DEPT BLDGS Job No. 122887224 Scan Code ESHS7980321

Robyn Wong

From:

Dan Eschenasy (Buildings) < DEschenasy@buildings.nyc.gov>

Sent:

Monday, May 08, 2017 10:47 AM

To:

Robyn Wong

Cc: Subject: Aleksandr Koval (Buildings); Lek Jani (Buildings)
RE: Peer Review 200 Amsterdam Avenue 122887224

Lek/Alex,

The peer review for FOUNDATION is accepted. Please, when drawings are submitted please verify that the foundation or geotechnical notes indicate need for additional

Dan Eschenasy, PE,SECB, F.SEI Department Chief Structural Engineer NYC Buildings deschenasy@buildings.nyc.gov

borings, Thank you, Dan

From: Robyn Wong [mailto:robyn@gillmaninc.com]

Sent: Monday, May 08, 2017 10:38 AM

To: Dan Eschenasy (Buildings)

Cc: Aleksandr Koval (Buildings); Lek Jani (Buildings)

Subject: RE: Peer Review 200 Amsterdam Avenue 122887224

Dan,

See attached updated foundation dwg & attached response from Engineer. Please let me know if this will suffice or do you need this in another format?

Call with questions or comments.

Sincerely, **Robyn Wong** Project Manager

Gillman Consulting Inc

40 Worth Street, Suite 600 New York, NY 10013

T: 212.349.9304 | F: 212.349.9346 | E: robyn @ gillmaninc.com

From: Dan Eschenasy (Buildings) [mailto:DEschenasy@buildings.nyc.gov]

Sent: Monday, May 08, 2017 10:28 AM
To: Robyn Wong < robyn@gillmaninc.com >

Cc: Aleksandr Koval (Buildings) <AKoval@buildings.nyc.gov>; Lek Jani (Buildings) <<u>Llani@buildings.nyc.gov></u>

Subject: RE: Peer Review 200 Amsterdam Avenue 122887224



Geotechnical Report Amsterdam Avenue Tower 200 Amsterdam Avenue New York, New York

SJP Properties
11 Times Square
New York, New York 10036
&
MITSUI FUDOSAN AMERICA, INC.
1251 Avenue of the Americas
New York, NY 10020

Mueser Rutledge Consulting Engineers 225 West 34th Street New York, NY 10122

October 13, 2016



Mueser Rutledge Consulting Engineers

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Director of Marketing

October 13, 2016

SJP Properties 11 Times Square New York, New York 10036

MITSUI FUDOSAN AMERICA, INC. 1251 Avenue of the Americas New York, NY 10020

Attn: Mr. Victor Cividini

Re: Subsurface Investigation Report Amsterdam Avenue Tower

200 Amsterdam Avenue
New York, New York
MRCE File 12509

Greetings:

As per your request, Mueser Rutledge Consulting Engineers (MRCE) has completed subsurface investigations at the referenced project. This report supersedes our initial report dated September 1, 2015, and presents a summary of our additional investigations, our interpretation of subsurface conditions encountered, and general foundation recommendations for the proposed construction.

PROJECT DESCRIPTION

We understand that you are planning a high-rise development at the referenced site on the west side of Amsterdam Avenue between W69th Street and W70th Street in Manhattan (Figure No.1). The site covers Lots 133 and 134 of Block 1158 with a combined footprint of about 12,000 square feet. The site is presently occupied by existing one- and two-story buildings with cellars, which will be demolished for the construction of the new building. The new development will occupy most of the site and will include multiple cellar levels.

The site is located over relatively shallow rock overlain by fill and sand deposits with a relatively shallow groundwater table. The adjacent Amsterdam Avenue sidewalk slopes along the site from Elev. +78.4 at the south end to Elev. +79.0 at the north end of the site. Elevations in this report refer to the North American Vertical Datum of 1988 (NAVD 88) which is about 1.65 feet below the Borough President of Manhattan Datum (BPMD).

The existing 200 Amsterdam Avenue building (south building) has a ground floor level a few feet above sidewalk grade (about Elev. +78.9) and is surrounded by a stepped plaza below sidewalk grade with elevations ranging from about Elev. +74 to Elev. +76.0. The existing 208 Amsterdam Avenue building (north building) has a ground floor level at sidewalk grade (about Elev. +78.9). Both buildings are underlain by a single cellar level with floor slab elevations ranging from Elev. +62.3 to Elev. +66.7. The site is bordered by an existing 15-story building with a cellar to the north, a parking lot to the west and a driveway to the south.

EXHIBITS

The following exhibits are attached:

Exhibit
Figure No. 1
Sheet No. B-1
Drawing No. GS-1
Drawing No. GS-2
Drawing No. GS-2
Drawing No. GS-2
Drawing No. GS-2
Geologic Section B-B
Geotechnical Reference

Drawing No. GS-R Geotechnical Reference Standards
Drawing No. RC-1 Rock Classification Criteria

Appendix Description

Appendix A Logs of 2015-2016 MRCE Borings
Appendix B Logs of 1957 MRCE Borings

Appendix C Logs of 2015 and 2016 MRCE Test Pits

SUBSURFACE INVESTIGATIONS

An initial investigation was completed in August 2015 to explore subsurface conditions across the project site for preliminary design. This investigation consisted of two borings (Borings MR-1 and MR-2P) drilled within the sidewalk on Amsterdam Avenue and two test pits (Test Pits TP-1 and TP-2) excavated from the existing cellar floor slab. Additionally, two borings (Borings MR-3 and MR-4) and one test pit (Test Pit TP-3) were performed in December 2015. Boring MR-3 was made from the existing lowered yard and Boring MR-4 was made within the existing 208 Amsterdam Avenue building. Test pit TP-3 was excavated from the cellar slab to explore the foundations of the adjacent 15-story building to the north. As deep layers of lesser quality rock were encountered in sidewalk Boring MR-2P, in March 2016, additional boring, Boring MR-5, was drilled within the existing 208 Amsterdam Avenue to investigate if such zones extend underneath the building core. In July of 2016, two additional test pits, TP-4 and TP-5, were excavated along the north wall of the existing building to investigate the footing extents and condition of the adjacent building to the north.

The as-drilled boring locations of all borings and test pits are shown on Drawing No. B-1.

The initial investigation was performed by Associated Environmental Service Ltd. (formerly CMI Subsurface Investigations Inc.) of Tappan, New York. All other work was performed by Aquifer

Drilling and Testing (ADT) of Mineola, New York. All boring and test pit work was performed under continuous inspection by our resident engineers who prepared field logs for each boring.

The sidewalk borings were performed with truck and track mounted rigs and the interior boring was drilled with a skid mounted drill rig both using wash-rotary methods with casing to stabilize the borehole. Samples were obtained using a 2-inch O.D. split-spoon sampler driven with a 140-pound hammer falling 30 inches. The number of hammer blows required to advance the split-spoon sampler through each of four six-inch drive intervals was recorded. The Standard Penetration Test (SPT) resistance or N-value, expressed in blows per foot, is an indication of the relative density of the material sampled and is calculated by summing the blows from the second and third six-inch intervals. In some instances where the sampler was unable to penetrate the full 24 inches due to the presence of dense soils, large gravel, cobbles, boulders, or other obstructions, the sampler was driven until 50 to 100 blows were administered and the actual penetration of the sampler was measured and recorded. Recovered soil samples were classified in the field and placed in jars for preservation and transport to our in-house laboratory.

The borings were advanced through overburden soils and cored bedrock. Bedrock was sampled using an NX-size, double-tube core barrel equipped with a diamond bit, recovering a nominal 2-inch diameter core. Percent recovery and Rock Quality Designation (RQD) were determined for each core run. RQD is defined as the sum of the lengths of recovered core pieces greater than four inches in length between natural breaks expressed as a percentage of the total core run. RQD is an indication of the relative frequency of jointing or natural fracturing of the bedrock. Sketches of recovered cores prepared in the field are attached to the boring logs. Rock cores were stored in wooden boxes for shipment to our laboratory.

After completion of the boring program, all soil samples and rock cores were delivered to our inhouse soils laboratory for verification of field classification. Individual field soil sample and rock core descriptions, and rock core sketches are provided on the typed logs in Appendix A. The terminology used in MRCE soil descriptions is shown on Drawing No. GS-R. Rock core classification terminology and criteria used on the boring logs are shown on Drawing No. RC-1.

Groundwater level readings were taken throughout the investigation in a piezometer installed in Boring MR-2P. Piezometer construction details and water level readings are recorded on the Piezometer Record accompanying the boring log in Appendix A.

Historic Borings Two borings, Borings 6 and 12, were drilled adjacent to the project site in May of 1958 by Warren George, Inc. under direct supervision of Moran, Proctor, Mueser, and Rutledge (now MRCE). Field logs were prepared for each boring and are attached as Appendix B. As-drilled boring locations are shown on Drawing No. B-1.

SUBSURFACE CONDITIONS

The general subsurface profile in the area comprises miscellaneous fill over shallow bedrock. A thin layer of decomposed rock atop bedrock is common. Our interpretation of the subsurface strata is shown on individual boring logs. The subsurface conditions encountered in project borings are consistent with those from adjacent and previous investigations.

General descriptions of the materials encountered in the borings are summarized below in order of their occurrence with depth:

Stratum F – Fill (NYC Class 7) An approximately five foot thick layer of fill was encountered in the sidewalk Borings MR-1 and MR-2P. The fill consists of loose to very compact gray to brown fine to coarse sand with trace silt, gravel, and clay. N-values ranged from 4 blows per foot (bpf) to 50 bpf and averaged about 19 bpf.

Stratum DR – Decomposed Rock (NYC Class 3a) Some borings encountered a one to two-foot thick layer of decomposed rock below the cellar slab, boring MR-5 encountered a 15 foot layer of decomposed rock directly below the cellar slab. The decomposed rock consists of very compact brown micaceous fine to coarse sand with some rock fragments and trace silt. SPT samples were obtained in the decomposed rock had N-values of 32 bpf to over 100 bpf.

Stratum WR – Weathered Rock (NYC Class 1d). A two to eight foot layer of weathered rock was encountered overlying competent bedrock in Borings MR-1 and MR-5. Boring MR-2P encountered a 19 foot thick layer of weathered rock deeper within the rock mass between El. +29 and El. +10. The weathered rock consisted of weathered to highly weathered gray gneissic schist, closely jointed to broken, iron stained and weathered joints. Core recoveries range from 6 to 96 percent, with an average of about 36 percent. RQD's range from 0 to 35 percent, with an average of about 10 percent.

Stratum R - Bedrock (NYC Class 1c to 1a) All borings encountered bedrock underlying decomposed or weathered rock where present. Bedrock was encountered between El. +65 and El. +44 across the site. The bedrock generally consists of intermediate to hard gneissic schist. Core recoveries range from 53 to 100 percent, with an average of about 89 percent. RQD's range from 20 to 100 percent, with an average of about 72 percent.

Groundwater Groundwater levels measured in the piezometers are considered more indicative of the true water table than drilling fluid measurements in boreholes. Groundwater depth in Boring MR-2P piezometer was about 16.5 feet (approx. Elev. +65) during our investigation.

Local variations in topography and permeability may affect groundwater levels within the area. It is likely the groundwater table will follow contours of the rock surface. Groundwater levels may also fluctuate as a result of precipitation, nearby construction, and water main breaks in the vicinity of the site.

TEST PITS

The test pits were excavated by hand after using a jack hammer to penetrate the floor slab. Test pit logs and representative photos are attached in Appendix C.

Test Pit TP-1 was excavated at the southwest corner of the exiting cellar at 200 Amsterdam Ave. The top of the cellar slab is about 17 feet below the sidewalk level. Test Pit TP-1 penetrated through the concrete slab and encountered rock 1.2 feet to 2.2 feet from top of the slab. All other test pits were excavated at the 208 Amsterdam Ave building. Test Pit TP-2 was excavated at the northwest corner of the exiting cellar. The top of the cellar slab at that location is about 13 feet below the sidewalk level. Test Pit TP-2 penetrated through the concrete slab and concrete

foundations, and encountered bedrock 4 to 5 feet from top of the slab. It is likely that at both locations, bedrock was excavated down to about Elev. +61 to +62 for construction of the existing cellar and foundations.

Test Pit TP-3 was made to explore adjacent wall. The test pit measured approximately 5 feet wide by 5 feet long in plan and ranged from 0.8 feet to 2.5 feet deep. The test pit revealed the existing 208 Amsterdam Ave building wall footing was constructed with reinforced concrete bearing directly on bedrock. Our inspector was not able to probe through the existing concrete wall to reveal the adjacent foundations due to considerable wall thickness and excavation effort required. Test Pits TP-4 and TP-5 were made to further explore adjacent building wall footings. The two test pits revealed the adjacent building is likely supported on a continuous concrete strip footing extending the length of the property line which is founded on bedrock at approximately El. +60 at the test pit locations.

GENERAL FOUNDATION RECOMMENDATIONS

Foundations Foundation design must take into account the existing subsurface conditions and proposed construction. Considering the proposed building includes multiple cellar levels, we recommend shallow footings or a foundation mat bearing on the bedrock. A base allowable bearing capacity of 20 tons per square foot (tsf) can be assumed in the foundation design. Footings along Amsterdam Avenue should be design for 8 tsf if possible. If additional capacity is needed at some locations further evaluations might be needed. Local removal of lower quality rock may be needed. We recommend that at least two additional borings be drilled after demolition of the existing buildings to confirm the deep, low quality rock layer does not extend underneath the building core and highly loaded columns.

Uplift loads shall be resisted by tiedowns extending into bedrock. The tiedowns should extend deep enough into the rock to engage sufficient rock mass to prevent pullout of a rock cone. The tiedowns will be locked off and the lock-off load should be included in foundation load evaluations.

For the initial design, a subgrade reaction coefficient of 1,500 tons per cubic foot (tcf) should be used for the majority of the foundation analysis. The subgrade coefficient may need to be revised following the structural analyses and comparing its results with geotechnical settlement evaluations.

Basement Floor Slab and Walls For evaluation of lateral earth pressures on walls, we recommend that the existing soil materials abutting the walls be assumed to have a friction angle of 30 degrees and total unit weight of 120 pounds per cubic foot. Permanent wall earth pressures should be based on at-rest conditions with a coefficient of at-rest pressure Ko = 0.5, minimum sidewalk surcharge of 600 pounds per square foot. In bedrock, the lateral pressure should be assumed to be 10 percent of the overburden effective stress assuming adequate rock face stabilization will be provided. Surcharge loads from adjacent shallow foundations must be included in the evaluations.

As the cellar will extend below the observed groundwater table, we recommend that basement walls and floor slabs are designed using one of the following two approaches:

• Both cellar walls and slab be designed as structural elements to resist groundwater pressures.

• Cellar walls can be keyed into bedrock and designed to resist groundwater pressure. The slab can be designed on-grade with an underdrainage system to handle small volume of groundwater below the slab. Grouting of any active water seeps may be required during construction.

Having both cellar walls and slab fully drained is likely not feasible due to permit issues and groundwater disposal issues/costs.

The prevailing groundwater elevation should be assumed at Elev. +69 considering potential additional groundwater pressure during a utility break or following long rain events.

We recommend that the basement slab and walls be fully waterproofed up to grade. Sheet membrane waterproofing may be employed (Cetco or Grace products). Hydrophilic water stops and possibly groutable tubes should be used for all wall and slab construction joints below the groundwater table.

Seismic Design The design should be performed in accordance with the 2014 NYC Building Code. Seismic Site Class of B shall be used in design.

Adjacent Structures A precondition survey of the adjacent buildings should be done prior to construction to verify available foundation information and document existing conditions. Following the precondition surveys, the effects of proposed excavation and foundations on the adjacent structures should be reviewed. Displacement and vibration monitoring of the structures should be performed during construction.

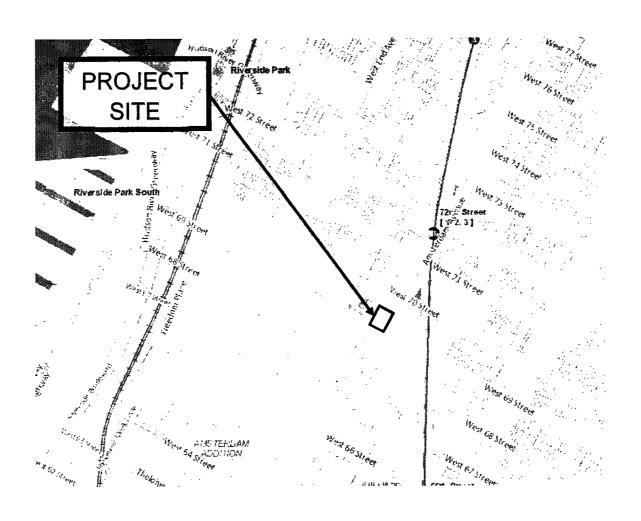
We trust that this report provides sufficient information for foundation design and construction for the proposed structures. Please feel free to contact us if we can be of further help.

MUESER RUTLEDGE CONSULTING ENGINEERS

Jan Cermak, P.E.

SFK/JC/F \125\12509\Report\Final Report\MRCE report 10-10-16.docx

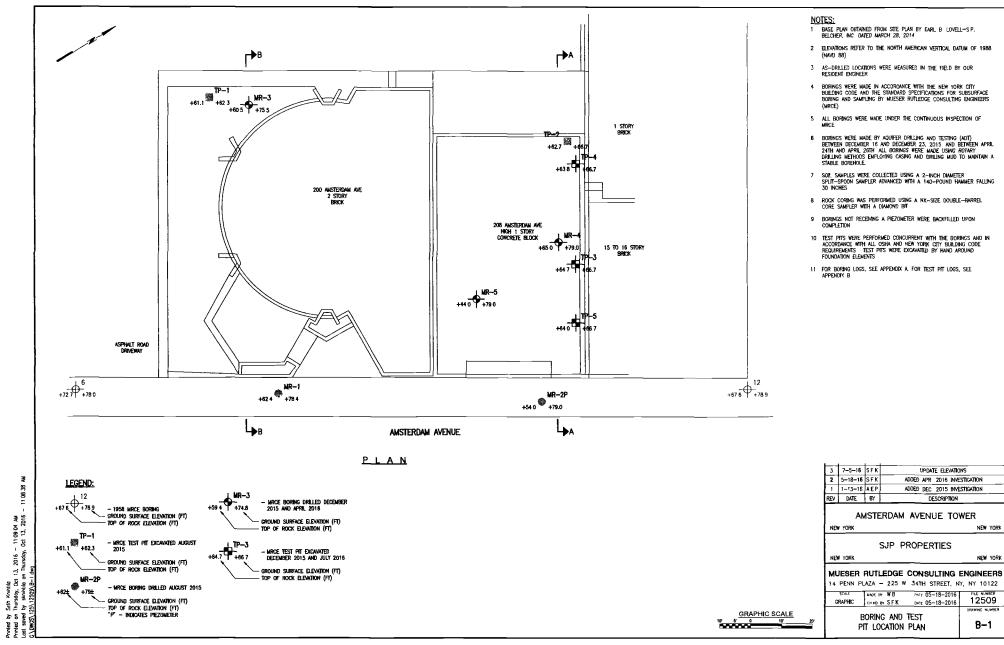




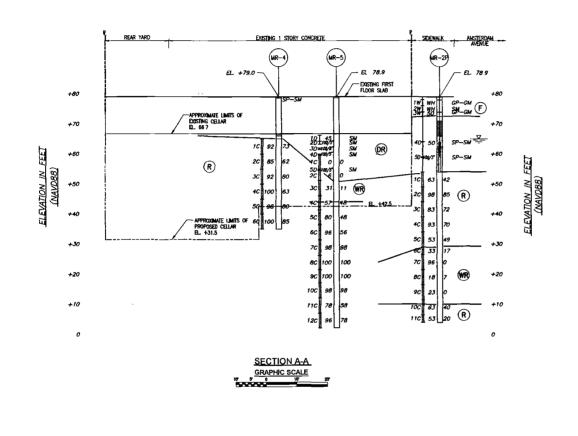
REFERENCE:

NEW YORK CITY OASIS MAPS (2015)

AMSTERDAM AVENUE TOWER							
NEW YORK NEW Y							
	SJP PROPERTIES						
NEW YO	NEW YORK NEW YORK						
MUES	MUESER RUTLEDGE CONSULTING ENGINEERS						
14 PENN	PLAZA - 225 W 34	TH STREET, NEW YOU	RK NY 10122				
SCALE	MADE BY: AEP	DATE: 08-31-15	FILE No.				
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- TOR PLAN NOTES AND SECTION LOCATIONS, SEE DRAWING NO B-1
- 2 ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)
- 3 STRATIFICATIONS ARE NECESSARY INTERPOLATIONS BETWEEN BORINGS AND MAY NOT REPRESENT ACTUAL SUBSURFACE CONDITIONS
- 4 SAMPLE DESCRIPTIONS AND STRATIFICATIONS SHOWN ARE BY MRCE.
- 5 SEE DRAWING NO GS-R FOR BORING LEGEND AND SUMMARY OF UNIFIED SOIL CLASSIFICATION CRITERIA.
- 6 COMPLETE SOIL AND ROCK DESCRIPTIONS ARE PROVIDED DN THE BORING LOGS IN APPENDIX A.
- 7 GROUNDWATER LEVELS SHOWN BY SOUID SYMBOLS ARE MUD LEVELS MEASURED IN THE BORING AND MAY NOT REPRESENT ACTUAL GROUNDWATER LEVELS REFER TO PIEZOMETER FOR GROUNDWATER LEVELS.

