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Index to Detailed Maps of Landslides in the San Francisco Bay Region, California

By RICHARD J. PIKE[1]

Rapid public access to detailed map information on landslides in the ten-county San Francisco Bay region is facilitated by a table keyed to 7.5′ topographic quadrangles

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Abstract: A table keyed to 171 topographic quadrangles on a new 1:275,000-scale shaded-relief map speeds access to information on landslide locations in the ten-county San Francisco Bay region. Detailed maps showing individual landslides in nearly any area of interest can be found quickly by knowing only the name of the appropriate 7.5' quadrangle. The some-80 technical reports that contain these maps may be consulted in the U.S. Geological Survey's Menlo Park library collection.

Introduction

The ten counties that comprise the greater San Francisco Bay region[1] occupy some 7600 square miles, exclusive of water bodies, much of it in sloping ground. Most of the land that is not flat terrain is subject to landslides and other types of slope failure (Nilsen and others, 1979; Wieczorek and others, 1988). Landslides are much more common features of the Bay Region landscape than is generally realized. Some 75,000 of them—ranging widely in age, size, and type and degree of activity—have been mapped within just the ten counties. Depending on location, the number of landslides identified averages about ten per square mile and varies from zero to 40.

It is often necessary to find out whether a landslide exists at a particular Bay Area locale. Homeowners, landscape architects, real estate developers, city planners, building officials, emergency-response personnel, civil engineers, utilities workers, and others all have occasion to know where the landslides are. Because existing old and ancient landslides may be reactivated by severe winter storms (Nilsen and others, 1976), timely availability of information on landslide location can reduce losses of life and property to the region's expanding population (San Francisco Bay Landslide Mapping Team, 1997).

Access to Information

Current access to detailed data on landslide locations is poor. Although this information has been generalized for the Bay region, the coarse-scale maps do not identify individual landslides (Nilsen and others, 1979; Wentworth and others, 1997). Information on individual landslide occurrences is available, but not readily, and it does not yet exist in a form that can be retrieved quickly. Rather, the data are

[1] Sonoma, Napa, Solano, Marin, Contra Costa, San Francisco, San Mateo, Alameda, Santa Clara, and Santa Cruz

scattered among dozens of paper maps included in the often hard-to-find technical reports by government geologists. The published lists that include these maps and reports are no longer complete or current (Nilsen and others, 1979; Alger and Brabb, 1985; Taylor and Brabb, 1986), some of the earlier reports are out-of-print, and few Bay Region libraries have them.

Detailed maps that show the location of individual landslides in the the San Francisco Bay region can be consulted by the public at the U.S. Geological Survey's Western Center library in Menlo Park. These "landslide-inventory" maps, all at scales of l:62,500 scale (one inch = one mile) or better, have been prepared over the last 35 years by geologists of the Geological Survey, the California Division of Mines and Geology, and private consulting firms. The USGS Library has on file nearly 80 different reports that contain these maps. The area covered by each report varies greatly, from a small irregularly-shaped fraction of one 7.5' USGS quadrangle to blocks of many quadrangles. Landslides identified in more than half of the Bay Region's 171 quadrangles (or those parts of them within the ten-county area) are mapped at the relatively large scale of 1:24,000 (one inch = 3/8 mile).

Although virtually the entire Bay Region is covered by detailed landslide maps[2], it is not easy to find the map for a particular area of interest. First, no single index map shows the exact areal coverage of all 78 landslide-inventory maps, many of which overlap. (Such a highly complex index map would be difficult to read.) Moreover, occasional users of the USGS Western Center library (and other libraries) will find that landslide reports and maps are not grouped together in one place. Rather, they exist in different series of Federal and State publications, located in different parts of the library. One must know which document is needed, its library call number, and then where to look for it. The process can be time-consuming and frustrating.

This report enables visitors to the USGS Menlo Park library to quickly find the detailed landslide map they need. Access to the proper documents is achieved through a table keyed to standard USGS 7.5' quadrangles—a proxy for a true index map, plus the library location of each document. It is not necessary to consult either the library's card catalog or its computer terminals.

Finding landslides in your area

The 75-plus geologic reports compiled here contain all the published landslide-inventory maps for the San Francisco Bay region that I have been able to verify. Table 1 specifies which of those reports cover each of the the 171 quadrangles (or some fraction thereof) on the accompanying index map (Figure 1). Besides

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2 Landslides have not yet been mapped in detail in all parts of the following five 7.5' quadrangles: Valley Ford and Two Rock in northern Marin Co., and Mindego Hill, Santa Teresa Hills and Mt Madonna in western Santa Clara Co.

quadrangle boundaries, this 1:275,000-scale map—modified from a new shaded-relief image (Graham and Pike, 1997)—carries county boundaries and a major-road network to aid in locating a specific area of interest. The list of landslide reports appended to Table 1 includes call numbers and shelf locations in USGS's Menlo Park library. All but a handful of these reports currently are in this library; those few not shelved at the time of writing will be added as they become available.

A detailed landslide map for all but a few areas within the ten counties may be found by the following steps:

1. Determine, if not already known, which 7.5' topographic quadrangle(s) cover(s) the area of interest. Use the index map (Figure 1) or, for greater precision, the quadrangle maps themselves. (7.5' quadrangles, the Nation's standard reference maps, show individual streets and roads. All 171 quadrangles for the ten-county Bay Region are filed alphabetically in the California Center at the USGS Menlo Park library. Ask a USGS librarian for assistance, if needed.)

2. Go to Table 1 of this report and find the quadrangle name in the alphabetized list in column 1. Column 3 on the same line has one or more unique ID codes; for example, "MF344". The ID codes, mostly publication-series numbers, identify the documents that contain landslide maps for that quadrangle. A bibliography of these documents, arranged in order of alphabetized ID codes, follows Table 1.

   If more two or more ID codes are listed, then more than one map is available for that quadrangle or parts of it. Be aware that landslide maps differ widely in the amount of area covered, the shape of that area, and the degree of detail. Check the document list for the date and scale of the maps indicated. More recent reports commonly are more complete; most maps will be at 1:24,000 scale (more detail) or 1:62,500 scale (less detail).

3. The USGS library call number and location of the document are given in boldface type after each reference in the list. Library locations include stacks (shelves) numbered from 1 to 35, flat files (map drawers) numbered from 1 to 13, and unnumbered stacks in the California Center. Identical copies of 14 maps are shelved in three different locations: stacks 4 and 35 and the California Center.

4. Check the selected report to see that its map covers the area wanted. Small-area landslide maps commonly include less than 100% of a 7.5' quadrangle or that part of it lying within the ten-county region. The reduced coverage by local-area maps is indicated in column 3 of Table 1 by such qualifying terms as "some," "minor," or "trace."

