

SOIL BEARING CAPACITY INVESTIGATION

DATE: May 23, 2007

TO: Rumen Shopov
21 School Street, Apt. 5
Portland, ME 04102

OWNER: Rumen Shopov

LOCATION: This property is located at 72 Walnut Street, Portland.

DATE OF INVESTIGATION: May 14, 2007.

PURPOSE OF INVESTIGATION: The purpose is to determine the bearing capacity of the soils on-site for building construction.

METHOD OF INVESTIGATION: Backhoe.

RESULTS OF INVESTIGATION:

The site is situated on the steeply sloping southeastern side of Munjoy Hill. The existing slopes in the center of the site are relatively flat, with overland drainage towards Walnut Street. A retaining wall exists on the northeastern (uphill) edge of the site. The recently installed portion of the retaining wall consisting of boulders appears to be stable, however, the older flagstone/concrete section of the retaining wall is clearly unstable and leaning downhill. The southwest (downhill) edge of the site is supported by a steeply sloping lawn on the abutter's property. The enclosed site plan depicts the abovementioned site features.

Four test pits were dug to determine the variability of the surficial material on-site. The location of the test pits are shown on the enclosed site plan. Test pit logs are enclosed. The ground surface elevations for each test pit are based on the 130 foot topographic contour shown on the southwestern corner of the property, as depicted on the site survey plan provided by Planning/Design Associates. All elevations presented in this report have an approximate error of 1 ft.

Test pit TP-1 revealed 20 inches of fill overlying native glacial till (fine sandy loam). The till becomes extremely firm at a depth of 48 inches. Test pit TP-2 revealed 20 inches of gravelly loamy sand overlying fine sandy loam to loamy sand. The soils becomes extremely firm at a depth of 40 inches below the ground surface. Test pit TP-3 reveals 96 inches of sand and gravel overlying extremely firm fine sandy loam. Test pit TP-4 reveals 68 inches of sand and gravel overlying extremely firm fine sandy loam.

The load bearing capacity of the various surficial materials on-site were measured with a pocket penetrometer. The load bearing capacity of the fine sandy loam to medium sand cover material ranged from less than 0.5 tons per square foot (tons/ft²) to 1.0 tons/ft². The load bearing capacity of the extremely firm glacial till exceeds 4.5 tons/ft². The proposed elevation for the based of the four corners of the foundation wall are shown on the attached site plan.

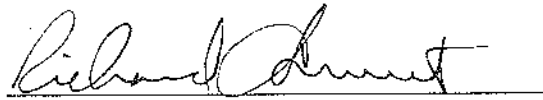
CONCLUSIONS AND RECCOMMENDATIONS:

It should be assumed that groundwater will run along the top of the extremely firm glacial till during wet times of year. The footings or pilings used to support the proposed building should be installed in the extremely firm glacial till. No structural engineering was done as part of this study and it is recommended for foundation and retaining wall engineering. On-site observation of the extremely firm glacial till must be verified prior to installation of the foundation.

