Plan for Testing Soil Compaction and Mixing
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This testing plan has been developed in consultation with Charles C. Mitchell, Jr., Ph.D., Professor Emeritus of Auburn University's Department of Agronomy and Soils, and Kirk V. Iversen, a Certified Professional Soil Scientist, affiliated with Auburn University's Department of Crops, Soil & Environmental Science, both of whom will coordinate the sampling and testing activities. The testing plan outlines the steps that will be taken to quantitatively measure any soil compaction and mixing on and adjacent to Sabal Trail's pipeline easements.

1.0 Soil Compaction

Measurements of resistance will be recorded using a soil penetrometer. Soil moisture can greatly affect the penetrometer measurement so most measurements are taken when soil moisture is at its optimum e.g. field capacity. Resistance measurements are relative.

Proposal: Take soil penetrometer measurements every 25 feet along 200-foot transects that cover either side of and across Sabal Trail's easement.[1] *Test approximately 3 transects across each field. This will result in a replicate of measurements and allow reasonable statistics to separate means.*

2.0 Soil Mixing

Because horizon depth and soil texture naturally vary across a landscape, soil mixing is not an easy measurement to interpret. One way to accomplish this is by comparing soil texture across the landscape. This assumes that the original soil was rather uniform and the mixing of topsoil and subsoil only occurred in a specific part of the field. This method is most reliable if the original soil had dramatic textural differences in shallow (<16 inches) soil horizons. Typically, in Southeastern Coastal Plain soils, there may be shallow topsoil consisting of a fine sandy loam, sandy loam, or loamy sand. If the soil has been plowed or cultivated, this may be the plow layer.

[1] In the case of the property designated GA-BR-004.005 on which the pipeline easement is adjacent to Tallokas Road the transects will extend from the northern edge of the pipeline easement. Moreover, because of the width of the temporary workspace easements on some properties it may be necessary at certain locations to extend the transects to 250 feet to collect off right-of-way samples.