   Certain large-area maps also include only parts of quadrangles. For example, the map coded "MF344" has just a small part of the Big Basin quadrangle; the map coded "CCA75" would be needed to find landslides for most localities in that quadrangle. If one map does not include the area of interest in a quadrangle, consult other maps indicated by ID codes until the desired coverage is obtained.

Cautions to users — general

This map collection, although an excellent record of the Bay Region landslide hazard, has limitations. The near-total coverage of the ten-county area does not mean near-100% identification of the landslides themselves. Most of the maps were prepared by interpretation of aerial photographs rather than by field study. They are preliminary or reconnaissance inventories, not exhaustive records of slope failures. Inclusivity of landslides varies from map to map, depending on date of the airphotos; publication scale of the map; landslide size, type, age or degree of degradation; density of tree cover; and each geologist's experience and mapping philosophy. The maps appended to Table 1 probably underestimate the total number and extent of Bay Region landslides.

The landslide-inventory maps cited here should be regarded as guides to what actually may exist on the ground. Indication of a landslide on a map in a particular locale does not guarantee the presence of an actual landslide. Similarly, the absence of a landslide on a map does not guarantee that a landslide does not exist on the ground. The maps indicate what may be expected, but they do not take the place of an on-site survey or the professional judgment of a licensed engineering geologist or geotechnical engineer.

Cautions to users — debris flows

Most landslides on the inventory maps described in this report are of the types collectively referred to as "slides" and "earth flows"—which may move slowly during, and even weeks to months after, the Northern California rainy season (Wentworth and others, 1997). The landslide maps referenced here include comparatively few of the type of slope failure known as a "debris flow." Commonly called "mudslides", debris flows are small, shallow mixtures of water and soil that mobilize suddenly during locally heavy rains, quickly sweeping down steep gullies and leaving thin deposits of material that do not markedly distort the ground surface. Over time, debris flows may reoccur in the same location.

Debris flows are common in the Bay Area (Wieczorek and others, 1988), but they are identified on only some of the landslide-inventory maps listed here—the more recent 1:24,000-scale open-file reports by the California Department of Mines and Geology. Few debris flows are shown on maps prepared before the Region's most recent severe winter (1982) because their recognition features are quickly obscured by vegetation. For example, locations of 18,000 debris flows generated by the January 1982 rains were mapped, but from airphotos taken immediately after the storm (Wieczorek and others, 1988).

Thus, it is not possible to compile a historic inventory of debris flows comparable to that of slides and earth flows. However, the debris-flow hazard to a particular area may be evaluated indirectly by other means (Campbell and others, 1994; Mark and Ellen, 1995; Ellen and others, 1997). Actual reduction of the risk resulting from this hazard may require real-time analysis and warning (Wilson, 1997; Wilson and Jayko, 1997).

The Digital Database

No paper maps accompany this document or the other five reports in the San Francisco Bay Region Landslide Folio. Rather, the Folio is released as a digital database that can be obtained by either (1) connecting with a USGS Web page, (2) through anonymous ftp (file transfer protocol) over the Internet, or (3) sending a request, accompanied by a blank magnetic tape, to USGS. Available in two data formats (ARC/INFO Export-compatible or PostScript), the map files described here can be plotted on the user's equipment or that of a commercial vendor.

The digital compilation was performed in ARC/INFO, a commercial Geographic Information System (Environmental Research Institute [ESRI], Redlands, California). The database for the Landslide Index comprises a quadrangle-index map consisting of an ARC/INFO coverage for the ten-county region, a PostScript map-image file for the region, a PostScript version of this pamphlet, and a text-only version of the pamphlet. See San Francisco Bay Landslide Mapping Team (1997) for information about filenames and how to obtain the data and plotfiles.

The data files are as follows:

sfbr-qi.e00	-ARC/INFO Export file of quadrangle index map
sfbr-qi.ps	-PostScript map-image plotfile of the index map
sfbr-qi-dbsesc.ps	-PostScript version of this pamphlet
sfbr-qi.dbdesc.txt	-ASCII text version of this pamphlet

The map database itself is rather simple, consisting of unattributed arcs (quadrangle grid lines) and polygons with associated quadrangle names; these are stored in Universal Transverse Mercator (UTM) projection (Table 1). Digital tics, which define a 7.5-minute grid of latitude and longitude, correspond to corners of 7.5' quadrangles that fall within the map area.

Table 1 - Map Projection

PROJECTION	UTM
UNITS	meters
ZONE	10
DATUM	NAD27
PARAMETERS	none

Content of the map database is described in terms of the arcs, polygons, and annotations comprising the map. Descriptions of the database fields use the terms explained in Table 2.

Table 2 - Field Definition Terms

ITEM NAME	name of the database field (item)
WIDTH	maximum number of digits or characters stored
OUTPUT	output width
TYPE	B-binary integer, F-binary floating-point number, I-ASCII integer, C-ASCII character string
N.DEC	number of decimal places maintained for floating-point numbers

Arcs (lines) are recorded as strings of vectors and are described in the arc attribute table (AAT: Table 3). They define edges of the 7.5' quadrangles. The name of the table is SFBR-QI.AAT.

Table 3 - Content of the Arc Attribute Tables

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC.	
FNODE#	4	5	B	- -	starting node of arc (from node)
TNODE#	4	5	B	- -	ending node of arc (to node)
LPOLY#	4	5	B	- -	polygon to the left of the arc
RPOLY#	4	5	B	- -	polygon to the right of the arc
LENGTH	4	12	F	3	length of arc in meters
SFBR-QI#	4	5	B	- -	unique internal control number
SFBR-QI-ID	4	5	B	- -	unique identification number

Polygons (areas) are described in the polygon attribute table (PAT: Table 4). They define the areas of the 7.5' quadrangles. The name of the table is SFBR-QI.PAT.

Table 4 - Content of the Polygon Attribute Tables

ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC.	
AREA	4	12	F	3	area of polygon in square meters
PERIMETER	4	12	F	3	length of perimeter in meters
SFBR-QI#	4	5	B	--	unique internal control number
SFBR-QI-ID	4	5	B	--	unique identification number
NAME	35	35	C	--	unit label

The index-map database also contains annotation. The quadrangle names have been placed to appear diagonally within each quadrangle polygon.

Acknowledgments:

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Wilson, R.C., and Jayko, A.S., 1997, Preliminary Maps Showing Rainfall Thresholds for Debris-Flow Activity, San Francisco Bay Region, California: U.S. Geological Survey, Open-file Report 97-745 F.

