	Kme - McCoy Mountains Formation, Member E, phyllitic shale and arkosic and volcanic-lithic sandstone		11																					**11**
	Kmk - McCoy Mountains Formation, Member K, fine-grained arkosic to volcanic-lithic sandstone, phyllitic shale, and minor conglomerate		2																					**2**
	Kp - Point Loma Formation															71								**71**
	Kp - Point Loma Formation, fine-grained sandstone and siltstone												2											**2**
	Kp and fault zone - Point Loma Formation and fault zone															1								**1**
	Ksm - Mudstone and subordinate sandstone				123																			**123**
	Ktd - Tuna Canyon Formation, fine-grained fossiliferous sandstone									23														**23**
	Kte - Tuna Canyon Formation, shale									12														**12**
	Kwsrl - Williams Formation, Shultz Ranch Lower Siltstone																1							**1**
Kv - Cretaceous age formations of volcanic origin			**35**			**177**							**3**				**99**			**43**				**357**
	Jdl - Dale Lake Volcanics																			21				**21**
	JTRu - Volcanic and sedimentary rocks, undivided		10																					**10**
	Jv - Volcanic rocks; rhyodacitic volcanic and metavolcanic rocks		21																					**21**

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	Jv? - Vocanic rocks, uncertain		2																					**2**
	Jvh - Volcanic and hypabyssal rocks, undivided																			22				**22**
	KJa - Andesite		2																					**2**
	Kmv - Metavolcanic rocks					152																		**152**
	Ksp - Santiago Peak Volcanics					25																		**25**
	Ksv - Intermixed Estelle Mountain volcanics of Herzig (1991) and Cretaceous (?) sedimentary rocks																4							**4**
	Kvem - Estelle Mountain volcanics of Herzig (1991)																16							**16**
	Kvr - Rhyolite of Estelle Mountain volcanics of Herzig (1991)																3							**3**
	Kvs - Intermixed Estelle Mountain volcanics of Herzig (1991) and Mesozoic sedimentary rocks																5							**5**
	Kvsp - Santiago Peak Volcanics												3				71							**74**
pKm - Cretaceous and Pre-Cretaceous metamorphic formations of sedimentary and volcanic origin		**138**	**276**	**61**	**174**	**382**	**240**	**334**	**15**	**354**	**258**	**65**	**123**	**769**	**2,339**	**41**	**454**			**511**	**131**		**173**	**6,838**
	-									1														**1**
	^rb - Buckskin Formation of Reynolds and Spencer (1989), schist and gneiss																			6				**6**
	_t - Metamorphosed Bright Angel Shale and Tapeats Sandstone, undivided																			35				**35**
	|m - Marble																			26				**26**
	}s - Metasedimentary gneiss of Sheep Hole Mountains																			10				**10**
	<p - Quartzite of Pinto Mountain																			7				**7**
	<pm - Quartzite of Pinto Mountain, marble																			14				**14**
	<pm? - Quartzite of Pinto Mountain, marble, uncertain																			1				**1**
	agn - Augen gneiss									5														**5**
	Cbk - Bonanza King Formation, dolomite and limestone marble														7									**7**
	Cc - Carrara Formation, calcite marble, phyllite, and schist														5									**5**
	CPrcc - Shay Mountain metamorphic complex of MacColl (1964), biotite schist of Cox Creek														11									**11**
	CPrgsq - Shay Mountain metamorphic complex of MacColl (1964), mixed gneiss, schist quartzite														27									**27**
	CPrlsm - Shay Mountain metamorphic complex of MacColl (1964), quartzite of Little Shay Mountain														37									**37**

Updated Ptype and Description	100K Quadrangle Counts																					
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
CPrqc - Shay Mountain metamorphic complex of MacColl (1964), quartzite and cataclastic rocks														3									**3**
CPrsm - Shay Mountain metamorphic complex of MacColl (1964), gneiss														16									**16**
Cwc - Wood Canyon Formation, quartzite, phyllite, and schist														9									**9**
Cz - Zabriskie Quartzite														8									**8**
D_m - Marble and dolomite marble																			26				**26**
dgm - Diorite gneiss and migmatite														19									**19**
dgn - Diorite gneiss									23														**23**
Ds - Sultan Limestone														9									**9**
f - Franciscan rocks									3														**3**
gg - Gneissic granitoid rocks and gneiss														24									**24**
ggn - Gneiss rocks, granodiorite gneiss									3														**3**
gn - Mixed metamorphic rocks									6														**6**
gn - Mixed metamorphic rocks of Ord Mountains area														2									**2**
gnb - Gneiss of Blue Cut area														5									**5**
gnm - Cataclastic gneiss														4									**4**
Jbc - Bedford Canyon Formation, undifferentiated																70							**70**
Jbc? - Bedford Canyon Formation, undifferentiated?																1							**1**
Jbc1 - Bedford Canyon Formation, metasandstone																12							**12**
Jbcm - Bedford Canyon Formation, marble and limestone																7							**7**
Jcr - Cataclastic rocks														18									**18**
Jfc - Franciscan Complex, chert				2																			**2**
Jfg - Franciscan Complex, greenstone				8																			**8**
Jfw - Franciscan Complex, graywacke				6																			**6**
Jgg - Granite gneiss																			12				**12**
Jggd - Granite gneiss, granodiorite gneiss																			3				**3**
Jgrg - Dark granite gneiss																			5				**5**
Jhc - Gneiss of Harper Creek					40																		**40**
Jk - Granite gneiss of Kilbeck Hills																			6				**6**
Jsc - Fine-grained rocks of Silver Canyon, metamorphosed mylonite or cataclastic rocks														10									**10**
Jsm - Santa Monica Slate									10														**10**
Jsms - Santa Monica Slate, spotted									11														**11**
Jsp - Migmatitic schist and gneiss of Stephenson Peak					79																		**79**
Jsp - Santa Monica Slate, phyllite									5														**5**

Updated Ptype and Description	100K Quadrangle Counts																						
Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
JTRm - Metasedimentary and metavolcanic rocks					164																		**164**
JTRs - Sedimentary rocks, variably metamorphosed to schist and quartzite		28																					**28**
KgMz - Intermixed Mesozoic schist and Cretaceous granitic rocks																5							**5**
KgPz - Intermixed Paleozoic (?) schist and Cretaceous granitic rocks														11		4							**15**
Kid - Iron Mountains Intrusive Suite, Danby Lake Granite Gneiss																			31				**31**
Kid? - Iron Mountains Intrusive Suite, Danby Lake Granite Gneiss, uncertain																			4				**4**
Kii - Iron Mountains Intrusive Suite, iron granodiorite gneiss																			12				**12**
KJm - McCoy Mountains Formation of Miller (1944), metamorphosed siltstone and calcareous siltstone																			4				**4**
KJma - McCoy Mountains Formation, Member A, quartzite and minor chert- and quartzite-clast conglomerate		3																					**3**
KJma? - McCoy Mountains Formation, Member A, quartzite and minor chert- and quartzite-clast conglomerate, uncertain		2																					**2**
KJvs - Metavolcanic and metasedimentary rocks					17																		**17**
Kpa - Pelona Schist, amphibolite-grade unit														28									**28**
Kpb - Pelona Schist, biotite-quartz schist unit														2									**2**
Kpg - Pelona Schist, greenstone unit														34									**34**
Kpm - Pelona Schist, marble unit														1									**1**
Kpq - Pelona Schist, quartzite unit														4									**4**
KPrm - Mylonitic orthogneiss related to Vincent Thrust Fault														102									**102**
Kps - Pelona Schist, muscovite schist unit														75									**75**
Kpu - Pelona Schist, undifferentiated														29									**29**
KPzsg - Schist, gneiss, monzogranite, and granodiorite														1									**1**
KPzst - Schist, gneiss, and tonalite														5									**5**
KXmg - Migmatitic biotite gneiss				7																			**7**
lgt - Leucogranite gneiss south of Twentynine Palms Mountain																			1				**1**
m - Paleozoic (?) rocks, undifferentiated, marble bodies																34							**34**
m2 - Mylonite, Vincent Thrust									7														**7**
m3 - Black Belt Mylonite, metamorphic									19														**19**
m4b - High-grade metamorphic									7														**7**
mcs - Catalina Schist								15															**15**
MCs - Sedimentary rocks, metamorphosed sedimentary rocks		53																					**53**

