

GS407/407 River Environments – Surficial Mapping Field Exercise

Referring to the surficial mapping summary table on p. 116 of your field guide, use the described mapping techniques to keep a systematic log of landforms, materials, processes, and age for select localities at each of your field stops. At each field stop, complete the following tasks:

- (1) Plot the field-stop position on the topographic base maps provided on pages 150-183 of your field guide. Give each plotted point a unique identifier and stop number.
- (2) Systematically record your surficial geology observations on the table below.

Use the following decision criteria in combination with the table on p. 116 of the field guide to make your observations:

- Landform Criteria = (a) decide whether you are observing a hillslope, valley bottom, or “other” landform; (b) is the landform a “deposit” or an “erosional surface”; (c) then choose the appropriate descriptor from the table on p. 116.
- Material Criteria = (a) decide whether the landform is comprised of bedrock, regolith, or bedrock with a thin veneer of regolith; (b) then choose the appropriate descriptor from the table on p. 116. (c) If you decide the landform is supported by pure rock (and no regolith cover), provide the rock type as the “material”.
- Process Criteria = (a) decide whether you are observing a depositional or erosional landform; (b) then decide whether the deposition/erosion is the product of a fluvial, mass wasting, glacial, volcanic, or combination environment; (c) then choose an appropriate descriptor from the table.
- Age Criteria = (a) the goal here is to determine how old the deposits or landform surfaces are, i.e. how long ago was the regolith deposited, or how long has the erosion surface been exposed at the Earth’s surface? (b) Can you use the law of superposition, law of cross-cutting relations, and/or a relative weathering criteria (e.g. soil development, rind thickness) to bracket or hypothesize how old the feature is?

Stop I.D.	Map I.D./ Page No.	Landform	Material	Process	Age	Comments
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
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