Table 1

Detailed landslide-inventory maps of the San Francisco Bay region, by 7.5' topographic quadrangle and county

Name of 7.5' Quadrangle	County	Landslide Map ID**
Aetna Springs	Napa	OF76-074
Allendale	Solano	MF719, some OFR89-17
Altamont	Alameda	MF321, OF75-277, OFR91-02
Annapolis	Sonoma	SR120, minor PR16
Ano Nuevo	Santa Cruz	CCA75, OFR91-05, OFR84-06, trace MF344
Antioch North	Solano/Contra Costa	MF322, OF75-277
Antioch South	Contra Costa	MF310, OF75-277
Arched Rock	Sonoma	PR16, SR120
Asti	Sonoma	MF594, SR120, trace OF74-238, SR122, & SR142
Benicia	Solano/Contra Costa	MF595, OF75-277, much OFR86-17, minor OFR95-12
Bethany	Contra Costa/Alameda	obsolete map name (see Clifton Court Forebay)
Big Basin	Santa Cruz/San Mateo	most CCA75, minor MF344, OFR91-05, some OFR84-06
Big Foot Mtn	Sonoma	MF594, SR120
Birds Landing	Solano	MF322
Bodega Head	Sonoma/Marin	PR20, SR120, trace OFR72-22
Bolinas	Marin	OF75-281, some OFR77-15
Bouldin Island	Contra Costa	MF322, OF75-277
Brentwood	Contra Costa	MF338, OF75-277
Briones Valley	Contra Costa	MF493, OF75-277, some OFR95-12
Brooks	Napa	MF719
Byron Hot Springs	Contra Costa/Alameda	MF338, OF75-277, OFR92-05
Calaveras Reservoir	Santa Clara/Alameda	MF339, OF75-277, much CCA74, some MF361 & NC95
Calistoga	Napa/Sonoma	OF76-074, SR120
Camp Meeker	Sonoma	SR120, much OFR81-12
Capell Valley	Napa	OF76-074, MF719
Castle Rock Ridge	Santa Cruz/Santa Clara	most CCA75, some OFR72-21, OFR91-05, trace MF643
Cazadero	Sonoma	OF76-074, SR120
Cedar Mtn	Alameda	MF321, OF75-277
Chiles Valley	Napa	OF76-074
Chittenden	Santa Clara	OFR91-05, some OFR80-11 & OFR94-02, trace PR18, & CCA75
Clayton	Contra Costa	MF310, OF75-277
Clifton Court Forebay	Contra Costa/Alameda	MF338, OF75-277
Cloverdale	Sonoma	MF594, SR120
Cordelia	Solano/Napa	MF595, OFR88-22
Cotati	Sonoma	OF76-074, SR120, some OFR72-25, trace OFR86-05
Courtland	Solano	MF719
Crevison Peak	Santa Clara	MF416, OF75-277
Cupertino	Santa Clara	some MF643 & PR17, minor OFR72-21 & CCA74, trace OFR91-05 & CCA75
Cuttings Wharf	Napa/C. Costa/Sonoma	MF595, minor OFR88-22
Davenport	Santa Cruz	CCA75, OFR91-05, minor OFR84-06
Davis	Solano	MF719
Denverton	Solano	MF322
Detert Reservoir	Napa	OF76-074
Diablo	Contra Costa/Alameda	MF310, OF75-277, much OFR86-07, much OFR95-15
Dixon	Solano	MF719
Double Point	Marin	OF75-281
Dozier	Solano	MF719
Drakes Bay	Marin	OF75-281, trace OFR77-15

Quadrangle	County	Landslide Map ID
Dublin	Alameda/Contra Costa	MF519, OF75-277, much OFR91-02 & OFR95-14, minor OFR86-07
Duncan Mills	Sonoma	SR120, some PR20, minor PR16
Elmira	Solano	MF719, much OFR89-17
Eylar Mtn	Santa Clara/Alameda	MF339, OF75-277
Fairfield North	Solano/Napa	OF76-074, MF719, OFR87-09, OFR89-17
Fairfield South	Solano	MF595, trace OFR88-22
Felton	Santa Cruz	CCA75, OFR91-05
Fort Ross	Sonoma	OF76-074, SR120, minor PR16
Franklin Point	San Mateo/Santa Cruz	much MF344, CCA75, & OFR84-06
Geyserville	Sonoma	OF85-711, SR120
Gilroy Hot Springs	Santa Clara	MF416, OF75-277, minor OFR78-11
Gilroy	Santa Clara	some MF416 & OF75-277, minor PR18, OFR78-11, & OFR78-12
Glen Ellen	Sonoma	OF76-074, SR120, some OFR72-25
Gualala	Sonoma	PR16, SR120
Gude Mountain	Sonoma	SR120
Guerneville	Sonoma	OF85-711, SR120
Guinda	Napa	MF677
Half Moon Bay	San Mateo	MF344
Hayward	Alameda	MF519, OF75-277, OFR95-14
Healdsburg	Sonoma	OF85-711, SR120, much ORF79-15; trace OFR77-13
Honker Bay	Contra Costa/Solano	MF322, OF75-277
Hunters Point	San Mateo/S.F.	MF344, OF65-18, MF311, and OF500
Inverness	Marin	OF75-281, minor OFR77-15, trace OFR84-22
Isabel Valley	Santa Clara	MF339, OF75-277
Isleton	Solano	MF322
Jericho Valley	Napa	MF677
Jersey Island	Contra Costa/Solano	MF322, OF75-277
Jimtown	Sonoma	OF85-711, SR120, minor OF74-238, SR122, & SR142, trace OFR79-15
Kenwood	Sonoma/Napa	OF76-074, SR120
Knoxville	Napa	MF677
La Costa Valley	Alameda	MF519, OF75-277, OFR9x-xx
La Honda	San Mateo	MF344, minor MF1422
Lake Berryessa	Napa	MF719
Las Trampas Ridge	Contra Costa/Alameda	MF493, OF75-277, OFR95-15
Laurel	Santa Cruz	CCA75, OF89-676, OFR91-05, minor OFR90-06, trace CCA74
Liberty Island	Solano	MF719
Lick Observatory	Santa Clara	MF339, OF75-277, much CCA74
Livermore	Alameda	MF519, OF75-277, OFR91-02
Loma Prieta	Santa Cruz/Santa Clara	CCA75, OF88-752, OFR91-05, trace CCA74 & OFR72-21
Lone Tree Creek	Alameda	MF321, OF75-277
Los Gatos	Santa Clara/Santa Cruz	OF91-593 & OFR91-05, much OFR72-21, some CCA74 & CCA75, trace MF643 & OFR90-6
Mare Island	Contra Costa/Solano	MF595, OF75-277, trace PR19
Mariposa Peak	Santa Clara	MF416, OF75-277
Mark West Springs	Sonoma/Napa	OF76-074, SR120, much OFR77-13, minor OFR72-25, trace OFR79-15
McGuire Ridge	Sonoma	SR120, minor PR16
Mendenhall Springs	Alameda	MF321, OF75-277
Merritt	Solano	MF719
Midway	Alameda	MF321, OF75-277
Milpitas	Santa Clara/Alameda	MF339, OF75-277, much CCA74
Mindego Hill*	S.Mateo/S.Clara/S.Cruz	MF344, OFR91-05, minor PR17 & CCA75, trace PV
Mississippi Creek	Santa Clara	MF416, OF75-277, some CDPR
Montara Mtn	San Mateo	I-2390, MF344
Monticello Dam	Solano/Napa	MF719
Morgan Hill	Santa Clara	most MF416, OF75-277 & CCA74, minor PR18, trace OFR78-12
Moss Landing	Santa Cruz	CCA75, OFR91-05
Mount St Helena	Sonoma/Napa	OF76-074, SR120, some CCA76