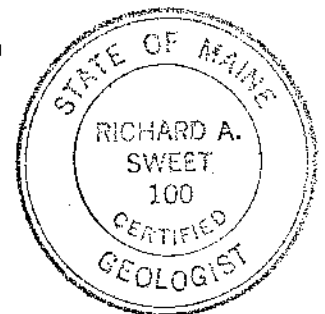


Steve Marcotte
Project Geologist

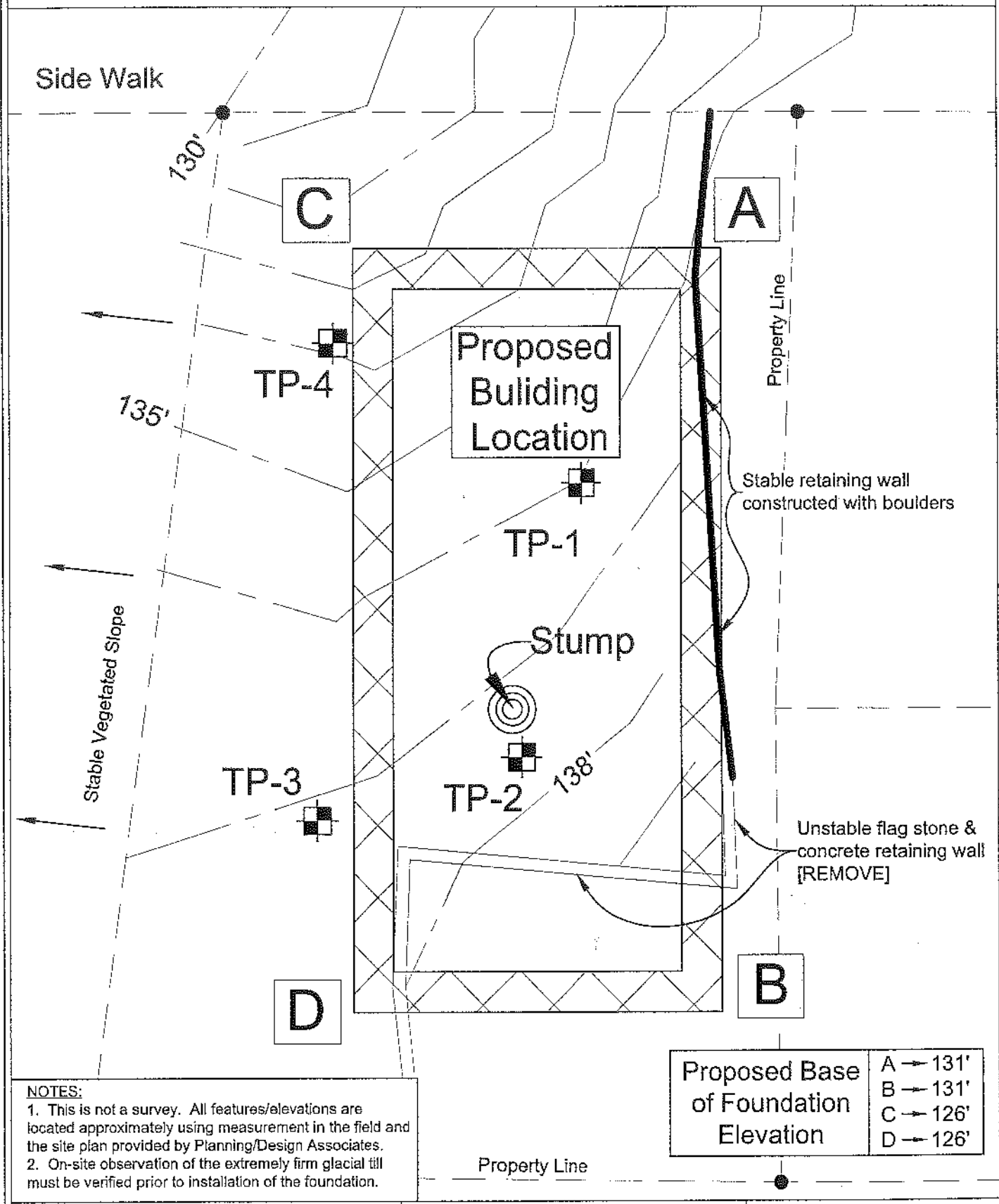
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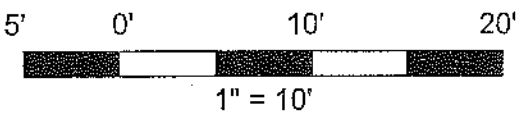
Richard A. Sweet
Certified Geologist #100



SCHEMATIC SITE PLAN



NOTES:
 1. This is not a survey. All features/elevations are located approximately using measurement in the field and the site plan provided by Planning/Design Associates.
 2. On-site observation of the extremely firm glacial till must be verified prior to installation of the foundation.