GENERAL STRATA DESCRIPTIONS:

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- (DR) DEDOMPOSED ROCK
- WR WEATHERED ROOK
- (R) ROCK NYC CLASS 1c OR SETTER

Į	2	7-5-16	SFK	UPDATE ELEVATIONS
i	1	5-18-16	SFK	ADDED APR. 2016 INVESTIGATION
	REV.	DATE	BX	DESCRIPTION

AMSTERDAM AVENUE TOWER NEW YORK

SJP PROPERTIES

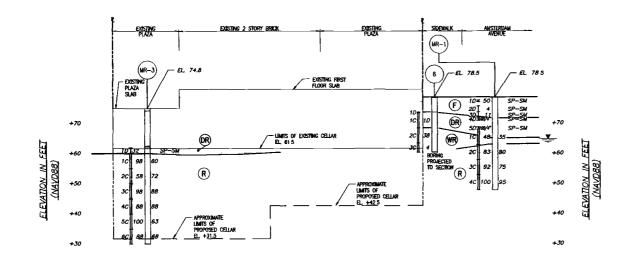
MUESER RUTLEDGE CONSULTING ENGINEERS

14 PENN PLAZA - 225 W 34TH STREET, NY, NY 10122 MADE BY W.B DATE 05-18-2016

GRAPHIC CHIED BY S.F.K DAIL 05-18-2016 GEOLOGIC SECTION A-A

GS-1

12509



SECTION B-B

- 1 FOR PLAN NOTES AND SECTION LOCATIONS, SEE DRAWING NO B-1
- 2 ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)
- 3 STRATIFICATIONS ARE NECESSARY INTERPOLATIONS BETWEEN BORINGS AND MAY NOT REFRESENT ACTUAL SUBSURFACE CONDITIONS
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- 7 GROUNDWATER LEVELS SHOWN BY SOLID SYMBOLS ARE MUD LEVELS MEASURED IN THE BORING AND MAY NOT REPRESENT ACTUAL GROUNDWATER LEVELS REFER TO PIEZOMETER FOR GROUNDWATER LEVELS

GENERAL STRATA DESCRIPTIONS:

F BLL

OR DECOMPOSED ROCK

WR WEATHERED ROCK

R ROCK - MYC CLASS 16 OR BETTER

2	7-5-16	SFK	UPDATE ELEVATIONS
1	5-18-16	S F.K	ADDED APR 2016 INVESTIGATION
REV	DATE	BY	DESCRIPTION

AMSTERDAM AVENUE TOWER

SJP PROPERTIES

MUESER RUTLEDGE CONSULTING ENGINEERS

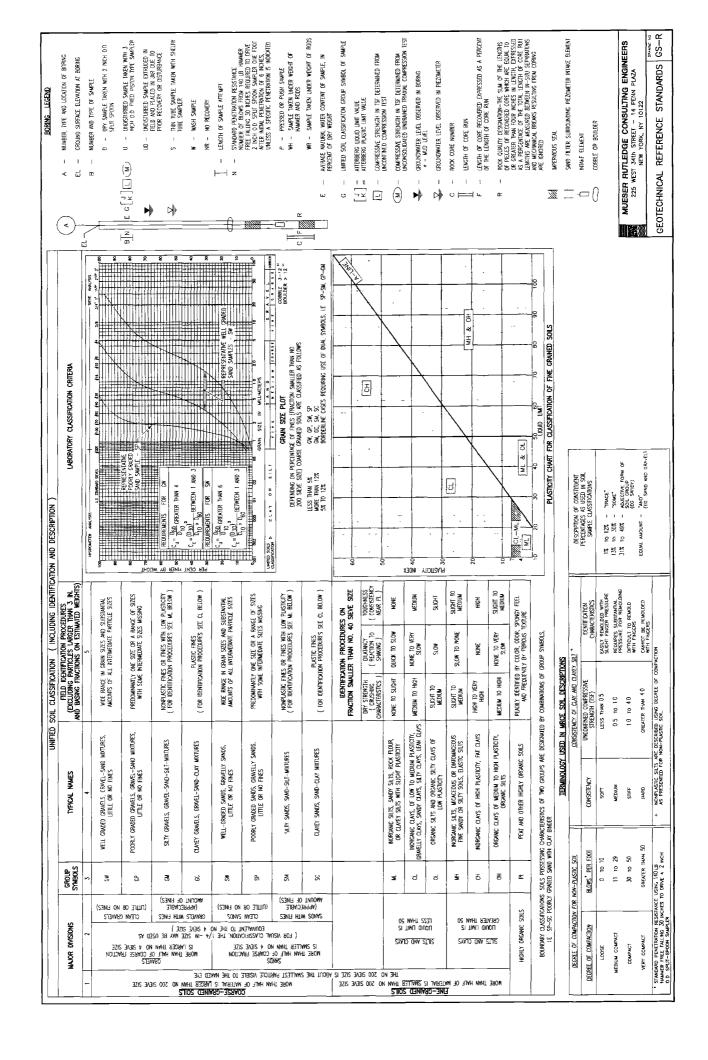
14 PENN PLAZA - 225 W 34TH STREET, NY, NY 10122

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GEOLOGIC SECTION B-B

GS-2

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			 			 	 		0		Dark	dk	Moderately Weathered	MdW
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ROCK CORE DESCRIPTION	ONS REPRESENT ONLY THE MATERIAL RE	COVERED IN THE SKE	TCH SYMB	<u>OLS</u>		JOIN	CRIENTATION /							
CORING OPERATIONS			Joint				SURF	ACE - CONDITIO	И					
GENERAL MINIMUM COR	ING CHARACTERISTICS ASSUME ROCK CO	RING WITH A DOUBLE	OOM		F	arallel	– // Curved	– C Slick –	1					
AND EQUIPMENT.	EQUIVALENT CORE BARREL USING GOOD	CORING TECHNIQUES	Healed J	oint			,,		,					
REC ~ RECOVERY IS TO	THE LENGTH OF CORE RECOVERED, EXPR DRE RUN.	ESSED AS A PERCENTAGE	Broken		(Crossing	_ χ Irregulo	gr – I Smooth –	2					
INCHES OR LONGER EX	Designation is the sum of the Leng (Pressed as a percentage of the to	ITAL LENGTH OF CORE RUN.	Port of (Core Not Reco	ver e d F	oliation	– F Straigh	t – S Rough –	3					
LENGTHS ARE MEASURE	ED BETWEEN IN-STU SEPARATIONS; MEC RTICAL JOINTS ARE IGNORED.		Contres	or Vu gs in Co	re (Stratification	- S							
			Clay		1	Unfolioted or	– U						RUTLEDGE CONSULTING	
					ì	Unstratified	·					223 W	NEW YORK, NY 10122	
			Sond											

MUESER RUTLEDGE CONSULTING ENGINEERS **BORING LOG**

12:30 06-13-15 1D 1.0 70-50/1" Top 3": Gray to brn f-c sand, tr silt, gravel(SP-SM Mon., Clear 1.6 Bot 9": Do 1D Top, some gravel (Fill) (SP-SM) 90°F 2D 3.0 2/12" Do 1D Top (SP-SM)	CASIN TA DEPTH BLOW DRILLE AHEAI 4" 5	A. +78.4± A. ANTHONY DEZENZO G. REMARKS D **Concrete from 0' to D 0.5'. Rig chattering at 2.5'. 2D: REC=6"
DAILY SAMPLE PROGRESS NO. DEPTH BLOWS/6" SAMPLE DESCRIPTION STRAT 12:30 08-13-15 1D 1.0 70-50/1" Top 3": Gray to brn f-c sand, tr silt, gravel(SP-SM Mon., Cloar 1.6 Bot 9": Do 1D Top, some gravel (Fill) (SP-SM) 90°F 2D 3.0 2/12" Do 1D Top (SP-SM)	RES. ENGI CASIN TA DEPTH BLOW DRILLE AHEAI 4"	R. ANTHONY DEZENZO S REMARKS D **Concrete from 0' to 0.5'. Rig chattering at 2.5'. 2D: REC=6"
PROGRESS NO. DEPTH BLOWS/6" SAMPLE DESCRIPTION STRATED	CASIN TA DEPTH BLOW DRILLE AHEAI 4" 5	REMARKS D **Concrete from 0' to 0 0.5'. Rig chattering at 2.5'. 2D: REC=6"
PROGRESS NO. DEPTH BLOWS/6" SAMPLE DESCRIPTION STRATED	TA DEPTH BLOW DRILLE AHEAI 4" 5	S REMARKS D **Concrete from 0' to 0 0.5'. Rig chattering at 2.5'. 2D: REC=6"
12:30 08-13-15	DRILLE AHEAI 4"	D **Concrete from 0' to 0 0.5'. Rig chattering at 2.5'. 2D: REC=6"
08-13-15 1D 1.0 70-50/1" Top 3": Gray to brn f-c sand, tr silt, gravel(SP-SM Bot 9": Do 1D Top, some gravel (Fill) (SP-SM) 90°F 2D 3.0 2/12" Do 1D Top (SP-SM)	AHEAI 4" 5	O 0.5'. Rig chattering at 2.5'. 2D: REC=6"
90°F 2D 3.0 2/12" Do 1D Top (SP-SM)	5	2D: REC=6"
· · · · · · · · · · · · · · · · · · ·	**************************************	2D: REC=6"
	**************************************	· ·
14:45 D.U 2-3	. 7.5	
08:00 3D 5.0 7-6 Gray coarse fine sand, trace silt, gravel, wood 08:04 15 7.0 5-4 fragments (Fill) (SP-SM)	.= 7.5	REC=5"
Tuesday AD 70 15 100/4" Grow brown microscope from to control panel		
Partiv 7.8 trace silt (Decomposed Book) (SP-SM)	is ;	
Clearty	a 10 å	w
70°F 5D 10.0 6-100/4" Do 4D (Decomposed Rock) (SP-SM)	5 11 3	*Conng time in
10.8	~~ 7 * ~	minutes per foot.
1C 10.8 REC=48% Weathered slightly weathered to moderately DR	7*	Mica in return from 7' to
15.8 RQD=35% weathered gray gneissic schist, closely jointed	- 13.5 7*	9°.
to broken, iron stained joints & weathered joints WR	15 7*	Water lost at 9'.
2C 15.8 REC=83% Medium hard slightly weathered gneissic	15.5 5*	Sand & gravel in return
20.8 RQD=80% schist, trace pegmatite, jointed, iron stained	6*	at 9' to 10'.
joints & weathered joints	6*	
1 Marie Mari	20 7	
3C 20.8 REC=92% Medium hard slightly weathered gray gneissic	5*	
25.8 RQD=75% schist, jointed to moderately jointed, iron stained	5*	
inints & weathered inints	5*	
Sportes & Wednitores Journal	4.	
	25 5*	
4C 25.8 REC=100% Hard slightly weathered gray gneissic schist,	6*	
30.8 RQD=95% trace pagmatite, jointed, weathered joints		,
	5°	•
Security on the security of th	30 7*	·· i
\$5.30 A SECTION OF THE PROPERTY OF THE PROPERT	30.8	End of Boring at 30.8'.
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AMOOF CAME DI 1	BORING NO.	MR-1
MRGE Form BL-1	DOMESTIC NO.	4415.1

BORING NO.

MR-1

14 Penn Plaza - 2 New York, NY 10	edge Consulting E 21 West 34th Street 122 F: 917 339-9400	BORING NO.	ROCK CORE SKETCH	
WWW.mrce com	,		SHEET	2 of 4 1250
PROJECT: 1 2 Taken of	Carrier St.	and the second of the second	FILE NO.	· 78.
LOCATION:	<u> </u>		SURFACE ELEV.	H. 2000
TEST/INSP. EQUIPMENT	e symmetric properties and adoption of the properties of the prope		KES ENGK.	Mark and a survey of the state
REF. CODES/STANDAROS	, "	E ministratur account a paparettino futura suppressionalment applica paparet "	ye also he is the spreadors of the company to the company of the c	
Run No. REC/RQD	Run No. REC/RQD	Run Na. REC/RQD	Run No. REC/RQD	
1000	1927	100 000		
40 TEST		803	35/2	
TOP	FO: TOP	TOP	ТОР	ROCK CORE SKETCH
	FESTEW -	1000		LEGEND
. 10808/3702]	Jakova I	A JOHN 183	J20772	JOINTING
	W. W.Kros		STEENED -	J - Joint
-	T	590%20-		MB - Mechanical Break
1	$ \cdot $	1	385/1/52	D Angle w/ Horizontal
765/17:35	, <u> </u>		1 1/1/2	-
	1	320 W F 23		//- Parallel
× 1	I salakaran	1 1	1	X - Crossing
1		1 1		F - Foliation
. 1	1207/50			S - Stratification
		1 3 90 3/333	590/1652	U Unfoliated or
· · · · · · · · · · · · · · · · · · ·	. 1 2-	11 24		Unstratified JOINT SURFACT
130//12			I I	C Curved
	76%CO	Jan XFI3	15	t - trregular
7		760° X. 132-	7\$	5 - Straight
	1	70%553	ij.	JOINE CONDITION 1 - Slick
757791	7-	7-1	SCAL SCAL	2 - Smooth
1	<u> </u>	M 1		3 - Rough
4	j			SKEICH SYMBOLS
_	TROXES			Joint
, d	1 1 2 2 2 2 3			Healed Joint
Lu ort	700/1013-	NMB 4	'∬'	Broken
JEXXIST .				Part of Core No: Recovered
				Cavities or Vugs in Core
-X 346X (553]		1)		Clay
然此 多。本于		1/\	and the second s	Sand
В воттом	SE SOTIOM	TO B SOTIOM	S & BOTTOM	Empty Space

BOH-D JANZOTS

MUESER RUTLEDGE CONSULTING ENGINEERS

MR-1 **BORING NO.** SHEET OF 3 12509 PROJECT AMSTERDAM AVENUE TOWER FILE NO. NEW YORK, NEW YORK SURFACE ELEV. +78 4+ LOCATION **BORING LOCATION** SEE BORING LOCATION PLAN DATUM **NAVD 88** BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE TYPE OF FEED TYPE OF BORING RIG **DURING CORING** CASING USED X YES NO TRUCK Х MECHANICAL DIA., IN. DEPTH, FT. FROM TO 10 TO **HYDRAULIC** DIA., IN. DEPTH, FT. FROM SKID BARGE DIA., IN. DEPTH, FT. FROM TO OTHER OTHER TYPE AND SIZE OF: DRILLING MUD USED X YES NO 2" O. D. SPLIT SPOON DIAMETER OF ROTARY BIT. IN. D-SAMPLER 5-7/8. 3-7/8 TYPE OF DRILLING MUD U-SAMPLER S-SAMPLER CORE BARREL NX DOUBLE BARREL AUGER USED YES X NO CORE BIT NX DIAMOND TYPE AND DIAMETER. IN. DRILL RODS LWN *CASING HAMMER, LBS. 300 AVERAGE FALL, IN. SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30 *USED ASSISTED MANUAL. WATER LEVEL OBSERVATIONS IN BOREHOLE DEPTH OF DEPTH OF **DEPTH TO** HOLE WATER CASING TIME CONDITIONS OF OBSERVATION WATER MEASURED AT END OF BORING. 30.5 10 18 X NO YES SKETCH SHOWN ON PIEZOMETER INSTALLED STANDPIPE: TYPE ID, IN. LENGTH, FT. TOP ELEV. TYPE INTAKE ELEMENT: OD, IN. LENGTH, FT. TIP ELEV. MATERIAL FILTER: OD, IN. LENGTH, FT. BOT, ELEV. **PAY QUANTITIES** 3.5" DIA. DRY SAMPLE BORING LIN. FT. 10.8 NO. OF 3" SHELBY TUBE SAMPLES NO. OF 3" UNDISTURBED SAMPLES 3.5" DIA. U-SAMPLE BORING LIN. FT. LIN. FT. OTHER: CORE DRILLING IN ROCK **BORING CONTRACTOR CMI QUINONES** DRILLER **BURT MOLZAHN** HELPERS **RANKI ? QUINONES BOREHOLE BACKFILLED WITH CUTTINGS & GROUTED. REMARKS ANTHONY DEZENZO DATE RESIDENT ENGINEER CHERYL J. MOSS TYPING CHECK: **CLASSIFICATION CHECK ALEXANDRA PATRONE BORING NO.** MRCE Form 85-1 MR-1

MUESER RUTLEDGE CONSULTING ENGINEERS BORING LOG

PROJECT: LOCATION:

AMSTERDAM AVENUE TOWER NEW YORK, NEW YORK

BORING NO. MR-2P 7 SHEET 1 OF FILE NO. 12509 SURFACE ELEV. +79.0±
RES. ENGR. D. RHEAULT/A. DEZENZO

		0.444			, , , , , ,	HE		D. RHEAULT/A. DEZENZO
DAILY		SAM		CARRIE C PERSONAL	(TD 4 T -		CASING	
PROGRESS	NO.	DEPTH	BLOWS/6*	SAMPLE DESCRIPTION			BLOWS	REMARKS
09:30			1445 4 100 4 10	6 41 1 1 1 1 1 1 1 1 1 1	CONC	1	DRILLED	
07-29-15	1W	1.0	WH/24"	Gray fine to coarse sandy gravel, trace silt				1W-3W: Wash sample.
Wednesday		3.0	344(4894)	(GP-GM)	F		4"	
Clear	2W	3.0	WH/24"	Brown silty fine to medium sand, trace coarse	•		: • •	
80°F		5.0	# A + 4 H	sand, gravel, clay (SM)		5	7 , 1 \ number 2007 2007 Aug 1000000000000000000000000000000000000	****
	3W	5.0	50/1"	Brown brick and fine to coarse sand, trace silt	**	5.1 6.5		**Concrete fragments
		5.1		(GP-GM)		0.3		from 5.1' to 6.5'.
							, ş	No return from 6.5' to
						10		10'.
		h				10		Mica in return 10' to
	·						:	15'.
							į	!
	•				•			
	•	بمبيدة د سم				15		
	; 4D	450	ENER	Construction of the same of th		13	<u>; </u>	
	4D	15.0	50/5*	Gray and brown micaceous line to coarse	DR	47		
		, , ,,,,		sand, trace silt (Decomposed Rock) (SP-SM)		17	}	· • • • • • • • • • • • • • • • • • • •
	, , ,						ι	į
	•						· -	,
15:00	· ·	~~~	40000	in an income and marks and marks	- }	20		DCO 01
07:15	5D	20.0	100/3*	Do 4D (Decomposed Rock) (SP-SM)				REC=3"
07-30 15		20.3		;				Comment of the commen
Thursday								Hard drilling at 23'.
Overcast	* **				;			
85 F			550 000	to a sufficient to the second section of	·	25	~	AC and any Alaman Inc
	1C	25.0	REC=63%	Intermediate to medium hard slightly	,	···	6*	*Coring time in
;		30.0	RQD=42%		•		6° 7°	minutes per foot.
	~~			pegmatite, trace gneissic schist, jointed to				
				broken, iron stained joints & weathered			6*	
,			050 000	joints		30	5*	
	2C			Medium hard slightly weathered to	:		5*	
3		35.0	HQU=85%	unweathered gray gneissic schist to schistose			5* 5*	
•				gneiss, moderately jointed to broken, iron	1	_, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	5*	
				stained joints & weathered joints	:	~~ ~~	6*	
	***********		DEC 200/	i 	•	35	7*	
,	3C	35.0		'Medium hard slightly weathered to	,		9*	
,	·	40.0	NQU=12%	unweathered gray gnelss, jointed to closely	:	·	B*	
!				jointed, weathered joints	R		6*	
,	**				n,	40	6*	
	4C	40.0	REC=93%	Medium hard slightly weathered to	•		6*	
	40	45.0		unweathered gray schistose gneiss &	, 1	Manager	8*	
		73.0	HQD=1076	pegmatite, jointed, weathered joints			7•	!
	· ·			pegmane, joined, weathered joints	,	-	8*	
,						45	8*	
	5C	45.0	DEC-53%	Medium hard weathered to slightly weathered	1 7		·	Possible silt seam.
•		50.0		to highly weathered gray gneiss & pegmatite,	•		,	Silt top of core run.
•	•	50.0	· (~U-73/0	jointed, weathered joints			2.	with the second second
	•	•		leures, meanieres leures	,		3.	
16:00				,	,	50	3*	1
08:15	6C	50.0	RFC=33%	Weathered to moderately weathered gray	•		·	
		52.5		gnelssic schist, broken, weathered joints	Ξ,			
1.		JE.U	1100-11/0	Summer anner anner agenteran leura	:		1 	***************************************

MRC: Form BL-1

BORING NO. MR-2P

MUESER RUTLEDGE CONSULTING ENGINEERS BORING LOG

MRCE Form BL-1

SHEET 2 OF 7 PROJECT: AMSTERDAM AVENUE TOWER FILE NO. 12509 LOCATION: NEW YORK, NEW YORK SURFACE ELEV. $+79.0 \pm$ RES. ENGR. D. RHEAULT/A. DEZENZO SAMPLE CASING DAILY REMARKS SAMPLE DESCRIPTION STRATA DEPTH BLOWS PROGRESS DEPTH BLOWS/6" Cont'd 6* 07-31-15 2/6** 52.5 REC=96% Weathered highly weathered to moderately Friday Clear 57.5 RQD=0% weathered gray to light gray gneissic schist, trace pegmatite, broken, weathered joints 75°F REC=18% Weathered highly weathered to moderately 8C 57.5 RQD=7% weathered dark gray gneissic schist, broken, Quick drop loss of 62.5 8* weathered joints fluid at 60'. 12* 8* 12* 9C . 62.5 REC=23% . Do 8C 67.5 RQD=0% 5* 3* 67.5 REC=63% Medium hard to intermediate slightly FIQD=40% | weathered to moderately weathered gray Rods drop from 67.5° gneissic schist, trace pegmatite, jointed to to 69.5'. closely jointed, weathered joints 11C 72.5 REC=53% Weathered moderately weathered to highly 75.0 **AQD=20%** weathered gray gneissic schist, trace pegmatite, closely jointed to broken, iron End of Boring at 75'. 16:30 stained joints

MR-2P

BORING NO.

BORING NO.