Quadrangle	County	Landslide Map ID
Mountain View	Santa Clara/Alameda	minor CCA74 & PR17, trace MF344
Mt Boardman	Santa Clara/Alameda	MF339, OF75-277
Mt Day	Santa Clara/Alameda	MF339, OF75-277, trace CCA74
Mt George	Napa/Solano	OF76-074, MF719
Mt Madonna*	Santa Clara/Santa Cruz	some PR18, minor CCA75 & MF416
Mt Sizer	Santa Clara	MF416, OF75-277, some OFR78-12 & CDPR, minor CCA74
Mt Stakes	Santa Clara	MF339, OF75-277
Mt Vaca	Solano	OF76-074, MF719, much OFR89-17
Mustang Peak	Santa Clara	MF416, OF75-277
Napa	Napa	OF76-074, OFR95-16
Newark	Alameda	MF519, OF75-277, OFR9x-xx
Niles	Alameda	MF519, OF75-277, OFR9x-xx
Novato	Marin	OF75-281, much PR21, some OFR72-22, minor OFR76-02, trace OFR84-22
Oakland East	Alameda/Contra Costa	MF493, OF75-277
Oakland West	Alameda	MF493, OF75-277
Pacheco Pass	Santa Clara	MF416, OF75-277
Pacheco Peak	Santa Clara	MF416, OF75-277
Palo Alto	San Mateo/Santa Clara	I-2371, MF344, minor W & PV, trace PR17
Petaluma	Marin/Sonoma	OF75-281, much OFR86-05, trace PR21
Petaluma Point	Marin	MF595, OFR76-02, PR21
Petaluma River	Sonoma/Marin	OF75-281, some PR21, minor OFR86-05
Pigeon Point	San Mateo	MF344
Plantation	Sonoma	PR16, SR120
Point Bonita	Marin	most MF574, some OFR72-22, much OFR76-02, some OFR84-22, trace PP782
Point Reyes NE	Marin/Sonoma	most OF75-281, much MF1406& PP1434, trace OFR77-15
Port Chicago	Contra Costa/Solano	obsolete map name (see Vine Hill)
Redwood Point	San Mateo/Alameda	MF344, minor MF519 & OF75-277
Richmond	Contra Costa/Alameda	MF493, OF75-277, much PR19
Rio Vista	Solano	MF322
Rutherford	Napa/Sonoma	OF76-074, SR120
San Felipe	Santa Clara	MF416, OF75-277, OFR93-01, some OFR78-11
San Francisco North	S.F./Marin	most PP782 & I-272, minor MF574, minor OFR84-22
San Francisco South	S.F./San Mateo	most MF344, some OF65-18, MF311, & OF500
San Geronimo	Marin	OF75-281, minor OFR76-02, trace PR21
San Gregorio	San Mateo	MF344
San Jose East	Santa Clara	MF339, OF75-277, CCA74
San Jose West	Santa Clara	MF339, much CCA74
San Leandro	Alameda	MF519, OF75-277
San Mateo	San Mateo	I-2390, MF344
San Quentin	Marin/Contra Costa	OF75-281, MF-493, OF75-277, OFR76-02, OFR84-22, PR19 (some of each)
San Rafael	Marin	OF75-281, much OFR76-02, much OFR84-22
Santa Cruz	Santa Cruz	CCA75, OFR91-05
Santa Rosa	Sonoma	OF76-074, SR120, some OFR88-5
Santa Teresa Hills*	Santa Clara	CCA74, trace MF416, OF75-277 & OFR72-21
Saxon	Solano	MF719
Sears Point	Sonoma	MF595
Sebastopol	Sonoma	SR120
Skaggs Springs	Sonoma	obsolete map name (see Warm Springs Dam)
Sonoma	Sonoma/Napa	OF76-074, SR120
Soquel	Santa Cruz	CCA75, OFR91-05
St Helena	Napa	OF76-074
Stewarts Point	Sonoma	SR120, some PR16
Tassajara	Contra Costa/Alameda	MF310, OF75-277, OFR92-05
The Geysers	Sonoma	MF594, SR120, OF74-238, SR122, SR142
Three Sisters	Santa Clara	MF416, OF75-277
Tomales	Marin	most OF75-281, much MF1406 & PP1434
Tombs Creek	Sonoma	OF76-074, SR120

Quadrangle	County	Landslide Map ID
Two Rock*	Sonoma/Marin	most SR120
Valley Ford*	Marin/Sonoma	some SR120, minor OFR81-12, minor OFR72-22
Vine Hill	Contra Costa/Solano	MF595, OF75-277, minor OFR86-17, trace OFR95-12
Walnut Creek	Contra Costa	MF493, OF75-277, most OFR95-12, 1/4 MS16
Walter Springs	Napa	OF76-074
Warm Springs Dam	Sonoma	OF76-074, SR120
Watsonville East	Santa Cruz/Santa Clara	CCA75, OFR91-05
Watsonville West	Santa Cruz	CCA75, OFR91-05
Whispering Pines	Sonoma	OF74-238, SR122, SR142, SR120
Winters	Solano	MF719
Woodside	San Mateo	MF344, minor W
Woodward Island	Contra Costa	MF338, OF75-277
Yountville	Napa	OF76-074

* detailed landslide maps are not available for entire quadrangle

** types of reports represented by ID codes:

U.S. Geological Survey (USGS) series
I = Miscellaneous Investigation Map
MF = Miscellaneous Field Study
OF = Open-file Report
PP = Professional Paper

California Division of Mines & Geology (CDMG) series
MS = Map Sheet
OFR = Open-file Report
PR = Preliminary Report
SR = Special Report

Other sources
CCA = Cooper-Clark Associates contract report
CDPR = CA Dept. of Parks & Recreation report
NC = Norfleet Consultants
W = geologic map of the Town of Woodside
PV = geologic map of the Town of Portola Valley

Documents containing detailed landslide-inventory maps for the ten-county San Francisco Bay Region, keyed to Table 1 ID codes in alphabetical order