Updated Ptype and Description	100K Quadrangle Counts																						
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mg - Granitic-metamorphic complex									73														**73**
mgf - Interlayered gneiss and schist									31														**31**
mm - Mixed metamorphic rocks									3														**3**
mm - Mixed metamorphic rocks of Ord Mountains area, marble														12									**12**
Mm - Monte Cristo Limestone														9									**9**
mmc - Mixed metamorphic rocks of Ord Mountains area, marble and calc-silicates														11									**11**
mms - Mixed metamorphic rocks of Ord Mountains area, marble and schist														5									**5**
mp - Metasedimentary rock									8														**8**
mq - Mixed metamorphic rocks of Ord Mountains area, quartzite														9									**9**
ms - Metasedimentary quartzite, phyllite and schist									14														**14**
ms - Mixed metamorphic rocks of Ord Mountains area, schist dominant														7									**7**
ms? - Metasedimentary quartzite, phyllite and schist									3														**3**
msg - Gneiss rocks, schist-gneiss									3														**3**
msg? - Gneiss rocks, schist-gneiss									1														**1**
msl - Siliceous metamorphic rocks									1														**1**
mx - Mixed metamorphic rocks of Ord Mountains area, mixed														22									**22**
Mzd - Metavolcanic dikes												3											**3**
Mzdg - Diorite gneiss									22														**22**
Mzg - Metagranitic rocks												2											**2**
MzPfg - Fine-grained gneiss		9																					**9**
MzPgn - Gneissic rocks, undivided		38																					**38**
Mzpr - Gneiss of Pinyon Ridge														83									**83**
MzPrb - Mixed metamorphic and granitic rocks of Big Dalton Canyon														275									**275**
MzPrd - Gneiss of Devil Canyon														297									**297**
MzPrl - Mixed granitic rocks, quartzite, and schist of Lizard Springs														1									**1**
MzPrm - Mixed granitic and metamorphic rocks														6									**6**
MzPs - Schist		3																					**3**
MzPsc - Marble, quartzite, and schist				2																			**2**
MzPzm - Metasedimentary rocks, marble				55																			**55**
MzPzm - Mixed granitic and metasedimentary rocks, and gneiss														7									**7**
MzPzm - Rocks of Jacumba Mountains					69																		**69**
MzPzq - Metasedimentary rocks, quartzite				16																			**16**
MzPzs - Metasedimentary rocks, schist, gneiss,calc-silicate hornfels and quartzite				12																			**12**
Mzq - Quartzite and quartz conglomerate												9											**9**

Updated Ptype and Description	100K Quadrangle Counts																						
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Mzs - Schist with minor amphibolite and marble												5											**5**
Mzu - Metasedimentary and metavolcanic rocks, undivided												104											**104**
Mzu - Metasedimentary and metavolcanic rocks, undivided (Note: Label was changed to Kv in places for edge match with El Cajon quadrangle)															41								**41**
Pbs - Bird Spring Formation														6									**6**
PCs - Sedimentary rocks, metamorphosed Permian to Cambrian strata		7																					**7**
Pgn - Gneiss and amphibolite		28																					**28**
Pgn - Gneiss, quartz feldspar layers									3														**3**
Pgn? - Gneiss and amphibolite, uncertain		5																					**5**
Pk - Metamorphosed Kaibab Limestone, Coconino Sandstone, and Hermit Shale, undivided																			5				**5**
pm - Placerita Formation, graphite, sillimanite, biotite schists									15														**15**
PMb - Metamorphosed Bird Spring Formation and Redwall Limestone, undivided																			20				**20**
Pmgn - Mendenhall Gneiss									57														**57**
PPs - Sedimentary rocks, metamorphosed sedimentary rocks		71																					**71**
Prgd - Foliated to gneissic granodiorite														68									**68**
Prgm - Medium-grained biotite granite augen gneiss														70									**70**
Prgn - Layered gneiss, undifferentiated														202									**202**
Prgn1 - Layered gneiss														34									**34**
Prgn2 - Layered gneiss														69									**69**
Prgn3 - Layered gneiss														1									**1**
Prgn4 - Layered gneiss														2									**2**
Prgn5 - Layered gneiss														3									**3**
Prgn6 - Layered gneiss														13									**13**
Prgnd - Dioritic gneiss or amphibolite														17									**17**
Prgt - Pelitic gneiss of Troop Peak														6									**6**
Prgu - Granulitic gneiss, mylonite, and cataclasite														2									**2**
Prm - Granulitic gneiss, mylonite, and cataclasite, retrograde														74									**74**
Prpv - Gneiss of Pleasant View Ridge														29									**29**
Prpva - Gneiss of Pleasant View Ridge														8									**8**
Prsc - Stirling Quartzite, carbonate-rich rocks														1									**1**
Prscq - Stirling Quartzite, carbonate and quartzite member														4									**4**
Prsq - Stirling Quartzite, quartzite member														9									**9**

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	Prsu - Stirling Quartzite, undifferentiated														5									**5**
	ps - Pelona Schist, chlorite and actinolite schist, quartzite									6														**6**
	Pza - Amphibolite														1									**1**
	Pzc - Calc-silicate rocks																5							**5**
	Pzgs - Metasedimentary schist and gneiss														95									**95**
	Pzm - Metasedimentary rocks					13																		**13**
	Pzmb - Marble, San Bernardino Mountains														203									**203**
	Pzmg - Marble, San Gabriel Mountains														106									**106**
	Pzmp - Marble, Peninsular Ranges														8		1							**9**
	Pzms - Marble and schist, undifferentiated																1							**1**
	Pzp - Placerita Formation, metasedimentary rocks, marble, gneiss, quartzite									14														**14**
	Pzq - Impure quartzite																16							**16**
	Pzqg - Quartzite, San Gabriel Mountains														25									**25**
	Pzs - Sedimentary rocks, undivided, metamorphosed sedimentary rocks		24																					**24**
	Pzs? - Sedimentary rocks, undivided, metamorphosed sedimentary rocks, uncertain		5																					**5**
	Pzsg - Biotite schist, Laborde Canyon area																3							**3**
	Pzsgp - Biotite schist and gneiss														27		11							**38**
	Pzu - Paleozoic (?) rocks, undifferentiated																18							**18**
	q - Quartzite																			2				**2**
	Qha/ca - Abundant hillslope deposits overlie carbonate bedrock			1																				**1**
	Qha/ca - Abundant hillslope deposits overlie carbonate rocks										201													**201**
	Qha/ca - Abundant hillslope deposits overlie carbonate rocks (marble, dolomite, limestone).											8												**8**
	Qha/ca - Abundant hillslope deposits overlie carbonate rocks (marble, dolomite, limestone); hillslope deposits generally less than 2 meters thick or patchy; disaggregated cover greater than rock exposure	44																						**44**
	Qha/ca - Abundant hillslope deposits overlie carbonate rocks (marble, limestone, dolomite).						54																	**54**
	Qha/ca+sl - Abundant hillslope deposits overlie carbonate and siliciclastic rocks										6													**6**
	Qha/mr - Abundant hillslope deposits overlie metamorphic bedrock			23																				**23**
	Qha/mr - Abundant hillslope deposits overlie metamorphic rocks										40													**40**
	Qha/mr - Abundant hillslope deposits overlie metamorphic rocks (gneiss, migmatite, mixed lithology).						168																	**168**