Mueser Rut 14 Penn Piaza -	ledge Consulting E 225 West 34th Street	ngineers		ROCK CORE SKETCH
New York, NY	01 ¹¹ 2 0 Ft 917 33949400		BORING NO.	MARINE
www.mr.te.com			SHEET	OF
PROJECT:	Total Delication	in the state of th	FILE NO.	and the second s
TEST/INSP. EQUIPMENT	Mark San	25 M 2 M 2 M	SURFACE ELEV.	Land Control Control
REF. CODES/STANDARDS			NES EIEGN.	
Run No. REC/RQD	Run No REC/RQD	Run No. REC/RQD	Run No. REC/RQD	
ROIT VO. REC/ROO	RUIT NO RECYNCE	Par	مسيع ون رس ب	24.37.75
		2 -	1 (& 1 "	
77.		35%	107-1	10 cm
ТОР	TOP	O TOP	TOP //	ROCK COR: SKETCH
1	1	1 1	30% 02	LEGEND
THE PROPERTY	1		Land of the I	JOINTING
_	1	1 1 1	30/722	t - to nt
in The second			\$ 60 7 2 2 -	MB - Mechan-cal Break
* Justy 502 - 15 17 17 2		JEÓXFIZ:	, 1	, Q = Angle w/ Horizontal
			1	//- Parallel
Salay Co	The course of the second		- TIS (1753)	X - Cross ng
1 7	3687/ FLA	_		F- Foliation
3 454730	*	1 1	1	: S- Stratification
	. 1	I MS I	1	U - Unfoliated or
4 24	54377.2	1 1 21	2 1	Unstratified
			100	<u>JOINT SURFACE</u> C - Curved
		1 1	2360 UF13 100 WIN	ı - Irregular
4	, '-		1/2/60.4/27	S - Straight
• 1 1	1560xF3?		15	JOIN: CONDITION
		1	5484/F12-18	1 - Slick
, 剂 3-		3-		2 - Smooth
Ma	795/112 = 20 XFS2	742 × 512	-	3 - Rough
1	Laxies 7	1		SKETC∺ SYMBOLS Joint
1360 MO 27	1	1 1		Healed Joint
/ 1				128°
	1-10			Broken
1		Fair Harris	4 1	Part of Core Not Recovered
לא ציינייי		1	1 (1)	Cavities or Vugs in Core
		1	4	
	1		111	Clay
		1		Sand
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NOTES

Mueser Rutio	edge Consulting E 25 West 34th Street	ngineers		ROCK CORE SKETCH
New York, NY 10 T: 917 339-9300	122		BORING NO.	0F 3
www.mrce.com			SHEET	OF
			FILE NO.	
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TEST/INSP. EQUIPMENT		and the second of the second o	RES ENGR.	A DESCREE
REF. CODES/STANDARDS				
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4	200000	1 1 1	5	LEGEND
1	J49 152	4	+	JOINTING
1	248/1852		19 m	J- Joint
1		1	1 19 10	MB - Mechanical Break
\ , ,	, 1		1	D - Angle w/ Horizontal
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() 1		1.	1	F- Foliation
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		21	1 1 MC 2-15	Unrientified
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/\ * 1			15	i- Irregular
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529yr.2				1 - Slick
529/22		540383		2 - Smooth
		54 /179		3 - Rough <u>SKETCH SYMBOLS</u>
		1 24 /132	1	Joint
			111	Healed Joint
				Broken
	7-			Part of Core Not Recovered
	e communicación de la comm	1/1 4		
	1	4		Cavities or Vugs in Core
	, services		1	92
		-	1/ 1	Sand
C2 BOTTOM	ВОТТОМ	воттом	BOTTOM	Empty Space
62.5 BOTTOM NOTES	<i>₩</i>			

Mueser Rutledge Consulting Engineers 14 Penn Plaza 225 West 34th Street **ROCK CORE SKETCH** New York, NY 10122 T- 917 339 9300 F 1 BORING NO. T- 917 339 9300 F 917 339 9400 www.mrce.com SHEET FILE NO. LOCATION: SURFACE ELEV. RES ENGR. A. D. Zan Zan Zan TEST/INSP. EQUIPMENT **REF. CODES/STANDARDS** Run No. | REC/ROD Run No. REC/RQD Run No. REC/RQD REC/RQD Run No. TOP TOP TOP ROCK CORE SKETCH JOY CZ LEGEND JOINTING 1 Joint MB - Mechanical Break D - Angle w/ Horizontai //- Parallei X - Crossing F - Foliation 5 - Stratification U - Unfoliated or Unstratified JOINT SURFACE 1 division = 0.1 C - Curved 1 - Irregular 5 - Straight SCALE JOINT CONDITION 1 - Slick 2 - Smooth 3 - Rough SKETCH SYMBOLS Joint **Healed Joint** Braken Part of Core Not Recovered Cavities of Vugs in Core Clay Sand **Empty Space** NOTES

Mueser Rutledge Consulting Engineers 14 Penn Plaza - 225 West 34th Street New York, NY 10122 T- 917 339-9300 F- 917 339-9400

PIEZOMETER RECORD

PIEZOMETER OR BORING NO.

SHEET OF

FILE NO.
INSTALLATION DATE
RES ENGR.

www.mrce.com

SEE SKETCH ON BACK

STRATA

SURFACE ELEV. 12 2 C

GROUND

Sam Baraga

PROJECT: LOCATION: PIEZOMETER LOCATION:

INSTALLATION

DETAILS

PIEZOMETER DEPTH

(FT)

0

PIEZOMETER TYPE

INTAKE POINT

depth to bottom, ft depth to top, ft -

length, ft =

diameter, in = , ft =

= 28

STANDPIPE/RISER

elevation of rim, ft = 90

diameter, in = _____, ft =

READING TIME ELEVATION DEPTH RIM REMARKS TO WATER OF WATER DATE CLOCK +66.3 4-15 1415 -657 1647 +64.7

SAND AAD GRAVEL GROUT

25.46 95.30 Karangan 20.22

GROUND SURFACE ELEV.

PIEZOMETER NO. 148 125

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING NO. MR-2P 7 SHEET OF AMSTERDAM AVENUE TOWER PROJECT FILE NO. 12509 LOCATION NEW YORK, NEW YORK SURFACE ELEV. $+79.0 \pm$ SEE BORING LOCATION PLAN NAVD 88 **BORING LOCATION** DATUM BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE TYPE OF FEED TYPE OF BORING RIG **DURING CORING** CASING USED x YES NO TRUCK Х **MECHANICAL** DIA., IN. DEPTH, FT. FROM TO SKID **HYDRAULIC** X DIA., IN. DEPTH, FT. FROM TO TO BARGE OTHER DIA., IN. DEPTH, FT. FROM OTHER TYPE AND SIZE OF: DRILLING MUD USED X YES NO D-SAMPLER 2" O. D. SPLIT SPOON DIAMETER OF ROTARY BIT, IN. 5-7/8, 3-7/8 **U-SAMPLER** TYPE OF DRILLING MUD **EZ MUD** S-SAMPLER CORE BARREL NX DOUBLE BARREL AUGER USED YES X NO CORE BIT NX DIAMOND TYPE AND DIAMETER, IN. DRILL RODS NWJ *CASING HAMMER, LBS. AVERAGE FALL, IN. 140 AVERAGE FALL, IN. *SAMPLER HAMMER, LBS. *USED ASSISTED MANUAL. WATER LEVEL OBSERVATIONS IN BOREHOLE DEPTH OF **DEPTH OF DEPTH TO** DATE TIME CONDITIONS OF OBSERVATION CASING HOLE WATER NO WATER LEVEL OBSERVATIONS MADE. PIEZOMETER INSTALLED SKETCH SHOWN ON SEE SHEET NO. 6 X YES NO STANDPIPE: TYPE 2" SOLID PVC ID, IN. LENGTH, FT. 15 TOP ELEV. +74.0± TYPE 10 +49.0± INTAKE ELEMENT: 2" SLOTTED PVC QD, IN. LENGTH, FT. TIP ELEV. FILTER: MATERIAL 020 SAND OD, IN. LENGTH, FT. 12 BOT. ELEV. +49.0± **PAY QUANTITIES** NO. OF 3" SHELBY TUBE SAMPLES 3.5" DIA. DRY SAMPLE BORING LIN. FT. 25 3.5" DIA. U-SAMPLE BORING LIN. FT. NO. OF 3" UNDISTURBED SAMPLES LIN. FT. OTHER: CORE DRILLING IN ROCK 50 BORING CONTRACTOR **CMI QUINONES** DRILLER **BURT MOLZAHN** HELPERS FRANKIE QUINONES PIEZOMETER INSTALLED. REMARKS RESIDENT ENGINEER DAVID RHEAULT/ANTHONY DEZENZO DATE 08-03-15 TYPING CHECK **ALEXANDRA PATRONE CLASSIFICATION CHECK** CHERYL J. MOSS BORING NO. MRCE Form BS-1

MUESER RUTLEDGE CONSULTING ENGINEERS BORING LOG

PROJECT: LOCATION:

AMSTERDAM AVENUE TOWERS NEW YORK, NEW YORK

REC=88% Medium hard gray gnelssic schist, trace

RQD=68% pegmatite, broken to jointed, weathered joints

BORING NO. MR-3
SHEET 1 OF 4
FILE NO. 12509

SURFACE ELEV. +74.8 RES. ENGR. GEOFFREY SMITH SAMPLE CASING DAILY SAMPLE DESCRIPTION STRATA DEPTH BLOWS REMARKS DEPTH BLOWS/6" PROGRESS 0.8 DRILLED "Concrete from 0' to 07:30 AHEAD 0.8'. 12-22-15 ***Banquet hall & cellar Tuesday from 0.8' to 12.5'. Bain 5 55*6 10 ***Concrete slab from 12.5 12.5' to 13'. 13.0 18-11 Brown micaceous fine to coarse sand, some DR 1D 21-100/3* rock fragments, trace silt (DR) (SP-SM) 14.8 15 2* 15.0 REC=98% Medium hard slightly weathered gray gneissic *Coring time in 2.5* 20.0 RQD=60% schist, some pegmatite, jointed to broken. minutes per foot. iron stained & weathered joints 5.5* 3.5* 20 2.5* 2C 2.5 20.0 REC=96% Hard to medium hard slightly weathered to 2.5 25.0 RQD=72% unweathered gray gneissic schist, jointed. iron stained & weathered joints 2* 3.5* 2.5* 3C 25.0 REC=98% Hard unweathered gray gnelssic schist, jointed, 3 30.0 RQD=88% iron stained & weathered joints 2.5 2* 3* 3* R 4C 30.0 REC=88% Hard unweathered gray gneissic schist & 3 3* 35.0 RQD=88% pegmatite, jointed to moderately jointed. 3* weathered joints 3.5* 3.5* 14:30 5C 2 35.0 REC=100% Hard to medium hard slightly weathered to 07:30 2.5* 40.0 RQD=63% moderately weathered gray gneissic schist, 12-23-15 trace pegmatite, jointed to broken, weathered 3.5* Wednesday Overcast ioints 3.5

50	~1	٠

45

3*

2.5

3* 2.5* 2.5*

2.5*

BORING NO. MR-3

End of Boring at 45'.

55°F

09:30

6C

40.0

45.0

Mueser Rutl	edge Consulting E 25 West 34th Street	ngineers		ROCK CORE SKETCH
New York, NY 10	122 F: 917 339-9400		BORING NO.	5.1 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
WWW.mrce.com	r: 917 339-9400		SHEET	OF
PROJECT:	Service Marine	A	FILE NO.	
		·	SURFACE ELEV.	1_7 48
TEST/INSP. EQUIPMENT	. , . , , , , , , , , , , , , , , , , ,	may a command and the second and the	RES ENGR.	
REF. CODES/STANDARDS	e se e e e e e e e e e e e e e e e e e		Mile Milescorres —	
Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	Run No REC/RQD	
		162 83	SK (190);	
			;	
TOP	TOP	4: TOP	36 TOP	ROCK CORE SKETCH LEGEND
1	•	Services and	1	<u>JOINTING</u> J - Joint
4	: 1	LA COURT		MB - Mechanical Break
4	1		1	Angle w/ Horizontal
-				// - Parallel
.		1	1	X - Crossing
1	1	1/ mores 7	4	F - Foliation
				S - Stratification
]	U - Unfoliated or Unstratified
n 1 core	3	July 12		<u>JOINT SURFACE</u> C - Curved
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11	l - Irregular
4		-	327527	5 - Straight
		12.00// F22	CALE: 1	<u>JOINT CONDITION</u> 1 - Slick
		3 -	, –	2 × Smooth
•	1		Tenera -	3 - Rough <u>SKETCH SYMBOLS</u>
_	7		1838651	Joint
]]			Healed Joint
1			Name of the state	Broken
1		- 1350×152 9		Part of Core Not Recovered
1	1	133000	1/3/1///	Cavities or Vugs in Core
			1/150.15	Clay
1	· •	**************************************	11	Sand
BOTTOM	Воттом	Y SOTTOM	YO BOTTOM	Empty Space
NOTES	-41.4111	American de la constante de la	id demindent "	Makahanning og print med delekset hannersk kritise med skillen en se

BOR-3_JAN2013

Mueser Rutledge Consulting Engineers 14 Penn Plaza 225 West 34th Street **ROCK CORE SKETCH** New York, NY 10122 BORING NO. T- 917 339-9300 F: 917 3 '9-9400 1. 917. 339.4300 SHEET ___ OF ·' ____ FILE NO. PROJECT: + 4.87-LOCATION. SURFACE ELEV. 3 3000 TEST/INSP EQUIPMENT RES ENGR. REF. CODES/STANDARDS Run No. REC/RQD Run No. REC/RQD Run No. REC/RQD Run No. REC/RQD TOP ₹¢ TOP ROCK CORE SKETCH 46-60, -C BASKESS LEGEND () 45 () 5 () 4 JOINTING 130 J St. J Joint MB - Mechanical Break 18 4 4 2 2 1 A STED L. D - Angle w/ Horizontal // Parallel 1700052 2241554 4. X - Crossing STERMS F Foliation ~! Ju 3 1 11 S - Stratification JA4/1955 U Unfoliated or 230,000 TWEST Unstratified JOINT SURFACE C Curved TICK TES - TOO/1852 l Irregular 237822. S Straight JOINT CONDITION 1360//Fin 1 Slick Theyra . 15p. rin 2 - Smooth 3 - Rough SKETCH SYMBOLS SIDE FSS 360XF 5". Healed Joint the Kerk Broken 31221722 (1 Part of Core Not Recovered 1316 A Cavities or Vugs In Core P. DOXETE Clay Sand Juoy 15 15 360> 132 **Empty Space** BOTTOM 25 BOTTOM 2.5 BOTTOM

NOTES

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT LOCATION BORING LOCATION	AMSTERDAM NEW YOU SEE BORING	RK, NEW YO	ORK		SHEET FILE NO SURFAC DATUM	4		+74.8	4
BORING EQUIPMENT A	ND METHODS OF ST	TABILIZING B	OREHOLE						
TYPE OF BORING RIG	DURING CORING	c	ASING USED		x	YES	NO		
TRUCK	MECHANICAL	٥	IA., IN.	3	DEPTH, F	T. FROM	0	TO	15
SKID	HYDRAULIC	X D	IA., IN.		DEPTH, F	T. FROM		TO	
BARGE OTHER ACKER ACE	OTHER	D	IA., IN.		DEPTH, F	T. FROM		то	***
TYPE AND SIZE OF		ם	RILLING MUD (JSED		YES	X NO		
	PLIT SPOON	Ď	IAMETER OF R	OTARY BIT	T, IN.		2-15/	16	
U-SAMPLER		T	YPE OF DRILLI	NG MUD					
S-SAMPLER	· · · · · · · · · · · · · · · · · · ·								
CORE BARREL NX DOUB	and the second s		UGER USED			YES	X NO		
CORE BIT NX DIAMO	NO BII	i	YPE AND DIAM	EIEH, IN.					
J1112 11333 11110		•(CASING HAMME	A. LBS.	140	AVERAGI	E FALL, IN.	30	
			SAMPLER HAMI		140	*	E FALL, IN.	30	Angelien
		*(JSED DONUT H	IAMMER	***************************************				
WATER LEVEL OBSERV			/ / / / / / / / / / / / / / / / / /		summittee to the				
DATE TIME	EPTH OF DEPTH HOLE CASIN	. 	TH TO NTER		COMPLETIC	2NIS (2E (28	SERVATION		
	, , , , , , , , , , , , , , , , , , , ,	W part / com/ /	716-19	NO V		- ,	RVATIONS N		/
		* *** *** * * ******* *** *****	· · · · · · · · · · · · · · · · · · ·	. 12.72			e e e war yn dae'n d	,	e as before
Commence of the Street Agency Agency Agency of the Contract of				* *** **** ***************************					
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i i	, to a command the r					Charles on the commence	designation and an access of		
PIEZOMETER INSTALLE	<u>D</u> YES	X NO	SKETCH S				a control on the same of		
STANDPIPE: TYP	E	IE), IN.	LENG	iTH, FT.		TOP ELEV		
INTAKE ELEMENT: TYP	E	٥	D, IN	LENG	TH, FT.		TIP ELEV.		
FILTER: MAT	ERIAL	0	D, IN.	LENG	ith, FT.		BOT. ELEV	/	
PAY QUANTITIES	713.100 LABA P000P	4.6		- ALCUELE	w time r				
3.5" DIA. DRY SAMPLE BOR 3.5" DIA. U-SAMPLE BORIN		15		IF 3" SHELE IF 3" UNDIS					
CORE DRILLING IN ROCK	LIN. FT.	30	OTHE		n Under	Graphic FFFS			
	<u></u>								
BORING CONTRACTOR	DOMESTIC OF		AQUIFER DRI		ESTING		NE DAMA	AIP\	
DRILLER REMARKS	DOMENIC PE	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	HELF	•		GEOH	GE RAYMO	עאו	
RESIDENT ENGINEER			BOREHOLE B EY SMITH	MORFILLE	Ų.	DATE	15	2-23-15	
CLASSIFICATION CHEC	K: CHEE	RYL J. MOSS	~-	NG CHECK	~		ANDRA PA		
MRCE Form BS-1	- vi	.,	, , , , ,	, = = (= 0)	***		RING NO.	***	7-3

MUESER RUTLEDGE CONSULTING ENGINEERS **BORING LOG**

PROJECT: LOCATION: AMSTERDAM AVENUE TOWERS NEW YORK, NEW YORK

MR-4 BORING NO. SHEET 1 OF 4 12509 FILE NO.

+79.0 SURFACE ELEV.

EUCATION.				NEW YORK, NEW YORK	RES. ENGR.			. GEOFFREY SMITH
DAILY	• •	SAMI	PLE	William Committee the Committee of the C	, , ,		CASING	
PROGRESS	NO.	DEPTH	BLOWS/6*	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
09:30					, ** ```			**Concrete slab from
12-16 15							AHEAD	-0' to 0.4'.
Wadnesday					ı		3*	1
55*F	;	1	I					
,	- 1000000000000000000000000000000000000	Name	:			5	·	•
						,		
					***			""Cellar from 0.4" to
{					6 6	ļ		12.5'.
1	!			:	1	10	,	
	***************************************		i	:	ì	10	<u> </u>	,
1								
ì	,				·	12.5	***************************************	***Concrete slab from
,	10	13.0	20-100/3"	Top: Broken, concrete fragments	DR	14	· · · ·	12.5' to 13'.
14 45		13.8		Bot: Brn micaceous f-c sand, tr silt (DR) (SP-SM)		15	· !	
07 15	1C	14.0	REC=92%	Medium hard slightly weathered gray pegmatite,			8.5*	
12 17 15		19,0		jointed, iron stained & weathered joints			8.5*	Casing at 16.5'.
Thursday	w ,				:		4*	*Coring time in
Han				:			4*	minutes per foot.
55°F	2C	19.0		Medium hard slightly weathered gray pegmatite,	1	20	8*	
	ma - 1	24.0	RQD=62%	jointed, iron stained & weathered joints		·	13*	
		·					9*	
	,			3		ļ	10*	
14:45	3C	24.0	DEC-03%	Medium hard slightly weathered gray pegmatite,		25	18* 23*	
07:30 12-18 15	, 30	29.0		trace gneissic schist, jointed to moderately	•		5*	
Friday	!	25.0	1140-0076	jointed, weathered joints			4*	
Overcast				jointos, would jointo		· · · · · · · · · · · · · · · · · · ·	4*	
55*F		• 1			,		4.5*	
	4C	29.0	REC=100%	Medium hard slightly weathered to unweathered	R	30	7*	
		34.0		gray gnelssic schist, broken to jointed, iron	ì	,	6*	<u>,</u>
		· · · · · · · · · · · · · · · · · · ·		stained & weathered joints	:		6.5*	
		!					4.5*	£
14:30							4.5*	1
07:30	5C	34.0		Medium hard to hard slightly weathered to	:	35	9.	
12-21-15	;	39.0	HUU=80%	unweathered gray gneissic schist, moderately	:		5.5*	!
Monday	,			jointed to closely jointed, Iron stained & weathered joints			6*	1
Overcast 50°F	\$ ************************************			mode to the follows		*** · · · · · · · · · · · · · · · · · ·	6*	
	`″6C ∵	39.0	REC=100%	Hard slightly weathered to unweathered gray		40	5.5*	
	,	44.0		gneissic schist, jointed, weathered joints	•		6,	
•						Anton asserts	5*	
		,,,,		1	,		3*	
09:30		;		•		44		End of Boring at 44'.
	Ĺ					45	2*	\$
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Mueser Rutl	edge Consulting E	ingineers		ROCK CORE SKETCH
New York, NY 10	1.2		BORING NO.	Mir C
1. 91) 339-9300 www.mr.eom	91 1 339 9400		SHEET	OF "
PROJECT:	The same of the sa	TERLIAN ME	FILE NO.	
LOCATION:			SURFACE ELEV.	+ 7-9 t_
TEST/INSP. EQUIPMENT		* * * * * * * * * * * * * * * * * * *	RES ENGR.	A STATE OF THE STA
REF. CODES/STANDARDS	an statement in a company of the second of the second	along copy control (((())) and (()) are control (()) and (()) are control (()) and (()) are control (()) are	· · ·	
Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	Run No. REC/ROD	
; :	135 93/80	ac 85/62	3.	
TOP	i ;	TOP	TOP	
	10/	T60182 70	5e-wy4;	ROCK CORE SKETCH LEGEND JOINTING J Soint
ļ		1		MB - Mechanical Break
		Then II		D ~ Angle w/ Horizontal
!]	1	250 45 2		//- Parafiel
· • • • • • • • • • • • • • • • • • • •	1	30 W.S.;	1 1 242.034	X - Crossing F - Foliation
· -	3(002)		310.53	S - Stratification
	1 (ENSUES	2 - 200,5% 2 - 200,5% 2,6,4%	210002 2 100 11 10 10 10 10 10 10 10 10 10 10 10	U - Unfoliated or Unstratified <u>JOINT SURFACE</u> C - Curved
			division a	i- Irregular S- Straight
		520 ATT 7	SCALE:	<u>JOINT CONDITION</u> 1 - Slick
		52 worz	1775032	2 - Smooth 3 Rough SKETCH SYMBOLS
	756915 52 J		7.0073	Joint Healed Joint
		X SHEWE!	7264(2	Broken
	7850 //F552	4 -		Part of Core Not Recovered
4	Zis XX 23		710452	Cavities or Vugs in Core
	230×135	\mathbb{I}	360032	Clay
				Sand Empty Space
BOTTOM	MOTTOR AS	24 BOTTOM	17 BOTTOM	

NOTES

Mueser Rut	ledge Consulting E 225 West 34th Street	ngineers		ROCK CORE SKETCI
New York, NY 1	0122		BORING NO.	
1: 917 339 9300 www.mrce.com) F- 91 - , 29 9400		SHEET	OF '
ROJECT:	Land House	14/2 20	FILE NO.	OF
OCATION:	,	. The second sec	SURFACE ELEV.	+791-
EST/INSP EQUIPMENT	The second of th		RES ENGR.	
EF. CODES/STANDARDS	e name han ngiệu ngườn, er epi di distributer () i e economique.	and the same control of the same of the sa		
un No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	
a companient of the second of		1	and the second s	
. ,	The state of the s	1 SC 194	The Pooles	
ТОР	ТОР	55 ТОР	TOP	ROCK CORE SKETCH
1		1	ेर ज्याना	LEGEND
-		4		JOINTING
1]]]	1	, J Joint
4				M8 - Mechanical Break
1		1		D - Angle w/ Horizontal
,	1307 (2)	1 1	1	// Parallel
4	<u> </u>	1	1	
	U Jackies 4	4 345×622	,	X Crossing
1		1 1	L scurer 1	F - Foliation
4	11 m (+)	1	- TroxFix	S - Stratification
1		30002	F _E , *	U - Unfoliated or
i d	·	Toy (3)	STOYER OF T	Unstratified
•	London A T	• •	15	<u>JOINT SURFACE</u> C- Curved
1	1	1	·	- rregular
4	5		19	3
7	73-4752]	19	S · Straight
1	730×623	·	20/1673 TH	JOINT CONDITION
1		4	Scalic? 3	1 - Slick
-	32-47-20		7 57	2 - Smooth
· •	-	_	JOXF73	3 - Rough
1	1		I	SKETCH SYMBOLS Joint
		-	1500 823	
	m	7 2 70 X ET 3	, 510 XFZ -	Healed Joint
1	TSTOPF43	1	· · · · · · · · · · · · · · · · · · ·	Broken
_	4 -	+ 	in toxes 4	Part of Core Not
• • •	320 X1 27	1	1	Recovered
4		1	Joxen's	Cavities or Vugs in Core
4	1	J214/1622 7	-	Clay
, <u>d</u>	1	1	- 1	53/6
1	JWIESS.	***************************************	1 - Scoll # 572	Sand
		图	311 BOTTOM	Empty Space