CCA74 — Cooper-Clark and Associates, 1974, Landslides and landslide susceptibility, *in* Technical Report, Geotechnical Investigation, City of San Jose's Sphere of Influence for the City of San Jose: San Jose, CA, Department of Public Works, p. 17-35 and plates 1-A and 1-B (landslides), map scale 1:48,000. ***203.3(276) Sa522tr [locked stack; ask librarian]***

CCA75 — Cooper-Clark and Associates, 1975, Preliminary map of landslide deposits in Santa Cruz County, *in* Seismic Safety Element of the County General Plan: Santa Cruz County, CA, Planning Department, 1 sheet, map scale 1:62,500. ***203.3(276) Sa59s [locked stack; ask librarian]***

CCA76 — Dwyer, M.J., and Noguchi, Naohiko, 1976, Regional Landslide Map, Geysers-Cow Mountain Study Area, Mendocino, Lake and Sonoma Counties, California: Cooper-Clark and Associates, U.S. Bureau of Land Management Contract No. YA-512-LT6-83, Ukiah District Office, CA, 8 sheets, map scale 1:12,000. ***recently to library; no number yet***

CDPR — Willard, Syd, 1984, Landslide Inventory of the Henry Coe Park: Calif. Dept. Parks and Recreation, Sacramento, CA, map scale 1:24,000. ***not yet in library***

I-272 — Schlocker, Julius, Bonilla, M.G., and Radbruch, D.H., 1958, Geology of the San Francisco North quadrangle, California: U.S. Geol. Survey Misc. Geol. Inves. Map I-272, scale 1:24,000. ***M(200) vI no.272 stack 35***

I-2371 — Pampeyan, E.H., 1993, Geologic map of the Palo Alto and part of the Redwood Point 7-1/2' quadrangles, San Mateo and Santa Clara Counties, California: U.S. Geol. Survey Misc. Geol. Inves. Map I-2371, 26 p., scale 1:24,000. ***M(200) vI no.2371 stack 35***

I-2390 — Pampeyan, E.H., 1994, Geologic map of the Montara Mountain and San Mateo 7-1/2' quadrangles, San Mateo County, California: U.S. Geol. Survey Misc. Geol. Inves. Map I-2390, 19 p., scale 1:24,000. ***M(200) vI no.2390 stack 35***

MF310 — Nilsen, T.H., 1971, Preliminary photointerpretation map of landslide and other surficial deposits of the Mount Diablo area, Contra Costa and Alameda Counties, California: U.S. Geol. Survey Misc. Field Studies map MF-310, scale 1:62,500 [BDC 31]. ***M(200) vMF no.310 stack 35; and (200) Un3sfbd no.31 stack 4 and CA Center***

MF311 — Bonilla, M.G., 1971, Preliminary geologic map of the San Francisco South quadrangle and part of the Hunters Point quadrangle, California: U.S. Geol. Survey Misc. Field Studies map MF-311, scale 1:24,000 [BDC 29]. ***M(200) vMF no.311 stack 35; (200) Un3sfbd no.29 stack 4 and CA Center***

MF321 — Nilsen, T.H., 1972a, Preliminary photointerpretation map of landslide and other surficial deposits of the Altamont and Carbona 15-minute quadrangles, Alameda County, California: U.S. Geol. Survey Misc. Field Studies map MF-321, scale 1:62,500 [BDC 34]. ***M(200) vUn3mf no.321 stack 35; (200) Un3sfbd no.34 stack 4 and CA Center***

MF322 — Sim, J.D., and Nilsen, T.H., 1972, Preliminary photointerpretation map of landslide and other surficial deposits of parts of the Pittsburg and Rio Vista 15-minute quadrangles, Contra Costa and Solano Counties, California: U.S. Geol. Survey Misc. Field Studies map MF-322, scale 1:62,500 [BDC 35]. ***M(200) vMF no.322 stack 35; (200) Un3sfbd no.35 stack 4 and CA Center***

MF338 — Nilsen, T.H., 1972b, Preliminary photointerpretation map of landslide and other surficial deposits of the Byron area, Contra Costa and Alameda Counties, California: U.S. Geol. Survey Misc. Field Studies map MF-338, scale 1:62,500 [BDC 38]. ***M(200) vMF no.338 stack 35; (200) Un3sfbd no.38 stack 4 and CA Center***

MF339 — Nilsen, T.H., 1972c, Preliminary photointerpretation map of landslide and other surficial deposits of the Mount Hamilton quadrangle and parts of the Mount Boardman and San Jose quadrangles, Alameda and Santa Clara Counties, California: U.S. Geol. Survey Misc. Field Studies map MF-339, scale 1:62,500 [BDC 40]. ***M(200) vMF no.339 stack 35; (200) Un3sfbd no.40 stack 4 and CA Center***

MF344 — Brabb, E.E., and Pampeyan, E.H., 1972, Preliminary map of landslide deposits in San Mateo County, California: U.S. Geol. Survey Misc. Field Studies map MF-344, scale 1:62,500 [BDC 42]. ***M(200) vMF no.344 stack 35; (200) Un3sfbd no.42 stack 4 and CA Center***

MF361 — Nilsen, T.H., and Brabb, E.E., 1972, Preliminary photointerpretation and damage maps of landslide and other surficial deposits in northeastern San Jose, Santa Clara County, California: U.S. Geol. Survey Misc. Field Studies map MF-361, scale 1:24,000 [BDC 45]. ***M(200) vMF no.361 stack 35; (200) Un3sfbd no.45 stack 4 and CA Center***

MF416 — Nilsen, T.H., 1972d, Preliminary photointerpretation map of landslide and other surficial deposits of the Los Gatos, Morgan Hill, Gilroy, Gilroy Hot Springs, Pacheco Pass, Quien Sabe, and Hollister 15-minute quadrangles, Santa Clara County, California: U.S. Geol. Survey Misc. Field Studies map MF-416, scale 1:62,500 [BDC 46]. ***M(200) vMF no.416 stack 35; (200) Un3sfbd no.46 stack 4 and CA Center***

MF493 — Nilsen, T.H., 1973a, Preliminary photointerpretation map of landslide and other surficial deposits of the Concord 15-minute quadrangle and the Oakland West, Richmond, and part of the San Quentin 7.5-minute quadrangles, Contra Costa and Alameda Counties, California: U.S. Geol. Survey Misc. Field Studies map MF-493, scale 1:62,500 [BDC 57]. ***M(200) vMF no.493 stack 35; (200) Un3sfbd no.57 stack 4 and CA Center***

MF519 — Nilsen, T.H., 1973b, Preliminary photointerpretation map of landslide and other surficial deposits of the Livermore and parts of the Hayward 15-minute quadrangles, Alameda and Contra Costa Counties, California: U.S. Geol. Survey Misc. Field Studies map MF-519, scale 1:62,500 [BDC 59]. ***M(200)4 vUn3mf no.519 stack 35; (200) Un3sfbd no.59 stack 4 and CA Center***