Updated Ptype and Description		100K Quadrangle Counts																						
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	Qha/mr - Abundant hillslope deposits overlie metamorphic rocks (gneiss, migmatite, mixed rocks); hillslope deposits generally less than 2 meters thick or patchy; disaggregated cover greater than rock exposure	79																						**79**
	Qha/mr - Abundant hillslope deposits overlie metamorphic rocks (gneiss, migmatite, structurally mixed rocks).											50												**50**
	Qha/mr? - Abundant hillslope deposits overlie metamorphic rocks (gneiss, migmatite, mixed rocks); hillslope deposits generally less than 2 meters thick or patchy; disaggregated cover greater than rock exposure	5																						**5**
	Qha/mr? - Abundant hillslope deposits overlie metamorphic rocks (gneiss, migmatite, structurally mixed rocks).											6												**6**
	Qha/mr+ca - Abundant hillslope deposits overlie metamorphic and carbonate bedrock			1																				**1**
	Qha/mr+fp - Abundant hillslope deposits overlie metamorphic and felsic plutonic bedrock			1																				**1**
	Qha/mr+fpg - Abundant hillslope deposits overlie metamorphic rocks and felsic plutonic rocks that weather to grus										2													**2**
	Qha/sc - Abundant hillslope deposits overlie schistose bedrock			16																				**16**
	Qha/sc+ca - Abundant hillslope deposits overlie schistose and carbonate bedrock			4																				**4**
	Qhs/ca - Sparse hillslope deposits overlie carbonate bedrock			1																				**1**
	Qhs/ca - Sparse hillslope deposits overlie carbonate rocks										2													**2**
	Qhs/ca - Sparse hillslope deposits overlie carbonate rocks (marble, dolomite, limestone); hillslope deposits generally less than 2 meters thick and patchy; disaggregated cover less than rock exposure	2																						**2**
	Qhs/ca - Sparse hillslope deposits overlie carbonate rocks (marble, limestone, dolomite).						2																	**2**
	Qhs/ca+sl - Sparse hillslope deposits overlie carbonate rocks and siliciclastic rocks										2													**2**
	Qhs/mr - Sparse hillslope deposits overlie metamorphic rocks (gneiss, migmatite, mixed rocks) and felsic plutonic rocks (granite, granodiorite); hillslope deposits generally less than 2 meters thick and patchy; disaggregated cover less than rock exposure	1																						**1**

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	Qhs/mr+ca - Sparse hillslope deposits overlie metamorphic and carbonate bedrock			1																				**1**
	Qhs/mr+fpg - Sparse hillslope deposits overlie metamorphic rocks and felsic plutonic rocks that weather to grus										1													**1**
	Qhs/sc - Sparse hillslope deposits overlie schistose bedrock			13																				**13**
	Qimc/mr - Intermediate colluvial deposits overlie metamorphic rocks										1													**1**
	Qpd-ca - Deeply dissected pediment in carbonate rocks										1													**1**
	Qpd-mr - Deeply dissected pediment within metamorphic rocks (gneiss, migmatite, mixed rocks)	1																						**1**
	Qpd-mr - Deeply dissected pediment within metamorphic rocks of mixed lithology (gneiss, migmatite, mixed lithology).						1																	**1**
	Qpd-mr - Deeply incised pediment within metamorphic rocks (gneiss, migmatite, structurally mixed rocks).											1												**1**
	Qpi-ca - Incised pediment within carbonate rocks (marble, limestone, dolomite).						2																	**2**
	Qpi-mr - Deeply dissected pediment in metamorphic rocks										2													**2**
	Qpi-mr - Incised pediment within metamorphic rocks (gneiss, migmatite, mixed rocks)	3																						**3**
	Qpi-mr - Incised pediment within metamorphic rocks of mixed lithology (gneiss, migmatite, mixed lithology).						2																	**2**
	Qpv/mr - Veneered pediment overlies metamorphic rocks (gneiss, migmatite, mixed lithology).						1																	**1**
	Qpv+Qiag - Veneered pediment within metamorphic rocks (gneiss, migmatite, mixed rocks)	1																						**1**
	Qpv-mr - Veneered pediment within metamorphic rocks (gneiss, migmatite, mixed lithology).						10																	**10**
	Qpv-mr - Veneered pediment within metamorphic rocks (gneiss, migmatite, mixed rocks)	2																						**2**
	TKrs - Rand Schist				3																			**3**
	TKtp - Pelona Schist and granodiorite of Telegraph Peak														1									**1**
	Tmy - Mylonite of the Sawmill Mountain Thrust				7																			**7**
	Tps - Pelona Schist, schist and quartzite				10																			**10**
	Tpsb - Pelona Schist, metabasalt				1																			**1**
	TRma - Rocks of Menifee Valley, amphibolite																3							**3**

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		Amboy 30' x 60'	Blythe 30' x 60'	Cuddeback Lake 30' x 60'	Cuyama 30' x 60'	El Cajon 30' x 60'	Ivanpah 30' x 60'	Lancaster 30' x 60'	Long Beach 30' x 60'	Los Angeles 30' x 60'	Mesquite Lake 30' x 60'	Newberry Springs 30' x 60'	Oceanside 30' x 60'	Palm Springs 30' x 60'	San Bernardino 30' x 60'	San Diego 30' x 60'	Santa Ana 30' x 60'	Santa Barbara (east) 30' x 60'	Santa Barbara (west) 30' x 60'	Sheep Hole Mts. 30' x 60'	Soda Mountains 30' x 60'	Taft (east) 30' x 60'	Tehachapi 30' x 60'	Grand Total
	TRmdc - Rocks of Menifee Valley, marble																2							**2**
	TRmdx - Rocks of Menifee Valley, amphibolite associated with metadunite and serpentinite																1							**1**
	TRmg - Rocks of Menifee Valley, metagraywacke																5							**5**
	TRmgn - Rocks of Menifee Valley, biotite gneiss and schist																11							**11**
	TRmgp - Rocks of Menifee Valley, graywacke and phyllite																7							**7**
	TRmi - Rocks of Menifee Valley, phyllite, schist, and quartzite																5							**5**
	TRmm - Rocks of Menifee Valley, marble																1							**1**
	TRmp - Rocks of Menifee Valley, phyllite																45							**45**
	TRmq - Rocks of Menifee Valley, quartz-rich metasandstone																34							**34**
	TRmqg - Rocks of Menifee Valley, quartzite and metagraywacke																12							**12**
	TRms - Rocks of Menifee Valley, schist																50							**50**
	TRmsgn - Rocks of Menifee Valley, metamorphic and amphibolitic grade rocks																7							**7**
	TRmu - Rocks of Menifee Valley, undifferentiated																83							**83**
	ts - Tectonic schist																			74				**74**
	Xag - Augen gneiss																			5				**5**
	Xag - Augen gneiss of Frazier Mountain				19																			**19**
	Xbg - Biotite gneiss				26																			**26**
	Xbg - Biotite granite gneiss																			17				**17**
	Xdw - Dog Wash Gneiss																			31				**31**
	Xf - Fenner Gneiss																			16				**16**
	Xg - Granodiorite gneiss																			5				**5**
	Xgn - Gneiss, undivided																			11				**11**
	Xgn? - Gneiss, undivided, uncertain																			4				**4**
	Xk - Kilbeck Gneiss																			45				**45**
	Xp - Pinto Gneiss of Miller (1938)																			40				**40**
	Xs - Schist, gneiss, and quartzite																			3				**3**
	Xsg - Spotted gneiss																			5				**5**
	Ycm - Augen gneiss of Calumet Mountains																			20				**20**
	YXd - Gneiss of Dry Lakes Valley																			1				**1**
	YXg - Granitoid gneiss																			4				**4**
sp - Serpentinite of all ages					**20**					**3**							**8**							**31**
	Jfs - Franciscan Complex, serpentine				20																			**20**
	Ks - Serpentinite																1							**1**
	MzPzsp - Serpentinite									3														**3**