NOTES

MUESER RUTLEDGE CONSULTING ENGINEERS

					BORING NO.	٨	1R-4
					SHEET	4 OF	4
PROJECT	AMSTERDAN	A AVENUE	TOWERS		FILE NO.	125	09
LOCATION	NEW YO	RK, NEW	YORK	•	SURFACE ELE	V.	+74.0
BORING LOCATION	SEE BOR	ING LOCA	TION PLAN		DATUM	NAV	88 0
PODINO FOLIDATATA	NO METIMORO OF O	TADU (71N)C	DODENOLE				
BORING EQUIPMENT A	TYPE OF FEED	IABILIZING	BUNETULE				
TYPE OF BORING RIG	DURING CORING		CASING USED)	X YES	NO	
TRUCK	MECHANICAL		DIA., IN.	3	DEPTH, FT. FRO		TO 16.5
SKID	HYDRAULIC	x	DIA., IN	•	DEPTH, FT, FRO		то
BARGE	OTHER	Ţ.,	DIA., IN.		DEPTH, FT. FRO	M	TO
OTHER ACKER ACE							
# 1 P 1 - 1 - 1 P 1 P 1 P 1 P 1 P 1 P 1 P					***************************************		
TYPE AND SIZE OF:			DRILLING MUI		YES	X NO	
,	IPLIT SPOON		DIAMETER OF		r, in.	2-15	/16
U-SAMPLER			TYPE OF DRIL	LING MUD		** #* ·	***
S-SAMPLER							
CORE BARREL NX DOUB	and a second consequence of the		AUGER USED		YES	X NO	
CORE BIT NX DIAMO	ווא טאכ		TYPE AND DIA	AMETEH, IN.			
DRILL RODS NWJ			*CASING HAM	MED IOC	140 AVER	IAGE FALL. IN.	20
			'SAMPLER HA	•		IAGE FALL, IN.	30
			*USED DONUT		140 AVEN	ricals results list.	
WATER LEVEL OBSERT	VATIONS IN BORFH	DLE	0025 501101	* * ***********************************			
	DEPTH OF DEPTH	 ,	EPTH TO	,	•		
DATE TIME	HOLE CASI	NG	WATER		CONDITIONS OF	OBSERVATIO	Ŋ
DATE TIME	HOLE CASI	NG!	WATER	NO	CONDITIONS OF WATER LEVEL OF		
DATE TIME	HOLE CASI	NG!	WATER	NO 1			
DATE TIME	HOLE CASI	NG	WATER	NO 1			
DATE TIME	HOLE CASI	NG	WATER	NO			
DATE TIME	HOLE CASI	NG	WATER	NO 1			
DATE TIME	HOLE CASI	NG	WATER	NO 1			
DATE TIME	HOLE CASI	NG	WATER	NO 1			
					WATER LEVEL OF		
DATE TIME PIEZOMETER INSTALLE		NG X NO		NO NO	WATER LEVEL OF		
	ED YES			- SHOWN C	WATER LEVEL OF		MADE.
PIEZOMETER INSTALL!	ED YES		SKETCH	- SHOWN C	WATER LEVEL OF	SERVATIONS	MADE.
PIEZOMETER INSTALLE STANDPIPE: TYP INTAKE ELEMENT: TYP	ED YES		SKETCH ID, IN.	I SHOWN C	NATER LEVEL OF	TOP ELE	MADE.
PIEZOMETER INSTALLE STANDPIPE: TYP INTAKE ELEMENT: TYP FILTER: MA	ED YES		SKETCH ID, IN. OD, IN.	I SHOWN C	WATER LEVEL OF	TOP ELEY	MADE.
PIEZOMETER INSTALLI STANDPIPE: TYP INTAKE ELEMENT: TYP FILTER: MA PAY QUANTITIES	ED YES PE PE TERIAL	X NO	SKETCH ID, IN. OD, IN. OD, IN.	I SHOWN C LENC LENC	WATER LEVEL OF	TOP ELECTIP ELEV	MADE.
PIEZOMETER INSTALLI STANDPIPE: TYPE INTAKE ELEMENT: TYPE FILTER: MA PAY QUANTITIES 3.5° DIA. DRY SAMPLE BO	ED YES PE PE TERIAL RING LIN, FT.		SKETCH ID, IN. OD, IN. OD, IN.	I SHOWN C LENC LENC LENC	WATER LEVEL OF	TOP ELEV TIP ELEV BOT. ELE	MADE.
PIEZOMETER INSTALLE STANDPIPE: TYPE INTAKE ELEMENT: TYPE FILTER: MA PAY QUANTITIES 3.5" DIA. DRY SAMPLE BO 3.5" DIA. U-SAMPLE BORIN	ED YES PE TERIAL RING LIN. FT. NG LIN. FT.	X NO	SKETCH ID, IN. OD, IN. OD, IN. NO	LENC LENC LENC . OF 3" SHEL . OF 3" UND!	WATER LEVEL OF	TOP ELEV TIP ELEV BOT. ELE	MADE.
PIEZOMETER INSTALLI STANDPIPE: TYPE INTAKE ELEMENT: TYPE FILTER: MA PAY QUANTITIES 3.5° DIA. DRY SAMPLE BO	ED YES PE PE TERIAL RING LIN, FT.	X NO	SKETCH ID, IN. OD, IN. OD, IN. NO	I SHOWN C LENC LENC LENC	WATER LEVEL OF	TOP ELEV TIP ELEV BOT. ELE	MADE.
PIEZOMETER INSTALLE STANDPIPE: TYPE INTAKE ELEMENT: TYPE FILTER: MA PAY QUANTITIES 3.5" DIA. DRY SAMPLE BORING CORE DRILLING IN ROCK	PE YES PE TERIAL RING LIN. FT. NG LIN. FT. LIN. FT.	X NO	SKETCH ID, IN. OD, IN. OD, IN. NO NO	LENC LENC LENC LENC OF 3" SHEL OF 3" UNDIS	WATER LEVEL OF	TOP ELEV TIP ELEV BOT. ELE	MADE.
PIEZOMETER INSTALLE STANDPIPE: TYPE INTAKE ELEMENT: TYPE FILTER: MA PAY QUANTITIES 3.5" DIA. DRY SAMPLE BO 3.5" DIA. U-SAMPLE BORIN	PE YES PE TERIAL RING LIN. FT. NG LIN. FT. LIN. FT.	X NO	SKETCH ID, IN. OD, IN. OD, IN. NO NO OTI	LENC LENC LENC LENC OF 3" SHEL OF 3" UNDIS	WATER LEVEL OF	TOP ELEV TIP ELEV BOT. ELE	MADE.
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PIEZOMETER INSTALLE STANDPIPE: TYPE INTAKE ELEMENT: TYPE FILTER: MA PAY QUANTITIES 3.5" DIA. DRY SAMPLE BORING CORE DRILLING IN ROCK BORING CONTRACTOR DRILLER REMARKS	ED YES PE PE TERIAL RING LIN. FT. NG LIN. FT. LIN. FT. DOMENIC P	14 30	SKETCH ID, IN. OD, IN. OD, IN. NO NO OTI AQUIFER D HE BOREHOLE FREY SMITH	LENC LENC LENC LENC OF 3" SHEL OF 3" UNDIS HER:	WATER LEVEL OF	TOP ELEV TIP ELEV BOT. ELE SS ES	MADE. V. V. DD SURRNY

MUESER RUTLEDGE CONSULTING ENGINEERS BORING LOG

PROJECT: LOCATION:

MRCE Form BL-1

AMSTERDAM AVENUE TOWERS NEW YORK, NEW YORK

BORING NO. SHEET 1 OF

MR-5

FILE NO.

6 12509

SURFACE ELEV.

+79.0

LOCATION:				NEW YORK, NEW YORK	RES. ENGR. A. M. DYER/R. ZHANG			
Đ A H Y		SAM	PLE				CASING	
PROGRESS 08.00 04.23.16 Saturday Indoors	NO.	DEPTH	BLOWS/6*	SAMPLE DESCRIPTION	STRATA			REMARKS "Concrete slab with metal deck from 0' to 0.4'. Drilled from ground floor slab.
					AIR			
_	,					10_		
		,			,			*
07:00	1D	12.8 14.8	2-14 31-50	Brown fine to medium sand, some silt, trace mica (Decomposed Rock) (SM)	***	12.25		"***Cellar floor top of slab from 12.25' to 13'.
Sunday	2D	15.7	60-100/5"	Do 1D (Decomposed Rock) (SM)		15	•	Concrete at 0.42' slab, plastic film at bottom. 2D: REC=4"
Indoors	3 D	17.0 17.5	100/6"	Do 1D (Decomposed Rock) (SM)			ļ	REC=6"
	4D	19.0 19.4	100/5"	Gray fine to medium sand, some silt, trace mica (Decomposed Rock) (SM)	DR	20	4*	,REC=5"
	IC	19.4 24.0	REC=0% RQD=0%	No recovery			4* 	Taped hole to 21.5', soft bottom. Slower drilling at 25.5'.
-	5D	24.0 24.4	100/5"	Do 4D (Decomposed Rock) (SM)		25	3* 9*	*Coring time in minutes per foot.
!	2C	24.5 27.8	REC=6% RQD=0%	Top 2.5': Decomposed Rock Bot; 0.6': Withd HiW gray gns sch, Bkn, WJts	,	27	3* 2*	
ì	3C	27.8 32.9	REC=31% RQD=11%	Weathered highly weathered to moderately		30	3°	
	:			weathered joints	; WR	· · · · · · · · · · · · · · · · · · ·	3* 3*	Higher RPMs at 30.5'. Slight loss of return
1	4C	32.9 37.6	REC=57% RQD=48%	Top 2': Do 3C (Weathered Rock) Bot 2.7': Intermediate slightly weathered gray gneissic schist, jointed, slightly weathered		35 ` ;	3* 4* 6*	water. Hard bottom at 32.9'. Hard bottom at 36.6'.
}				joints		. 33	6* 4*	Mud level at 19.7' at 07:00 on 04-25-16.
07:00 4-25-16	5C ;	37.6 42.6	REC=80% RQD=48%	Top 1': Weathered moderately weathered gray gneissic schist, broken, weathered joints Bot; Medium hard slightly weathered gray		40	19* 4* 11*	Soft bottom at 36.2'. Barrel jammed at 39.5'
Monday Indoors	· ,			gneissic schist, jointed, weathered joints		•	3* 5*	continued after clean.
-	6C	42.6 47.6	REC=96% RQD=56%	Medium hard slightly weathered gray gneissic schist, jointed to closely jointed, weathered joints	R	45	70	Core barrel jammed at 45'.
	7C	47.6	REC=98%	Hard unweathered gray gneissic schist, blocky			5* 4*	
		52.7	RQD=98%			50_	3* 3*	
CE Form BL-1							3* [~] IG NO.	MR-5

MUESER RUTLEDGE CONSULTING ENGINEERS BORING LOG

			BO	HING LOG	BORING NO.	MH-5
					SHEET 2 OF	6
a a				TERDAM AVENUE TOWERS	FILE NO.	12509
LOCATIO	ON:			NEW YORK, NEW YORK	SURFACE ELEV.	and the same of th
***					RES. ENGR.	RYAN ZHANG
DAILY		SAM		ı	CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA DEPTH BLOWS	REMARKS
Confid					—	
04-25-16	;			•		
Monday	8C	52.7		Hard unweathered gray gneissic schist to	3*	Soft bottom at 52.7'.
Indoors	:	57.5	RQD 100%	schistose gneiss, blocky slightly weathered	3*	
			_	joints	55 3'	
				İ	3*	
				i	3*	;
	9C	57.5	REC=100%	Do 8C	3*	,
	,	61.9	RQD: 100%	1	3.	
					60 3*	
] .				3*	and the state of t
	10C	61.9		Do 8C, weathered joints	, 3⁺	:
	;	66.9	RQD=98%	!	3	Core barrel jammed
15.00	į					at 62.9'.
07:00	1				65 3*	Shift end in middle of
04 26 16			;	•	3*	Run 10C.
Tuesday	11C	66.9		Medium hard unweathered gray gneissic	3*	Mud level at 20.5'.
Indoors	1	71.9	RQD=58%	schist, jointed to moderately jointed, weathered	3*	Sound hole at 63.8';
				joints	3*	soft bottom.
			•		70 4*	
				•	3*	
	12C	71.9		Medium hard to hard unweathered gray	3.	1
		76.8		gneissic schist to schistose gneiss, blocky,	4*	
1				weathered joints	4*	•
	·	~			75 4*	
10:00		4			4*	<u> </u>
,	1	. ;			76.8	End of Boring at 76.8.
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M-CE Form BL-	-1				BORING NO.	MR-5

MR-5

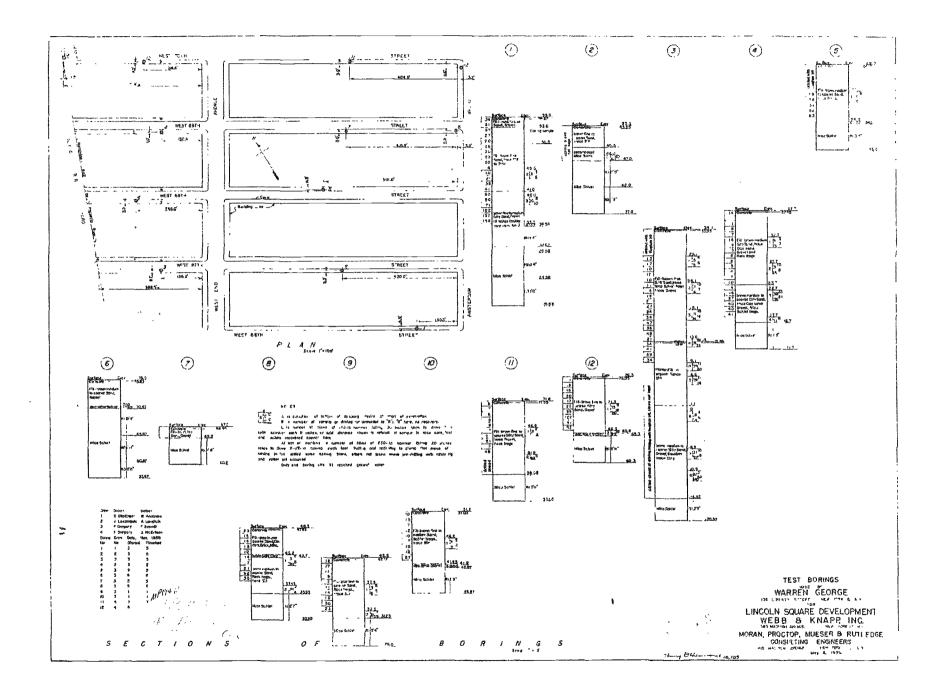
BORING NO.

Mueser Ruti	edge Consulting E	ngineers		ROCK CORE SKETCH
New York NY 10	H22 - F⊢91 1 - ∄9 9400		BORING NO.	
WINN MICC COM			SHEET	0F
PROJECT:	TO THE PROPERTY OF	lawer !	FILE NO.	/asb }
LOCATION:	W. S. W.	*	SURFACE ELEV.	74+/-
TEST/INSP EQUIPMENT	a color and a color of the large systems the work of space and advantagements	- The same of the	RES ENGR.	12/S+K
REF CODES/STANDARDS			III A. ANNOUNA A SIND	
Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	
6%/	36 31%/	11. 57%	5C 48%	
ac /0%	50	46%	56 48%	
	116		3-76	
TOP 24.5	TOP JAK	tor 32.4	TOP 37.6	ROCK CORE SKETCH
			\mathbb{N}	<u>LEGEND</u>
-	1 1		\/ -	JOINTING
1	1			J- Joint
			L	MB Mechanical Break
1/1		1// 7	1/\	Đ - Angle w/ Horizontal
85.5	886	334		•
-	-		BECKEN -	// Parallel
1	11//	1///	S BY LEWIS]	X Crossing
	<u>. </u>		₩ _ /// J	F Foliation
1	4		\$ 545-11662 -	5 - Stratification
1		 	100001160	
All ales t	and the	349	2001165# 1	U - Unfoliated or Unstratified
			12	<u>IOINT SURFACE</u> C - Curved
	•		0	
		MB45°/1802	lion	l - Irregular
]		M I	11900×163 - 18	5 Straight
-	-	MB 45/1 PS-2	MB-60°/1532 - 11	JOINT CONDITION
双 ~ 1	30,8	WB # 304	SCALL	1 - Slick
₩ 27.5_]	H	MS B "	- "	2 - Smooth
ENDOF .		WERRXESS		3 - Rough
PUN 278		MB 45° x FSZ	NB60°11F50	SKETCH SYMBOLS
-	- JoxFS2 -			Joint
1	JO"XFS2	ca		Heated Joint
	3	MB 150 FSD		Broken
VI -	31.9	MB 15 x 15 2	56°11550 -	Part of Core Not
1	1			Part of Core Not Recovered
/ /	1	MB 45"// F502]		Cavities or Vugs in Core
/\\ -	50° XF I 3]		560/1FSD -	Clay
	i 💥	END OF PUP -	1	
	18 75° 309	374		Sand
	() (314		Empty Space
BOTTOM	MOTTOB	моттом	а.Ср моттов	

Mueser Rutl	edge Consulting E	ingineers		ROCK CORE SKETCH
New York NY 10			BORING NO.	MR 5
NAME IN THE PROPERTY OF THE PR			SHEET	4 of 6
	ession Aus To	wer.	FILE NO.	16324
	'Y, <u>WY</u>		SURFACE ELEV.	E7 1-
TEST/INSP EQUIPMENT			RES ENGR.	
REF. CODES/STANDARDS			,	
Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	
bc 466/	76 98%	80 100%	90 100%	
TOP 43.L	тор 47.6	тор 52, 7	TOP 575	DOCK COST CAST TO
4			d :	ROCK CORE SKITCH LEGEND
]	JOINTING
1 1	560°/1863-		-1 ;	J. Joint
			1	M8 Mechanical Break
	1 1	j	1	D - Angle w/ Horizontal
1				// Parallel
MB60 X+3 -3			1 .	X - Crossing
WBRD XESO	29%×83			-
MD top xfsa_	-			F Foliation
]]]	S Stratification
MBB XFI3_			1	ป - Unfoliated or Unstratified
MAD"XFI3	-	- \ - \		JOINT SURFACE
<i>19</i> 60 -	1 1	Jo'xF52	50%F53]=	C · Curved
1 ']		division) - Irregular
MB45 /1F53			division of the state of the st	S - Straight
		1 1 1	14	JOINT CONDITION
WB46, TIS	4	JUSPAFS3	SCAL	1 - Slick
MB 30° XFI3		177		2 - Smooth
Mean	1 1	1 1		3 - Rough
			_	SKETCH SYMBOLS Joint
1			-	Heated Joint
]	Broken
MB609/1F53				
1	J68/1833	50°xF13		Part of Core Not Recovered
1		-	FND OF 9	Cavities or Vugs in Core
1 1	4		Mangia 1	Clay
1	1 1	1 1 1	1\(\):	
Find of Birth		ENOOF -	1/\)	Sand
воттом 47,6	BOTTOM SS.7	BOTTOM 57.5	BOTTOM (235	Empty Space
NOTES				

Mueser Rutledge Consulting Engineers **ROCK CORE SKETCH** 14 Ponn Plaza 125 West 34th Street New York, NY 10122 BORING NO. Mr. 5 I- 917 339-9300 F- 917 339-9400 www.mrce com SHEET 5 OF Amsterdam the lower PROJECT. FILE NO. 12509 1791/-LOCATION: SURFACE ELEV. RES ENGR. TEST/INSP. EQUIPMENT **REF. CODES/STANDARDS** REC/ROD REC/RQD REC/RQD REC/RQD Run No. Run No. Run No. 98%/ 12C IIC IOC 778% 158% 982 TOP 61.4 TOP 66.9 TOP 714 TOP ROCK CORE SKETCH LEGEND WBARZERS JOINTING J Joint 56°11FS8 J28xF53 MB · Mechanical Break MB60" 4F52 D - Angle w/ Horizontal MBOXFSS // Parallel るのでなりま JUSKESA X - Crossing Jus > 53 F - Foliation NB60×F53 5 - Stratification MB 45°xF53 U - Unfoliated or 568,FS3 MDD x FS8 Unstratified JOINT SURFACE C Curved i - Irregular ABBOXF13 5 - Straight JOINT CONDITION 1 - Slick 2 - Smooth 3 - Rough SKETCH SYMBOLS 290° kt. 3 EEAK GGZ Joint MBD ×FS3 Healed Joint Broken Part of Core Not Recovered 563/1862 M310°2453 Cavities or Vugs in Core Sand Empty Space BOTTOM 649 BOTTOM 71.4 BOTTOM 76.8 BOTTOM NOTES