MF574 — Blake, M.C., Bartow, J.A., Frizzell, V.A. Jr., Schlocker, J., Sorg, D., Wentworth, C.M., and Wright, R.H., 1974, Preliminary geologic map of Marin and San Francisco Counties and parts of Alameda, Contra Costa, and Sonoma Counties, California: U.S. Geol. Survey Misc. Field Studies map MF-574, scale 1:62,500 [BDC 64]. ***M(200) vMF no.574 stack 35; (200) Un3sfbd no.64 stack 4 and CA Center***

MF594 — Frizzell, V.A., Jr., 1974, Reconnaissance photointerpretation map of landslides in parts of the Hopland, Kelseyville, and Lower Lake 15-minute quadrangles, Sonoma County, California: U.S. Geol. Survey Misc. Field Studies map MF-594, scale 1:62,500 [BDC 66]. ***M(200)4 vUn3mf no.594 stack 35; (200) Un3sfbd no.66 stack 4 and CA Center***

MF595 — Frizzell, V.A., Jr., Sims, J.D., Nilsen, T.H., and Bartow, J.A., 1974, Preliminary photointerpretation map of landslide and other surficial deposits of the Mare Island and Carquinez Strait 15-minute quadrangles, Contra Costa, Marin, Napa, Solano, and Sonoma Counties, California: U.S. Geol. Survey Misc. Field Studies map MF-595, scale 1:62,500 [BDC 67]. ***M(200)4 vUn3mf no.595 stack 35; (200) Un3sfbd no.67 stack 4 and CA Center***

MF643 — Sorg, D.H., and McLaughlin, R.J., 1975, Geologic map of the Sargent-Berrocal fault zone between Los Gatos and Los Altos Hills, Santa Clara County, California U.S. Geol. Survey Misc. Field Studies Map MF-643, scale 1:24,000. ***M(200)4 vUn3mf no.643 stack 35***

MF677 — Wright, R.H., and Reid, G.O., 1975, Photointerpretlve map of landslides and surficial deposits of northernmost Napa County, California: U.S. Geol. Survey Misc. Field Studies Map MF-677, scale 1:24,000. ***M(200)4 vUn3mf no.677 stack 35***

MF719 — Sims, J.D., and Frizzell, V.A., 1976, Preliminary photointerpretation map of landslides and other surficial deposits of the Mount Vaca, Vacaville, and parts of Courtland, Davis, Lake Berryessa, and Woodland 15-minute quadrangles, Napa and Solano Counties, California: U.S. Geol. Survey Misc. Field Studies Map MF-719, scale 1:62.500. ***M(200)4 vUn3mf no.719 stack 35***

MF1406 — Ellen, Stephen, Peterson, D.M., and Reid, G.O., 1982, Map showing areas susceptible to different hazards from shallow landsliding, Marin County and adjacent parts of Sonoma County, California: U.S. Geol. Survey Misc. Field Studies Map MF-1406, 8 p., map scale 1:62,500. ***M(200)4 vUn3mf no.1406 stack 35***

MF1422 — Wieczorek, G.F., 1982, Map showing recently active and dormant landslides near La Honda, central Santa Cruz Mountains, California: U.S. Geol. Survey Misc. Field Studies Map MF-1422, scale 1:4800. ***M(200)4 vUn3mf no.1422 stack 35***

MS 16 — Saul, R.B., 1973, Geology and slope stability of the southwest quarter of the Walnut Creek 7.5-minute quadrangle, Contra Costa County, California: Calif. Div. Mines and Geology, Map Sheet 16, scale 1:12,000. ***(276) C4m no. 16 stack 5***

NC95 — Norfleet Consultants, 1995, Landslides, *in* Phase IA Regional Geologic Study of the Special Geologic Hazard Study Area, Final Report: City of San Jose, Department of Public Works, p. 45-67, plates C1-C13 (landslide maps, scale 1:2400), and plate I (landslide areas map, 1 sheet, scale 1:12,000). ***203.3(276) P4273 1995 stack 4 [Plates C1-13 missing]***

OF500 — Bonilla, M.G., 1960, Landslides in the San Francisco South quadrangle, California: U.S. Geol. Survey Open-file Report No. 500, 44 p., map scale 1:24,000. ***(200) R29o no.500 stack 3***

OF65-18 — Bonilla, M.G., 1965, Geologic map of the San Francisco South quadrangle, California: U.S. Geol. Survey Open-file Report No. 65-18, map scale 1:20,000. ***(200) R29o no.65-18 stack 3***

OF74-238 — McLaughlin, R.J., 1974, Preliminary geologic map of The Geysers steam field and vicinity, Sonoma County, California: U.S. Geol. Survey Open-file Report No. 74-238, map scale 1:24,000. ***(200) R29o no.74-238 stack 3***

OF75-277 — Nilsen, T.H., Bartow, J.A., Frizzell, V.A., and Sims, J.D., 1975, Preliminary photo-interpretation maps of landslide and other surficial deposits of 56 7.5-minute quadrangles in the southeastern San Francisco Bay region, Alameda, Contra Costa, and Santa Clara Counties, California: U.S. Geol. Survey Open-file Report No. 75-277, scale 1:24,000. ***M(200) R29o no.75-277 flat file 4***

OF75-281 — Wentworth, C.M., and Frizzell, V.A.,1975, Reconnaissance landslide map of parts of Marin and Sonoma Counties, California: U.S. Geol. Survey Open-file Report No. 75-281, 12 maps, scale 1:24,000. ***(200) R29o no.75-281 stack 3***

OF76-074 — Dwyer, M.J., Noguchi, N., and O'Rourke, J., 1976, Reconnaissance photointerpretation map of landslides in 24 selected 7.5-minute quadrangles in Lake, Napa, Solano, and Sonoma Counties, California: U.S. Geol. Survey Open-file Report No. 76-74, scale 1:24,000. ***M(200) R29o no.76-074 flat file 4***

OF85-711 — Wentworth, C.M., 1985, Reconnaissance landslide map of the Healdsburg 15-minute quadrangle, Sonoma County, California: U.S. Geol. Survey Open-file Report No. 85-711, scale 1:24,000. ***(200) R29o no.85-711 stack 3***

OF88-752 — McLaughlin, R.J., Clark, J.C., and Brabb, E.E., 1988, Geologic map and structure sections of the Loma Prieta 7.5-minute quadrangle, Santa Clara and Santa Cruz Counties, California: U.S. Geol. Survey Open-file Report No. 88-752, 32 p., map scale 1:24,000. ***(200) R29o no.88-752 stack 3***

OF89-676 — Clark, J.C., Brabb, E.E., and McLaughlin, R.J., 1989, Geologic map and structure sections of the Laurel 7.5-minute quadrangle, Santa Clara and Santa Cruz Counties, California: U.S. Geol. Survey Open-file Report No. 89-676, 30 p., map scale 1:24,000. ***(200) R29o no.89-676 stack 3***