Property of Rumens Shopov
 72 Walnut Street
 Portland, Maine

SWEET ASSOCIATES
 155 Gray Road
 Falmouth, Maine
 Phone: (207) 797-2110

SOIL PROFILE / CLASSIFICATION INFORMATION

Sweet Associates 155 Gray Road - Falmouth, Maine
(207) 797-2110 - Fax (207) 878-2364

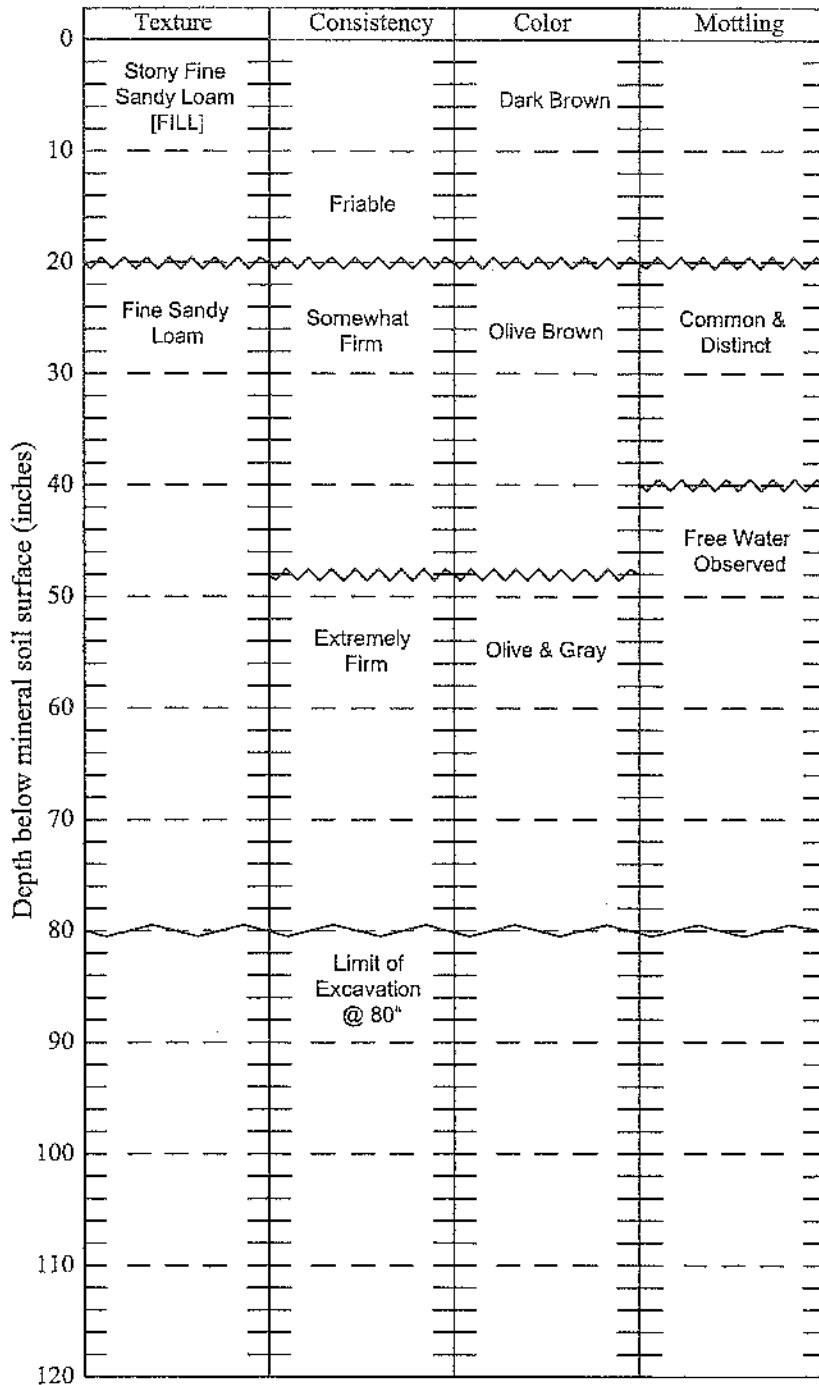
Project Name:
72 Walnut Street

Applicant Name:
Rumen Shopov

Project Location (municipality):
Portland

Exploration Symbol: TP-1 Test Pit Boring
0 " Organic horizon thickness Ground surface elev. 136.6'