PROJECT LOCATION BORING LOCATION		STERDAM AV NEW YORK, BORING LOC	NEW YORK		BORING NO. SHEET FILE NO. SURFACE EI DATUM	6 OF 125	09 +79.0	
BORING EQUIPMEN	NT AND METH	ODS OF STABI	IZING BORE	HOLE				
	TYPE O	FFEED						
TYPE OF BORING RIG		CORING		3 USED	X YE			
TRUCK	MECHAN		DIA., IN	******	DEPTH, FT. FF		TO 15	
SKID ACKER		JLIC X		****	DEPTH, FT. FF		TO 18	
BARGE	OTHER		DIA., IN	l.	DEPTH, FT. FF	IOM	то	
OTHER								
TYPE AND SIZE OF	·		DRILLI	NG MUD USED	X YES	s no		
		D. SPLIT SPOON		TER OF ROTARY B		3-7		
U-SAMPLER				OF DRILLING MUD	,	EZ M	13	
S-SAMPLER			• • • • • • • • • • • • • • • • • • • •					
CORE BARREL NX D	OUBLE TUBE	den . ,	AUGEF	USED	YE:	S X NO		
CORE BIT NX D	IAMOND	er e te so percent	TYPE A	ND DIAMETER, IN.				
DRILL RODS WIRE	ELINE, BWJ							
			*CASIN	G HAMMER, LBS.	140 AV	ERAGE FALL, IN.	الانا سنتي المويا	
			*SAMPI	LER HAMMER, LBS	i. <u>140</u> AVI	ERAGE FALL, IN.	30	
			*USED	DONUT HAMMER	& ROPE 8" CATH	EAD.		
WATER LEVEL OBS		*** **********************************			gyanananahaliyyy waassaralinabii-Nii roo	om ellegge		
DATE TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO)	COMPITIONS (OF OBSERVATION	MI.	
04-25-16 07:00	38	18	WATER 19.7	May services and	wa.,	D FOR DRILLING.	*********	
04-25-16 07:00	63	18	20.5			O FOR DRILLING.	. ,	
	.00	.,		, , , , manuar				
ę e	•			**************************************			er . er / ha eventebblike	
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7.0.00.00			and the second second		, , , , , , , , , , , , , , , , , , , ,		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
PIEZOMETER INSTA	ALLED .	YES X	NO S	KETCH SHOWN	ON	m congram a foot to analysis see	u ala suu ee saarsa ehkarrohkistolise su	
STANDPIPE:	TYPE		ID, IN.	ica	IGTH, FT.	TOP ELEV	d.	
INTAKE ELEMENT:	TYPE		OD, IN.		IGTH, FT.	TIP ELEV		
FILTER:	MATERIAL	er enwenningsgegeren in er i gegegeren genr entweren	OD, IN.		IGTH, FT.	BOT, ELE	, -man-	
4 100 4 mp - >1								
PAY QUANTITIES								
3.5" DIA. DRY SAMPLE	BORING	LIN. FT.	19	NO. OF 3" SHE	LBY TUBE SAMP	LES	0	
3.5" DIA. U-SAMPLE B		LIN. FT.	0		ISTURBED SAME		0	
CORE DRILLING IN RO	CK	LIN, FT.	58	OTHER: SPT S	AMPLE		5	
BORING CONTRACT			AQUI	FER DRILLING &				
DRILLER	D	OMENIC PEPE	WO 30 0 A A COMO MARIANTE .	HELPERS	DAN RO	MERO/ANTHON	IY KAPPEL	
REMARKS		. 						
RESIDENT ENGINE			M. DYER/RY/	···	DAT	TE 0	04-26-16	
CLASSIFICATION CI	HECK:	CHERYLJ	, MOSS	TYPING CHEC	ж:		**************************************	
MACE Form 85-1						BORING NO.	MR-5	



-	_		,	415 MADISON AVE., NEW YORK 17					FILE NO. 2017
		OJECT		sola Square De	رع	lap	200	=/7/	BORING NO
	LO	CATION_		phallen, N. J.	RES	. EN	IGR.		am Sisiliano
DAILY ROGRESS	NO.	SAMI DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STR	ATA	DEPTH	CASING BLOWS	REMARKS
				Z" + Conc. Pave.	0	L"	1		
1				Bra. Med Cree Sandl		13			
				d Gravel (Fill)		'n			
					4"	0			
- 1000 Page 1		5'-0		Soft Mica Subist /dising	~	•	5		
$\boldsymbol{\rho}$		5'-9	60/4		5-	4			
h vi	-				- 55				
1 6			- 11		Į.	٨		 ,	-
10/	$Dr_{I} $	10'-4	IN = G	Soft sony mice schist	Gue	0			
	·····	10-1			W	11	10		
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	Deell	10'-9	Re1'-11	Same on in the it	Chi	\			1
	211 232	15'-9		Saraymica Schiet Bott 6's Gneiss	S		15		3
					MICA				
	Deill	15'-4	R = 8"	Gneiss & mica scams	Ž		***************************************		-
Y		18'-7			18				The state of the s
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				Bottom of Hole-	-27		20		
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MORAN, PROCTOR, MUESER & RUTLEDGE - CONSULTING ENGINEERS

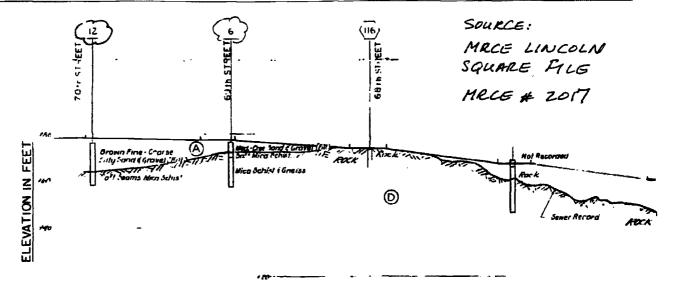
PROJECT SQUARE DEVELOPMENT BORING NO. POCATION NAMED AND SERVICE SUBJECT OF	/IL /II /II /II
BORING LOCATION 3-6" W. DF W. BL CW AMSTERDAM AVE. BORING SURFACE ELEVATION 76.0 DATUM WEIGHT OF CASING HAMMER LBS.; AVERAGE FALL WEIGHT OF SAMPLE HAMMER / 40 LBS.; AVERAGE FALL TYPE OF: D-SAMPLER O.D. OF SAMPLER U-SAMPLER O.D. OF SAMPLE TUBE CORE BIT DIAMOND O.D. OF ROCK CORE	/IL /II /II /II
BORING LOCATION 3-6" W. DF W. BL CN AMSTERDAM AVE. P 9-6" N. OF S. B.L. ON 69" ST. BORING SURFACE ELEVATION 76.0 DATUM WEIGHT OF CASING HAMMER LBS.; AVERAGE FALL WEIGHT OF SAMPLE HAMMER /40 LBS.; AVERAGE FALL TYPE OF: D-SAMPLER O.D. OF SAMPLE TUBE U-SAMPLER O.D. OF SAMPLE TUBE CORE BIT DIAMOND O.D. OF ROCK CORE CASING SIZE 1 INCHES; FROM DEPTH OF 0 TO 4-0	/IL /II /II /II
BORING SURFACE ELEVATION 76.0 DATUM WEIGHT OF CASING HAMMER LBS.; AVERAGE FALL WEIGHT OF SAMPLE HAMMER 140 LBS.; AVERAGE FALL TYPE OF: D-SAMPLER O.D. OF SAMPLER U-SAMPLER O.D. OF SAMPLE TUBE CORE BIT O.D. OF ROCK CORE CASING SIZE INCHES; FROM DEPTH OF TO 4	111 41 71
BORING SURFACE ELEVATION 76.0 DATUM WEIGHT OF CASING HAMMER LBS.; AVERAGE FALL WEIGHT OF SAMPLE HAMMER 140 LBS.; AVERAGE FALL TYPE OF: D-SAMPLER 50.D, OF SAMPLER U-SAMPLER 0.D, OF SAMPLE TUBE CORE BIT 0.D, OF ROCK CORE CASING SIZE 150 INCHES; FROM DEPTH OF 0 TO 450	11 41 71
BORING SURFACE ELEVATION 76.0 DATUM WEIGHT OF CASING HAMMER LBS.; AVERAGE FALL WEIGHT OF SAMPLE HAMMER 1/40 LBS.; AVERAGE FALL TYPE OF: D-SAMPLER O.D. OF SAMPLER S-SAMPLER O.D. OF SAMPLE TUBE CORE BIT DIAMOND O.D. OF ROCK CORE CASING SIZE 1/4 INCHES; FROM DEPTH OF 0 TO 4/40	11 41 71
WEIGHT OF CASING HAMMER WEIGHT OF SAMPLE HAMMER LBS.; AVERAGE FALL AVERAGE FALL O.D. OF SAMPLER O.D. OF SAMPLE TUBE U-SAMPLER CORE BIT O.D. OF SAMPLE TUBE O.D. OF SAMPLE TUBE O.D. OF SAMPLE TUBE O.D. OF SAMPLE TUBE O.D. OF ROCK CORE 174 CASING SIZE INCHES; FROM DEPTH OF TO 4	111 411 711
WEIGHT OF SAMPLE HAMMER 140 LBS.; AVERAGE FALL 30 TYPE OF: D-SAMPLER O.D. OF SAMPLER U-SAMPLER O.D. OF SAMPLE TUBE CORE BIT DIAMOND O.D. OF ROCK CORE 132 CASING SIZE 150 INCHES; FROM DEPTH OF 0 TO 450	41 /1
S-SAMPLER U-SAMPLER O.D. OF SAMPLE TUBE O.D. OF SAMPLE TUBE CORE BIT O.D. OF ROCK CORE CASING SIZE INCHES; FROM DEPTH OF TO TO TO TO TO TO TO TO TO	
S-SAMPLER U-SAMPLER O.D. OF SAMPLE TUBE O.D. OF SAMPLE TUBE CORE BIT O.D. OF ROCK CORE CASING SIZE INCHES; FROM DEPTH OF TO TO TO TO TO TO TO TO TO	
CORE BIT DIAMOND O.D. OF ROCK CORE 136 CASING SIZE 15 INCHES; FROM DEPTH OF 0 TO 4 5	41.
CASING SIZE 15 INCHES; FROM DEPTH OF TO 45	
CASING SIZE 15 INCHES; FROM DEPTH OF TO 45	
	4 /
113	
WATER LEVEL READINGS:	
DATE TIME DEPTH OF HOLE DEPTH OF CASING DEPTH TO WATER ELEY.	OF WATER
	<u> </u>
DITTOLIFTED INSTALL ATION DATA. MINADED	
PIEZOMETER INSTALLATION DATA: NUMBER LOCATION	
STAND PIPE: TYPE I.D LENGTH TOP ELEY_	
POINT; TYPE O.DLENGTHTIP ELEV	
FILTER; MATERIAL O.D LENGTH TIP ELEY.	
ATTACH SEPARATE SKETCH; REMARKS	<u> </u>
PAY QUANTITIES 21/2" DIA. DRY SAMPLE BORING NO. OF 2" DIA. SHELBY TUBES ; NO. OF U-SAMPLES	F
21/2" DIA. CONTINUOUS SAMPLE BORINGFT.; CORE DRILLING IN ROCKFT.	<u> </u>
10 0 1: seems to	-
BORING CONTRACTOR WARREN CHERRES FRED BOANDT	Territoria (
REMARKS	
RES. ENGR. Robert C. Done	
NOTES:	
1. Make a separate log of each boring & each unsuccessful attempt. Send one copy of each dry sample b	

- 2. In daily progress column indicate depth at beginning and end of work day, calendar date, time at_beginning and end of work day and weather conditions.
- 3. All samples shall be numbered in consecutive order regardless of type; dry samples D, wash samples W, shelby tube samples S, undisturbed samples U. Do not assign numbers to lost samples but record blows and reasons for lack of recovery.
- 4. Mark each U-sample with boring number, sample number, depth, recovery and job number.
- 5. Record blows on sample per six inches of penetration. Note all blows and penetrations when taken at less than six inch intervals. Indicate method by which penetration of tube sampler was obtained.
- 6. Indicate changes of material in strata column and list generalized strata classifications.
- 7. List under remarks the manner by which changes in material were detected, all obstructions, any loss or gain of wash water including amount, the recovery of rock cores in feet and inches and per cent of run, and any unusual occurences.

 BORING No.

PROJECT AMSTERDAM AVE. TOWER

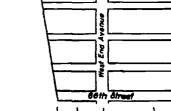
SUBJECT 1958 MRCE BORINGS # 12 26



STRATA CLASSIFICATIONS

- A Fill-line to coorse sand & rock fragments, some sitt, trace sinders
- (B) ~ Brown sandy sill, some clay, trace organic matter.
- (C) Brown medium to coarse sond, some sitt 4 boulders, trace clay.
- Rock soft to hard seamy mica schist, some gneiss.

SECTION 5-5 AMSTERDAM AVENUE



SECTION KEY PLAN

LEGEND & NOTES

119-1 - Barings made by Department of Public Works, City of New York

Barings taken free Pock Date Map, Barough of Manhathen, Cappright 1337,

Office of the President of the Barough of Manhathen at the City of New York.

- 31 Baring taken stan Halame &; Shoot Si
- (116) Boring taken from Holome 2, Shoot SE
- 10 Baring taken from Volume 2, Sheet 3:
- 9 Barings made by Warren George during May 1950 under direct supervision of Maren, Proctor Monser & Authore.

Sower Records abhained by Commissioner of Borough Works, Borough of Monhatton, City of Now York.

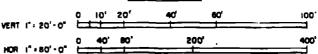
Sample descriptions are by Movem, Proctor, Musser's Mothering and may not agree with the drifters descriptions.

Elevations refer to Department of Poblic Works Datum which is 8 75 feet higher than Mean See Lovel at Sandy Mak

Limits of streets shown are suiting lines

Smatrifications perfectly beings are recessery interpolations and may ar may not represent actual sub-inface conditions.

GRAPHIC SCALES



Mueser I 14 Penn Plan New York, N

TEST/INSP. EQUIPMENT

Mueser Rutledge Consulting Engineers

14 Penn Plaza - 225 West 34th Street

New York, NY 10122

T: 917 339-9300 F: 917 339-9400

www.mrce.com

PROJECT: Fims-rodam Ave. Towers
LOCATION: New York. UY

TEST PIT NO. $\overline{IP-I}$ FILE NO. $\underline{12509}$ DATE $\underline{8-3-15}$

RES ENGR. A. Deller 20

+55.8

TEST PIT LOG

REF. CODES/STDS

WEST WHILE

8'-6"

8 4'-2"

7 4'-2"

NOTES

-TEST PIT HAND EXCHVATED

-GW/ ENCOUNTERED AT

APPROX. EL+54.1

-VERTICAL SCALE AS SHOWN

-HORIZONTAL NOT TO SCALE

Ground Surface Elevation

Description [SEE PHOTOS | AND 2] Sample Depth Depth (FT) CONC. CONG. 0.5 FILL 1-8"TO OW SURFACE 1.0 1.5 2.0 2.5 SECTION B-B BED ROCK -Med-Int Hd, SIW-MW Gray Gneissic SCHIST, 3-0

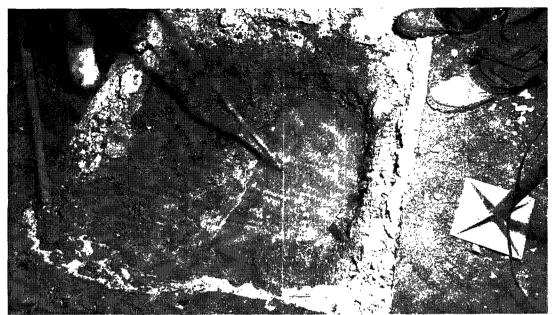


Photo I. Overview, Test Pit

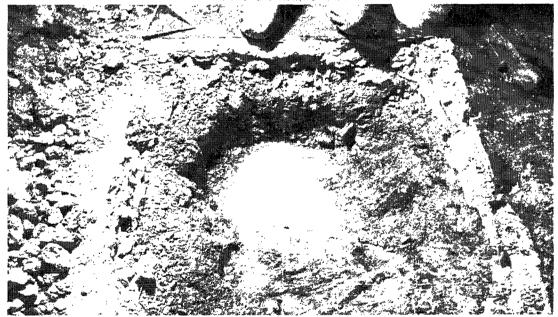


Photo 2 Desait Test Pull

AMSTERDAM AVENUE TOWER								
NEW YO	NEW YORK							
	SJP PROPERTIES							
NEW YO	NEW YORK							
MUES	MUESER RUTLEDGE CONSULTING ENGINEERS							
14 PENN	14 PENN PLAZA - 225 W 34 TH STREET, NEW YORK NY 10122							
SCALE	MADE BY AEP	DATE 08-31-15	FILE No					
NTS	CH'KD BY JC	DATE 08-31-15	12509					
PH	PHOTO PLATE 1: TEST PIT 1 Fig. No. 2							

New York, NY 10122

Mueser Rutledge Consulting Engineers

14 Penn Plaza - 225 West 34th Street

T: 917 339-9300 F: 917 339-9400

www.mrce.com

PROJECT:

TEST PIT NO. 772-2 FILE NO. 12509 DATE 8-3-15 RES ENGR. A. De Zenzo

TEST PIT LOG

+55.8

TEST PIT NO. TIP-

REF. CODES/STDS

TEST/INSP. EQUIPMENT

WES WALL CONCRETE UTILITY WALL FOOTLING ימן -ינ \rightarrow

HPPEARS TOBERESTING NO GW EVCOUNTERED VERTICAL SCALE AS SA HORIZONTAL NOT

Ground Surface Elevation

5ample Description (SEE PHOTOS 3 AND 4) Depth Depth (FT)SECTEON 4-4 \bigcirc CONC CONC. PLASTIC 05 EFFTISG FILL FILL 2-5ml 1.0 1.5 FILL FILL 49" BOULDER BOULDEAS BRICK 2.0 BRICK 2.5 CONC CONC 14B FILL BOULDED; BOULPERS BRICK RRICK LONL WALL FOOTTUGE CONC. WALL 13" FOOTIN

NOTES

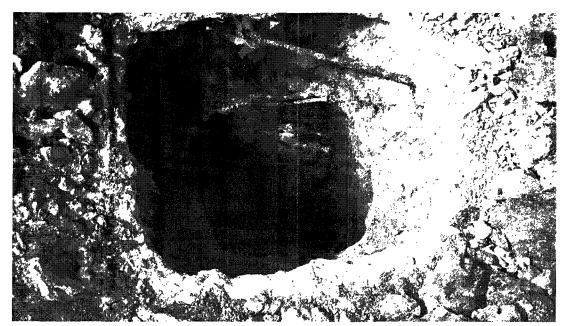


Photo 3 Cherview, Test Pit 2



 $Photo(4)(\operatorname{Parget}(\mathcal{T}_{\mathcal{C}}), \operatorname{Par}_{\mathcal{C}})$

AMSTERDAM AVENUE TOWER								
NEW Y	NEW YORK							
	SJP PROPERTIES							
NEW YO	NEW YORK NEW YORK							
MUESER RUTLEDGE CONSULTING ENGINEERS								
14 PENN	14 PENN PLAZA - 225 W 34 TH STREET. NEW YORK NY 10122							
SCALE	MADE BY AEP	DATE 08-31-15	FILE No					
NTS	CH'KD BY JC	DATE 08-31-15	12509					
PF	FIG No							

Mueser Rutledge Consulting Engineers 14 l'enn Plaza - 225 West 34th Street New York, NY 10122 T: 917 339-9300 F: 917 339-9400

www.mrce.com

200 AMSTERDAY AVE MANHATTAN, Nº Location

TEST PIT LOG

File No. 12504 Date 12/23/15

Test Pit No. TP-3

Res. Engr. G. SMITH

l)	CELLA: WA			NOTES - TEST PT
N (N.T.S)	5'	-1:	NORTH CELLAR WELL (CONCRUTE)	- Ground

T HAND EXCAVATED VATER NOT ENGUNTERED. Surface Elevation ± 61.7

Sample Depth	A Description A	Depth
	WEST CELLAR WALL (CINDER GLOCK & CONCRETE OVER POUR PLASTER) CONCRETE OVER POUR WELDED WIRE MESH END PLASTEC SHEET ZNO DECOMPOSED PLASTEC SHEET ZNO PLASTE	- 0.0 -
-	BED ROCK: MED HARD TO HARD SIW TO MALW, GRY GNEISSIC SCHIST SM PEGMATITE	1. 0. 5. 1. 0. 5.
_	2' 2' 1'	
	HORZ SCALE: 3/4" = 1-FT	TP-?

BORING LOGS

INSPECTION OF BORINGS

200 Amsterdam Avenue

NEW YORK, NY

Section 1704.7.4 of the City of New York Building Code includes a requirement for special inspections of soil investigations, borings and test pits. Mr. Anthony DeZenzo, Mr. Seth Knihtila, Mr. David Rheault, Mr. Geoffrey Smith, and Mr. Ryan Zhang of the staff of Mueser Rutledge Consulting Engineers inspected borings for which logs are submitted herewith.

To the best of the undersigned's knowledge and belief, the inspection meets the

requirements of the Code.

September 20, 2016

Walter E. Kaeck

Mueser Rutledge Consulting Engineers NYS Professional Engineer License #072575

DEPT BLDGS Job No. 122887224
Scan Code ESHS5064431

reck 9-20-16

200 Amsterdam Avenue

NEW YORK, NY

GENERAL STRATA DESCRIPTIONS

STRATUM	DESCRIPTION	NYC BUILDING CODE CLASS OF MATERIAL			
F	FILL	7			
DR	DECOMPOSED ROCK	3			
R	BEDROCK	1-a to 1-d			



MUESER RUTLEDGE CONSULTING ENGINEERS BORING LOG

	BORING LOG	BORING NO.	MR-1
		SHEET 1 OF	3
PROJECT:	AMSTERDAM AVENUE TOWER	FILE NO.	12509
LOCATION:	NEW YORK, NEW YORK	SURFACE ELEV.	+74.4±
		RES. ENGR. AN	NTHONY DEZENZO

_				<u> </u>		KES		ANTHONY DEZENZO
DAILY		SAM	PLE]	CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
12:30					**		DRILLED	**Concrete from 0' to
08-13-15	1D	1.0	70-50/1"	Top 3": Gray to brn f-c sand, tr silt, gravel(SP-SM			AHEAD	
Mon., Clear		1.6		Bot 9": Do 1D Top, some gravel (Fill) (SP-SM)		<u> </u>	4"	1
90°F	2D	3.0	2/12"	Do 1D Top (SP-SM)		 		Rig chattering at 2.5'.
	20	5.0		DO 1D 100 (OF-GWI)	F	5		2D: REC=6"
14.45			2-3	5				
08:00	3D	5.0	7-6	Gray coarse fine sand, trace silt, gravel, wood				REC=5"
08-04-15		7.0	5-4	fragments (Fill) (SP-SM)				
Tuesday	4D	7.0	15-100/4"	Gray brown micaceous fine to coarse sand,	BLDRS	7.5		
Partly		7.8		trace silt (Decomposed Rock) (SP-SM)		Γ.		
Cloudy					& CBI 6	10	*	
70°F	5D	10.0	6-100/4"	Do 4D (Decomposed Rock) (SP-SM)	CBLS	11	3*	*Coring time in
{		10.8					7*	minutes per foot.
	1C	10.8	RFC=48%	Weathered slightly weathered to moderately	DR			Mica in return from 7' to
1	- · · ·	15.8		weathered gray gneissic schist, closely jointed		13.5		9'.
		10.0	11000	to broken, iron stained joints & weathered joints	WR	15		Water lost at 9'.
	30	45.0	DEC-030/		AALC			
	2C	15.8	2	Medium hard slightly weathered gneissic		15.5		Sand & gravel in return
1		20.8	RQD=80%	schist, trace pegmatite, jointed, iron stained			6*	at 9' to 10'.
				joints & weathered joints			7*	
							6*	
						20	7*	
	3C	20.8		Medium hard slightly weathered gray gneissic	'		5*	
		25.8	RQD=75%	schist, jointed to moderately jointed, iron stained			5*_	
				joints & weathered joints	R		5*	,
1 [ĸ		4*	
1						25	5*	
	4C	25.8	REC=100%	Hard slightly weathered gray gneissic schist,			6*	
		30.8		trace pegmatite, jointed, weathered joints			8*	
				, and programmer, journal and an arrange journal			5*	ļ
1							5*	
	-					30	7*	
15:30						30.8		End of Boring at 30.8'.
}						30.0		Life of Borning at 50.6.
							-	
								1
1 1						0-		}
						35		
1 4								
							}	}
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BORING NO. MR-1