OF91-593 — McLaughlin, R.J., Clark, J.C., Brabb, E.E., and Helley, E.J., 1991, Geologic map and structure sections of the Los Gatos 7.5-minute quadrangle, Santa Clara and Santa Cruz Counties, California: U.S. Geol. Survey Open-file Report No. 91-593, map scale 1:24,000. ***(200) R29o no.91-593 stack 3***

OFR72-21 — Rogers, T.H., and Armstrong, C.F., 1971, Surficial geologic maps, *in* Environmental geologic analysis of the Santa Cruz Mountains study area, Santa Clara County, California: Calif. Div. Mines and Geology, Open-file Report 72-21, 101 p., plates IIA and IIB, map scale 1:12,000. ***(276) C4ofr no.72-21 stack 5***

OFR72-22 — Rice, S.J., and Strand, R.G., 1971, Geology, *in* Geologic and slope stability maps of the Tennessee Valley, Lucas Valley, and North Coastal areas, Marin County, California: Calif. Div. Mines and Geology, Open-file Report 72-22, plates II (T.V. area), III (N.C. area), and VI (L.V. area), map scale 1:12,000. [*see also* separate report (no landslide maps), Geology and Slope Stability in Marin County, a pilot study of three areas: CDMG, OFR 72-22, 17 p.] ***M(276)2 C4gt (maps only) flat file 13; also 203.3(276) R367r (report only) stack 10***

OFR72-25 — Huffman, M.E., 1971, Landslides and related deposits, *in* Geology for planning in the Sonoma Mountain and Mark West-Riebli Road areas, Sonoma County, California: Calif. Div. Mines and Geology, Open-file Report 72-25, plate 6 (S.M. area) and Fig. 6 (M.W.-R. area), map scale 1:24,000. ***(276) C4ofr no.72-25 stack 5***

OFR76-02 — Rice, S.J., Smith, T.C., and Strand, R.G., 1976, Geology, *in* Geology for planning, central and southeastern Marin County, California: Calif. Div. Mines and Geology, Open-file Report 76-2, 103 p.; plates 1A (San Geronimo Valley), 1B (upper Ross Valley & W. San Rafael), 1C (E. San Rafael), 1D (lower Ross Valley, Corte Madera, Homestead Valley, Tamalpais Valley, Tennessee Valley, & adj.), and 1E (Tiburon Pen., Sausalito, & adj.), map scale 1:12,000. [text and maps shelved separatey] ***(276) C4ofr no. 76-2 (report & maps) stack 5; also M(276)2 M338s (maps only) flat file 13***

OFR77-13 — Armstrong, C.F., and Wagner, D.L., 1977, Landslides and slope stability, *in* Environmental geologic analysis of the Porter Creek study area, Sonoma County, California: Calif. Div. Mines and Geology, Open-file Report 77-13SF, 38 p., plate 2, map scale 1:24,000. ***(276) C4ofr no. 77-13SF stack 5***

OFR77-15 — Wagner, D.L., 1977, Geology, *in* Geology for planning in western Marin County, California: Calif. Div. Mines and Geology, Open-file Report 77-15SF, plates 1 and 2, map scale 1:12,000. ***(276) C4ofr no. 77-15SF stack 5***

OFR78-11 — Armstrong, C.F., and Wagner, D.L., 1976, Landslides and slope stability, *in* Environmental geologic analysis of the Diablo Range study area, southern Santa Clara County, California: Calif. Div. Mines and Geology, Open-file Report 76-11SF, 43 p. plus appendices, plate 2, map scale 1:12,000. [report and maps shelved separately] ***(276) C4ofr no. 78-11SF stack 5***

OFR78-12 — Wagner, D.L., 1976, Geology, *in* Environmental geologic analysis of the Diablo Range study area II, southern Santa Clara County, California: Calif. Div. Mines and Geology, Open-file

Report 78-12SF, 36 p. plus appendices, plate 1, map scale 1:12,000. [report and maps shelved separately] ***(276) C4ofr no. 78-12SF stack 5***

OFR79-15 — Armstrong, C.F., 1979, Geologic hazards, *in* Environmental geologic analysis of the Chalk Hill Road study area, Sonoma County, California: Calif. Div. Mines and Geology, Open-file Report 79-15, 16 p., plate 2, map scale 1:24,000. ***(276) C4ofr no. 79-15SF stack 5***

OFR80-11 — Armstrong, C.F., 1980, Geology, Landslides and slope stability, *in* Environmental geologic analysis of the Tar Creek South study area, Santa Clara County, California: Calif. Div. Mines and Geology, Open-file Report 80-11, 20 p., plates 1 and 2, map scale 1:12,000. ***(276) C4ofr no. 80-11SF stack 5***

OFR81-12 — Bedrossian, T.L., 1981, Geology, *in* Landslides and slope stability of the West Sebastopol study area: Calif. Div. Mines and Geology, Open-file Report 81-12SF, 41 p., plate 1, map scale 1:24,000. ***(276) C4ofr no.81-12SF stack 5***

OFR84-06 — McJunkin, R.D., 1983, Landslides, *in* Geology of the Big Basin Redwoods State Park, Santa Cruz County, California: Calif. Div. Mines and Geology, Open-file Report 84-6SAC, 72 p., plate 3, map scale 1:24,000. ***(276) C4ofr no. 84-6SAC stack 5***

OFR84-22 — Davenport, C.W., 1984, An analysis of slope failure in eastern Marin County, California, resulting from the January 3rd and 4th, 1982 storm: Calif. Div. Mines and Geology, Open-file Report 84-22SF, 38 p., map scale 1:62,500. ***(276) C4ofr no. 84-22SF stack 5***

OFR86-05 — Smith, T.C., 1986, Landslides and related features, *in* Landslides in the southeastern part of the Petaluma Dairy Belt, Sonoma County, California: Calif. Div. Mines and Geology, Open-file Report 86-5SF, plate B, map scale 1:12,000. ***(276) C4ofr no. 86-5SF stack 5***

OFR86-07 — Davenport, C.W., 1986, Landslides and related features, *in* Landslide hazards in parts of the Diablo and Dublin 7.5-minute quadrangles, Contra Costa County, California: Calif. Div. Mines and Geology, Open-file Report 86-7SF, plate B, map scale 1:24,000. ***(276) C4ofr no. 86-7SF stack 5***

OFR86-17 — Bortugno, E.J., 1987, Landslides and related features, *in* Landslide hazards in the Benicia-Vallejo area, Solano County, California: Calif. Div. Mines and Geology, Open-file Report 86-17SF, plate B, map scale 1:24,000. ***(276) C4ofr no. 86-17SF stack 5***