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		Amboy 30' x 60'	Blythe 30' x 60'	Cuddeback Lake 30' x 60'	Cuyama 30' x 60'	El Cajon 30' x 60'	Ivanpah 30' x 60'	Lancaster 30' x 60'	Long Beach 30' x 60'	Los Angeles 30' x 60'	Mesquite Lake 30' x 60'	Newberry Springs 30' x 60'	Oceanside 30' x 60'	Palm Springs 30' x 60'	San Bernardino 30' x 60'	San Diego 30' x 60'	Santa Ana 30' x 60'	Santa Barbara (east) 30' x 60'	Santa Barbara (west) 30' x 60'	Sheep Hole Mts. 30' x 60'	Soda Mountains 30' x 60'	Taft (east) 30' x 60'	Tehachapi 30' x 60'	Grand Total
	TRmds - Rocks of Menifee Valley, serpentinized metadunite, serpentinite																5							**5**
	TRmsm - Rocks of Menifee Valley, serpentinized metadunite																2							**2**
gr - Granitic and other intrusive crystalline rocks of all ages		**414**	**107**	**400**	**129**	**1,395**	**436**	**565**		**1,132**	**76**	**687**	**516**	**1,017**	**2,445**	**34**	**1,487**	**83**		**962**	**250**		**191**	**12,326**
	-									5														**5**
	^t - Quartz monzonite of Twentynine Palms																			4				**4**
	a - Amphibolite																			9				**9**
	ai - Andesitic intrusive rocks									47														**47**
	ai? - Andesitic intrusive rocks									1														**1**
	ap - Aplite dike, quartzite feldspar aggregate									14														**14**
	api - Porphyritic andesite									9														**9**
	bi - Intrusive rocks, black basaltic dike or sill									11														**11**
	cc - Cataclastic rock									4														**4**
	cgm - Chloritized cataclastic granitic rocks														1									**1**
	cru - Crystalline rocks, undifferentiated														7									**7**
	db - Diabase									56														**56**
	di - Mafic dike rock, dioritic									117														**117**
	ga - Alaskite									1														**1**
	gb - Gabbro of Pleasant View Ridge									12														**12**
	gba - Gabbro- anorthosite									26														**26**
	gd - Granodiorite									13														**13**
	gr - Granite, leucocratic plutonic rocks, quartz monzonite									72														**72**
	gr? - Granite, leucocratic plutonic rocks, quartz monzonite									3														**3**
	grb - Granitic rocks, undifferentiated														10									**10**
	grd - Granitic rocks NE of San Gabriel Fault									7														**7**
	grg - Granitic rocks, undifferentiated														28									**28**
	grs+m - Granitic rocks with inclusions of metamorphics									6														**6**
	hdg - Hornblende diorite gabbro									38														**38**
	hdg? - Hornblende diorite gabbro									1														**1**
	hdr - Coarse grained hornblende diorite									2														**2**
	hdw - Medium grained hornblende diorite									2														**2**
	Ja - Altered intrusive rocks																			5				**5**
	Ja - Granodiorite of Arrowhead Peak														18									**18**
	Jbe - Bullion Mountains Intrusive Suite, Granite east of Cleghorn Pass																			20				**20**
	Jbep - Bullion Mountains Intrusive Suite, Granite east of Cleghorn Pass, porphyritic facies																			4				**4**

Updated Ptype and Description		100K Quadrangle Counts																						
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	Jbpm - Bullion Mountains Intrusive Suite, mafic porphyritic quartz monzonite																			8				**8**
	Jbq - Bullion Mountains Intrusive Suite, quartz monzonite																			57				**57**
	Jbqm - Bullion Mountains Intrusive Suite, quartz monzodiorite																			23				**23**
	Jbs - Bullion Mountains Intrusive Suite, syenogranite																			5				**5**
	Jbv - Bullion Mountains Intrusive Suite, Virginia Dale Quartz Monzonite																			141				**141**
	Jbv? - Bullion Mountains Intrusive Suite, Virginia Dale Quartz Monzonite, uncertain																			32				**32**
	Jc - Chubbuck Porphyry, biotite monzogranite and granodiorite gneiss																			6				**6**
	Jc - Leucocratic quartz monzonite of Crystal Creek														1									**1**
	Jcp - Hypabyssal quartz monzonite of Cleghorn Pass																			9				**9**
	Jcp? - Hypabyssal quartz monzonite of Cleghorn Pass, uncertain																			18				**18**
	Jcr - Granodiorite of Cuyamaca Reservoir					102																		**102**
	Jd - Diorite and quartz diorite																			51				**51**
	Jd - Quartz monzodiorite of Dry Canyon														3									**3**
	Jg - Granite																			13				**13**
	Jgb - Granitoid rocks of Goat Basin Mine																			4				**4**
	Jgdg - Granodiorite and tonalite gneiss																			54				**54**
	Jgf - Granodiorite and quartz monzonite of Fern Canyon														38									**38**
	Jh - Hypabyssal rocks																			5				**5**
	Jhc - Quartz monzodiorite of Hutak Canyon														7									**7**
	Jm - Granodiorite of Music Valley																			2				**2**
	Jp - Plutonic rocks; porphyritic granitoid rocks		56																					**56**
	Jpgb - Plutonic rocks, Hornblende gabbro		1																					**1**
	Jpgd - Plutonic rocks, Foliated granodiorite and diorite		9																					**9**
	Jqk - Quartz diorite of Kilbeck Hills																			3				**3**
	Jrr - Biotite quartz monzodiorite of Redonda Ridge														16									**16**
	Js - Leucocratic hornblende syenite														14									**14**
	Jsm - Granite of Ship Mountains																			7				**7**
	JTRgb - Gabbro and pyroxenite														3									**3**
	Jwm - Monzodiorite of White Mountain														3									**3**
	Ka - Tonalite of Alpine					72																		**72**
	Kao - Granodiorite of Angeles Oaks														15									**15**
	Kap - Quartz diorite of Antimony Peak				3																			**3**
	Kat - Gabbro of the Agua Tibia Mountains												21											**21**

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	Katg - Granodiorite of Arroyo del Toro Pluton																1							**1**
	Kaw - Alaskite of western Granite Mountains														1									**1**
	Kba - Box Springs Plutonic Complex, amphibolitic gabbro																3							**3**
	Kbf - Monzogranite of Burnt Flats														2									**2**
	Kbfg - Box Springs plutonic complex, biotite, granodiorite and tonalite														8		6							**14**
	Kbfgi - Box Springs Plutonic Complex, biotite, granodiorite and tonalite with inclusions																1							**1**
	Kbft - Box Springs plutonic complex, biotite-hornblende tonalite														9		7							**16**
	Kbg - Box Springs plutonic complex, porphyritic granodiorite														8		8							**16**
	Kbgt - Box Springs plutonic complex, heterogeneous granodiorite and tonalite														3		1							**4**
	Kbhg - Box Springs plutonic complex, heterogeneous porphyritic granodiorite														1		2							**3**
	Kbhg1 - Box Springs Plutonic Complex, layered heterogeneous porphyritic granodiorite																4							**4**
	Kbht - Box Springs Plutonic Complex, heterogeneous biotite tonalite																2							**2**
	Kbm - Granodiorite of Burnt Mountain												1											**1**
	Kbm - Heterogeneous, leucocratic biotite monzogranite														3									**3**
	Kbp - Granite of Bottle Peak												2											**2**
	Kbp - Monzogranite of Butler Peak														5									**5**
	Kbpg - Monzogranite of Bernasconi Pass, biotite-hornblende																6							**6**
	Kbpm - Monzogranite of Bernasconi Pass, migmatic																7							**7**
	Kbt - Box Springs plutonic complex, biotite tonalite														1		2							**3**
	Kc - Cuyamaca Gabbro					286																		**286**
	Kcc - Coxcomb Intrusive Suite, Porphyritic granodiorite of Coxcomb Mountains																			10				**10**
	Kcc - Monzogranite of City Creek														155									**155**
	Kcc - Tonalite of Couser Canyon												4											**4**
	Kccl - Coxcomb Intrusive Suite, Granodiorite of Cadiz Lake																			22				**22**
	Kccm - Coxcomb Intrusive Suite, Granodiorite of southern Calumet Mountains																			4				**4**
	Kccp - Coxcomb Intrusive Suite, Clarks Pass Granodiorite																			6				**6**
	Kccp? - Coxcomb Intrusive Suite, Clarks Pass Granodiorite, uncertain																			1				**1**
	Kcg - Cajalco Pluton, monzogranite																62							**62**
	Kcg - Coxcomb Intrusive Suite, granite																			139				**139**

