

# 2023 NACTA Soils Judging Contest 4-Year Division Scorecard

Contestant Name	
Contestant Number	
College	

Pit Number	
Number of Horizons	_____ to a depth of _____ cm
Nail Depth	

## I. Soil Morphology

Score \_\_\_\_\_

HORIZONATION				BOUNDARY		TEXTURE				COLOR			STRUCTURE		CONSIST	SOIL FEATURES		SCORE
Prefix	Master	Sub	No	Depth (cm)	Dist	Rock Frag Mod	Class	% Sand	% Clay	Hue	Value	Chroma	Grade	Type	Moist	RMF-Cone (Y/-)	RMF-Depl (Y/-)	
(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(36)

## II. Soil Profile Characteristics

Score: \_\_\_\_\_

HYDRAULIC CONDUCTIVITY		EFFECTIVE SOIL DEPTH (5)	WATER RETENTION (5)	SOIL WETNESS CLASS (5)	TOTAL SCORE
SURFACE (5)	LIMITING (5)				
___ High	___ High	___ Very deep (> 150 cm)	___ Very low (< 7.5 cm)	___ Class 1 (> 150 cm)	Part I _____
___ Moderate	___ Moderate	___ Deep (100 - 150cm)	___ Low (7.5 - < 15 cm)	___ Class 2 (101 - 150 cm)	Part II _____
___ Low	___ Low	___ Mod. deep (50 - 99 cm)	___ Mod. (15 - < 22.5 cm)	___ Class 3 (51 - 100 cm)	Part III _____
		___ Shallow (25 - 49 cm)	___ High (22.5 cm)	___ Class 4 (25 - 50 cm)	Part IV _____
		___ Very shallow (< 25 cm)		___ Class 5 (< 25 cm)	Part V _____
					Total _____

III. Site Characteristics

Score: \_\_\_\_\_

PARENT MATERIAL (5 each)	LANDFORM (5)			SLOPE (5)	HILLSLOPE PROFILE (5)	SURFACE RUNOFF (5)
<input type="checkbox"/> eolian sand <input type="checkbox"/> loess <input type="checkbox"/> glacial till <input type="checkbox"/> glacial outwash <input type="checkbox"/> residuum <input type="checkbox"/> colluvium <input type="checkbox"/> volcanic deposit <input type="checkbox"/> alluvium <input type="checkbox"/> beach deposit <input type="checkbox"/> lacustrine / marine deposit <input type="checkbox"/> unconsolidated coastal plain sediments	<u>Depression</u> <input type="checkbox"/> depression <u>Coastal &amp; Lacustrine</u> <input type="checkbox"/> beach <input type="checkbox"/> lakebed / playa <u>Eolian</u> <input type="checkbox"/> dune <input type="checkbox"/> loess bluff / hill / plain <u>Erosional</u> <input type="checkbox"/> upland head slope <input type="checkbox"/> upland side slope <input type="checkbox"/> upland nose slope <input type="checkbox"/> interfluvium/crest <input type="checkbox"/> base slope	<u>Fluvial</u> <input type="checkbox"/> alluvial fan <input type="checkbox"/> back swamp <input type="checkbox"/> floodplain <input type="checkbox"/> natural levee <input type="checkbox"/> stream terrace <u>Glacial</u> <input type="checkbox"/> drumlin / moraine / plain <input type="checkbox"/> esker / kame / crevasse filling <input type="checkbox"/> outwash plain / terrace	<u>Mass Movement</u> <input type="checkbox"/> landslide / debris flow  <u>Solution</u> <input type="checkbox"/> sinkhole  <u>Tectonic / Volcanic</u> <input type="checkbox"/> lava flow / plain <input type="checkbox"/> volcanic feature	<input type="checkbox"/> Concave <input type="checkbox"/> < 1% <input type="checkbox"/> 1 - 4.9% <input type="checkbox"/> 5 - 9.9% <input type="checkbox"/> 10 - 14.9% <input type="checkbox"/> 15 - 20% <input type="checkbox"/> > 20%	<input type="checkbox"/> Summit <input type="checkbox"/> Shoulder <input type="checkbox"/> Backslope <input type="checkbox"/> Footslope <input type="checkbox"/> Toeslope <input type="checkbox"/> None	<input type="checkbox"/> Negligible <input type="checkbox"/> Very low <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/> Very high

IV. Soil Classification

Score: \_\_\_\_\_

EPIPEDON (5)	SUBSURFACE HORIZON (5 each)		DIAGNOSTIC SOIL CHARACTERISTICS (5 each)			ORDER (5)	
<input type="checkbox"/> Mollic <input type="checkbox"/> Ochric <input type="checkbox"/> Umbric <input type="checkbox"/> None	<input type="checkbox"/> Albic <input type="checkbox"/> Argillic <input type="checkbox"/> Calcic <input type="checkbox"/> Cambic <input type="checkbox"/> Duripan <input type="checkbox"/> Fragipan <input type="checkbox"/> Glossic	<input type="checkbox"/> Gypsic <input type="checkbox"/> Kandic <input type="checkbox"/> Natric <input type="checkbox"/> Salic <input type="checkbox"/> Spodic <input type="checkbox"/> None	<input type="checkbox"/> Abrupt Textural Change <input type="checkbox"/> Albic Materials <input type="checkbox"/> Andic Soil Properties <input type="checkbox"/> Durinodes <input type="checkbox"/> Fragic Soil Properties <input type="checkbox"/> Free Carbonates <input type="checkbox"/> Identifiable Secondary Carbonates <input type="checkbox"/> Lamellae	<input type="checkbox"/> Lithic Contact <input type="checkbox"/> Lithologic Discontinuity <input type="checkbox"/> Paralithic Contact <input type="checkbox"/> Plinthite <input type="checkbox"/> Slickensides <input type="checkbox"/> Spodic Materials <input type="checkbox"/> Volcanic Glass <input type="checkbox"/> None	<input type="checkbox"/> Alfisol <input type="checkbox"/> Andisol <input type="checkbox"/> Aridisol <input type="checkbox"/> Entisol <input type="checkbox"/> Inceptisol	<input type="checkbox"/> Mollisol <input type="checkbox"/> Ultisol <input type="checkbox"/> Spodosol <input type="checkbox"/> Vertisol	

V. Interpretation

Score: \_\_\_\_\_

SUITABILITY AS A ROADFILL MATERIAL (5)	ONSITE WASTE DISPOSAL		HOUSES WITH BASEMENTS (5)
	ABSORPTION FIELD (5)	LOADING RATE (5)	
<input type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Severe Reason Number (5): _____	<input type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Severe Reason Number (5): _____	_____ gpd/ft <sup>2</sup>	<input type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Severe Reason Number (5): _____