OFR87-09 — Majmundar, H.H., 1987, Landslides and related features, *in* Landslide hazards in the south half of the Fairfield North quadrangle, Solano County, California: Calif. Div. Mines and Geology, Open-file Report 87-9SF, plate B, map scale 1:24,000. ***(276) C4ofr no. 87-9SF stack 5***

OFR88-05 — Jennings, C.W., 1988, Preliminary geologic map of the NW 1/4 Santa Rosa 7-1/2 minute quadrangle, Sonoma County, California: Calif. Div. Mines and Geology, Open-file Report 88-5, map scale 1:12,000. ***(276) C4ofr no. 88-5 stack 5***

OFR88-22— Manson, M.W., 1988, Landslides and related features, *in* Landslide hazards in the Cordelia-Vallejo area, Solano and Napa Counties, California: Calif. Div. Mines and Geology, Open-file Report 88-22, plate B, map scale 1:24,000. ***(276) C4ofr no. 88-22 stack 5***

OFR89-17 — Majmundar, H.H., 1989, Landslides and related features, *in* Landslide hazards in the Vacaville area, Solano County, California: Calif. Div. Mines and Geology, Open-file Report 89-17, plate B, map scale 1:24,000. ***(276) C4ofr no. 89-17 stack 5***

OFR90-06 — Spittler, T.E., and Harp, E.L., 1990, Preliminary map of landslide features and coseismic fissures in the Summit Road area of the Santa Cruz Mountains triggered by the Loma Prieta earthquake of October 17, 1989: Calif. Div. Mines and Geology, Open-file Report 90-6, 3 plates, map scale 1:4800. ***(276) C4ofr no. 90-6 stack 5***

OFR91-02 — Majmundar, H.H., 1991, Landslides and related features, *in* Landslide hazards in Livermore Valley and vicinity, Alameda and Contra Costa Counties, California: Calif. Div. Mines and Geology, Open-file Report 91-2, plates B1 and B2, map scale 1:24,000. ***(276) C4ofr no. 91-2 CA Center (rm. M2240)***

OFR91-05 — Manson, M.W., Keefer, D.K., and McKittrick, M.A., 1992, Landslides and other geologic features in the Santa Cruz Mountains, California, resulting from the Loma Prieta Earthquake of October 17, 1989: Calif. Div. Mines and Geology, Open-file Report 91-05, 45 p., 15 plates, map scale 1:48,000. ***(276) C4ofr no. 91-5 stack 5***

OFR92-05 — Majmundar, H.H., 1991, Landslides and related features, *in* Landslide hazards in the Tassajara and Byron Hot Springs 7.5' quadrangles, Alameda and Contra Costa Counties, California: Calif. Div. Mines and Geology, Open-file Report 92-5, plate B, map scale 1:24,000. ***(276) C4ofr no. 92-5 stack 5***

OFR93-01 — Rogers, T.H., 1993, Geology and landslides, *in* Geology of the Hollister and San Felipe quadrangles, San Benito, Santa Clara, and Monterey Counties, Open-file Report 93-01, plate 3, map scale 1:24,000. ***(276) C4ofr no. 93-01 stack 5***

OFR94-02 — Majmundar, H.H., 1994, Landslides and related features, *in* Landslide hazards in the Hollister area, San Benito County, California: Calif. Div. Mines and Geology, Open-file Report 94-2, plate B, map scale 1:24,000. ***(276) C4ofr no. 94-2 stack 5***

OFR95-12 — Haydon, W.D., 1995, Landslides and related slope-failure features, *in* Landslide hazards in the Martinez-Walnut Creek area, Contra Costa County, California: Calif. Div. Mines and Geology, Open-file Report 95-12, plate B, map scale 1:24,000. ***(276) C4ofr no. 95-12 stack 5***

OFR95-14 — Majmundar, H.H., 1996, Landslides and related features, *in* Landslide hazards in the Hayward quadrangle and parts of the Dublin quadrangle, Alameda and Contra Costa Counties, California: Calif. Div. Mines and Geology, Open-file Report 95-14, plate B, map scale 1:24,000. ***(276) C4ofr no. 95-14 stack 5***

OFR95-15 — Majmundar, H.H., 1996, Landslides and related features, *in* Landslide hazards in the Las Trampas Ridge quadrangle and parts of the Diablo quadrangle, Alameda and Contra Costa Counties, California: Calif. Div. Mines and Geology, Open-file Report 95-15, plate B, map scale 1:24,000. ***(276) C4ofr no. 95-15 stack 5***

OFR95-16 — Majmundar, H.H., 1997?, Landslides and related features, *in* Landslide hazards in the Napa quadrangle, Napa County, California: Calif. Div. Mines and Geology, Open-file Report 95-16, map scale 1:24,000. ***in-press; not yet released***

OFR9x-xx — Majmundar, H.H., 1997?, Landslides and related features, *in* Landslide hazards in the Newark, Niles and La Costa Valley quadrangles, Alameda County, California: Calif. Div. Mines and Geology, Open-file Report 95x-xx, map scale 1:24,000. ***in-press; not yet released***

PP782 — Schlocker, Julius, 1974, Map showing areas of exposed bedrock, contours on bedrock surface, and landslides in the San Francisco North quadrangle, San Francisco and Marin counties, California, plate 3 *in* Geology of the San Francisco North quadrangle, California: U.S. Geol. Survey Professional Paper 782, 109 p.; map scale, 1:24,000.
(200) qB no.782 stack 2

PP1264 — Turnbull, R.W., 1983, Map showing earth-flow complexes in Eden Canyon and vicinity, Alameda County, California, plate 1, *in* Keefer, D.K., and Johnson, A.M., Earth flows—morphology, mobilization, and movement: U.S. Geological Survey Professional Paper 1264, map scale 1:6000. ***(200) qB no.1264 stack 2***

PP1434 — Ellen. S.D., Cannon, S.H., and Reneau, S.L., 1988, Distribution of debris flows in Marin County, plate 6, *in* Ellen, S.D., and Wieczorek, G.F., eds., Landslides, floods and marine effects of the storm of January 3-5, 1982, in the San Francisco Bay region, California: U.S. Geological Survey Professional Paper 1434, map scale 1:62,500. ***(200) qB no.1434 stack 2***

PR16 — Huffman, M.F., 1972, Surficial geology, *in* Geology for planning on the Sonoma coast between the Russian and Gualala Rivers: Calif. Div. Mines and Geology, Preliminary Report 16, 38 p., plate 3, map scale 1:24,000. ***(276) C4p7 no.16 stack 5***

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[BDC] = "Basic Data Contribution" (of the San Francisco Bay Region Environment and Resources Planning Study) — duplicate of landslide map published in another series — shelved in both stack 4 and the California Center of the Menlo Park USGS library