



NTI[™]
NORTHERN
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February 27, 2017

Bolton & Menk, Inc.
7533 Sunwood Drive NW, Suite 206
Ramsey, MN 55303-5119

Attention: Mr. Cody Holmes, P.E.

Subject: Laboratory Testing Results
Ramsey Business Park
Ramsey, Minnesota
NTI Project No. 17.61892.100

Dear Mr. Holmes,

The purpose of this letter is to present a summary of our laboratory testing program associated with the existing stockpile located on a parcel just west of CSAH 83 in Ramsey, Minnesota. Our work was performed in general accordance with the scope of services requested via email correspondence with Mr. Cody Holmes with Bolton & Menk, Inc.

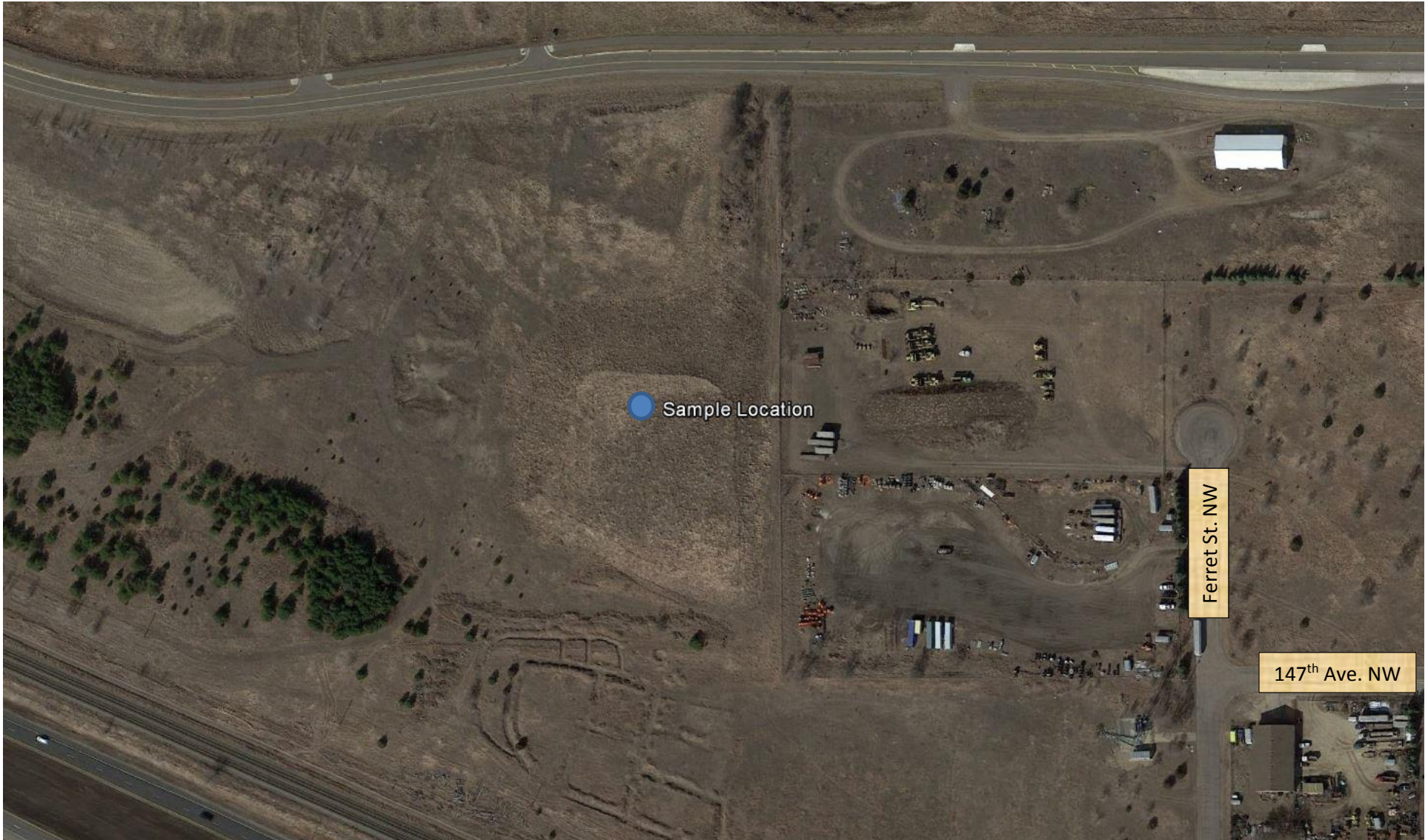
On February 17, 2017, NTI conducted a site visit to collect a representative sample of the stockpile soils. Prior to mobilization excavation along the north side of the stockpile had occurred. NTI determined their sample location based on observations of the exposed sidewall within the excavated portion of the stockpile. The stockpile mainly consisted of a Clayey Sand (SC), fine to medium grained, trace gravel, brown to dark gray, moist, with occasional bituminous debris. The sample had an as received moisture content of 6.0%.

