

Case File #1

| | Zone 1 | Zone 2 & 3 |
|------------------------|-------------------------|-----------------------------|
| Texture | clay | silty loam |
| Organic matter | 1% | 4.4% |
| pH | 7.0 | 7.6 |
| Bulk density | 1.45 g cm ⁻³ | 1.1-1.35 g cm ⁻³ |
| Topsoil depth | N/A | 18 cm |
| Parent material | UNDM | GLLC |
| Drainage | well | well |
| Soil group | OR | OBLC |

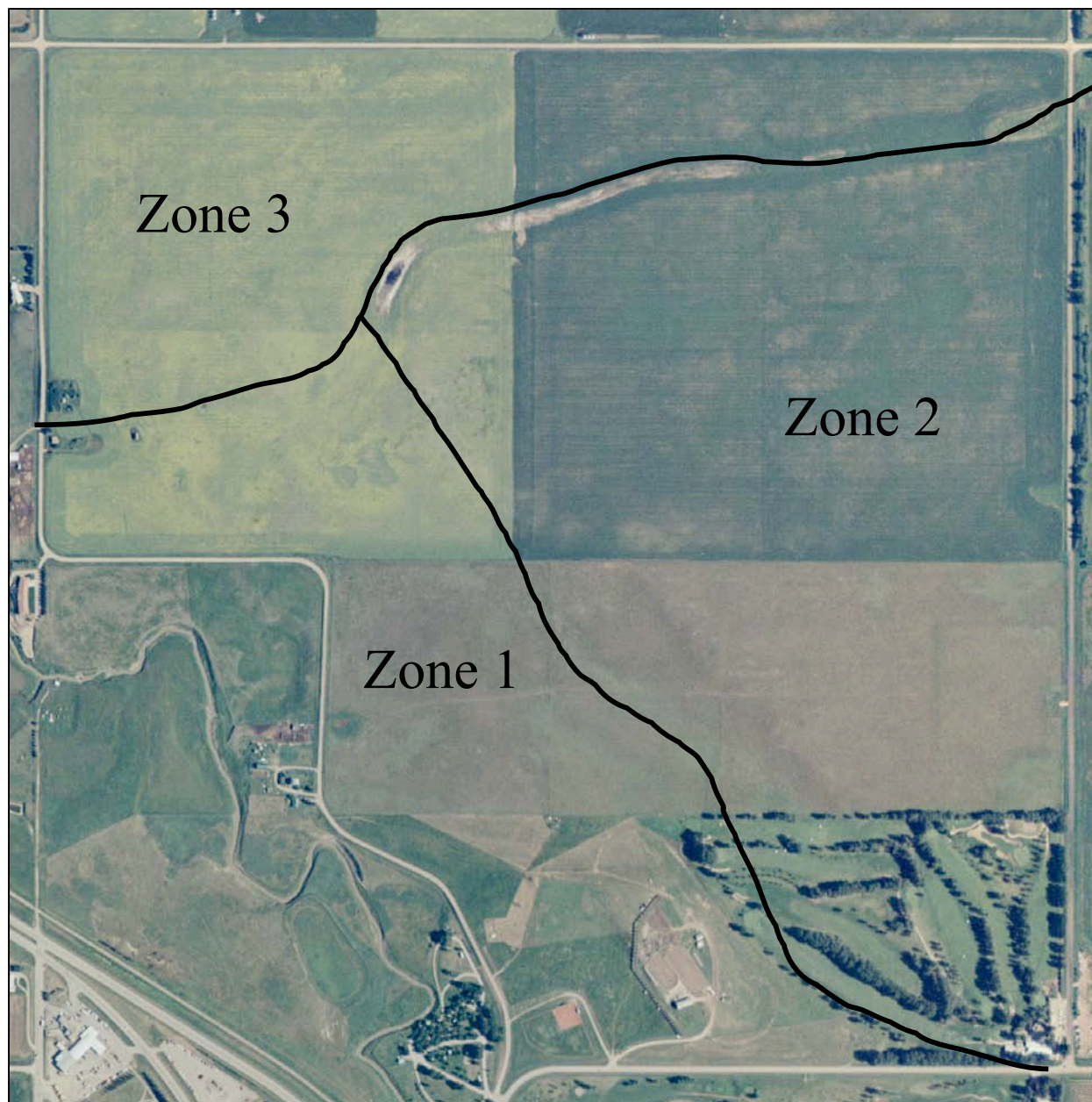
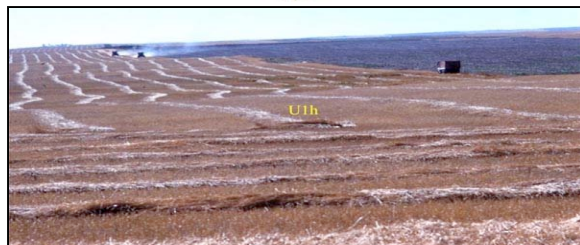
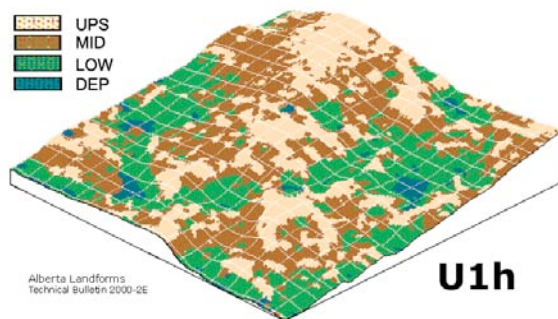
TABLE LEGEND:

