

MLRA 113 and 115B
Landscape/Landform/Parent Material Correlation

Landscapes. Allowable entries:

- Hills
- River Valleys
- Till Plain

Landforms. Allowable entries:

- Alluvial Fan
- Backswamp
- Divide
- Flood Plain
- Flood Plain Step
- Hillslope
- Interfluve
- Natural Levee
- Ridge
- Sinkhole
- Stream Terrace

Relationships among landscapes, landforms, hillslope profile (2D) and geomorphic components (3D), for MLRA 113 & 115B

Landscape	Landform	2D	3D
Hills	Hillslope	SH; BS	HS; NS; SS
		FS; TS	BA
	Interfluve	SU	IF
	Ridge	SU	CT
	Sinkhole	BS	SS
		FS; TS	BA
River Valleys	Alluvial Fan	na	na
	Backswamp	na	na
	Flood Plain	na	na
	Flood Plain Step	na	na
	Natural Levee	na	na
	Stream Terrace	na	RI; TR
Till Plain	Divide	SU	IF
	Hillslope	SH; BS	HS; NS; SS
		FS; TS	BA
	Interfluve	SU	IF
Ridge	SU	CT	

Codes for surface morphometry

2D		3D	
Code	Term	Code	Term
SU	Summit	IF	Interfluve
SH	Shoulder	CT	Crest
BS	Backslope	HS	Headslope
FS	Footslope	NS	Noseslope
TS	Toeslope	SS	Sideslope
		BA	Baseslope
		RI	Riser
		TR	Tread

Parent Material

Type. Allowable entries:

- Alluvium
- Colluvium
- Loess
- Mine spoil or earthy fill
- Pedisediment
- Residuum
- Slope alluvium
- Till

Modifiers. Do not use, unless needed to distinguish a discontinuity; e.g., loamy alluvium over clayey alluvium.

Do not use to distinguish differences that are pedogenic; e.g., silt loam loess A & E horizons over silty clay loess Bt horizons.

Allowable entries:

- Clayey
- Gravelly
- Loamy
- Sandy
- Silty

Origin. Use only for residuum. Allowable entries:

- Dolomite (if RV is dolomite)
- Limestone (if material may be either limestone or dolomite)
- Sandstone
- Shale

Modifiers; e.g., calcareous shale, do not use, unless needed to distinguish a discontinuity.

Use vertical order and number in NASIS to get “over” in the PM Group name.

Definitions: MLRA 113 & 115B
Terms in [] need to be defined for the MLRA

Landscapes

Hills - Elevated area of the land surface, rising at least [30m] [to as much as 300m] above surrounding lowlands, usually with a nominal summit area relative to bounding slopes, a well-defined, rounded outline and slopes that generally exceed [15] percent.

River Valley – An elongate depression of the Earth's surface, carved by a river during the course of its development. All soils with alluvium as parent material are currently placed in River Valley landscapes.

Till Plain – An extensive, flat to gently undulating area underlain predominantly by till.

Landforms

Alluvial Fan - A low, outspread mass of loose materials and/or rock material, commonly with gentle slopes, shaped like an open fan or a segment of a cone, deposited by a stream at the place where it issues from a narrow upland valley; or where a tributary stream is near or at its junction with the main stream. It is steepest near its apex which points upstream and slopes gently and convexly outward (downstream) with a gradual decrease in gradient.

Backswamp - Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Divide - The nearly level, undissected summit of an upland. Slopes are planar and are generally less than [2] percent.

Flood Plain - The nearly level plain that borders a stream and is subject to inundation under flood-stage conditions unless protected artificially. It is a constructional landform built of sediment deposited during overflow and lateral migration of the stream. Flood Plains are subject to *frequent* flooding.

Flood Plain Step – A nearly level, terrace-like alluvial surface within a valley that is subject to *occasional* flooding from the present stream. Flood Plain Steps are higher than any adjacent Flood Plains, but are still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps, with or without adjacent Flood Plains.

Hillslope - The steeper part of a hill between its summit ([Interfluvial; Ridge]) and the [Stream Terrace; Flood Plain Step; Flood Plain] at the base of the hill. In hillslope profile terms, includes the shoulder, backslope, footslope and toeslope.

Interfluvial - The broad convex summit of an elongated, weakly dissected upland. Slope generally ranges from [2 to 5] percent.

Natural Levee - A long, broad low ridge or embankment of sand and coarse silt, built by a stream on its flood plain and along both sides of its channel, especially in time of flood when water overflowing the normal banks is forced to deposit the coarsest part of its load. It has a gentle slope away from the river and toward the surrounding floodplain, and its highest elevation is closest to the river bank.

Ridge - The narrow convex summit of an elongated, dissected upland. Slope generally ranges from [5 to 9] percent.

Sinkhole - A closed, circular or elliptical depression, commonly funnel-shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, dolomite) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.

Stream Terrace – One or more platforms in a River Valley landscape, flanking and more or less parallel to the stream channel. Originally formed near the level of the stream, and representing the remnants of an abandoned flood plain, but no longer actively modified by fluvial scour and/or deposition. Stream Terraces are subject to *rare, very rare* or *no* flooding. May occur with or without adjacent Flood Plain Steps and/or Flood Plains.

Parent Material

Alluvium - Unconsolidated, clastic material subaerially deposited by running water, including gravel, sand, silt, clay, and various mixtures of these.

Colluvium - Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g. direct gravitational action) and by local, unconcentrated runoff.

Loess - Material transported and deposited by wind and consisting predominantly of silt-size particles. Commonly a loess deposit thins and the mean-particle size decreases as distance from the source area increases.

Mine spoil or earthy fill - An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation.

Pediment - A layer of sediment, eroded from the shoulder and back slope of an erosional slope, that lies on and is, or was, being transported across a pediment.

Residuum - Unconsolidated, weathered, or partly weathered mineral material that accumulates by disintegration of bedrock in place.

Slope Alluvium - Sediment gradually transported down slopes primarily by non-channel alluvial processes (i.e., slope wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be

distinguished by differences in size and/or specific gravity of coarse fragments and may be separated by stone lines. Sorting of rounded or subrounded pebbles or cobbles and burnished pebbles distinguish these materials from unsorted colluvial deposits.

Till [glacial] - Dominantly unsorted and unstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are imbedded within a finer matrix that can range from clay to sandy loam.

Modifiers

Clayey - Clayey, fine, or very fine particle-size families

Gravelly - Loamy-skeletal or clayey-skeletal particle-size families

Loamy - Loamy, coarse-loamy or fine-loamy particle-size families

Sandy - Sandy or sandy-skeletal particle-size families

Silty - Coarse-silty or fine-silty particle-size families