

Geologic Hazards Field Assessment

Instructions: This version of the *Geologic Hazards Field Assessment* form is designed to be completed in hardcopy rather than digitally. However, note underscores indicating the number of characters to be placed in responses are for data entry purposes. Although the form consists of five sections, you need only submit those sections addressed in your investigations as follows: Fill in Section I only once for each primary area you investigate (*i.e.*, the area encompassing a related set of waypoints). For each waypoint having noteworthy observations, fill-in one copy of the appropriate section II, III, and/or IV, depending on the type of ground failure observed at each waypoint (*i.e.*, fault rupture, landslide, or liquefaction). Since one type of ground failure will likely exist at most if not all waypoints in a particular area, it is recommended that you print out many more copies of the section addressing the anticipated focus of your investigation.

To finalize the report, fill in Section V (photo list) and attach to Section I, along with whatever section pages were completed at the various waypoints in the investigation area. Reports can then be: (1) scanned and uploaded to www.eqclearinghouse.org or sent as email attachments to clearinghouse@eeri.org; (2) faxed to CGS, USGS, or EERI fax numbers provided herein; (3) hand carried to the Clearinghouse; or (4) summarized via phone call. Log onto: www.eqclearinghouse.org to obtain additional copies of this form.

Section I. Basic Data & California Emergency Management Agency Hazard Intelligence

A. Event Response

Investigator: Last _____	First _____	M.I. _____
Profession: _____		
Organization: _____		
Cell Phone: _____	Pager _____	_____

Report ID _____ - _____ [your initials - nth report completed (e.g. RCL-01, RCL-02, etc)]

Investigation Date (yyyymmdd) _____

Event _____

Type Ground Failure Faulting Slope Failure Liquefaction Other _____

Assessment Performed On-Site Viewed from Distance Viewed From Air Via Drive-Through

Report Covers: Single site of about _____ ft²

Multiple waypoints in affected area of about _____ mi²

Multiple waypoints along a linear feature extending about _____ miles

Arrival Time (24-hr clock) _____ **Depart Time** _____ **Digital Camera?** Yes No

B. Site Location

County _____

General Area _____

City _____

Address _____

Road/Street _____

Zip Code _____

Nearest Cross Roads/Streets/Landmarks _____

GPS? Yes No

Geodetic Datum NAD 1927 NAD 1983 Other _____

Projection _____

Coordinates If single site, record coordinates where possible.

If report includes multiple waypoints, record coordinates at first waypoint.

Latitude / Longitude _____ / - _____

Northing / Easting _____ / _____

Section I continued on next page.....

C. Cal EMA Hazard Assessment

Land Use Setting Uninhabited Sparsely Populated Urban Commercial
 Other -----

Damage to Buildings / Property / Infrastructure Yes No None Observed or Reported

Buckled or Cracked Pavement Yes No Not Observed or Reported

Broken Buried Utilities Yes No No Indication

Broken / Distorted Utility Lines / Utility Stations Yes No Not Observed or Reported

Foundation Damage Yes No Not Observed or Reported

Fire Yes No

Areal Extent of Damaged Structures Parcel Block Neighborhood Community

Severity of Damage: No Damage Observed or Reported

Low (slight damage to structures, generally serviceable and safe)

Moderate (slight to severe damage to structures, partially serviceable, but generally safe)

High (severe damage and destruction of structures, not serviceable and not safe)

Risk Level: (*i.e.*, potential for additional ground deformation or obvious structural damage)

Low Moderate High Imminent If a public safety issue exists, contact Clearinghouse and/or local emergency responders immediately.

Notes/Sketches

Section II. Fault Rupture

Investigator: Last _____ First _____

Report ID _____ [initials - nth report] Investigation Date (yyyymmdd) _____

Waypoint No _____ [nth waypoint]

Latitude / Longitude _____ / _____

Northing / Easting _____ / _____

Approximate Elevation _____ m

A. Site Information

Site Description _____

Fault sense Strike-Slip Dip-Slip Oblique
 Left Lateral Right Lateral Normal Reverse Thrust
 Other _____

Surface rupture expression Scarp en echelon Mole Track
 Other _____

Fault strike _____° Dip _____° Dip direction ____ (N, S, E, W)

Offset feature type Ground Surface Bedding Road/Concrete Foundation Pipeline
 Other _____