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	Kcg - Tonalite of Cole Grade												5											**5**
	Kcgb - Cajalco Pluton, granodiorite and gabbro																11							**11**
	Kcgd - Cajalco Pluton, granodiorite																4							**4**
	Kcgi - Coxcomb Intrusive Suite, granite, granodiorite, and meta-igneous inclusions																			6				**6**
	Kcgp - Coxcomb Intrusive Suite, porphyritic granite and granodiorite facies																			31				**31**
	Kcgq - Cajalco Pluton, granodiorite and quartz latite																1							**1**
	Kch - Charnockite, hypersthene-bearing granite														11									**11**
	Kck - Coxcomb Intrusive Suite, Granodiorite of Kilbeck Hills																			13				**13**
	Kcm - Corte Madera Monzogranite					149																		**149**
	Kcm - Tonalite of Circle Mountain														11									**11**
	Kcp - Chiquito Peak Monzogranite					175																		**175**
	Kcpg - Coxcomb Intrusive Suite, porphyritic granodiorite																			6				**6**
	Kcr - Monzogranite of Coxey Road														11									**11**
	Kcs - Monzogranite of Cloudburst Summit														62									**62**
	Kcsh - Coxcomb Intrusive Suite, Sheep Hole Pass Granite																			45				**45**
	Kcsk - Coxcomb Intrusive Suite, Quartz monzodiorite of southern Kilbeck Hills																			2				**2**
	Kcsl - Monzogranite of Cloudburst Summit, leucocratic unit														1									**1**
	Kcsm - Coxcomb Intrusive Suite, Sheep Hole Mountains Granodiorite																			7				**7**
	Kcsm? - Coxcomb Intrusive Suite, Sheep Hole Mountains Granodiorite, uncertain																			6				**6**
	Kct - Cajalco Pluton, tonalite																2							**2**
	Kcto - Cajalco Pluton, tourmalinized monzogranite and granodiorite																8							**8**
	Kd - Diorite, undifferentiated														1		10							**11**
	Kd - Diorite, undivided												1			2								**3**
	Kda - Diorite of Apache Canyon				2																			**2**
	Kdc - Granodiorite of Dorr Canyon														1									**1**
	Kdd - Deer diorite of Alf (1948)														8									**8**
	Kdh - Monzogranite of Devils Hole														4									**4**
	Kdl - Granite of Dixon Lake												15											**15**
	Kdp - Monzogranite of Deadman Point														6									**6**
	Kdqd - Diorite and quartz diorite, undifferentiated																1							**1**
	Kdvg - Domenigoni Valley Pluton, granodiorite and tonalite																79							**79**
	Keg - Echo Granite									12														**12**

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	Keh - Tonalite of Elephant Hill														7									**7**
	Kf - Felsic dikes, microgranite																			5				**5**
	Kg - Granite, undivided												9											**9**
	Kg - Granitic dikes														2		38							**40**
	Kga - Granite of Apache Canyon				9																			**9**
	Kgaa - Green Acres Gabbro Complex, anorthosite																2							**2**
	Kgab - Green Acres Gabbro Complex, olivine, pyroxene, and hornblende																4							**4**
	Kgah - Green Acres Gabbro Complex, hornblende-rich gabbro																1							**1**
	Kgam - Green Acres Gabbro Complex, metagabbro																2							**2**
	Kgao - Green Acres Gabbro Complex, olivine gabbro																7							**7**
	Kgat - Green Acres Gabbro Complex, trocolite																1							**1**
	Kgb - Gabbro, undifferentiated														5		232							**237**
	Kgb - Gabbro, undivided												89											**89**
	Kgbf - Fine-grained hornblende gabbro, Railroad Canyon area																20							**20**
	Kgbf - Gabbro, undivided within the Elsinore Fault Zone												3											**3**
	Kgbh - Biotite-hornblende granodiorite														3									**3**
	Kgbm - Monzogranite of Brush Mountain				10																			**10**
	Kgc - Mylonitized leucogranite														1									**1**
	Kgct - Gavilan Ring Complex, biotite hornblende tonalite																2							**2**
	Kgd - Gneissic granodiorite				10																			**10**
	Kgd - Granodiorite, undifferentiated														6		66							**72**
	Kgd - Granodiorite, undivided												58			10								**68**
	Kgdb - Biotite granodiorite														3									**3**
	Kgdc - Biotite granodiorite, Cajon area														8									**8**
	Kgdf - Granodiorite, undivided within the Elsinore Fault Zone												11											**11**
	Kgdfg - Granodiorite, undivided												4											**4**
	Kgdt - Granodiorite and tonalite, undifferentiated														1									**1**
	Kgg - Gavilan Ring Complex, hypersthene monzogranite																1							**1**
	Kgh - Gavilan Ring Complex, hypabyssal tonalite																2							**2**
	Kgh - Hypabyssal rocks, undivided															1								**1**
	Kght - Gavilan Ring Complex, heterogeneous tonalite																1							**1**
	Kgl - Granite of Lockwood Peak				15																			**15**
	Kgl - Mixed leucocratic and granitic rocks									26					11									**37**

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	Kglm - Mixed anorthosite and granite									14														**14**
	Kgm - Tonalite of Granite Mountain					66																		**66**
	Kgm1 - Tonalite of Granite Mountain, Unit 1					3																		**3**
	Kgm2 - Tonalite of Granite Mountain, Unit 2					5																		**5**
	Kgm3 - Tonalite of Granite Mountain, Unit 3					2																		**2**
	Kgm4 - Tonalite of Granite Mountain, Unit 4					2																		**2**
	Kgn - Granite of Cerro Noroeste				13																			**13**
	Kgp - Gneissic porphyritic granite		3																					**3**
	Kgp - Granite of Mount Pinos				10																			**10**
	Kgp - Granite pegmatite dike												36											**36**
	Kgp - Tonalite of Ganesha Park														5									**5**
	Kgr - Granitic rocks									77														**77**
	Kgr - Granitoid rocks					32																		**32**
	Kgr - Granophyre																3							**3**
	Kgt - Gavilan Ring Complex, massive textured tonalite																13							**13**
	Kgtf - Gavilan Ring Complex, foliated tonalite																6							**6**
	Kgti - Gavilan Ring Complex, tonalite with mesocratic inclusions																2							**2**
	Kgu - Granite, undifferentiated														2		52							**54**
	Kgu - Granodiorite and tonalite, undivided															14								**14**
	Kh - Granodiorite of Hanna Flat														12									**12**
	Khc - Granodiorite of Hook Creek														6									**6**
	Khd - Hornblende diorite				9																			**9**
	Khg - Heterogeneous granitic rocks												26				130							**156**
	Khg(s) - Heterogeneous granitic rocks																8							**8**
	Khl - Heterogeneous leucocratic granitic rocks														13									**13**
	Khqd - Hypersthene quartz diorite																1							**1**
	Khr - Hybrid rocks														2									**2**
	Kht - Heterogeneous tonalitic rocks														8									**8**
	Ki - Granodiorite of Indian Mountain												7											**7**
	Kia - Iron Mountains Intrusive Suite, garnet aplite																			9				**9**
	Kig - Iron Mountains Intrusive Suite, Granite Pass Granite																			26				**26**
	Kigd - Iron Mountains Intrusive Suite, Granite Pass Granite, equigranular facies																			2				**2**
	Kigm - Iron Mountains Intrusive Suite, Granite Pass Granite, muscovite-garnet granite facies																			6				**6**
	Kih - Indian Hill granodiorite of Parrish and others (1986)					20																		**20**
	Kis - Granite of Indian Springs												3											**3**
	KJc - Quartz monzodiorite of Crestline														5									**5**