NOTES

								BORING I	NO	MR-1	
								SHEET	3	OF	3
PROJEC	Τ		AMSTERDAM AVENUE TOWER							12509	
LOCATIO	N		N	EW YOR	RK, NE	EW YORK		SURFACE	ELEV.	+74	.4±
BORING	LOCATIO	\	SEE	BORING	3 LOC	CATION PLA	N	NAVD 88	_		
BORING	EQUIPME	NT AND N	<u>IETHO</u>	DŞ OF Ş	<u>rabili</u>	ZING BOREH	<u>OLE</u>				
		TYP	E OF F	EED							
TYPE OF E	BORING RIG	DUF	RING CO	DRING		CASING (JSED	X	YES	NO	
TRUCK	X	ME0	CHANIC	AL		DIA., IN.	4	DEPTH, FT.	FROM	0TC	10
SKID		HYE	RAULI	C	Х	DIA., IN.		DEPTH, FT.	FROM	тс	·
BARGE		OTH	IER			DIA., IN.		DEPTH, FT.	FROM	TC	·
OTHER											
TYPE AN	D SIZE OF	:				DRILLING	MUD USED	X	YES	NO	
D-SAMPLE	R <u>2" O.</u>	D. SPLIT S	POON			DIAMETE	R OF ROTARY BIT	, IN.		5-7/8, 3-7/8	,
U-SAMPLE	R					TYPE OF	DRILLING MUD				
S-SAMPLE	:R										
CORE BAF	RREL NX D	OUBLE BA	RREL			AUGER U	SED		YES	X NO	
CORE BIT	NX D	IAMOND				TYPE AN	D DIAMETER, IN.	-			
DRILL RO	os <u>nwj</u>										
						*CASING	HAMMER, LBS.	300	AVERAGE	FALL, IN.	30
						*SAMPLE	R HAMMER, LBS.	140	AVERAGE	FALL, IN.	30
						*USED AS	SSISTED MANUAL				
WATER L	EVEL OBS	$\overline{}$	$\overline{}$					_			
D.4.T.E		DEPTH		DEPTH	-	DEPTH TO		CONDITION	10 OF OR	SEDVATION.	
DATE	TIME _	HOL	-	CASIN	G	WATER	10/0			SERVATION	
08:45	15:45	30.8		10		18	VVA	TER MEASU	KEDAIE	ND OF BORING	·
	 		_								
-		-	-	_		_					
<u> </u>	 	 			-						
	-				-						
					-						
PIEZOME	TER INST	ALLED		YES	Х	NO SKI	ETCH SHOWN C	N			
TILLONIE	. , L , (1140)	7 (LLLD	L	. 20	لثا			·· —			
STANDPIP	F	TYPE				ID, IN.	LENG	GTH, FT.		TOP ELEV.	
INTAKE EL		TYPE				OD, IN		STH, FT.		TIP ELEV.	
FILTER.		MATERIA				OD, IN.		STH, FT.		BOT. ELEV.	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						,			
PAY QUA	NTITIES										
		BORING		LIN. FT		10 8	NO. OF 3" SHEL	BY TUBE SA	MPLES		
3.5" DIA. DRY SAMPLE BORING LIN. FT 3.5" DIA. U-SAMPLE BORING LIN. FT						NO OF 3" UNDIS					
		LIN FT		20	OTHER:						
30							•				
BORING	CONTRAC	TOR					CMI QUIN	ONES			
DRILLER			BU	RT MOLZ	NHA		HELPERS		FRANK	IE QUINONES	
REMARK						LE BACKFILL	ED WITH CUTT	NGS & GR			-
	T ENGINE	ER				THONY DEZE			DATE	08-0	
	ICATION C			CHER		MOSS	TYPING CHEC			ANDRA PATR	
MRCE Form B				3,,,,,,	0.					RING NO.	MR-1

MUESER RUTLEDGE CONSULTING ENGINEERS BORING LOG

BORING NO.	MR-2P
SHEET 1 OF	7
FILE NO.	12509
CHDEACE ELEV	+74.01

PROJECT: LOCATION: AMSTERDAM AVENUE TOWER
NEW YORK, NEW YORK

RES. ENGR. D. RHEAULT/A. DEZENZO

	1			-	1	KES		D. RHEAULT/A. DEZENZO
DAILY		SAM	PLE			ĺ	CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
09:30					CONC	1	DRILLED	
07-29-15	1W	1.0	WH/24"	Gray fine to coarse sandy gravel, trace silt				1W-3W: Wash sample.
Wednesday	- 	3.0		(GP-GM)			4"	in ort. Tradit cample.
•	2W	3,0	WH/24"	f' '	F		1	
Clear	200		VVH/44	Brown silty fine to medium sand, trace coarse	'			
80°F		5.0		sand, gravel, clay (SM)		5		
	3W	5.0	50/1"	Brown brick and fine to coarse sand, trace silt	**	5.1		**Concrete fragments
	l	5.1		(GP-GM)		6.5		from 5.1' to 6.5'.
					1			No return from 6.5' to
								10'.
						10		Mica in return 10' to
					1		-	15'.
								13.
	<u> </u>				DR			
					1			
						15	—	
	4D	15.0	50/5"	Gray and brown micaceous fine to coarse				
				sand, trace silt (Decomposed Rock) (SP-SM)		17		
				Janu, Hadd Sin (Basein passa 1 (asin) (Ci Sin)	—			
	<u> </u>					_		
								1
15:00						20		
07:15	5D	20.0	100/3"	Do 4D (Decomposed Rock) (SP-SM)		Ĺ		REC≈3"
07-30-15		20.3						
Thursday			Ì					Hard drilling at 23'.
Overcast								•
85°F						25		
00 1	1C	25.0	DEC=63%	Intermediate to medium hard slightly	1		6*	*Coring time in
İ	<u> </u>			· · · · · · · · · · · · · · · · · · ·		_		•
		30.0	RQD=42%	weathered to moderately weathered gray				minutes per foot.
				pegmatite, trace gneissic schist, jointed to			7*	
				broken, iron stained joints & weathered			6*	
				joints		30	5*	
	2C	30.0	REC=98%	Medium hard slightly weathered to			5*	
		35.0	RQD=85%	unweathered gray gneissic schist to schistose			5*	
i				gneiss, moderately jointed to broken, iron			5*	
				stained joints & weathered joints			5*	
l				Stanied joints & Weathered joints	R	35	6*	
ı		- 05.0	DE0-000/	Baratina to and attached one attached and	"	_35_	7*	
Į	3C	35.0	REC=83%	Medium hard slightly weathered to				
		40.0	RQD=72%	unweathered gray gneiss, jointed to closely			9*	
				jointed, weathered joints			8*	
							6*	
						40	6*	
	4C	40.0	REC=93%	Medium hard slightly weathered to			6*	
ì		45.0	RQD=70%	unweathered gray schistose gneiss &	1		8*	
}		45.0	NQD-1070		}		7*	
				pegmatite, jointed, weathered joints				
ļ							8*	
į						45	8*	
	5C	45.0	REC=53%	Medium hard weathered to slightly weathered				Possible silt seam.
		50.0	RQD=49%	to highly weathered gray gneiss & pegmatite,			8*	Silt top of core run.
1				jointed, weathered joints	1 1		2*	
				,			3*	
16.00	 					50	3*	
	60	50.0	DEC-220/	Mostharad to madaratal		30		
08·15	6C	50.0		Weathered to moderately weathered gray				
ļ		52.5	_KUD=1/%	gneissic schist, broken, weathered joints				

MUESER RUTLEDGE CONSULTING ENGINEERS BORING LOG

PROJECT:	
LOCATION	١.

AMSTERDAM AVENUE TOWER

BORING NO. MR-2P

SHEET 2 OF 7

FILE NO. 12509

SURFACE ELEV. +74.0±

NEW YORK, NEW YORK **SURFACE ELEV.** LOCATION: RES. ENGR. D. RHEAULT/A. DEZENZO SAMPLE CASING DAILY STRATA DEPTH BLOWS BLOWS/6" **SAMPLE DESCRIPTION REMARKS** PROGRESS DEPTH Cont'd 6* 07-31-15 2/6"* 7C 52.5 **REC=96%** Weathered highly weathered to moderately Friday 1* RQD=0% weathered gray to light gray gneissic schist, Clear 57.5 55 6* trace pegmatite, broken, weathered joints 75°F 8* 5* 8C 5* 57.5 **REC=18%** Weathered highly weathered to moderately 1* RQD=7% weathered dark gray gneissic schist, broken, Quick drop loss of 62.5 60 8* fluid at 60'. weathered joints 12* 8* 12* R 9C 62.5 **REC=23%** Do 8C 5* 67.5 RQD=0% 65 5* 5* 5* 10C 3* 67.5 **REC=63%** Medium hard to intermediate slightly 0* **RQD=40%** weathered to moderately weathered gray Rods drop from 67.5' 72.5 gneissic schist, trace pegmatite, jointed to 70 0* to 69.5'. closely jointed, weathered joints 9* 8* 11C 7* 72.5 REC=53% Weathered moderately weathered to highly 7* 75.0 **RQD=20%** weathered gray gneissic schist, trace 5* 75 16:30 pegmatite, closely jointed to broken, iron End of Boring at 75'. stained joints 3/6" 80 85 90 95 100

Mueser Rutledge Con 14 Penn Plaza - 225 West 34th	sulting Engineers	<u>R</u>	OCK CORE SKETCH
New York, NY 10122 T: 917 339-9300 F: 917 339-	0.400	BORING NO.	MR-02P
www.mrce.com		SHEET	3_of_7_
PROJECT: Amsterdam A	e. Joves	FILE NO.	12509
LOCATION: New York, N	· · · · · · · · · · · · · · · · · · ·	SURFACE ELEV.	
TEST/INSP. EQUIPMENT	<u> </u>	RES ENGR	4. De Zanzo
REF. CODES/STANDARDS			
	REC/ROD Run No. REC/ROD	Run No. REC/RQD	السرم المود
46 - 36	83 788	632 57	1.3/60
70 32-	72 2C 858	C \$ 638 - 37	160"
40 top 35	TOP 30 TOP	25.0 TOP 10	
	4 1 4	138XFS2	ROCK CORE SKETCH LEGEND
545%FS2	7 7	1 - 1	JOINTING
1 1		DXFI2	I - Joint
	1 1 1 7		- Mechanical Break
J45482	J60X152	1 . 1	- Angle w/ Horizontal
1 VF 12-1	17 17 17	/- /	- Parallel
J454752 JAGS		TICURA	(- Crossing
	"//F32: · : :	JISUFIZ !	- Foliation
J 454F32	7 1	1 71,	- Stratification
	1 100	1 1 ,	- Unfoliated or
2- 745	(1)22-1 2-1	2 - 1	Unstratified
		그 기술에 살아 가장 가장 가장 가장 가장 가장 가장 가장 가장 가장 가장 가장 가장	JOINT SURFACE - Curved
	1 1 1	J204113	- Irregular
1 1 1		J6034F12 5	- Straight
1 560%	yFS2]		JOINT CONDITION
		J459U/FI2 8 1	- Slick
3-	3-1	2	- Smooth
MR 1	795°XF52] 3	- Rough
1 7 1 1 1 1 2 1	70 1 1 1		SKETCH SYMBOLS Joint
1560°1152-	745 //FC2		Healed Joint
VI 1	52 4- 545 // FS2-		Broken
4 TOXE	⁵² 4-1	4-1	
	360 XF52 Pait		Recovered
745×F53	5(0°/1F5)		Cavities or Vugs in Core
	560/1FS2 = 560/1FS2		Clay
- X -	からがうながく2		Sand
	30°11F52		Empty Space
воттом и во		20,0 BOTTOM	×

Mueser Ruti	edge Consulting E	ngineers		ROCK CORE SKETCH
New York, NY 10	1122 F: 917 339-9400		BORING NO.	MR-02/
NAME OF THE PARTY			SHEET	MR-02/ 4 OF 7
PROJECT:	Gran Ave.	Towers	FILE NO.	12509
LOCATION: New	Verden Ave.		SURFACE ELEV.	
TEST/INSP. EQUIPMENT			RES ENGR.	
REF. CODES/STANDARDS		<u> </u>		
Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	•
18%	7/ 96%	1/338	5 53%	
BC 79	TO OK	166 199	1160	
1/2		14/0	97/0	
57.5 TOP	57.5 TOP	TOP TOP	STATE TOP	ROCK CORE SKETCH
1/1 7	545°/1F2	1 1		<u>LEGEND</u>
	J45°//552	1		<u>JOINTING</u>
K	H 2002		TUCAM	J - Jaint
	核 1		J453472	MB - Mechanical Break
		II , 1		Đ, - Angle w/ Horizontal
	17908FQ 1		1-1	//- Parallel
	J209XFIZ J459/FQ			X - Crossing
	JU59/1F02			f - Foliation
			1 1 . 1	5 - Stratification
	760 KF12	₩ 1		U - Unfoliated or
,2,-	2-	11 2	MB 2-13	Unstratified JOINT SURFACE
/ 1	 		10.1	C - Curved
			168	1- irregular
	I) I	11 7	MB JGOOUFSZ W	S - Straight
J60/452	\mathbb{I}	3		<u>JOINT CONDITION</u> 1 - Slick
520 XFS2	3-	740%FC 3 -	3. 30	2 - Smooth
	1/1 1	545/1FSD]/]]	3 - Rough
		845/1FC	<u> </u>	SKETCH SYMBOLS Joint
E = IM	 			Healed Joint
3				Broken
4		W 4-1		Part of Core Not / Recovered
]]]			Cavities or Vugs in Core
	/\ \ \	1		Clay
		//\\ <u> </u>		Sand
1 1	1	<u> </u>		Empty Space
62.5 BOTTOM NOTES	57,5 воттом	52.5 BOTTOM	50 BOTTOM	



Mueser Rut	ledge Consulting E 225 West 34th Street	ngineers		ROCK CORE SKETCH
New York, NY 10	1122		BORING NO.	MR-09P
www.mrce.com	F: 917 339-9400		SHEET	<u> </u>
PROJECT: AMS/	rolan fre.	Toners	FILE NO.	12509
LOCATION: Nev	Yurk, NY		SURFACE ELEV	
TEST/INSP. EQUIPMENT			RES ENGR.	A. Delen 20
REF. CODES/STANDARDS				
Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	
	116 20%	100 632	96 08	
		70/0		
	#2 <u>*5</u> 100	67.5 TOP	ТОР	ROCK CORE SKETCH
]]	JOXF52	3	1 1	LEGEND
	J3081FJ3	580°XF53		<u>JOINTING</u> J- Joint
	510XF52	J45°/17=13	11/1	MB - Mechanical Break
	J6011F52	10/1/28	,	Đ, - Angle w/ Horizontal
				//- Paraliel
1 1]	Heart Start		X - Crossing
		(POSETHEMB)		F- Foliation
	1 1	J45°XF53		S - Stratification
		JUSUS YELZ		U - Unfoliated or Unstratified
	7	345° XFL3	2-13	JOINT SURFACE
]			18	i - 1rr eg ular
		560%/502		S - Straight
		360%FQ	1// 1/2	1 1
		me m	3-18	1 - Silck 2 - Smooth
				3 - Rough
]				SKETCH SYMBOLS Joint
		\mathbb{N}	8	Healed Joint
1				Broken
1 7		1		Part of Core Not Recovered
-]		/\	J20//F12	Cavities or Vugs in Core
1 1			₩ %-	Clay
		1 1		Sand
BOTTOM	75 BOTTOM	72.5 BOTTOM	67.5 BOTTOM	Empty Space

PROJECT:

Mueser Rutledge Consulting Engineers 14 Penn Plaza - 225 West 34th Street New York, NY 10122

T: 917 339-9300 F: 917 339-9400

www.mrce.com

PIEZOMETER RECORD

PIEZOMETER OR BORING NO.	MR-azx

FILE NO.

INSTALLATION DATE

RES ENGR.

LOCATION: PIEZOMETER LOCATION:

☐ SEE SKETCH ON BACK

STRATA	PIEZOMETER	DEPTH	PIEZOMETER TYPE Standy ye K. SCI
GROUND SURFACE ELEV. 1 74 0 Con C. S/Ab		(FT)	INTAKE POINT depth to bottom, $ft = 25$ depth to top, $ft = 75$ length, $ft = 70$ diameter, $ft = 70$ STANDPIPE/RISER elevation of rim, $ft = 740$ diameter, $ft = 740$ diameter, $ft = 740$
	byc /		READING TIME DEPTH - RIM ELEVATION REMARKS DATE CLOCK TO WATER OF WATER REMARKS
		10-	2-3-15 1300 12.7 +6/.3 B-3-15 1495 13-3 +60.7 B-4-15 0815 14.3 +57.7 B-4-15 1600 14.3 +59.7
	(o) S		
weathered Sch St	adia oft	20+	
	0/5	25	
Gneiss	44 A A A A A A A A A A A A A A A A A A	30+	

SAND A D D GRAVEL

Rock (245) -295-25

BOR-5_JAN2013

GROUND SURFACE ELEV.

PIEZOMETER NO. MR-021

						E	BORING	NO.	MR-2F	•
						5	SHEET	7	OF	7
PROJECT AMSTERDAM					₹	F	ILE NO.		12509	
LOCATION		NEW YO					SURFACE	E ELEV.	+74	.0±
BORING LOCATIO	٨	SEE BORING	<u>3 LOCA</u>	TION PLAN	<u> </u>		MUTAC		NAVD 88	
BORING EQUIPME			TABILIZ	ING BOREH	OLE					
TYPE OF BODING BY		OF FEED		CACINICI	ICED.		<u> </u>	YES	NO	
TYPE OF BORING RIC		NG CORING		CASING U	1SED 4	-	EPTH, FT	,	0 TO	15
TRUCKX		HANICAL RAULIC	X	DIA., IN.			EPTH, FT		то	
BARGE	OTHE			DIA., IN.			EPTH, FT		то	
OTHER							, , , , , ,			
TYPE AND SIZE OF	F:			DRILLING	MUD USED	D	X	YES	NO	
	D. SPLIT SF	POON		DIAMETEI	R OF ROTAL	RY BIT, I		<u>I</u>	5-7/8, 3-7/8	
U-SAMPLER				TYPE OF	DRILLING N	MUD			EZ MUD	
S-SAMPLER								_		
CORE BARREL NX I	OUBLE BAR	REL		AUGER U	SED			YES	X NO	
CORE BIT NX I	DIAMOND			TYPE AND	DIAMETER	R, IN.	· · · · · · · · · · · · · · · · · · ·			
DRILL RODS NWJ										
				*CASING	HAMMER, L	LBS.	300	AVERAG	E FALL, IN.	30
				*SAMPLEI	R HAMMER,	R, LBS	140	AVERAG	E FALL, IN.	30
				*USED AS	SISTED MA	ANUAL.				
WATER LEVEL OB	_									
DATE TIME	DEPTH	· 1	- 1	DEPTH TO WATER		,	CONDITIO	NS OF OR	SERVATION	
DATE TIME	HOLE	CASII	NG	VAIER	 				RVATIONS MADE	:
+			+		-	140 44/	ATEN LEV	CL OBSCI	TVATIONS MADE	
	+				_					
	 									-
			+	_						-
	 	- -			 					
	 		+							_
	<u> </u>									
PIEZOMETER INST	TALLED	X YES	N	O SKE	ETCH SHO	OWN ON	·	SE	E SHEET NO.	6
STANDPIPE:	TYPE	2" SOLIE	PVC	ID, IN	2	LENGT	H, FT	15	TOP ELEV.	+74 0±
INTAKE ELEMENT	TYPE	2" SLOTTE		OD, IN	2	_ LENGT	H, FT.	10	TIP ELEV	+49.0±
FILTER.	MATERIAL	020 SA	AND	OD, IN	4	LENGT	H, FT.	12	BOT ELEV	+49.0±
		_			_	_			_	
PAY QUANTITIES										
3 5" DIA. DRY SAMPLE	E BORING	LIN. FT.		25	NO. OF 3"	" SHELBY	TUBE SA	MPLES		
3.5" DIA. U-SAMPLE B	LIN FT.			NO OF 3"	" UNDIST	URBED SA	AMPLES			
CORE DRILLING IN R	OCK	LIN. FT		50	OTHER:					
BORING CONTRAC	CTOR				CMI	QUINO	NES			
DRILLER		BURT MOLZ	AHN		HELPER	≀s _		FRAN	KIE QUINONES	
REMARKS				PIEZON	ETER INS	STALLE	D.			
RESIDENT ENGINE	EER	DAVII	RHEA	ULT/ANTHO				DATE	08-03	
CLASSIFICATION (CHECK:	CHE	RYL J. M	IOSS	TYPING	CHECK	::		ANDRA PATRO	
MRCE Form BS-1							во	RING NO.	MR-2P	

MUESER RUTLEDGE CONSULTING ENGINEERS BORING LOG

PROJECT:	AMSTERDAM AVENUE TOWERS
LOCATION:	NEW YORK, NEW YORK

BORING NO. MR-3

SHEET 1 OF 4

FILE NO. 12509

SURFACE ELEV. +69.6

RES. ENGR. GEOFFREY SMITH

DAILY	-	SAM	PLE				CASING	OLOTTICE GWITTE
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
07:30					**	0.8		**Concrete from 0' to
12-22-15]		AHEAD	0.8'.
Tuesday			Ī		ĺ		3"	***Banquet hall & cellar
Rain					1			from 0.8' to 12.5'.
55°F]		***	5		
					1			
	_						<u> </u>	
						40	_ _	
					}	10		
						12.5		**Comprete plab from
					**	12.5		**Concrete slab from 12.5' to 13'.
	1D	13.0	18-11	Brown micaceous fine to coarse sand, some	DR			12.5 (0 13.
	-15	14.8	21-100/3"	rock fragments, trace silt (DR) (SP-SM)		15	→	
	1C	15.0	REC=98%	Medium hard slightly weathered gray gneissic	<u> </u>	- 10	2*	*Coring time in
		20.0	RQD=60%	schist, some pegmatite, jointed to broken,			2.5*	minutes per foot.
				iron stained & weathered joints		_	5.5*	
			j	•			3.5*	
						20	2.5*	
	2C	20.0		Hard to medium hard slightly weathered to			2.5*	
		25.0	RQD=72%	unweathered gray gneissic schist, jointed,	ĺ		2.5*	
				iron stained & weathered joints			2*	
							3.5*	
ļ	- 20	25.0	DEO-000/			25	2.5*	
}	3C	25.0 30.0		Hard unweathered gray gneissic schist, jointed,			3* 2.5*	
ŀ		30.0	KQD-00%	iron stained & weathered joints	1		2.5	
}							3*	
ŀ						30	3*	
ŀ	4C	30.0	REC=88%	Hard unweathered gray gneissic schist &	R		3*	
ļ		35.0		pegmatite, jointed to moderately jointed,			3*	
ľ				weathered joints	}		3*	
Ī				·			3.5*	
14:30					1	35	3.5*	
07:30	5C	35.0		Hard to medium hard slightly weathered to			2*	
12-23-15		40.0		moderately weathered gray gneissic schist,			2.5*	
Wednesday				trace pegmatite, jointed to broken, weathered	j		3.5*	
Overcast				joints		40	3.5*	
55°F	6C	40.0	DEC-00%	Billionia to and annous amplication activity transp		40	3*	
	- OC	40.0 45.0		Medium hard gray gneissic schist, trace pegmatite, broken to jointed, weathered joints			2.5* 3*	
<u>}</u>		45.0	NQD-00%	peginatile, broken to jointed, weathered joints	}		2.5*	
}						-	2.5*	
09:30					ĺ	45		End of Boring at 45'.
Ī								
						50		1
1								
						l	1	