NTI determined the approximate elevation and location of the sample location using a handheld Trimble GeoXH 6000 GPS unit. Sample location and elevation should be considered to be approximate. Please refer to the Sample Location Diagram attached. For the results of our testing program please see the attached laboratory test report for a detailed breakdown of the mechanical analysis.

Northern Technologies, LLC

Robert R. Hawkins
Graduate Geologist

Precision · Expertise · Geotechnical · Materials



Sample Location Diagram

Ramsey Business Park

Ramsey, Minnesota

NTI Project #: 17.61892.100

NOTE: Sample location is approximate.

Bulk Sample Location: 

Approximate Location Elevation: 878.5

Location UTM:

North: 16435609.755 (US ft); East: 1517762.193 (US ft)



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GRAIN SIZE DISTRIBUTION

ASTM C136 & D422

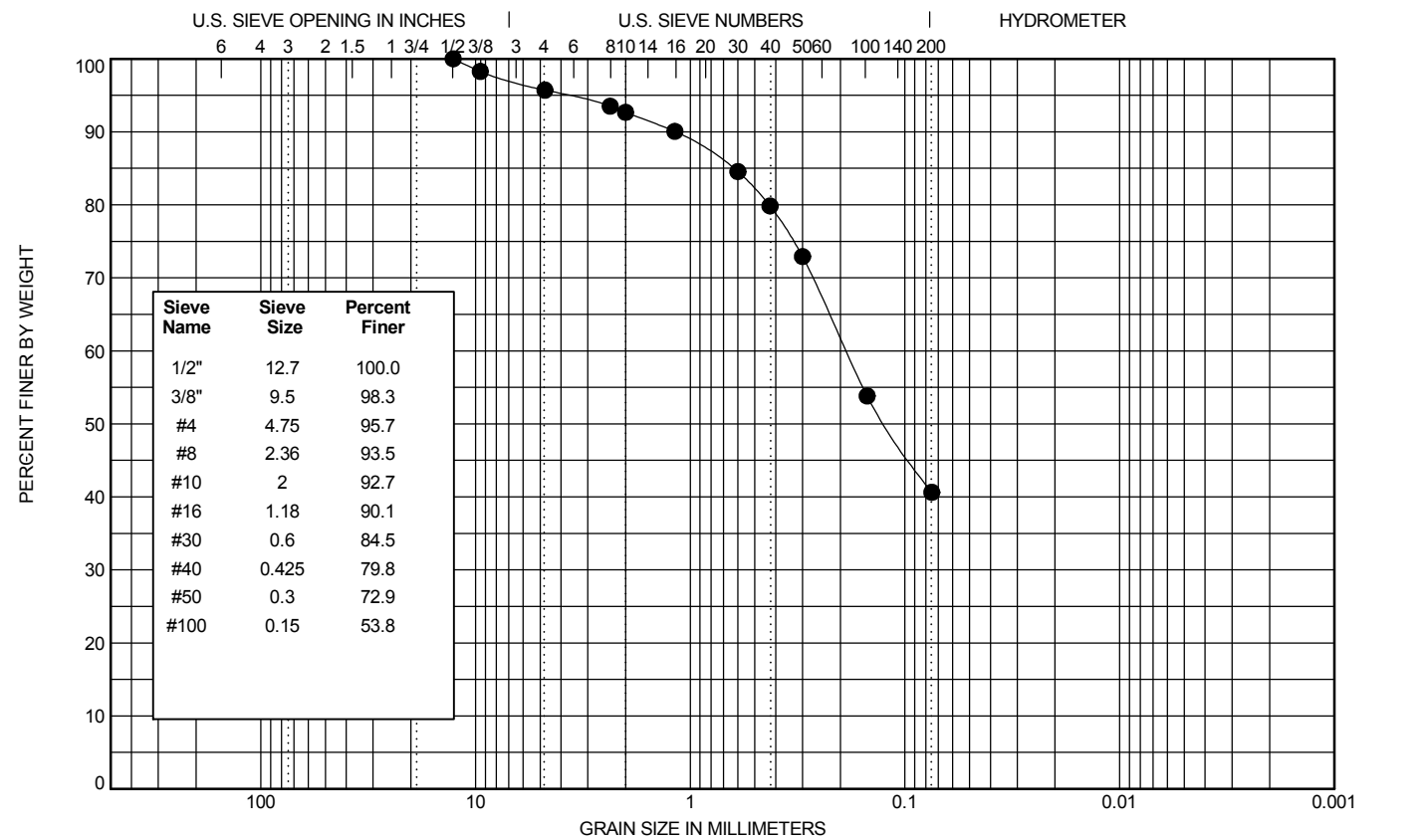
Report To:	Bolton & Menk, Inc.	Project:	Ramsey Business Park
Attention:	Cody Holmes, P.E.	Project Number:	17.61892.100
		Location:	Ramsey, MN

Sample Information

Boring Number:	1	Date Sampled:	2/17/2017
Sample Number:	1	Sampled By:	NTI
Sample Depth:	0	Sample Type:	GB
Classification:	Clayey Sand (SC)		

Sample Data

Cc	Cu	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
		12.7	0.188			4.3	55.1		40.6



Comments:

Cc:

Submitted by,
Northern Technologies, LLC

(2/27/17)