Sand and Gravel Resources at UMore Park

A geotechnical assessment of the University of Minnesota's UMore Park property has confirmed deposits of a substantial amount of commercial quality sand and gravel across the 5,000-acre property.

The University's property lies about 25 miles southeast of the Twin Cities, near Rosemount, Minnesota. Since 2006, the University has been shaping the vision for developing a University-founded community, a 25- to 30-year endeavor. The concept master planning phase of development for a unique, innovative sustainable community of 20,000 to 30,000 people is under way.

The full report "Geological Assessment: UMore Park (September 2008)" is available at www.umorepark.umn.edu. A gravel Environmental Impact Statement (EIS) is in process. When the gravel EIS concludes summer 2010, the University Board of Regents will determine whether to mine gravel on the property.

The report concludes that over a period of several decades and as the local market demands, approximately 360 million tons of sand and gravel could be mined from the property. Although the percent of gravel in deposits across the property vary, is it of relatively high quality on average.

The firm ProSource Technologies, Inc. was selected though a competitive process in August 2008 to perform the aggregate assessment. The assessment included 584 standard auger borings and 75 deep borings conducted on a 200-meter test hold grid system. All drilling samples were analyzed to describe primary geologic attributes including predominant materials present (topsoil, silt, clay, sand, sand and gravel, till, and sandstone, for example); the percentage and size of gravel particles; and "clean" quality of the sand.

The sand and gravel deposits are concentrated in three complexes, largely across two-thirds of the 5,000-acre property. They include:

- The western valley complex
    - Largest and deepest, more than 180 million tons
    - Located in the south western section of the property, west of Akron Avenue and around and south of County Road 46
    - Deposit extends below the water table, which is approximately 70 feet below the surface at this area
- The eastern fan complex:
    - Second largest in terms of volume, more than 130 million tons
    - Located at the eastern end of the property, generally north of County Road 46
    - Averages 40 to 70 feet in depth
- The southern shallow complex
    - Smallest and most shallow of three complexes, just less than 50 million tons
    - Located in the south central section of the property, generally south of County Road 46 and between Akron and Blaine Avenues
    - Depth varies from less than 1 to 45 feet

The sand and gravel at UMore Park was carried to the region by the Superior Lobe Advance, originating from the Canadian Shield during the Wisconsinan Period between 70,000 and 10,000 years ago. Specifically, the melt waters coming from beneath the ice deposited the high-quality materials in a feature known as the Rosemount Outwash Plain.

The bedrock (a combination of St. Peter Sandstone and Shakopee-Oneota limestone) at UMore Park was encountered at depths ranging from 13 to 140 feet beneath the sand and gravel. These rocks, which are several hundred million years old, helped to shape the subsequent deposits of glacial materials, and understanding them will be helpful in modeling the movement of groundwater should mining take place.

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