M 14	ueser Kuti Penn Plaza - 2	ledge Consulting t 225 West 34th Street	ngineers		ROCK CORE SKETCH
Ne	w York, NY 10)122		BORING NO.	MR-3
and the second second	917 339-9300 vw.mrce.com	F: 917 339-9400		SHEET	2 OF 4
PROJECT:		200 Ans	TEROAM	FILE NO.	12509
LOCATION	:	MANHALTAN,	NY	SURFACE ELEV.	
TEST/INSP.	. EQUIPMENT			RES ENGR.	G. SMITH
	S/STANDARDS			 -	
Run No.	REC/RQD	Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	
Kull No.	AC /	901		10 98/	
40	88/88	3c 98/88	20 96/72	C 60	
,					
30	TOP	25 тор	2,O TOP	15 тор	
		210×653	242XE25	5e+ wj +s _	ROCK CORE SKETCH LEGEND
	1	200 10.51	545/1F52	7 7	CONTINC
			1 i - 1	J20US2	<u>JOINTING</u> J - Joint
	_		fetujts 1 -		MB - Mechanical Break
~ Scoll	frs d			3200 62	
	. 4		1 , 4	-	£) - Angle w/ Horizontal
	, 1	250 X £ 25		220023	// - Paratlel
	4	fej?	1 1 1		X - Crossing
	4		1 1	210125	F - Foliation
- 510 X	F52 -		1 1		
	4				S - Stratification
	1	250×12:	770/1852	230X F 13	U - Unfoliated or Unstratified
	2 -	1 1 1	2 -	그 그 글	JOINT SURFACE
Ì	7		210X £23		C - Curved
	1		3100152	J60/1882] 5	i - Irregular
	4		730XF52	760//FS2 - 598/4	S - Straight
	1			1-	IOINT CONDITION
	•]]	1 1	SQLE SCALE	JOINT CONDITION 1 - Slick
SION F	:32 3 -	210x225 3	3 —	3 — 8	2 - Smooth
	1		1		
	4		1 1		3 - Rough <u>SKETCH SYMBOLS</u>
ļ	4		ZIOXESS		Joint
ļ	· j		1 1	20XESS	Healed Joint
ł	4	7601/F58	1 / -	260 x225	Broken
	4 📑	4 -		20x 625 4	B252
	` 		\		Part of Core Not Recovered
SIOXE	isa 🗎	1 1			Cavities or Vugs in Core
$\setminus A$					
V	7		Jioxfs2 -	1 1	Clay
Λ	1		320×F52		Sand
/ \	4	260×t25	<u> </u> λ +	X MB	Empty Space
	BOTTOM	30 BOTTOM	25 BOTTOM	20 воттом	<u>K_N</u>
NOTES					

N 1/	Aueser Rutio	edge Consulting E 25 West 34th Street	ingineers		ROCK CORE SKETCH
N	ew York, NY 10	122		BORING NO.	MR-3
	917 339-9300 ww.mrce.com	F: 917 339-9400		SHEET	3 OF 4
PROJECT:		200 Ansterna	n Ave	FILE NO.	12509
LOCATION	_	MANHATTAN, N		SURFACE ELEV.	+ 69.6
	P. EQUIPMENT	J 1 N W - W 1 J - 1		RES ENGR.	G. SMITH
	ES/STANDARDS				
		Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	
Run No.	REC/RQD	Run No. REC/RQD	6C 88/68	SC 100/63	
	TOP	TOP	40 tob	35 TOP	ROCK CORE SKETCH
			Nonal Pig-	J20XFI2	LEGEND
	-		310/F-23		JOINTING
		1	260 N F 23	_1	J- Joint
	1		200 NESS		MB - Mechanical Break
	1				£) - Angle w/ Horizontal
	4			210XLIZ /	//- Parallel
	1			1 1	X - Crossing
	4		SEAMFES -		F - Foliation
	1		1	730×F53	S - Stratification
	1		1 1		U - Unfoliated or
	\dashv	-	1 2 -	2 1	Unstratified <u>JOINT SURFACE</u>
	1]]	5611F52	-6	C - Curved
	1		520XFS2 VSt -	320% £ £ \$ - 18/10	t- Irregular
	7			de de de de de de de de de de de de de d	S - Straight
	1		Scoli F52	SCALE:	JOINT CONDITION 1 - Slick
	-		3 -	3 –] 8	2 - Smooth
	7]]	3 - Rough
				360FZ3 -	SKETCH SYMBOLS
	-	-		242XE21 -	Joint
	1			1 24.24 July -	Healed Joint
	1				Broken
	寸		350×152 4-	760/k21 4	Part of Core Not Recovered
	7]]	SUSKET!	Recovered
	1		330×F52	H390//FZ /	Cavities or Vugs in Core
	-	-			Clay
			Y	Scox F31	Sand
	1	1	\	200XEI1	922) 5-31
<u> </u>	воттом	воттом	45 воттом	40 BOTTOM	Empty Space
NOTES			· •	<u> </u>	

							BORING I	NO.	MR-	3
							SHEET	4	OF	4
PROJEC	т		AMSTERDA	M AVE	NUE TOWER	S	FILE NO.		12509	
LOCATIO	NC				EW YORK		SURFACE	ELEV.		9.6
BORING	LOCATIO	N	SEE BORI	IG LO	CATION PLA	<u> </u>	DATUM		NAVD 88	3
							,			
BORING	EQUIPME	NT AND M	ETHODS OF	STABILI	IZING BOREH	OLE				
		TYPI	OF FEED					1		
	BORING RIG		ING CORING		CASING L			YES	NO	
TRUCK			HANICAL	_	DIA., IN.	3	_DEPTH, FT		0T	
SKID			RAULIC	X	DIA., IN.		_DEPTH, FT		T	
BARGE		OTH	ER		DIA., IN.		_DEPTH, FT	. FROM	T	0
OTHER	_ ACKER	ACE								
TYPE AN	ID SIZE OF	÷:			DRILLING	MUD USED		YES	X NO	
D-SAMPLE		D. SPLIT SI	POON			R OF ROTARY BIT	Γ, IN .		2-15/16	
U-SAMPLE					TYPE OF	DRILLING MUD			_	
S-SAMPLE						_		1 -		
	RREL NX D				AUGER U			YES	X NO	
CORE BIT		IAMOND BI	Т		TYPE ANI	DIAMETER, IN.				
DRILL ROI	DS <u>NWJ</u>				*******		440			
						HAMMER, LBS.			E FALL, IN.	30
						R HAMMER, LBS.	140	AVERAGI	E FALL, IN.	30
MATED I	EVEL OB	SEDVATIO	NS IN BOREH		-0350 00	ONUT HAMMER.				
VVALERI	LEVEL OB	DEPTH			DEPTH TO					
DATE	TIME	HOLE	-		WATER	}	CONDITION	NS OF OB	SERVATION	
	†					NO			RVATIONS MAD	E.
	Ţ									
										<u> </u>
DIEZOME	TED INOT	ALLED			NO CK	-TOU OU O (A (A) (NA 1			
PIEZUNE	<u>TER INST</u>	ALLED	YES	X	NO SKI	ETCH SHOWN C	/N			
STANDPIP	E:	TYPE			ID, IN.	LENG	GTH, FT		TOP ELEV.	
INTAKE EL	EMENT:	TYPE			OD, IN	LENG	GTH, FT		TIP ELEV	
FILTER:		MATERIAL			OD, IN.	LENG	GTH, FT.		BOT ELEV	
PAY QUA	MTITIES									
		BORING	LIN, FT.		15	NO. OF 3" SHEL	RY THRE CA	MPIFS		
3.5" DIA. DRY SAMPLE BORING 3.5" DIA U-SAMPLE BORING			LIN. FT.			NO OF 3" UNDIS				
	LLING IN RO		LIN. FT.		30	OTHER	310NDLD 34	AIVIF LLO		
CONL DI	CENTO NA INC	20 K	CAN. 1 1.			OTTLEN				
BORING	CONTRAC	TOR			AQUIFE	R DRILLING &	TESTING C	O. INC		
DRILLER			DOMENIC I	PEPE	7.00	HELPERS			GE RAYMONI)
REMARK					BOREH	OLE BACKFILL	 ED.			-
	IT ENGINE	ER		GI	OFFREY SMI			DATE	12-2	23-15
	ICATION C		CHE	RYL J.		TYPING CHEC			ANDRA PATR	
MRCE Form BS-1									RING NO.	MR-3

BO	DII	NC	10	
	KII	U	LU	v

PROJECT: AMSTERDAM AVENUE TOWERS
LOCATION: NEW YORK, NEW YORK

MRCE Form BL-1

BORING NO. MR-4

SHEET 1 OF 4

FILE NO. 12509

SURFACE ELEV. +74.0

BORING NO. MR-4

RES. ENGR. GEOFFREY SMITH

DAILY		SAM	DIE				CASIN	C. OLOTTRET GWITTI
DAILY	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEDTU		
PROGRESS	NO.	DEPTH	BEOM/2/0	SAMPLE DESCRIPTION	SIRAIA			ED **Concrete slab from
09:30			ł			0.4		D 0' to 0.4'.
12-16-15	<u> </u>						AREA	<u>D</u> 0 10 0.4.
Wednesday							-	_
55°F	├—-							4
	├				}	5		
j						 		
ļ					***			***Cellar from 0.4' to
	 					-		12.5'.
						40		
	}				j	10		_
	┝					ļ		_
	\vdash					40 5		
	45	400	00.400/2"	Ton. Broken concrete fragments	***	12.5		***Concrete slab from
	1D	13.0	20-100/3"	Top: Broken, concrete fragments	DR	14		12.5' to 13'.
14:45	10	13.8	DE000%	Bot: Brn micaceous f-c sand, tr silt (DR) (SP-SM)		15	₹	_
07:15	1C	14.0		Medium hard slightly weathered gray pegmatite,		 		_
12-17-15	<u> </u>	19.0	RQD=73%	jointed, iron stained & weathered joints			8.5*	
Thursday							4*	*Coring time in
Rain		40.0	DEC-050/	Madison band aliabéts son aébanad mass manaéta		- 20	4* 8*	minutes per foot.
55°F	2C	19.0		Medium hard slightly weathered gray pegmatite,		20	13*	-
		24.0	RQD=62%	jointed, iron stained & weathered joints			9*	
	<u> </u>	_					10*	
44.45	├						18*	_
14:45	20	24.0	BEC-039/	Madicas band alighth, weathered are consented		25	23*	4
07:30	3C	24.0 29.0		Medium hard slightly weathered gray pegmatite,		25	5*	_
12-18-15		29.0	RQD=80%	trace gneissic schist, jointed to moderately			4*	-
Friday				jointed, weathered joints			4*	→
Overcast							4.5*	-
55°F	4C	29.0	DEC-4009/	Modium hard climbility weath and to convent hard	R	30	7*	- ,
	40			Medium hard slightly weathered to unweathered		30_	6*	┥ ゙
		34.0	RQD=63%	gray gneissic schist, broken to jointed, iron			6.5*	⊣
}			·	stained & weathered joints			4.5*	
44.00							4.5*	
14:30	5C	34.0	REC=98%	Medium hard to hard slightly weathered to		35	9*	⊣ .
07:30	30	39.0		unweathered gray gneissic schist, moderately		35	5.5*	-
12-21-15		_39.0		jointed to closely jointed, iron stained &			4*	
Monday	} 			weathered joints			6*	
Overcast 50°F				weathered joints			6*	
50'F	6C	39.0	BEC=100%	Hard slightly weathered to unweathered gray		40	5.5*	
ļ .	- 30	44.0		gneissic schist, jointed, weathered joints		40	6*	-
ļ ļ	 	44.0	KQD-03%	gneissic schist, jointed, weathered joints			<u>5</u> *	_
	 						3*	_
00:20	-					44	3*	End of Boring et 44'
09:30						45	2*	End of Boring at 44'.
	-					40		
								-
}	 							-
}		{				50		_
}						50		-
								- {
	LL							

Mueser Rut	ledge Consulting I 225 West 34th Street	Engineers		ROCK CORE SKETCE
New York, NY 10			BORING NO.	MR-4
www.mrce.com			SHEET	2 OF 4
PROJECT:	200 Am	STERDAL AVE	FILE NO.	12509
LOCATION:	MANHATTAW,		SURFACE ELEV.	± 74.0
TEST/INSP. EQUIPMENT			RES ENGR.	G. Shzia
REF. CODES/STANDARDS				
Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	
	30 92/80	20 85/2	1c 92/73	
TOP	24 TOP	l ^e l TOP	14 TOP	
	NY	1 te 1 wits	Serwids -	ROCK CORE SKETCH
-	22025	76us2 1	7 7 1	<u>LEGEND</u>
		4		<u> JOINTING</u>
1			7×052	J - Joint
			1 1	MB - Mechanical Break
-		50.000		Đ, - Angle w/ Horizontal
	1 1	320UC2 1-	1-	//- Parallel
	1 1	32W32	345052	X - Crossing
1	1 1	20 n c 5	1	F - Foliation
			220025	
-	20023	1 1	20025	S - Stratification
1	1 1	310452	1	U - Unfoliated or Unstratified
	1 2-		2 - 1 1	JOINT SURFACE
]	345VI2	Dronis 150015	75	C - Curved
1			260025 IN 18	i - Irregular
			SIAP	S - Straight
	1 1 1		14	JOINT CONDITION
4	3 -	320 UZ2 7	SCALE:	1 - Slick
7	, , ,	250025	J75U 52	2 - Smooth
1	1 1			3 - Rough
]]	3100 13	SKETCH SYMBOLS Joint
1	J60/1852			Healed Joint
1		242 N 25	3200(3	Broken
	360/1F52 4	4 -	328007	
-	F ()]		Part of Core Not Recovered
1	710 XESS	 	210025	Cavities or Vugs in Core
1 1	230×625	\/ 4		Clay
1	M :		360022	
		/\	<u> </u>	Sand
воттом	Zel BOLLOW	<u> 24 воттом</u>	19 воттом	Empty Space

NOTES

M 14	lueser Rutl 4 Penn Plaza - 2	edge Consulting 25 West 34th Street	Engineers		ROCK CORE SKETCH
No.	ew York, NY 10	122		BORING NO.	MR-41
	917 339-9300 ww.mrce.com	F: 917 339-9400		SHEET	3 OF 4
PROJECT:		200 Amst	froam	FILE NO.	12509
LOCATION	ł:	MANHATTAN A	JY	SURFACE ELEV.	±74
TEST/INSF	P. EQUIPMENT			RES ENGR.	G. SMITH
REF. CODE	ES/STANDARDS				
Run No.	REC/RQD	Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	
		6C 100/85	SC 98/80	40 100/63	
	тор	39 тор	<u>54 тое</u>	29 TOP	ROCK CORE SKETCH
	4	1 1 1		750/1F53	<u>LEGEND</u>
	1			fejt -	<u>JOINTING</u> J- Joint
	1			- MB	MB - Mechanical Break
]	230XEX3		1 , 1	Đ, - Angle w/ Horizontal
	1	720KFE3			// - Parallel X - Crossing
			345×622		F - Foliation
	7	230*EI3	₹ fe+m?#1 =	2001F22	S - Stratification
			30×F52	Feit 7	U - Unfoliated or
	-	250xt23 3 -	NB 2	250XESS 5 - 2	Unstratified <u>JOINT SURFACE</u> C - Curved
	4			_ _ 	I - Irregular
	-	730×F52		division	S - Straight
	-	230×423		7 3 188 SALE	JOINT CONDITION 1 - Slick
	긕	250Xt23 3	3 -	3-10	2 - Smooth
]			3loxFZ3	3 - Rough <u>SKETCH SYMBOLS</u> Joint
	7			240XET3	Healed Joint
]	250xE25	230×613	/ · · · · · · · · · · · · · · · · · ·	Broken
	-	J20XF52	4 -	210×FS3 4	Part of Core Not Recovered
	=		200/225	230×621	Cavities or Vugs in Core
	7	1 1			Clay
]	JWIF52]]	201/E23	Sand
	BOTTOM	44 воттом	39 BOTTOM	34 воттом	Empty Space

							BOKING I	NO	NH	+
							SHEET	4	OF	4
PROJEC	т	AMS	AMSTERDAM AVENUE TOWERS						12509	
LOCATIO	ON		NEW YORK, NEW YORK				SURFACE	ELEV.	+7	4.0
BORING	LOCATIO		SEE BORING LOCATION PLAN				DATUM		NAVD 88	
							-			
BORING	EQUIPME	NT AND METH	ODŞ OF ŞT	ABILIZ	ING BOREH	OLE				
		TYPE OF	FEED							
TYPE OF E	BORING RIG	DURING	CORING		CASING L	JSED	X	YES	NO	
TRUCK		MECHAN	ICAL		DIA., IN.	3	DEPTH, FT.	FROM	0 TC	D 16.5
SKID		HYDRAU	LIC	Х	DIA., IN		_ DEPTH, FT.	FROM	т	· ———
BARGE		OTHER			DIA , IN.		_ DEPTH, FT.	FROM	тс	·
OTHER	ACKER /	ACE					_			
		- 								
TYPE AN	ID SIZE OF	·			DRILLING	MUD USED		YES	X NO	
D-SAMPLE	ER 2" O.	D. SPLIT SPOO	N		DIAMETE	R OF ROTARY BI	T, IN.		2-15/16	
U-SAMPLE					TYPE OF	DRILLING MUD	-			
S-SAMPLE							-			
CORE BAR	RREL NX D	OUBLE BARREL			AUGER U	SED		YES	X NO	
CORE BIT	NX D	IAMOND BIT			TYPE AND	DIAMETER, IN.				
DRILL ROD	os NWJ						-			
					*CASING	HAMMER, LBS.	140	AVERAGE	FALL, IN.	30
					*SAMPLE	R HAMMER, LBS.	140	AVERAGE	FALL, IN.	30
					*USED DO	NUT HAMMER.				
WATER L	EVEL OBS	SERVATIONS	N BOREHO	<u>LE</u>						
		DEPTH OF	DEPTH	OF	DEPTH TO					
DATE	TIME	HOLE	CASIN	G	WATER		CONDITION	IS OF OB	SERVATION	
						NO	WATER LEVI	EL OBSEF	VATIONS MAD	E
								_		
										·
					<u>. </u>					
		<u></u>	~~							
<u>PIEZOME</u>	TER INST	ALLED	YES	X N	O SKE	TCH SHOWN (ON			
STANDPIP	Έ	TYPE			ID, IN.	LEN	GTH, FT.		_TOP ELEV.	
INTAKE EL	EMENT.	TYPE			OD, IN.	LEN	GTH, FT		_TIP ELEV	
FILTER.		MATERIAL			OD, IN	LEN	GTH, FT.		BOT ELEV	
PAY QUA	NTITIES									
3.5" DIA. D	RY SAMPLE	BORING	LIN. FT.		14	NO. OF 3" SHEL	BY TUBE SAI	MPLES		
3 5" DIA. U-SAMPLE BORING			LIN. FT.			NO OF 3" UNDI	STURBED SA	MPLES		
CORE DRI	LLING IN RO	CK	LIN. FT.		30	OTHER:				
BORING	CONTRAC	TOR			AQUIFE	R DRILLING &	TESTING C	O., INC.		
DRILLER		D	OMENIC PE	PE		HELPERS	GEOR	GE RAY	MOND/TODD	SURRNY
REMARK	s				BOREH	OLE BACKFILL	.ED.			
RESIDEN	IT ENGINE	ER		GEC	OFFREY SMI	TH		DATE	12-2	1-15
CLASSIFI	ICATION C	HECK:	CHER	YL J. M	oss	TYPING CHEC	CK:	ALEX	ANDRA PATR	ONE
MRCE Form BS	S-1	-						ВО	RING NO.	MR-4

MUESER RUTLEDGE CONSULTING ENGINEERS BORING LOG

BORING NO.	MR-5	
SHEET 1 OF	6	
FILE NO.	12509	

PROJECT: AMSTERDAM AVENUE TOWERS FILE NO. 12509
LOCATION: NEW YORK, NEW YORK SURFACE ELEV.