Comments



Bearing Capacity < 0.5 tons/s.f. ↑
 132.6'
 ↓
 Bearing Capacity > 4.5 tons/s.f.

NOTE: Free water was observed at 40".

Soil Classification <u>3</u> <u>C</u> Profile Condition	Slope _____ Percent	Limiting Factor <u>20"</u> Depth	<input type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth	Logged By: <u>Stephen Marcotte, SE 387</u> Reviewed By: <u>Richard A. Sweet, CG 100</u> Date of Investigation: <u>May 14, 2007</u>
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INVESTIGATOR INFORMATION AND SIGNATURE		TITLE
Signature: <i>Richard A. Sweet</i>	Date: <u>5-14-07</u>	<input type="checkbox"/> Licensed Site Evaluator <input checked="" type="checkbox"/> Certified Geologist <input type="checkbox"/> Certified Soil Scientist <input type="checkbox"/> Other: _____
Name Printed/typed: <u>Richard A. Sweet</u>	Cert/Lic/Reg.# <u>100</u>	

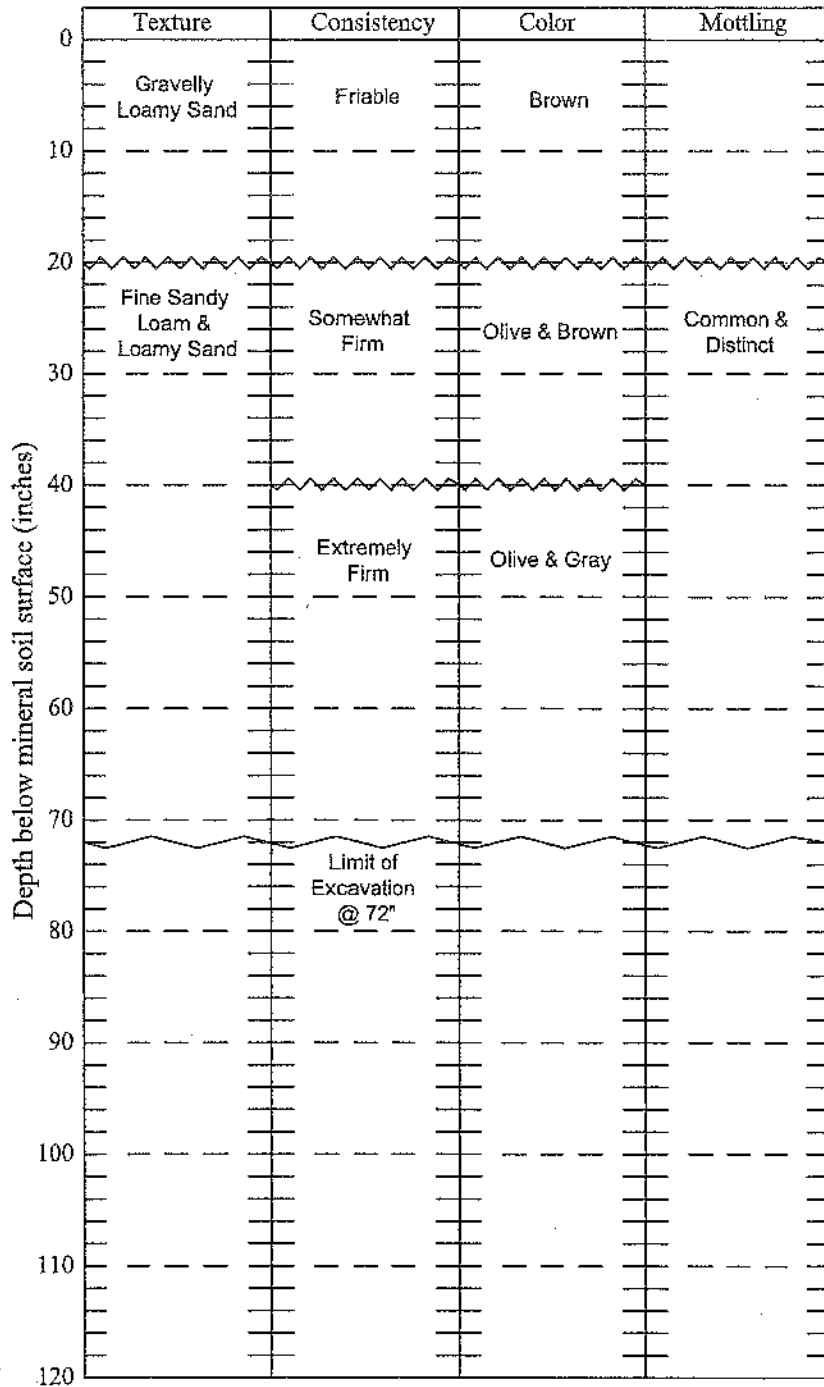
SOIL PROFILE / CLASSIFICATION INFORMATION

