Sample Collection Examples

Definitions:
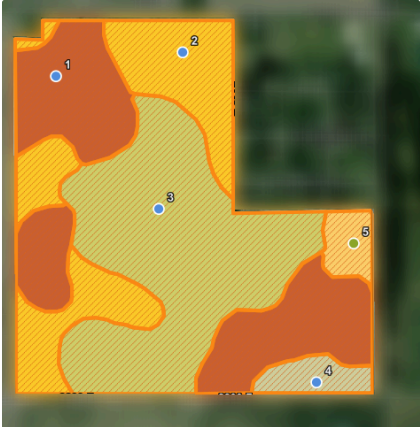
- **Core** : More or less cylindrical section of soil or rock, usually 40 mm to 150 mm in diameter and sometimes up to several meters in length obtained from a borehole or drill hole.
- **Composite samples** : Two or more increments/subsamples mixed together in appropriate proportions, either discretely or continuously (blended composite sample), from which the average result of a desired characteristic can be obtained.
- **point** : An entity that has position in space or on a plane, but has no extent
- **sample** : A small part of anything (soil in this case) or one of a number intended to show the quality, stage, condition, or nature of the whole; a sample is selected by a scout.
- **grid** : A data structure that uses rectangular units or grid cells arranged in rows and columns to represent an area like a field.
- **zone** : An area that is different from other areas in a particular way.

> **NOTE:** Plant tissue/Botanical sample collection works much the same way, instead of collecting soil cores, the sampler will collect the targeted plant part from a few plants around the point with the same level of documentation about the exact point of the sample as defined below.

> **INFO:** Regardless of whether samples are from individual points or composites, the results are for the whole point/grid cell or the whole zone.

> **INFO:** There shall be an identifier unique to a sampling operation assigned to the sampled object (e.g. the bag of soil submitted to the lab). For composite samples there is another optional identifier unique to the sampling operation associated with the parent composite sample that can capture the location of each sample sub-collected or other data used to identify the individual samples in the composite.

	Diagram	Explanation	Key Notes
1	Grid by point	Sampler will proceed to each identified point and collect a sample. This may be several cores from locations around the immediate vicinity (within ~3m radius) of the point but these exact positions are not recorded. All cores will be from the same depths.	- Multiple (potentially) cores per point - One point per grid cell - One sample per grid cell - Indicate if it is a single sample or composite - One result (per method/analysis) per grid cell - Preferred to include the field boundary (multi-polygon) - Boundary should also

			include grid cell size, origin point

2	Grid by composite samples
	
		Less common method, often associated with larger grid cells. Sampler will pull core from each specified location to create the composite sample for the grid cell. All cores will be from the same depths. Exact sample locations are captured.	• One core per point
			• Multiple points per grid cell
			• One composite sample per grid cell
			• One result (per method/analysis) per grid cell
			• Preferred to include the field boundary (multi-polygon)
			  ◦ Boundary should also include grid cell size, origin point
			  ◦ Know grid parameters not as important since it can be inferred from the point data

3	Zone by point 	Most common method for zone sampling, Sampler will proceed to each identified point and collect a sample. All cores will be from the same depths. This may be several cores from locations around the immediate vicinity (within ~3m radius) of the point but these exact	• Multiple (potentially) cores per point • One point per zone • One sample per zone ◦ Indicate if it is a single sample or composite • One result (per method/analysis) per zone • Generally important to have the (multi)polygon for each zone

			positions are not recorded.	• Preferred to include the field boundary (multi-polygon)
4	Zone by composite samples		Sampler will pull core from each specified location to create the composite sample for the zone. All cores will be from the same depths. Exact sample locations are captured and often used for subsequent sampling events to track changes over time within the zone. Some service providers will be very particular about what point each sample should be collected from.	• One core per point • Multiple points per zone • One composite sample per zone • One result (per method/analysis) per grid zone • Generally important to have the (multi)polygon for each zone as optional • Preferred to include the field boundary (multi-polygon)