

## Part 630 – Benchmark Soils

### Subpart B – Exhibits

#### 630.10 Sample Narrative Record for Benchmark Soils

**BETA SERIES** – a member of the family of fine-loamy, mixed, superactive, frigid Typic Argiustolls. It dominantly occurs in the Rolling Soft Shale Plains, Major Land Resource Area (MLRA) 54, but it also extends into the Southern Dark Brown Glaciated Plains, MLRA 53C. The Beta series is about 105,000 acres in extent. Most areas of Beta soils are in privately managed grasslands used for grazing.

Beta soils are 100 to 150 centimeters deep to soft bedrock and formed in alluvium and residuum derived from sandstone, siltstone, and shale with thin surficial mantles of drift (e.g., till).

**Other Series Represented:** The Beta series is similar to the following series in MLRA 54.

<b>Theta</b>	<b>Fine-loamy, mixed, superactive, frigid Typic Argiustolls</b>
<b>Gamma</b>	<b>Fine-loamy, mixed, active, frigid Typic Argiustolls</b>
<b>Delta</b>	<b>Fine-silty, mixed, superactive, frigid Typic Argiustolls</b>

Data can potentially be used as a surrogate for these similar soils, but care should be taken when extending data for one soil series to another to ensure that the extension of data is reasonable for the particular case under consideration. These series, along with the Beta series, collectively are about 225,000 acres in extent.

The Beta series was selected as a benchmark soil primarily because it is an important soil occupying upland positions that have been impacted by glaciation in this otherwise unglaciated area. In addition, these soils support some of the most productive grasslands in the area.

**Information needs:** In MLRA 54, knowledge of the properties, qualities, and behavior of the Beta soils is useful in understanding: (1) the effect of changes in cropping systems and management practices on dynamic soil properties, (2) the penetration of roots and the movement of water into the soft bedrock, (3) pesticide and nutrient fate and transport for surface water and groundwater assessment, (4) the use of soils with soft bedrock for septic tank absorption fields, (5) the Silty rangeland ecological site, and (6) the use of soils with soft bedrock for building site development. The bedrock underlying Beta soils contains deposits of strippable coal, and the knowledge of soil properties, qualities, and behavior is important for the development of effective soil reclamation measures.

**Data needs:** The following dynamic properties and morphological attributes are needed across the common crop management systems: saturated hydraulic conductivity, soil bulk density, organic carbon, surface roughness, consistence, structure, and macropore characteristics (geometry, frequency, distribution, and continuity). The purpose is to integrate the macropore characteristic with structure, particle-size distribution, and mineralogy in order to develop a pedotransfer function that predicts saturated hydraulic conductivity.

**Laboratory data:**

National Cooperative Soil Survey (NCSS) Soil Characterization Database  
(information available at this Web address: <http://ncsslabsdatamart.sc.egov.usda.gov/>)

**User Pedon ID**

82STATEFIPS031005

84STATEFIPS021002

87STATEFIPS005001

91STATEFIPS007007

97STATEFIPS013011

ANYSTATE University pedon data

(List sources and contacts where information can be acquired)