Updated Ptype and Description		100K Quadrangle Counts																						
	Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
	Kjd - Granodiorite of Jesmond Dean												4											**4**
	KJdd - Quartz monzonite of Dawn O'Day Canyon														16									**16**
	KJdg - Mixed diorite and gabbro														173									**173**
	KJem - Quartz Diorite of East Mesa					60																		**60**
	KJgm - Mixed granitic rocks, gneiss, and quartzite														36									**36**
	KJhb - Hornblende-biotite granodiorite														8									**8**
	KJhs - Mixed granitic rocks of Hopi Spring														10									**10**
	KJld - Leucocratic dikes					23																		**23**
	KJos - Mixed granitic rocks of Oak Spring														7									**7**
	KJpg - Pink granite																			7				**7**
	KJqd - Quartz-bearing diorite														2									**2**
	KJsc - Quartz diorite of Sand Canyon														2									**2**
	KJsp - Mixed granitic rocks of South Peak														4									**4**
	KJta - Tonalite of Ord Mountains														2									**2**
	KJtg - Tonalite and gabbro					3																		**3**
	Kjv - Japatul Valley Tonalite					92																		**92**
	Kk - Monzogranite of Keller Peak														36									**36**
	Kkc - Monzogranite of Kinley Creek														29									**29**
	Kl - Leucocratic granite																			7				**7**
	Klb - Tonalite of Las Bancas					51																		**51**
	Klct - Tonalite of Lamb Canyon																8							**8**
	Kle - Lebec Granodiorite				16																			**16**
	Klg - Leucocratic granite dikes														11									**11**
	Klh - Leucogranodiorite of Lake Hodges												5											**5**
	Klmc - Lakeview Mountains Pluton, gabbro																1							**1**
	Klmg - Lakeview Mountains Pluton, hypersthene hornblende gabbro																5							**5**
	Klml - Lakeview Mountains Pluton, leucocratic schlieren																3							**3**
	Klmm - Lakeview Mountains Pluton, melanocratic, biotite, hornblende																20							**20**
	Klmp - Lakeview Mountains Pluton, pegmatitic dikes																4							**4**
	Klmt - Lakeview Mountains Pluton, tonalite																16							**16**
	Klmtg - Lakeview Mountains Pluton, tonalite and granodiorite																1							**1**
	Klp - Tonalite of La Posta					214																		**214**
	Klst - La Sierra Tonalite																33							**33**
	Klt - Tonalite near mouth of Laborde Canyon																5							**5**
	Klu - Leucocratic granitic rocks														10									**10**
	Klv - Heterogeneous granitic rocks of La Verne area														2									**2**
	Km - Granodiorite of Mountain Meadows												1											**1**

Updated Ptype and Description		100K Quadrangle Counts																						
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	Km - Leucogranite of Milligan																			28				**28**
	Kmbb - Biotite monzogranite														7									**7**
	Kmc - Monzogranite of Malony Creek														1									**1**
	Kmeg - Granite of Mount Eden																24							**24**
	Kmg - Monzogranite and granodiorite														146									**146**
	Kmg - Monzogranite, undivided												1											**1**
	Kmgp - Monzogranite of Mother Grundy Peak					5																		**5**
	Kmgt - Monzogranite and tonalite, undifferentiated														1									**1**
	Kmhg - Mount Hole Granodiorite																7							**7**
	Kml - Mixed mafic and leucocratic granitic rocks														5									**5**
	Kmm - Leucocratic muscovite monzogranite														1									**1**
	Kmm - Monzogranite of Merriam Mountain												20											**20**
	Kmp - Micropegmatite granite																7							**7**
	Kmpc - Micropegmatite and granodiorite of Cajalco Pluton, undifferentiated																2							**2**
	Kmrg - Granite of Mount Rubidoux, tonalite dikes																4							**4**
	Kms - Monzogranite of Muddy Spring														3									**3**
	Kmx - Mixed granitic rocks of Heaps Peak														19									**19**
	Ko - Old Woman Mountains Granodiorite																			42				**42**
	Kop - Old Woman Mountains Granodiorite, porphyritic facies																			7				**7**
	Kpa - Granodiorite of Pala												11											**11**
	Kpbm - Porphyritic biotite monzogranite														5									**5**
	Kpd - Box Springs Plutonic Complex, granite pegmatite dikes																3							**3**
	Kpf - Monzogranite of Punchbowl Fault area														5									**5**
	Kpv - Monzogranite of Pine Valley					33																		**33**
	Kpvg - Paloma Valley Ring Complex, monzogranite and granodiorite																57							**57**
	Kpvgb - Paloma Valley Ring Complex, granodiorite and gabbro																1							**1**
	Kpvgr - Paloma Valley Ring Complex, granophyre																64							**64**
	Kpvp - Paloma Valley Ring Complex, pegmatite dikes																15							**15**
	Kpvt - Paloma Valley Ring Complex, tonalite																33							**33**
	Kqbd - Quartz-bearing diorite, undivided												10											**10**
	Kqd - Quartz diorite, undifferentiated																25							**25**
	Kr - Granodiorite of Rainbow												21											**21**
	Kr - Rattlesnake Mountain Pluton of MacColl (1964)														47									**47**
	Krct - Tonalite of Reinhardt Canyon Pluton																13							**13**
	Krg - Granite of Riverside area																39							**39**

Updated Ptype and Description	100K Quadrangle Counts																						
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Krl - Leucocratic rocks of Rattlesnake Mountain Pluton of MacColl (1964)														13									**13**
Krm - Quartz-bearing diorite of Red Mountain												13											**13**
Krp - Rattlesnake Mountain Pluton of MacColl (1964)														70									**70**
Krr - Granodiorite of Rimrock												1											**1**
Ks - Granite of Sweetwater Wash																			23				**23**
Ksa - Quartz diorite of Mount San Antonio														51									**51**
Ksgr - Tonalite of San Gabriel Reservoir														41									**41**
Ksmg - Monzogranite of Squaw Mountain																2							**2**
Kss - Tonalite of San Sevaine Lookout														102									**102**
Kssg - Mixed tonalite of San Sevaine Lookout and gneiss														5									**5**
Kssm - Mylonitized tonalite of San Sevaine Lookout														7									**7**
Kssm1 - Mylonitized tonalite of San Sevaine Lookout														20									**20**
Kt - Tonalite, undifferentiated														26		67							**93**
Kt - Tonalite, undivided												112			7								**119**
Ktbh - Tonalite of Bernasconi Hills																9							**9**
Ktcg - Monzogranite of Tres Cerritos																3							**3**
Ktd - Tonalite dikes of Mount Rubidoux																4							**4**
Kthgd - Granodiorite of Tucalota Hills																1							**1**
Ktm - Tonalite and mafic rocks, undifferentiated																1							**1**
KTRmm - Mixed monzogranite and leucocratic monzonite														11									**11**
Kts - Tonalite of Slaughterhouse Canyon																1							**1**
Kvc - Monzogranite of Valley Center												6											**6**
Kvspi - Intrusive rocks associated with Santiago Peak Volcanics																40							**40**
Kvt - Val Verde Pluton, tonalite																23							**23**
Kvt? - Val Verde Pluton, tonalite, uncertain																1							**1**
Kvti - Val Verde Pluton, inclusion-rich tonalite																2							**2**
Kvtk - Val Verde Pluton, potassium feldspar-bearing tonalite																1							**1**
Kwc - Granodiorite of Willow Creek														3									**3**
Kwcy - Monzogranite of Willow Canyon														1									**1**
Kwm - Granodiorite of Woodson Mountain												4											**4**
Kwmt - Gabbro of Weaver Mountain												12											**12**
Kwt - White Tank (?) monzogranite of Trent (1984)																			1				**1**
lgd - Lowe Granodiorite, undivided leucocratic									24														**24**
lgdb - Lowe Granodiorite, gneissoid biotite hornblende									6														**6**

