



STRATIGRAPHIC DESCRIPTION FORM INSTRUCTIONS

Revised 2/2001

Please fill out a separate **Stratigraphic Description Form** for each stratum in a stratigraphic profile. Number the forms sequentially (e.g., p. 2 of 5) in order of strata from top to bottom.

Site Number: Smithsonian designation

Site Name: Record site name

Study Unit: List which study unit this stratum is in; each stratum *must* be associated with only *one* study unit.

Horizontal: Excavation unit designation

Profile of: Cardinal direction (the direction you are facing when you look at the profile)

Stratum Letter: Make sure it matches the label used on the drawing.

Corresponds with Map Number: Will be filled in later, after map numbers have been assigned by lab.

Initials: Name(s) of recorder(s)

Date: Month-day-year

COLOR: (Dry) Munsell #: Follow instructions in the Munsell book.

Description: Word description

TEXTURE TESTS: Sediment texture is the proportion by weight of different-sized mineral particles that make up soils. Three categories of particle sizes are used: sand is the largest, silt is mid-sized, and clay is the finest. Proportional amounts of each of these size ranges make up 12 textural types that are used to describe sediments. Consistence is the “feel” of the soil and the ease with which a lump can be crushed by the fingers. It is dependent upon particle size, water content, clay mineralogy, and the presence or absence of cementing agents such as calcium carbonate, silica, salts, or iron and aluminum oxides. Consistence is evaluated at three water contents: dry, moist, and wet. Do consistence testing with a 1-in cube of sediment because the sample size will influence how easily it breaks. Select one value in each of the categories given, based on the following descriptions of those values (adapted in large part from the USDA *Soil Survey Manual* [Soil Survey Division Staff 1993]):

Consistence (dry): A measure of resistance to pressure. Select an air-dry clod and break it between the thumb and forefinger or in the hand.

Loose: noncoherent

Soft: soil mass is weakly coherent and fragile; breaks to a powder or individual grains under slight pressure

Slightly hard: weakly resistant to pressure; can be broken between thumb and forefinger

Hard: moderately resistant to pressure; can be broken in the hand without difficulty but is barely breakable between thumb and forefinger

Very hard: very resistant to pressure; can be broken in the hand only with difficulty and is not breakable between thumb and forefinger

Extremely hard: extremely resistant to pressure; cannot be broken in the hand

Consistence (moist): This is the cohesion of the sediment particles when pressure is applied; conduct test with a small amount of moisture dispersed throughout the sample.

- Loose: noncoherent
- Very friable: crushes under gentle pressure
- Friable: crushes easily under gentle to moderate pressure between thumb and forefinger
- Firm: crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable
- Very firm: crushes under strong pressure; barely crushable between thumb and forefinger
- Extremely firm: crushes under very strong pressure; cannot be crushed between thumb and forefinger

Stickiness (wet): Stickiness refers to the tendency of an object to adhere to other objects. The sample should be completely moistened but not overly wet. To determine stickiness, sediment is pressed between the thumb and forefinger, and its adherence is noted using the following guidelines:

- Nonsticky: after release of pressure, practically no sediment adheres to thumb or forefinger
- Slightly sticky: after pressure, sediment adheres to thumb and forefinger but comes off one or the other rather cleanly; does not appreciably stretch
- Moderately sticky: after pressure, sediment adheres to both thumb and forefinger and tends to stretch somewhat before pulling apart
- Very sticky: after pressure, sediment adheres strongly to both thumb and forefinger and is decidedly stretched when digits are separated

Plasticity (wet): Plasticity is the property of sediment that enables it to change shape continuously under the influence of applied stress and to retain the impressed shape on removal of that stress. Roll the sediment between the thumb and forefinger, and observe whether or not a wire or thin ribbon of sediment can be formed.

- Nonplastic: no wire or ribbon is formed
- Slightly plastic: wire or ribbon can be formed, but sediment mass is easily broken
- Moderately plastic: wire or ribbon can be formed, and moderate pressure is required for the sediment mass to break
- Very plastic: wire or ribbon can be formed, and much pressure is required for the sediment mass to break

Molded Ball (wet): Molded ball refers to the ability of the sediment to be molded into a shape and not rupture under applied stress. Roll the sediment in the palms to form a ball. Observe the ball's resistance to breakage when stress is applied with a finger.

- None: a ball cannot be formed
- Very weak: ball crumbles when touched with a finger
- Fragile: ball doesn't crack or break when touched gently
- Strong: ball doesn't crack or break when touched and handled freely
- Very strong: can be formed into any shape and will not break even under rough handling and heavy pressure

Ribbon (wet): Ribboning also is a test of the stability of sediments. Extrude the sediment between the thumb and forefinger until the ribbon breaks, then measure the ribbon. Definitions are based on the length of the ribbon formed:

None: no ribbon can be formed
 Slight: ribbon is less than 2.5 cm long
 Medium: ribbon is between 2.5 and 5 cm long
 High: ribbon is longer than 5 cm

Smoothness/Grittiness: Refers to the abrasiveness or lack of abrasiveness you feel when kneading sediments to determine the presence of fine sediments and/or sand. For field determination, rub the sediment between the thumb and forefinger or between the palms of the hands.