Sweet Associates 155 Gray Road - Falmouth, Maine
(207) 797-2110 - Fax (207) 878-2364

Project Name: 72 Walnut Street Applicant Name: Rumen Shopov Project Location (municipality): Portland

Exploration Symbol: TP-2 Test Pit Boring
0 " Organic horizon thickness Ground surface elev. 136.5'

Comments



Bearing Capacity < 0.5 to 1.0 tons/s.f.

Bearing Capacity 2.5 tons/s.f.

Bearing Capacity > 4.5 tons/s.f.

131.5'

NOTE: Free water was not observed

Soil Classification <u>5/3</u> Profile	Slope <u>C</u> Percent	Limiting Factor <u>20"</u> Depth	<input type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth	Logged By: <u>Stephen Marcotte, SE 387</u>
				Reviewed By: <u>Richard A. Sweet, CG 100</u>
				Date of Investigation: <u>May 14, 2007</u>

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Name Printed/typed: <u>Richard A. Sweet</u>	Cert/Lic/Reg.# <u>100</u>	<input checked="" type="checkbox"/> Certified Geologist
		<input type="checkbox"/> Certified Soil Scientist
		<input type="checkbox"/> Other: _____

SOIL PROFILE / CLASSIFICATION INFORMATION

Sweet Associates 155 Gray Road - Falmouth, Maine
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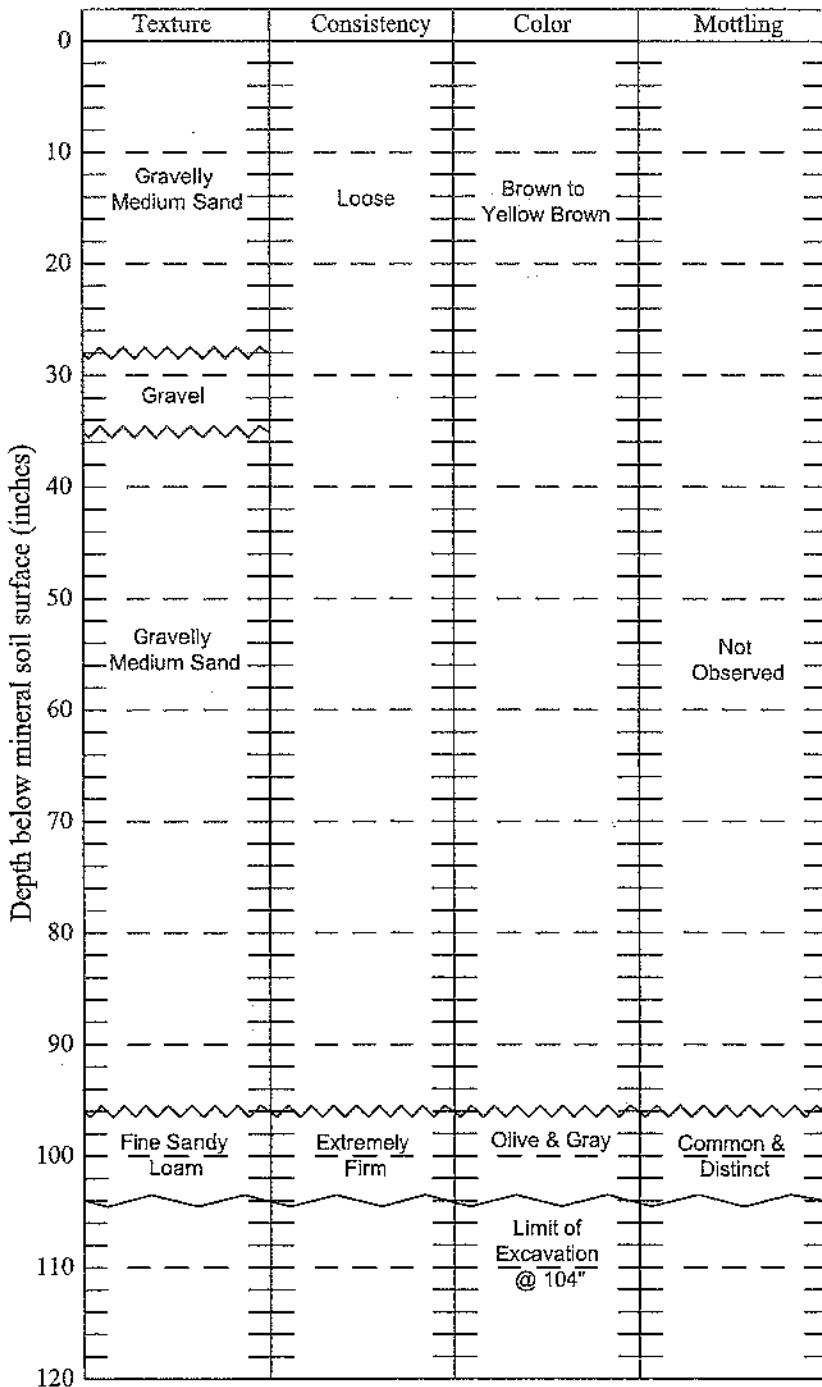
Project Name:
72 Walnut Street

Applicant Name:
Rumen Shopov

Project Location (municipality):
Portland

Exploration Symbol: TP-3 Test Pit Boring
0 " Organic horizon thickness Ground surface elev. 136.2'

Comments



Bearing Capacity < 0.5 to 1.0 tons/s.f. (0 to 96 inches)
Bearing Capacity > 4.5 tons/s.f. (96 to 120 inches)

128.2'