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	lgdd - Lowe Granodiorite, hornblende-rich gneissoid facies									2														**2**
	lgdh - Lowe Granodiorite, hornblende granodiorite, small phenocrysts									21														**21**
	lgdp - Lowe Granodiorite, porphyritic									9														**9**
	mh - Diorite									8														**8**
	Mzc - Diorite of Cram Peak														7									**7**
	Mzdbh - Biotite-hornblende diorite									20														**20**
	Mzdhb - Granitic rocks									19														**19**
	Mzdy - Diorite, Yucaipa area																1							**1**
	Mzfg - Foliated granitoid rocks														9									**9**
	Mzg - Granitic complex									23														**23**
	Mzga - Orthogneiss of Alger Creek														3									**3**
	Mzgd - Gneissic granodiorite of Holcomb Ridge														4									**4**
	Mzgd - Granodiorite									7														**7**
	Mzggm - Foliated gabbro, granodiorite, and monzogranite														1									**1**
	Mzgr - Biotite monzogranite of Big John Peak														13									**13**
	Mzgu - Granitoid rocks														1									**1**
	Mzgy - Mesocratic granitoid rocks														2									**2**
	Mzh - Monzogranite and granodiorite of Holcomb Ridge														117									**117**
	Mzhd - Granitic rocks									41														**41**
	Mzhg - Heterogeneous granitic rocks, San Gabriel Mountains														22									**22**
	Mzir - Inclusion-rich granitoid rocks														4									**4**
	Mzmg - Deformed granitic rocks of Transverse Ranges Province														21		3							**24**
	Mzmx - Mixed mafic rocks and monzogranite														3									**3**
	Mzog - Heterogeneous hornblende-biotite orthogneiss														70									**70**
	MzPzg - Granitic and metamorphic rocks, includes granite, gneiss and metasedimentary rocks				8																			**8**
	MzPzgb - Mafic-ultramafic complex, gabbro and pyroxenite				9																			**9**
	MzPzmd - Mafic-ultramafic complex, metadiabase, amphibolite, gabbro and pyroxenite				4																			**4**
	MzPzqd - Mafic-ultramafic complex, hornblende quartz diorite to tonalite				9																			**9**
	Mzqdb - Biotite-quartz diorite									5														**5**
	Mzsl - Mixed granitic rocks of Silverwood Lake														72									**72**
	Mzug - Mesozoic granitic rocks, undivided														25									**25**
	P_grp - Granite pegmatite									1														**1**

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	Pagb - Anorthosite with gabbro									37														**37**
	Pan - Anorthosite, medium to coarse grain plagioclase rock									75														**75**
	Pfgb - Ferro-gabbro									23														**23**
	Phgb - Hornblende gabbro									7														**7**
	Pigb - Gabbro-norite									1														**1**
	Pjgb - Jotunite-norite-gabbro-diorite									29														**29**
	Pjgba - Jotunite-norite-gabbro-diorite with actinolite									3														**3**
	Plgb - Leucogabbro									26														**26**
	Ppg - Porphyritic granite and augen gneiss		25																					**25**
	Pra - Anorthosite														1									**1**
	Prgc - Coarse-grained biotite granite augen gneiss														61									**61**
	Psy - Syenite									26														**26**
	qd - Quartz diorite									74														**74**
	qd? - Quartz diorite									1														**1**
	qd+m3 - Quartz diorite and biotite gneiss									1														**1**
	qd+m4a - Quartz diorite and hornblende orthogneiss									1														**1**
	qd2 - Quartz diorite and hornblende orthogneiss									1														**1**
	Qha/fp - Abundant hillslope deposits overlie felsic plutonic bedrock			35																				**35**
	Qha/fp - Abundant hillslope deposits overlie felsic plutonic rocks (granite, granodiorite)										7													**7**
	Qha/fp - Abundant hillslope deposits overlie felsic plutonic rocks (granite, granodiorite).						77					271												**348**
	'Qha/fp' - Abundant hillslope deposits overlie felsic plutonic rocks (granite, granodiorite).											1												**1**
	Qha/fp - Abundant hillslope deposits overlie felsic plutonic rocks (granite, granodiorite); hillslope deposits generally less than 2 meters thick or patchy; disaggregated cover greater than rock exposure	144																						**144**
	Qha/fp? - Abundant hillslope deposits overlie felsic plutonic rocks (granite, granodiorite).											12												**12**
	Qha/fp? - Abundant hillslope deposits overlie felsic plutonic rocks (granite, granodiorite); hillslope deposits generally less than 2 meters thick or patchy; disaggregated cover greater than rock exposure	13																						**13**
	Qha/fp+mr - Abundant hillslope deposits overlie felsic plutonic rocks and metamorphic rocks										1													**1**
	Qha/fp+sc - Abundant hillslope deposits overlie felsic plutonic and schistose bedrock			1																				**1**

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Qha/fpg - Abundant hillslope deposits overlie felsic plutonic bedrock that weathers to grus			149																				**149**
Qha/fpg - Abundant hillslope deposits overlie felsic plutonic rocks (granite, granodiorite) that weather to grus.						152																	**152**
Qha/fpg - Abundant hillslope deposits overlie felsic plutonic rocks (granite, granodiorite); hillslope deposits generally less than 2 meters thick or patchy; disaggregated cover greater than rock exposure	65																						**65**
Qha/fpg - Abundant hillslope deposits overlie felsic plutonic rocks that weather to grus										7													**7**
Qha/fpg - Abundant hillslope deposits overlie felsic plutonic rocks that weather to grus (granite, granodiorite).											141												**141**
Qha/fpg? - Abundant hillslope deposits overlie felsic plutonic rocks that weather to grus (granite, granodiorite).											7												**7**
Qha/fpg+mp - Abundant hillslope deposits overlie felsic plutonic rocks that weather to grus and mafic plutonic rocks										1													**1**
Qha/fpg+mr - Abundant hillslope deposits overlie felsic plutonic rocks that weather to grus and metamorphic rocks										5													**5**
Qha/mp - Abundant hillslope deposits overlie intermediate to mafic plutonic rocks (gabbro, diorite, monzodiorite, syenite, alkalic rocks).											162												**162**
Qha/mp - Abundant hillslope deposits overlie mafic plutonic bedrock			45																				**45**
Qha/mp - Abundant hillslope deposits overlie mafic plutonic rocks										39													**39**
Qha/mp - Abundant hillslope deposits overlie mafic plutonic rocks (gabbro, diorite, monozodiorite, syenite, alkalic rocks).						53																	**53**
Qha/mp - Abundant hillslope deposits overlie mafic plutonic rocks (gabbro,diorite, monzodiorite, syenite, alkalic rocks); hillslope deposits generally less than 2 meters thick or patchy; disaggregated cover greater than rock exposure	77																						**77**
Qha/mp? - Abundant hillslope deposits overlie intermediate to mafic plutonic rocks (gabbro, diorite, monzodiorite, syenite, alkalic rocks).											18												**18**
Qha/mp? - Abundant hillslope deposits overlie mafic plutonic rocks (gabbro,diorite, monzodiorite, syenite, alkalic rocks); hillslope deposits generally less than 2 meters thick or patchy; disaggregated cover greater than rock exposure	9																						**9**

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Qha/mp+fp - Abundant hillslope deposits overlie mafic plutonic and felsic plutonic bedrock			1																				**1**
Qha/mp+fpg - Abundant hillslope deposits overlie mafic plutonic rocks and felsic plutonic rocks that weather to grus										1													**1**
Qhs/fp - Sparse hillslope deposits overlie felsic plutonic bedrock			1																				**1**
Qhs/fp - Sparse hillslope deposits overlie felsic plutonic rocks (granite, granodiorite); hillslope deposits generally less than 2 meters thick and patchy; disaggregated cover less than rock exposure	4																						**4**
Qhs/fpg - Sparse hillslope deposits overlie felsic plutonic bedrock that weather to grus			6																				**6**
Qhs/fpg - Sparse hillslope deposits overlie felsic plutonic rocks (granite, granodiorite)	14																						**14**
Qhs/fpg - Sparse hillslope deposits overlie felsic plutonic rocks (granite, granodiorite) that weather to grus.						5																	**5**
Qhs/fpg - Sparse hillslope deposits overlie felsic plutonic rocks that weather to grus										10													**10**
Qhs/mp - Sparse hillslope deposits overlie mafic plutonic bedrock			1																				**1**
Qhs/mp - Sparse hillslope deposits overlie mafic plutonic rocks (gabbro, diorite, monzodiorite, syenite, alkalic rocks); hillslope deposits generally less than 2 meters thick and patchy; disaggregated cover less than rock exposure	2																						**2**
qm - Quartz diorite, massive									19														**19**
qm1 - Leucocratic quartz monzonite									6														**6**
qmc - Cataclastic quartz monzonite									4														**4**
Qmc/fpg - Colluvial deposits overlie felsic plutonic bedrock that weathers to grus			1																				**1**
Qpd-fp - Deeply dissected pediment in felsic plutonic rocks			5																				**5**
Qpd-fp - Deeply dissected pediment within felsic plutonic rocks (granite, granodiorite)	1																						**1**
Qpd-fp - Deeply dissected pediment within felsic plutonic rocks (granite, granodiorite).						1																	**1**
Qpd-fpg - Deeply dissected pediment within felsic plutonic rocks (granite, granodiorite) that weather to grus.						6																	**6**
Qpd-fpg - Deeply dissected pediment within felsic plutonic rocks that weather to produce grus	17																						**17**
Qpd-fpg - Deeply incised pediment in felsic plutonic rocks that weather to grus			10																				**10**
Qpd-fpg - Deeply incised pediment within felsic plutonic rocks that weather to grus.											1												**1**