Offset Material Soil Sedimentary Rock Crystalline Rock
 Other _____

Width of Zone _____ m cm After slip Monument yes no

B. Vector Measurements

Slip Azimuth _____° Plunge _____° Slip Length _____ m cm

Components of Strike/Horizontal Slip (Choose one) Strike slip component Horizontal slip component

Slip Measurement _____ m cm + _____ m cm
- _____ m cm

Offset Feature Azimuth _____° Plunge _____° Slip Length _____ m cm

Components of Dip/Vertical Slip (Choose one) Dip slip component or Vertical slip component

Measurement _____ m cm + _____ Side Up (N,S,E,W)
- _____

C. After Slip

Weather (when established) Sunny Partial Clouds Overcast Clear Rain
 Snow Fog Hot Moderate Cool Cold

Paint Stripe Date (yyyymmdd) _____ Time (24-hr clock) _____ Quadrilateral

Date (yyyymmdd) _____ Time (24-hr clock) _____

Initial Measurements (see Figure 2)

Tape ID (Note: Write self-assigned ID on tape if necessary) _____

Tape Type Metal Fiberglass Cloth Other _____

Fault Azimuth _____° ± _____° Over a distance of < 3m 3-10m >10m

Section II (fault rupture) continued on next page.....

Quadrilateral Line Measurements

AB: . ± . .
 BC: . ± . .
 CD: . ± . .
 DA: . ± . .
 AC: . ± . .
 BD: . ± . .

Units m cm

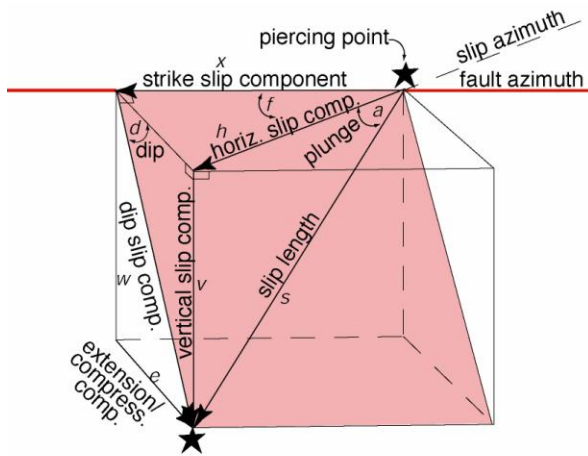


Figure 1

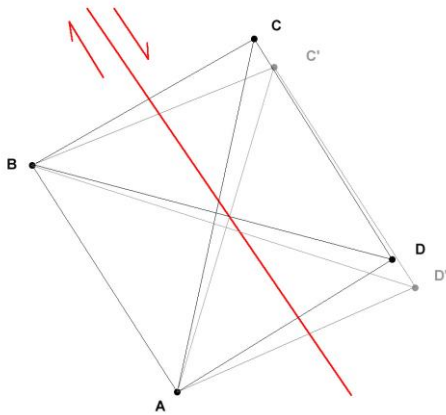


Figure 2

Notes/Sketches: Fault Rupture

Section III. Slope Movement

Investigator: Last _____ First _____
 Report ID _____ [initials - nth report] Investigation Date (yyyymmdd) _____
 Waypoint No _____ [nth waypoint] Approximate Elevation _____ m
 Latitude / Longitude _____ / _____
 Northing / Easting _____ / _____

A. Observed Features

Landslide Type Slide Fall Flow Spread Topple Complex
 Other _____
 Movement Occurred On Bedding Joint/Fracture Soil-Rock Contact Existing Slip Plane
 Other _____ Unknown
 Landslide Activity Reactivated New Feature Unknown
 Other _____
 Occurs Within Larger Landslide Complex Yes No Unknown
 Ridge-Top Features None Fissure Shatter Spread
 Other _____
 Liquefaction Related Yes No Unknown
 Material Type(s) (When slope began to move; check all that apply)
 Alluvium/Soil/Fill
 Earth (clay/silt) Debris (sand to boulders)
 Other _____
 Sedimentary Rock
 Shale/Claystone Siltstone Sandstone Conglomerate
 Other _____
 Crystalline Rock
 Volcanic Plutonic Metamorphic
 Specific Type _____
 Geologic Unit Name(s) _____
 Geologic Unit Age(s) _____

B. Dimensions of Displaced Material / Deformed Ground

Choose measured dimension or range of dimensions for each item

Area Affected :measured _____ m²
 :range <10 m² 10-100 m² 100-1000 m² 1000-10,000 m² >10,000 m²
 Thickness :measured _____ m
 :range 0-10 m 10-50 m 50-100 m 100-200 m
 Volume :measured _____ m³
 :range <10 m³ 10-100 m³ 100-1000 m³
 1000-10,000 m³ 10,000-100,000 m³ >100,000 m³
 Vertical Displacement :measured _____ m
 :range 0-1m 1-10m 10-50m 50-100m 100-250m
 250-500m 500-750m 750-1000m >1000m

Section III (Landslides) continued on next page.....