NOTE: Free water was not observed

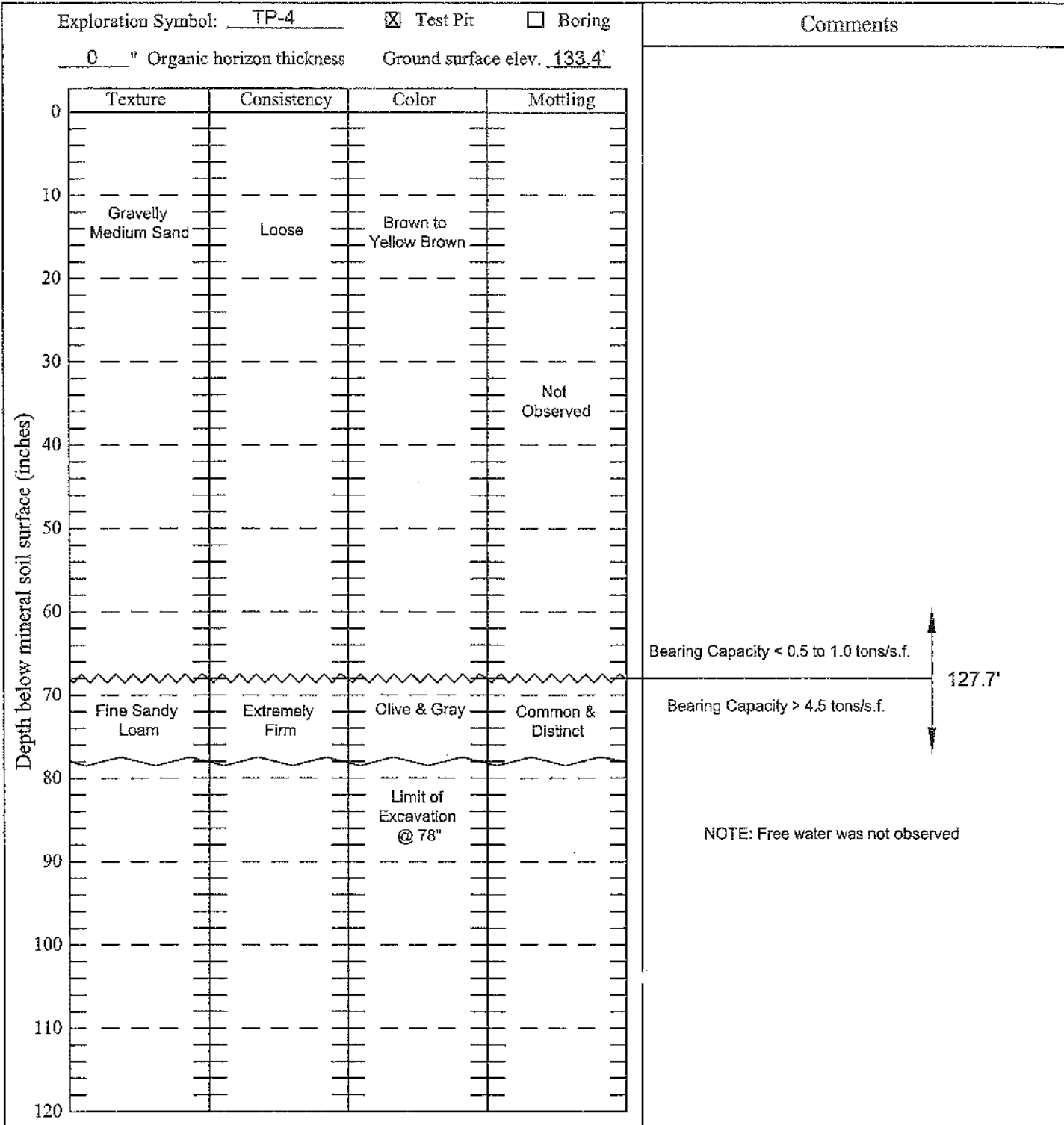
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(207) 797-2110 - Fax (207) 878-2364

Project Name: 72 Walnut Street Applicant Name: Rumen Shopov Project Location (municipality): Portland



Soil Classification <u>5/3</u> <u>C</u> Profile Condition	Slope _____ Percent	Limiting Factor <u>68"</u> Depth	<input type="checkbox"/> Groundwater <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth	Logged By: <u>Stephen Marcotte, SE 387</u> Reviewed By: <u>Richard A. Sweet, CG 100</u> Date of Investigation: <u>May 14, 2007</u>
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Name Printed/typed: <u>Richard A. Sweet</u>	Cert/Lic/Reg.# <u>100</u>	

H1
1/2" = 1'-0"

DETAIL

H:
1/2" = 1'