Updated Ptype and Description		100K Quadrangle Counts																						
	Source Ptype and Description	**Amboy 30' x 60'**	**Blythe 30' x 60'**	**Cuddeback Lake 30' x 60'**	**Cuyama 30' x 60'**	**El Cajon 30' x 60'**	**Ivanpah 30' x 60'**	**Lancaster 30' x 60'**	**Long Beach 30' x 60'**	**Los Angeles 30' x 60'**	**Mesquite Lake 30' x 60'**	**Newberry Springs 30' x 60'**	**Oceanside 30' x 60'**	**Palm Springs 30' x 60'**	**San Bernardino 30' x 60'**	**San Diego 30' x 60'**	**Santa Ana 30' x 60'**	**Santa Barbara (east) 30' x 60'**	**Santa Barbara (west) 30' x 60'**	**Sheep Hole Mts. 30' x 60'**	**Soda Mountains 30' x 60'**	**Taft (east) 30' x 60'**	**Tehachapi 30' x 60'**	**Grand Total**
	Qpd-fpg? - Deeply incised pediment within felsic plutonic rocks that weather to grus.											4												**4**
	Qpd-mp - Deeply dissected pediment within mafic plutonic rocks (gabbro, diorite, monozodiorite, syenite, alkalic rocks).						6																	**6**
	Qpd-mp - Deeply incised pediment in mafic plutonic rocks			3																				**3**
	Qpi-fp - Deeply dissected pediment in felsic plutonic rocks										3													**3**
	Qpi-fp - Incised pediment in felsic plutonic rocks			7																				**7**
	Qpi-fp - Incised pediment within felsic plutonic rocks (granite, granodiorite)	3																						**3**
	Qpi-fp - Incised pediment within felsic plutonic rocks (granite, granodiorite).						10					5												**15**
	Qpi-fp? - Incised pediment within felsic plutonic rocks (granite, granodiorite)	2																						**2**
	Qpi-fpg - Deeply dissected pediment in felsic plutonic rocks that weather to grus										2													**2**
	Qpi-fpg - Incised pediment in felsic plutonic rocks that weather to grus			58																				**58**
	Qpi-fpg - Incised pediment within felsic plutonic rocks (granite, granodiorite) that weather to grus.						39																	**39**
	Qpi-fpg - Incised pediment within felsic plutonic rocks (granite, granodiorite) that weather to grus	34																						**34**
	Qpi-fpg - Incised pediment within felsic plutonic rocks that weather to grus.											24												**24**
	Qpi-fpg? - Incised pediment within felsic plutonic rocks that weather to grus.											3												**3**
	Qpi-mp - Incised pediment in mafic plutonic rocks			3																				**3**
	Qpi-mp - Incised pediment within mafic plutonic rocks (gabbro, diorite, monozodiorite, syenite, alkalic rocks).						4																	**4**
	Qpi-mp? - Incised pediment within mafic plutonic rocks (gabbro, diorite, monzodiorite, syenite, alkalic rocks)	1																						**1**
	Qpv-fp - Veneered pediment within felsic plutonic rocks (granite, granodiorite)	2																						**2**
	Qpv-fp - Veneered pediment within felsic plutonic rocks (granite, granodiorite).						9																	**9**
	Qpv-fp - Veneered pediments within felsic plutonic rocks (granite, granodiorite).											9												**9**
	Qpv-fp+mr - Veneered pediments within intermixed felsic plutonic and metamorphic rocks.											1												**1**
	Qpv-fpg - Pediment in felsic plutonic rocks with veneer of grus			72																				**72**

Updated Ptype and Description		100K Quadrangle Counts																						
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	Qpv-fpg - Veneered pediment within felsic plutonic rocks (granite, granodiorite) that weather to grus	26																						**26**
	Qpv-fpg - Veneered pediment within felsic plutonic rocks (granite, granodiorite) that weather to grus.						68																	**68**
	Qpv-fpg - Veneered pediments within felsic plutonic rocks that weather to grus.											21												**21**
	Qpv-fpg? - Veneered pediments within felsic plutonic rocks that weather to grus.											6												**6**
	Qpv-mp - Pediment in mafic plutonic rocks with veneer of sediment			2																				**2**
	Qpv-mp - Veneered pediment within mafic plutonic rocks (gabbro, diorite, monozodiorite, syenite, alkalic rocks).						6																	**6**
	Qpv-mp - Veneered pediments within intermediate to mafic plutonic rocks (gabbro, diorite, monzodiorite, syenite, alkalic rocks).											1												**1**
	syg - Syenite with gneiss									1														**1**
	Tai - Andesitic intrusive rocks									1														**1**
	Tdb - Diabase, undivided																	83						**83**
	Tdg - Olivine diabase and gabbro														2									**2**
	Tgh - Hypabyssal granitic rocks														5									**5**
	Tgry - Granodiorite, Yucaipa area														9									**9**
	Tgtp - Granodiorite of Telegraph Peak														50									**50**
	Ti - Intrusive olivine diabase				2																			**2**
	Tia - Andesitic intrusive rocks									2														**2**
	Tib - Basaltic intrusive rocks									8														**8**
	Tiema - Volcanic intrusive rocks associated with El Modeno Volcanics, andesite																12							**12**
	Tiema? - Volcanic intrusive rocks associated with El Modeno Volcanics, uncertain																3							**3**
	Tiemd - Volcanic intrusive rocks associated with El Modeno Volcanics, diabase																100							**100**
	Tiemd? - Volcanic intrusive rocks associated with El Modeno Volcanics, uncertain																1							**1**
	TKmg - Mafic granodiorite														4									**4**
	TRa - Alaskite of Sunset Cove														1									**1**
	TRcp - Monzonite of Cedarpines Park														2									**2**
	TRd - Diorite and gabbro		5																					**5**
	TRd? - Diorite and gabbro, uncertain		7																					**7**
	TRdg - Diorite and gabbro of Bare Mountain														73									**73**
	TRf - Monzonite of Fawnskin														37									**37**
	TRfl - Leucocratic monzonite of Fawnskin														2									**2**
	TRfp - Monzonite of Fifteenmile Point														7									**7**
	TRh - Monzonite of Hill 4001														6									**6**

Updated Ptype and Description		100K Quadrangle Counts																						
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	TRlb - Mount Lowe Intrusive Suite, equigranular leucocratic biotite quartz monzonite														18									**18**
	TRlg - Mount Lowe Intrusive Suite, undivided									9														**9**
	TRlh - Mount Lowe Intrusive Suite, hornblende-biotite quartz monzonite														49									**49**
	TRll - Mount Lowe Intrusive Suite, porphyritic biotite quartz monzonite														50									**50**
	TRlm - Fine-grained leucocratic monzonite														1									**1**
	TRlq - Mount Lowe Intrusive Suite, porphyritic monzonite and quartz monzodiorite														92									**92**
	TRlu - Mount Lowe Intrusive Suite, undifferentiated														27									**27**
	TRm - Monzogranite of Manzanita Springs														24									**24**
	TRqm - Quartz monzonite and monzodiorite		1																					**1**
	TRrl - Monzonite of Rabbit Lake														4									**4**
	TRsp - Quartz monzonite of Strawberry Peak														29									**29**
	Ttd - Hypabyssal dikes														3									**3**
	Xd - Diorite and amphibolite																			13				**13**
	Xjt - Granite of Joshua Tree																			8				**8**
	xqd - Quartz diorite									15														**15**
Grand Total		**2,370**	**1,140**	**3,729**	**7,092**	**3,405**	**4,658**	**8,185**	**1,684**	**14,856**	**4,079**	**7,713**	**4,716**	**12,077**	**20,138**	**2,581**	**15,342**	**4,469**	**1,457**	**2,893**	**3,850**	**585**	**3,081**	**130,100**