Gritty: many grains are felt
 Smooth: very little grittiness is felt
 Neither gritty nor smooth: smooth feeling, but some grains can be felt

TEXTURE: Use the results of the above tests, as well as the criteria and guidelines provided in Table 1 and Figures 1 and 2, to select one of the 12 textural classes.

INCLUSIONS: Inclusions are everything in a stratum that isn't sediment. Use the following values to characterize the inclusions; use another recording sheet if more room is needed (label it with the same stratum letter).

Rock: Select *only one* value per category per entry line on the recording sheet.

Type: sandstone; conglomerate; Morrison

Size: based on longest measurement

A = < 2 cm

B = 2–10 cm

C = 11–25 cm

D = > 25 cm

Shape: blocky; slab; round or subround; irregular

Frequency: sparse; moderate; abundant

Eroded: yes or no

Worked: yes or no (“worked” includes any shaping or dressing of building stones; other worked stone will be listed under “visible artifacts” below)

Oriented to

bedding plane: yes or no

Comments: observations about rock inclusions that haven't been covered in the above categories

Charcoal: Size: use rock size categories above
 Frequency: sparse; moderate; abundant

CaCO₃ (calcium carbonate): Size: use rock size categories above
 Frequency: sparse; moderate; abundant

Unburned adobe: Size: use rock size categories above
 Frequency: sparse; moderate; abundant

Burned adobe: Size: use rock size categories above
 Frequency: sparse; moderate; abundant

Ash: Indicate with check marks whether ash is mixed with the sediment, found in pockets or lenses, or both.

Visible artifacts: List any artifacts visible in the profile.

Other inclusions: List any inclusions not listed above.

DISTURBANCES: Indicate whether disturbance in the stratum from root, animals/insects, and looting is sparse, moderate, or abundant.

BOUNDARIES: Indicate the type of boundary between the two strata you list (one of the two should be the stratum this sheet is describing). A stratum may be bounded below by more than one other stratum. If this is the case, write in the information by hand just below the "Topography" value. Be sure to list the second stratum involved and indicate distinctness and topography values for this boundary, too.

Distinctness: Abrupt: the boundary is less than 2 cm thick
Clear: 2 to 5 cm thick
Gradual: 5 to 15 cm thick
Diffuse: more than 15 cm thick

Topography: Smooth: the boundary is a plane with few or no irregularities
Wavy: the boundary has undulations in which depressions are wider than they are deep
Irregular: the boundary has pockets that are deeper than they are wide
Broken: at least one of the horizons or layers separated by the boundary is discontinuous, and the boundary is interrupted

INTERPRETATIONS:

The following choices marked with asterisks are highly preferable. The other choices should be used only when absolutely necessary; please give the rationale behind those choices in the Interpretive Comments section.

How deposited?

Naturally: stratum was deposited by natural processes.*

Culturally: stratum was deposited by one or more persons.*

Mixed: stratum was deposited by a combination of natural and cultural agents.

Indeterminate: agent of deposition cannot be determined.

When deposited?

Pre-occupational: prior to human use of the site.*

Occupational: during human use of the site.*

Postoccupational: after ancient human use of the site.*

Mixed: deposited during more than one of these times.

Indeterminate: time of deposition cannot be determined.

Interpretive Comments: This section **MUST** be filled in and should contain interpretations beyond the basic "how" and "when" of deposition given above. Examples: secondary refuse, wall fall, roof fall, wind-and-water deposited sediment, plow zone, modern ground surface duff, vandals' backdirt.

**Table 1. Characteristics of Major Sediment Textural Classes
(adapted from Foss et al. 1975)**

TEXTURAL CLASS	CONSISTENCE			FORMS STABLE		Properties When moist	
	Dry	Moist	Wet		Molded Ball		Ribboning
			Stickiness	Plasticity			
Sand	Loose	Loose	Nonsticky	Nonplastic	None	None	Very gritty
Loamy sand	Loose to soft	Loose	Nonsticky	Nonplastic	Very weak	None	Very gritty
Sandy loam	Soft to slightly hard	Very friable	Nonsticky to slightly sticky	Nonplastic to slightly plastic	Very weak to to fragile	None	Gritty
Loam	Slightly hard to soft	Friable	Slightly sticky to nonsticky	Slightly plastic to to nonplastic	Strong to fragile	Slight to none	Gritty
Silt loam	Slightly hard to soft	Friable	Slightly sticky to nonsticky	Slightly plastic to nonplastic	Strong	Slight	Velvety
Silt	Soft to slightly hard		Nonsticky	Nonplastic		Slight	Velvety
Silty clay loam	Slightly hard to hard	Friable to firm	Sticky	Plastic	Strong	Medium	Velvety
Clay loam	Slightly hard to hard	Firm	Sticky	Plastic	Strong	Medium	Gritty
Sandy clay loam	Slightly hard to hard	Friable to firm	Sticky	Plastic	Strong	Medium	Very gritty
Silty clay	Hard to very hard	Firm to extremely firm	Very sticky	Very plastic	Very strong	High	Very smooth
Clay	Hard to extremely hard	Firm to extremely firm	Very sticky	Very plastic	Very strong	High	Smooth
Sandy clay	Hard to very hard	Firm to extremely firm	Very sticky	Very plastic	Very strong	High	Gritty

