
Kewaunee County

LAND & WATER CONSERVATION DEPARTMENT

Bedrock Verification Policy

1. Start by asking the farm and their agronomist how much manure they have, how many spreadable acres they currently have, how many gallons per acre they typically apply and which criteria they wish to verify to. If the farm only applies manure 1x per year and under 13,500 gallons per acre they may have no need to verify 2 ft.-5 ft. or 5ft - 20 ft. soils depths.
2. Once the farms needs or intent is defined, use the 0-40 inch soil map to narrow down which areas of field will need the most attention and where the 24 inch boundary may be. The soil maps, historical air photos, field characteristics, tillage knowledge gained by the land operator will tell us were to look and hand probing clearly defines where the 0-24in boundary truly is. After the 0-24 inch boundary is mapped via GPS, increase probe intervals to find the next target depth boundary.

Depth to bedrock verification methods by target soil depth

0 inches-2 ft.

- Soil Map, field characteristics, farm knowledge, air photos, soil probe (48inch) and Trimble GPS/ ESRI Collector
- Probe interval of 25 ft. - 50 ft. depending on other field specific characteristics
- Boundary line- Find where soils change from 20- 30 inches, probe until consistent results of 24 inches, GPS and repeat until a boundary line can be drawn on ArcGIS.

Other options: Varis or other comparable device with verification

2 ft. - 3 ft.

- Soil Map, field characteristics, farm knowledge, air photos, soil probe (48inch) and Trimble GPS/ ESRI Collector
- Probe interval of 50 ft. - 100 ft. depending on other field specific characteristics
- **Depending on farm's intent**
- Boundary line- Find where soils change from 30- 40 inches, probe until consistent results of 36 inches, GPS and repeat until a boundary line can be drawn on ArcGIS.

Other options: Varis or other comparable device with verification

3 ft. - 5 ft.

- Soil Map/ 5ft layer, field characteristics, farm knowledge, air photos, soil probe (48inch and 60 inch) and Trimble GPS/ ESRI Collector

- Probe interval of 50 ft. – 200 ft. depending on other field specific characteristics

****Depending on farm's intent****

- Boundary line- Find where soils change from 48 inches, probe until consistent results of 60 inches, GPS and repeat until a boundary line can be drawn on ArcGIS.

Other options: Varis or other comparable device with verification

5 ft. - 20 ft. (NRCS Standard of 1 hole every 200 ft.)

- Start with DNR and County 20 ft. layer
- Mechanical excavation
- Soil probe with 20 ft. extensions and Post Driver
- Hydraulic probe

****All holes larger than 1 inch must be filled in with Bentonite Slurry****

Note

A GPS point must be collected every probe point unless it is inconsistent with surrounding points. If rejection occurs at an inconsistent depth, probe in a 5 ft. triangular pattern around the original point. When bedrock is reached you will feel it and will have a defined sound, different from a stone or boulder.

In -field Characteristics

- Fracture traces
- Bedrock at the surface
- Escarpments
- Surface features (hills and depressions)
- Un-farmed areas
- Landscape
- Visible flat rock due to tillage
- Sinkholes