DAILY PROGRESS NO. 08:00 04-23-16 Saturday Indoor8 15:00 1D 07:00 04-24-16 Sunday Indoors 3D 4D 1C 5D	SAM DEPTH 12.8 14.8 15.7	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	5	BL DR Al		REMARKS D **Concrete slab with
08:00 04-23-16 Saturday Indoors 15:00 1D 07:00 04-24-16 Sunday Indoors 3D 4D 1C 5D	12.8 14.8 14.8	2-14	SAMPLE DESCRIPTION	**	5	DR Al	ILLE IEAC	D **Concrete slab with metal deck from 0' to 0.4'. Drilled from ground
15:00 1D 07:00 04-24-16 2D Sunday Indoors 3D 4D 1C 5D	14.8				5	Aŀ	IEAD	metal deck from 0' to 0.4'. Drilled from ground
15:00 1D 07:00 04-24-16 2D Sunday Indoors 3D 4D 1C 5D	14.8			AIR				0.4'. Drilled from ground
15:00 1D 07:00 04-24-16 2D Sunday Indoors 3D 4D 1C 5D	14.8			AIR		4	3"	Drilled from ground
15:00 1D 07:00 04-24-16 2D Sunday Indoors 3D 4D 1C 5D	14.8			AIR				
07:00 04-24-16 Sunday Indoors 3D 4D 1C 5D	14.8			AIR				floor slab.
07:00 04-24-16 Sunday Indoors 3D 4D 1C 5D	14.8			AIR				
07:00 04-24-16 Sunday Indoors 3D 4D 1C 5D	14.8			AIR			\pm	_
07:00 04-24-16 Sunday Indoors 3D 4D 1C 5D	14.8					\sqcup	l_	
07:00 04-24-16 Sunday Indoors 3D 4D 1C 5D	14.8				4.5			
07:00 04-24-16 Sunday Indoors 3D 4D 1C 5D	14.8					ш		
07:00 04-24-16 Sunday Indoors 3D 4D 1C 5D	14.8			ł	10			
07:00 04-24-16 Sunday Indoors 3D 4D 1C 5D	14.8							
07:00 04-24-16 Sunday Indoors 3D 4D 1C 5D	14.8		I and the second					
04-24-16	14.8)	Brown fine to medium sand, some silt, trace	***	12.25			***Cellar floor top of
Sunday Indoors 3D 4D 1C 5D 2C		31-50	mica (Decomposed Rock) (SM)					slab from 12.25' to 13'.
Indoors 3D 4D 1C 5D	15.7	60-100/5"	Do 1D (Decomposed Rock) (SM)		15		,	Concrete at 0.42' slab,
3D 4D 1C 5D				}				plastic film at bottom.
4D 1C 5D 2C								2D: REC=4"
1C 5D 2C	17.0	100/6"	Do 1D (Decomposed Rock) (SM)				+	REC=6"
1C 5D 2C	17.5							7
5D 2C	19.0	100/5"	Gray fine to medium sand, some silt, trace	DR	20			* REC=5"
5D 2C	19.4		mica (Decomposed Rock) (SM)	DK			4*	7
2C	19.4	REC=0%	No recovery				4*	Taped hole to 21.5',
2C	24.0	RQD=0%					4*	soft bottom. Slower
2C				1			3*	drilling at 25.5'.
	24.0	100/5"	Do 4D (Decomposed Rock) (SM)		25		3*	*Coring time in
	24.4	,		1			9*	minutes per foot.
	24.5	REC=6%	Top 2.5': Decomposed Rock		27		3*	7
	27.8	RQD=0%	Bot: 0.8': Wthd HiW gray gns sch, Bkn, WJts				2*	
3C	27.8	REC=31%	Weathered highly weathered to moderately	ļ			3*	7
	32.9	RQD=11%	weathered gray gneissic schist, broken,		30		3*	
			weathered joints	WR			3*	Higher RPMs at 30.5'.
				W	_		3*	Slight loss of return
4C	32.9	REC=57%	Top 2': Do 3C (Weathered Rock)				3*	water.
	37.6	RQD=48%	Bot 2.7': Intermediate slightly weathered gray				4*	Hard bottom at 32.9'.
			gneissic schist, jointed, slightly weathered		35		6*	Hard bottom at 36.6'.
			joints				6*	Mud level at 19.7' at
15:00							4*	07:00 on 04-25-16.
15:00 07:00 5C	37.6	REC=80%	, , , , , , , , , , , , , , , , , , , ,				19*	Soft bottom at 36.2'.
04-25-16	42.6	RQD=48%	gneissic schist, broken, weathered joints	İ			4*	7
			Bot: Medium hard slightly weathered gray		40		11*	Barrel jammed at 39.5'
Monday			gneissic schist, jointed, weathered joints				3*	continued after clean.
indoors							5*	7
6C	42.6	REC=96%	Medium hard slightly weathered gray gneissic		_		5*	7
[47.6	RQD=56%	schist, jointed to closely jointed, weathered	R			4*	Core barrel jammed at
			joints		45		5*	45 '.
				J j			5*_]
							5*]
7C	47.6	REC=98%	Hard unweathered gray gneissic schist, blocky]]			4*	ヿ !
	52.7	RQD=98%					3*	7
				, ,	50		3*	7 !
							3*	7
			<u> </u>				3*	寸 '

	BORING LOG	BORING NO.	MR-5
		SHEET 2 OF	6
PROJECT:	AMSTERDAM AVENUE TOWERS	FILE NO.	12509
LOCATION:	NEW YORK, NEW YORK	SURFACE ELEV.	
		RES. ENGR.	RYAN ZHANG

LOCATIO	JN:		F	NEW YORK, NEW YORK	_ 5		E ELEV.	
						RES	. ENGR.	RYAN ZHANG
DAILY		SAM	PLE				CASING	
PROGRESS	NO.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	BLOWS	REMARKS
Cont'd	110.	<u> </u>	-	<u> </u>	101101111	<u> </u>	520110	71211174743
04-25-16		 	-					1
J	8C	50.7	BEC-400%	Hard unweathered gray gneissic schist to			3*	Soft bottom at 52.7'.
Monday	<u>°C</u>	52.7						Soft bottom at 52.7.
Indoors	<u> </u>	57.5		schistose gneiss, blocky slightly weathered		ļ	3*	
]	joints		55	3*	
			}				3*	<u>}</u>
					İ	Ĺ	3*	
	9C	57.5	REC=100%	Do 8C			3*]
		61.9	RQD=100%				3*	
			1			60	3*	}
}					1		3*	1
ļ	10C	61.9	RFC=98%	Do 8C, weathered joints	ļ	ļ	3*	1
)	,,,,,	66.9	RQD=98%		Ì	<u> </u>	3*	Core barrel jammed
15:00		00.5	1100-3070		R			at 62.9'.
			-		1	CE.	3*	
07:00						65		Shift end in middle of
04-26-16]		3*	Run 10C.
Tuesday	11C	66.9		Medium hard unweathered gray gneissic			3*	Mud level at 20.5'.
Indoors		71.9		schist, jointed to moderately jointed, weathered	ļ		3*	Sound hole at 63.8';
				joints			3*	soft bottom.
<u> </u>			<u>]</u>		1	70	4*	
							3*	
1	12C	71.9	REC=96%	Medium hard to hard unweathered gray	1		3*	1
J		76.8		gneissic schist to schistose gneiss, blocky,			4*	
				weathered joints	!		4*	
)				,,		75	4*	
		-	1		[4*	
10:00		_ _				76.8		End of Boring at 76.8'.
			-			70.0		Life of boning at 70.0.
1						-		
						80		
]						-		
[
[[[[ĺ			
]]						85		
			1					
{							-	
						90		
l					,			
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j J						95		
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<u> </u>					I	i		

Mues 14 Pen	ser Rutledg in Plaza - 225 V	ge Consulting E West 34th Street	ngineers		ROCK CORE SKETCH
New Yo	ork, NY 10122			BORING NO.	MR-5
	339-9300 F: 9 nrce.com	917 339-9400		SHEET	3 OF 6
PROJECT:	AMSTERE	DAM AUGNUE	lawer	FILE NO.	18509
LOCATION:	RV.	Y N4		SURFACE ELEV	741/-
TEST/INSP. EQU	JIPMENT			RES ENGR.	RZ/SFK
REF. CODES/STA	ANDARDS				
Run No. REG	C/RQD Ru	in No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	
6	9//	2.0//	5291	- 90%	
20	10% 3	Sc 31%/	1961 / 1		
	10%	11%	46%	48%	
TO	P 24.5	TOP 278	TOP 32.9	TOP 37.6	
	1 1	1		\mathbf{t}	ROCK CORE SKETCH LEGEND
1 1	7			\/	JOINTING
1 11	1 1			L W	J - Joint
1 //	4 11	11 1	1111 1		MB - Mechanical Break
]	[V]		E) - Angle w/ Horizontal
	as.s_	36A	334	A	// Parallel
	1 11]]]	111 1	BROWERS -	
	<u> </u>	11 1		1	X - Crossing
			1/11 -	545-11602	F - Foliation
	1 1		111 1	30.70	S - Stratification
11 1	1 1	1 1		MB4691152	U - Unfoliated or
	26.5	21A	349	WB 12 SIESS	Unstratified JOINT SURFACE
111	1 11			15	C - Curved
	4 11		May Course	4 2	i - Irregular
	7 11		MB450/1802	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	S - Straight
	1 11	1 1	10 40/1 F32	MB 60° IFS 2]
/XX		11 1	C50	MB40 INSO]	
XX	27.5	30,91	WB. 42.9 324	SCAL SCAL	1 (
※	_	į	WBIRSX FS 3		2 - Smooth
FUN 27	5 4	1 -	MB 45° xF5A	MB60°NFSD	3 - Rough <u>SKETCH SYMBOLS</u>
KONZ		Jo*xFSA -	WR 42 x12		Joint
\ //	d	Jo*xFS2			Healed Joint
$\backslash I $] 🐼	3	118450 KFSB]]	Broken
WI .		349_	MB450xF50	J60 11530 -	E382
¥ !	4	1 1	100 x129-		Part of Core Not Recovered
1]	1	MB 45 1/ F52.	V 14811144]	Caulting on Vive In Case
$I \setminus I$	1	50° XF 13	[]	560°/1F52	Cavities or Vugs In Core
/ \	1 188	kl - k	1		Clay
	1 🕸		374 -		Sand
	<u></u> <u> </u>	158 x 20 309	314		Empty Space
BOTTO	DM	воттом	воттом	3.Ch wollog	
NOTES					

BOR-3_JAN2013

Mueser Rutledge Consulting Engineers ROCK CORE SKETCH 14 Penn Plaza - 225 West 34th Street New York, NY 10122 MR.5 BORING NO. T: 917 339-9300 F: 917 339-9400 www.mrce.com SHEET OF AMSTERDAM AUG TOWER 12509 PROJECT: FILE NO. NY, NY LOCATION: **SURFACE ELEV.** 22 TEST/INSP. EQUIPMENT RES ENGR. **REF. CODES/STANDARDS** Run No. REC/RQD Run No. REC/RQD Run No. REC/RQD REC/RQD Run No. w/ 100Z 86 90 6 70 196% 00% тор 42.6 TOP 52. TOP 575 TOP 47.6 ROCK CORE SKETCH LEGEND <u>JOINTING</u> J - Joint 568/183 MB - Mechanical Break D - Angle w/ Horizontal // - Parallel MB60 XFI3. 29%,483 WEAR YES X - Crossing F - Foliation MD 68 KFSA. S - Stratification U - Unfoliated or MBB VFI3. Unstratified MB 0 XFI3 JOINT SURFACE Jo'xFS2 510×F52 C - Curved MB 45 XFSQ I - Irregular MB45 /1F53 S - Straight JOINT CONDITION 1 - Slick MB46 LTTA JUS AFS3 2 - Smooth MB36 xFI3 3 - Rough SKETCH SYMBOLS Joint **Healed Joint** Broken MB603/1F53 Part of Core Not J68/1F33 J10° x F: 13 Recovered end of a run 61.9 00 Cavities or Vugs in Core Clay FUD OF Sand ENDOF BUN BUN **Empty Space** воттом 47,6 BOTTOM 50.7 воттом **5**7,5 BOTTOM LAS **NOTES**

Mueser Rut	ledge Consulting l 225 West 34th Street	Engineers		ROCK CORE SKETCH
New York, NY 1	0122) F: 917 339-9400		BORING NO.	MR5
www.mrce.com			SHEET	5 OF 6
PROJECT: AM	TERDAM HUE	10wer	FILE NO.	12509
LOCATION:	NY, NY		SURFACE ELEV.	
TEST/INSP. EQUIPMENT			RES ENGR.	RZ
REF. CODES/STANDARDS				
Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	Run No. REC/RQD	
OC 98%	IIC 78/19/	126 962/782		
TOP 61.4	TOP 469	TOP 714	ТОР	
		11 4		ROCK CORE SKETCH LEGEND
1 1			1 1	JOINTING
J28 x53-	-134552	MB1831533		J - Joint
1 7 3 60 X 10 5 1	56°11580			MB - Mechanical Break
1 1	WBP XL297		11 11	Đ, - Angle w/ Horizontal
	MBO'XFS2 MBO'XFS3	11 1		
1 1	9-12	MB10°4533	1 1	// - Parallel
1 1	742×1-30		1 1	X - Crassing
TIE LESS -	1 1	 		F- Foliation
JUE >FS3 -	MB 68 F53		1 1 1	S - Stratification
MBUS XF33		₩	4 4	U - Unfoliated or
MD0° x FS8	560, FS3		1	Unstratified
			10.1	<u>JOINT SURFACE</u> C - Curved
]]]			1 2	I - Irregular
MB10°xF13_		11 4		-
)) j	1 1		1=	S - Straight
] -				JOINT CONDITION 1 - Stick
			SCAL	2 - Smooth
1 1	1 1	1 1	1 1 1	ł
	4			3 - Rough SKETCH SYMBOLS
MBD xF53	J803 FI3	570° xF53 -	1 4	Joint
ZX IIIBO XI				Healed Joint
KXH 1		4	-	Broken
MB 60/1 F53 W J F53 5 60/1 F53	<u> </u>	11 4		Part of Core Not
wsts :			1 1	Part of Core Not Recovered
5 43/1562	\\\ \ \	M310°2753		Cavities or Vugs in Core
	4			Clay
	 			
				Sand
BOTTOM 64	BOTTOM 71.4	BOTTOM 96.8	воттом	Empty Space
NOTES	71.9	76.65		

						BORING N	NO.	MR-	5	
						SHEET	6	OF	6	
PROJEC	Т	AMS	AMSTERDAM AVENUE TOWERS					12509		
LOCATIO	ON		NEW YORK, NEW YORK			SURFACE	ELEV.			
BORING	LOCATION	SEE E	BORING LOCA	TION PLAN		DATUM		NAVD 88	3	
BORING	EQUIPME		DDŞ OF STABIL	IZING BOREH	<u>OLE</u>					
		TYPE OF F								
	BORING RIG			CASING (JSED		YES	NO NO		
TRUCK		MECHANIC		DIA., IN.	4	_DEPTH, FT.		0T0		
SKID	ACKER /	ACE_HYDRAULI	c <u>x</u>	DIA., IN.	3	_DEPTH, FT.		0Te		
BARGE		OTHER		DIA., IN.		_DEPTH, FT.	. FROM	T	o	
OTHER										
TVDE AN	D SIZE OF	٠.		DBILLING	MUD HEED		VEC			
			COULT COOCN		MUD USED		YES	NO NO		
D-SAMPLE		1-3/8" O. D. & I. D.	SPLIT SPOON	-	R OF ROTARY BIT	i , IIN.		3-7/8		
U-SAMPLE			_	TTPEOF	DRILLING MUD	-		EZ MUD		
S-SAMPLE		OUBLE TUBE		AUCED II	CED		VEC	TV NO		
CORE BIT		IAMOND		·	JGER USED YES X NO 'PE AND DIAMETER, IN.					
DRILL ROI		LINE, BWJ	_	ITEAN	JUIAIVIETER, IN.	-				
DRILL ROL	JO VIRE	LINE, BVVJ		*CASING	HAMMER, LBS.	140	AV/EDACE	E FALL, IN.		
					R HAMMER, LBS		_	E FALL, IN	30	
					ONUT HAMMER &					
WATERI	EVEL ORS	SERVATIONS IN	I BOREHOLE	USED D	JNOT HAWWILK &	NOPE 0 CA	ITIEAD			
AAV I CIV C	LVLL OBC	DEPTH OF	DEPTH OF	DEPTH TO						
DATE	TIME	HOLE	CASING	WATER		CONDITION	NS OF OB	SERVATION		
04-25-16	07:00	38	18	19.7		EZ MUD USED FOR DRILLING.				
04-26-16	07:00	63	18	20.5		EZ MUD U	ISED FOR	DRILLING		
				-						
		_				_				
<u>PIEZOME</u>	TER INST	ALLED	YES X	NO SKE	ETCH SHOWN (ON				
STANDPIP	E.	TYPE		ID, IN.	LEN	GTH, FT		TOP ELEV.		
INTAKE EL	EMENT	TYPE		OD, IN.	LEN	GTH, FT.		TIP ELEV		
FILTER.		MATERIAL		OD, IN	LEN	GTH, FT.		BOT. ELEV.		
<u>PAY QUA</u>	NTITIES									
	RY SAMPLE		LIN. FT.	19	NO OF 3" SHELBY TUBE S.					
3.5" DIA. U-SAMPLE BORING LIN. FT			0	NO. OF 3" UNDISTURBED SAMPLES			0			
CORE DRILLING IN ROCK LIN FT.				58	OTHER SPT SA	MPLE			5	
DO-#:-	001: -					T=0				
	CONTRAC			AQUIF	ER DRILLING &					
DRILLER		DO	MENIC PEPE		_HELPERS	DAN	ROMER	O/ANTHONY I	KAPPEL	
REMARK					. =					
	T ENGINE			I. DYER/RYAI			DATE	04-2	<u> 16-16</u>	
	CATION C	HECK:	CHERYL J.	MOSS	_ TYPING CHEC	JK:				
MRCE Form BS	S-1						BO	RING NO.	MR-5	



TR5: Technical Report Pile Driving

Must be typewritten.



3 Sheet number 1 of sheets Location Information Required for all applications. House No(s) 200 Street Name Amsterdam Avenue Borough Manhattan **Block 1158** Lot 133 BIN 1030358 CB No. 107 Applicant Information Required for all applications. First Name Kaeck Middle Initial E Last Name Walter Business Name Mueser Rutledge Consulting Engineers Business Telephone 917-339-9300 Business Address 225 West 34th Street - 6th Floor Business Fax 917-339-9400 City Manhattan State NY Zip 10122 Mobile Telephone 347-387-6148 E-Mail wkaeck@mrce.com License Number 072575 Pile Driving Contractor Required for all applications.

Last Name McKenna First Name Barry Middle Initial

Business Name ECD NY INC.

Business Telephone 718-388-6705

Business Address 35-12 19th Street 2W

Business Fax 718-388-6706

City Queens State NY Zip 11105

Mobile Telephone

Pile Information Required for all applications.

Type Caissons

Material Grout/Rebar

Load Capacity 880 tons

Hammer Information Required for all applications.

Make N/A (Drilled)

Model Number N/A (Drilled)

Energy N/A (Drilled)

6 | Statements and Signatures Required for all applications.

I hereby state that the above information is correct and complete to the best of my knowledge and that the above tests were performed in accordance with all Administrative Code Provisions and Departmental Rules, Regulations and Directives.

Falsification of any statement is a misdemeanor and is punishable by a fine or imprisonment, or both.

It is unlawful to give to a city employee, or for a city employee to accept, any benefit, monetary or otherwise, either as a gratuity for properly performing the job or in exchange for special consideration. Violation is punishable by imprisonment or fine or both.



P.E. / R.A. Seal (apply seal, then sign and date over seal)

	Approvals - Internal Use Only			
	Examined and Recommended for Approval		Approved	
	Examiner Name		Borough Commissioner Signature	Date
	Signature	Date		
}				

	ort: 200 A			Dia Landia	10-40-5	[F]	Indiana sing	IDentists 4.5	Deat	Mariati-
Pile Numbe r	Diameter (inch)	Elevations: (feet) (NAVD 88 Datum)		Pile Length from	Rock Socket Length	Class 1c	Calculated	Deviated from Designed Location		Variation from Plumb
			Cutoff	(feet)	(feet)	rock (feet)	(Tons)	(N+ or S -)	(E+ or W -)	1 141115
P-1	18	-0.5	32.60	33.1	33.1	33.0	880	0.06	0.12	ОК
P-2	18	0.5	32.60	32.1	32.1	30.0	880	0.31	-0.1	ОК
P-3	18	-4.8	28.80	33.6	33.6	29.0	880	0	-0.22	ОК
P-4	18	-5.8	28.80	34.6	34.6	28.0	880	0.16	-0.56	ОК
P-5	18	-4.7	28.80	33.5	33.5	29.0	880	0.01	-0.24	ОК
P-6	18	-4.0	28.80	32.8	32.8	28.5	880	0.34	-0.63	ОК
P-7	18	-17.3	28.80	46.1	46.1	30.0	880	0.61	-0.8	ОК
P-8	18	-17.8	28.80	46.6	46.6	31.0	880	0.06	-0.53	ОК
P-9	18	-16.8	28.80	45.6	45.6	31.0	880	0.17	-0.26	ОК
P-10	18	-17.7	28.80	46.5	46.5	32.0	880	0.17	-0.7	ОК
P-11	18	-16.0	28.80	44.8	44.8	31.0	880	0.45	-0.5	ОК
P-12	18	-17.5	30.30	47.8	47.8	32.0	880	0.25	-0.56	OK
P-13	18	-15.7	30.30	46.0	46.0	32.0	880	0.14	-0.58	ОК
P-14	18	-16.6	30.30	46.9	46.9	31.0	880	-0.18	-0.81	ОК
P-15	18	-14.4	30.30	44.7	44.7	32.0	880	0.16	-0.05	ОК
P-16	18	-14.3	30.30	44.6	44.6	31.0	880	0.3	-0.45	ОК
P-17	18	-13.7	30.30	44.0	44.0	32.0	880	-0.05	-0.33	ОК
P-18	18	-15.2	26.70	41.9	41.9	31.0	880	-0.29	-0.24	OK
P-19	18	-15.7	26.70	42.4	42.4	31.0	880	-0.44	-0.29	ОК
P-20	18	-17.8	26.70	44.5	44.5	31.0	880	0.18	-0.3	OK
P-21	18	-17.2	26.70	43.9	43.9	31.0	880	-0.15	-0.2	ОК
P-22	18	-18.3	26.70	45.0	45.0	31.0	880	0.23	-0.32	ОК
P-23	_ 18	-17.7	30.30	48.0	48.0	32.0	880	0.27	-0.76	ОК
P-24	18	-17.5	30.30	47.8	47.8	31.0	880	-0.3	-1.22	OK
P-25	18	-1 <u>5</u> .7	30.30	46.0	46.0	32.0	880	0.07	-0.17	OK
P-26	18	-16.2	30.30	46.5	46.5	31.0	880	0.27	0.09	OK
P-27	_18	-16.0	30.30	46.3	46.3	30.0	880	-0.13	-0.5	ОК
P-28	18	-17.0	30.30	47.3	47.3	31.0	880	-0.07	0.07	OK
P-29	18	-16.2	30.30	46.5	46.5	31.0	880	0.13	-0.52	ОК
P-30	18	-16.2	30.30	46.5	46.5	32.0	880	0.09	-0.03	ок

7 Test Report: 200 Amsterdam Ave										
Pile Number	Diameter (inch)	Elevations: (feet) (NAVD 88 Datum)		Pile Length from	Rock Socket Length	Elevation of Class 1c	Calculated Capacity	Deviated from Designed Location		Variation from Plumb
HUMBEI	(111011)	Pile Tip		(feet)	(feet)	rock (feet)	(Tons)	(N+ or S -)	(E+ or W -)	1' '''''
P-31	18	-16.2	30.30	46.5	46.5	31.0	880	0	-0.35	ОК
P-32	18	-14.7	30.30	45.0	45.0	33.0	880	0.7	-0.9	ОК
P-33	18	-14.5	34.25	48.8	48.8	32.0	880	-0.1	-0.17	ОК
P-34	18	-14.0	34.25	48.3	48.3	31.0	880	0.31	-0.41	OK
P-35	18	<i>-</i> 13.5	34.25	47.8	47.8	32.0	880	-0.08	-0.35	OK
P-36	_18	-17.0	34.25	51.3	51.3	29.0	880	0.41	-0.16	OK
P-37	18	-15.0	34.25	49.3	49.3	31.0	880	-0.05	-0.78	_OK
P-38	18	-15.2	34.25	49.5	49.5	29.0	880	0.31	-0.41	OK
P-39	18	-13.5	34.25	47.8	47.8	32.0	880	-0.16	0.03	OK
P-40	18	-15.0	34.25	49.3	49.3	29.0	_ 880	0.54	-0.28	OK _
P-41	18	-2.2	32.60	34 <u>.8</u>	34.8	30.0	880	0.19	-0.33	OK
P-42	18	-4.2	32.60	36.8	36.8	30.0	880	-0.12	-0.22	OK