Figure 1. Flow diagram for determining sediment texture on the basis of ribboning and grittiness (after Thien 1979).

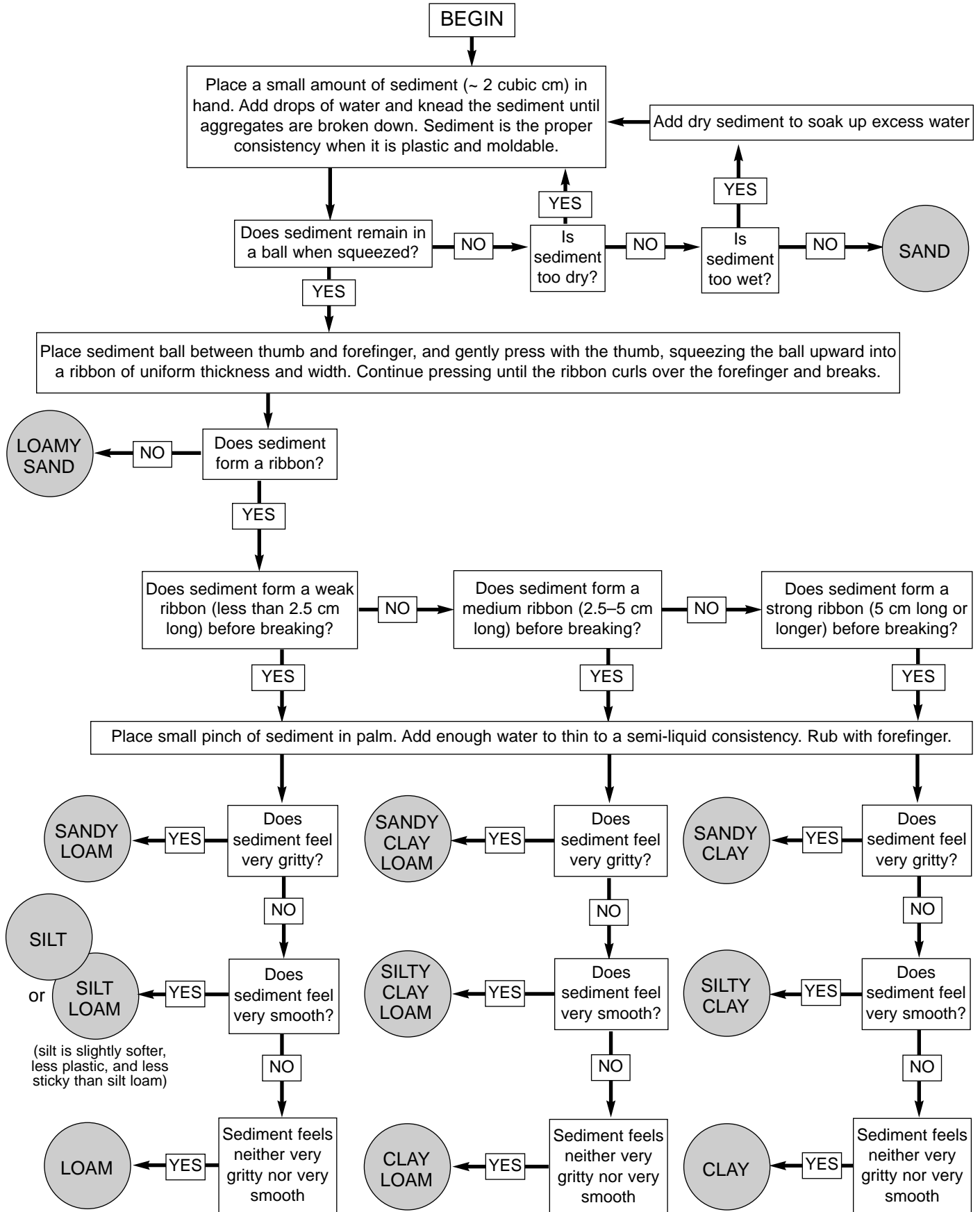


Figure 2. Sediment texture triangle.