Lateral Displacement :measured _____ m
 :range 0-1 m 1-10 m 10-50 m 50-100 m
 100-250 m 250-500 m 500-750 m 750-1000 m
 >1000 m

Slope of Surrounding Ground :measured _____ °
 :range Flat (<0.5° or <10:1) Gentle (0.5-14° or 10:1-4:1)
 Gentle/Moderate (14-26° or 4:1-2:1) Moderate (26-45° or 2:1-1:1)
 Moderate/Steep (45-63° or 1:1-0.5:1) Steep (>63° or >0.5:1)

Down slope Direction of Movement :measured _____ ° (Azimuth)
 :general (N, NE, E, SE, S, SW, W, NW)

C. Short-Term Landslide Hazard Assessment

Movement Continuing at Time of Observation Yes No Possible Probable Unknown

Vulnerable Facilities None Buildings Utilities Roads
 Other _____

Risk to Facilities None Low Moderate High/Imminent

Note: If a public safety issue exists, contact Clearinghouse and/or local emergency responders immediately.

Notes/Sketches: Landslides

Section IV. Liquefaction

Investigator: Last _____ First _____
 Report ID _____ [initials - nth report] Investigation Date (yyyymmdd) _____
 Waypoint No _____ [nth waypoint]
 Latitude / Longitude _____ / _____
 Northing / Easting _____ / _____
 Approximate Elevation _____ m

A. Sand Blows and Fissures

Sand Blows or Fissures Yes No None Observed or Reported
 Type of Material Ejected Sand Silt Other _____
 Sediment Color _____
 Number of Sand Blows/Fissures at Site 1-5 5-10 10-20 >20
 Maximum Size of Sand Blow/Fissure Length _____ m _____ cm Width _____ m _____ cm
 Volume of Material Ejected (cm³) Small (< 5000) Medium (5000-10,000) Large (>10,000)
 Ground Settlement Yes No Unknown Amount _____ cm
 Affected Surface Area Viewed (m²) 1-10 10-100 100-1000 1000-10,000 >10,000

B. Lateral Spreading

Lateral Spreading Yes No Ground Cracks of Uncertain Origin
 Strike of Ground Cracks _____ ° (azimuth) or (N, NE, E, SE, S, SW, W, NW)
 Down Slope Direction of Ground Displacement _____ ° (azimuth) or (N, NE, E, SE, S, SW, W, NW)
 Horizontal Displacement _____ m _____ cm Vertical Displacement _____ m _____ cm
 Dimensions of Ground Crack Zone Length _____ m Width _____ m _____ cm
 Dimensions of Spread Mass Length _____ m Width _____ m
 Free Face Yes No Slope of Free Face Flat Gentle Moderate Steep Vertical
 Free Face Height _____ m Length _____ m
 Direction from Ground Cracks to Free Face _____ ° (azimuth) or (N, NE, E, SE, S, SW, W, NW)
 Distance from Ground Cracks to Free Face (m) _____ or <15 15-30 30-100 >100
 Compression Features Yes No Not Observed

Section IV (Liquefaction) continued on next page.....

Notes/Sketches: Liquefaction

Section V. Report Summary
Please attach this section to the rest of the report you submit
(Address all waypoints recorded in this report)

Investigator: Last _____ First _____

Report ID _____ [initials - nth report] Investigation Date (yyyymmdd) _____

Number of Waypoints _____

- Photos
- Digital** First Prefix-Frame _____ Last Prefix-Frame _____
 - Camcorder** Beginning Date-Time Stamp _____ Ending Date-Time Stamp _____
 - No photos or videos taken during this investigation**

Photo Descriptions (Add as many sheets of this page to the report as necessary)

Prefix	Photo #	Waypoint #	View Dir	Description/Caption