UNDM: undifferentiated materials lacking similar textures and structures.

GLLC: Glaciolacustrine – sediments deposited by the glaciers in a lake-like environment

OR: Organic soils (>40% organic matter)

OBLC: Black Chernozem, or the black prairie soils, formed under grasslands with ample moisture.



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Total land area under consideration: 1 section (640 acres or 259 hectares)

Existing land use:

North half (Zone 3): The northern half of the property is characterized by crop production (wheat, canola and barley in rotation), with reasonable, but variable crop yields, depending on seasonal weather patterns.

Southwest (Zone 1): The southwest quarter section is characterized by low density, high-end residential acreages, some of which back onto the creek. Horses are common in this area. A major highway is present in the extreme SW of this quarter, which provides access to a major city to the north. There is also a sports field/oval (rodeo arena?) and baseball diamond in this zone

Southeast (Zone 2): The southeast is characterized by a public, 9-hole golf course in the south, and agricultural lands, similar to those of Zone 3, to the North.

Natural features:

North half: The major natural feature of the northern half of the property is a seasonal wetland area crossing the fields in a NE to SW direction. Depending on spring and summer rainfall patterns, and snow depth during the winter, this shallow depression may retain water into the early summer months. In drier years, the farmer may seed crops through all of, or parts of, the wetland area depending on whether they can drive their machinery across. Soils of the area are prairie soils although some salinity may be visible in low-lying areas. The landscape is rolling with slopes of 4%. In general, the area is well drained.

Southeast quarter: The natural features of this quarter section vary from east to west, and from north to south as you approach the creek in the SW quarter. Black prairie soils dominate the northern parts of this quarter section, but these tend to give way to soils that express no dominant texture or structure in the southern half, where the golf course and sports fields are located. In the agricultural area, salinity may be a concern in low-lying areas. The landscape is rolling, with slopes of up to 4%, and is for the most part, well drained.

Southwest quarter: The major natural feature of this area is a creek, which winds its way from the SE to the NW corner of the quarter section. This provides for a river valley landscape, characterized by areas of steep slope (35%) along the banks of the creek, and valley and terrace landforms elsewhere across the quarter section. There are no dominant soil types in the area, and as such textures and soil structure varies widely throughout this area. The area is well drained.