

DUKE GEOLOGICAL LABORATORY

36 Fawn Lane

Westbury, NY 11590

Phone: (516) 280-7144

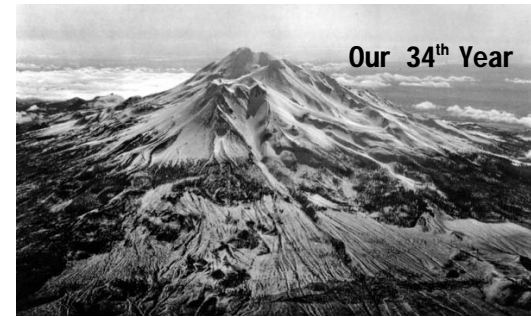
E-Mail: CharlesM@dukelabs.com

Web: www.dukelabs.com

Client Sample No. Boring 54C		
------------------------------	--	--

Depth: 69.0' to 69.5' [Start Run 1C]

Boulder of fine-textured dark gray Palisades diabase derived from glacial transport and indicating a layer of till above bedrock.



Filename: Sec54C_69.0to69.5_EV207248.jpg

DUKE GEOLOGICAL LABORATORY

36 Fawn Lane

Westbury, NY 11590

Phone: (516) 280-7144

E-Mail: CharlesM@dukelabs.com

Web: www.dukelabs.com

Client Sample No. ConEd Bronx Boring 54C		
--	--	--

Depth: 69.5' to 70.0' [Run 1C]

Base of fine-textured dark gray boulder of Palisades diabase and other local stones (granitic gneiss, schist, marble) that were derived from glacial till layer resting above bedrock.



Filename: Sec54C_69.5to70.0_EV207250.jpg

DUKE GEOLOGICAL LABORATORY

36 Fawn Lane

Westbury, NY 11590

Phone: (516) 280-7144

E-Mail: CharlesM@dukelabs.com

Web: www.dukelabs.com

Client Sample No. ConEd Bronx Boring 54C		
--	--	--

Depth: 70.0' to 70.5' [Run 1C]

Top of rock core is honed flat and consists of massive, medium-textured whitish-gray variegated calcite and dolomitic marble with tan-, green-, and gray interlayers displaying moderate dips of foliation and compositional layering.



Filename: Sec54C_70.0to70.5_EV207251.jpg

DUKE GEOLOGICAL LABORATORY

36 Fawn Lane

Westbury, NY 11590

Phone: (516) 280-7144

E-Mail: CharlesM@dukelabs.com

Web: www.dukelabs.com

Client Sample No. ConEd Bronx Boring 54C		
--	--	--

Depth: 70.5' to 71.0' [Run 1C]

Massive, medium-textured whitish-gray variegated calcite and dolomitic marble with tan-, green-, and gray interlayers displaying moderate dips of foliation and compositional layering.



Filename: Sec54C_70.5to71.0_EV207252.jpg

DUKE GEOLOGICAL LABORATORY

36 Fawn Lane

Westbury, NY 11590

Phone: (516) 280-7144

E-Mail: CharlesM@dukelabs.com

Web: www.dukelabs.com

Client Sample No. ConEd Bronx Boring 54C		
--	--	--

Depth: 71.0' to 71.5' [Run 1C]

Massive, medium-textured whitish-gray variegated calcite and dolomitic marble with tan-, green-, and gray interlayers displaying moderate dips of foliation and compositional layering.



Filename: Sec54C_71.0to71.5_EV207253.jpg

DUKE GEOLOGICAL LABORATORY

36 Fawn Lane

Westbury, NY 11590

Phone: (516) 280-7144

E-Mail: CharlesM@dukelabs.com

Web: www.dukelabs.com

Client Sample No. ConEd Bronx Boring 54C		
--	--	--

Depth: 71.5' to 72.0' [Run 1C]

Massive, medium-textured whitish-gray variegated calcite and dolomitic marble with tan-, green-, and gray interlayers displaying moderate dips of foliation and compositional layering.



Filename: Sec54C_71.5to72.0_EV207254.jpg

DUKE GEOLOGICAL LABORATORY

36 Fawn Lane

Westbury, NY 11590

Phone: (516) 280-7144

E-Mail: CharlesM@dukelabs.com

Web: www.dukelabs.com

Client Sample No. ConEd Bronx Boring 54C		
--	--	--

Depth: 72.0' to 72.5' [Run 1C]

Massive, medium-textured whitish-gray variegated calcite and dolomitic marble with tan-, green-, and gray interlayers displaying moderate dips of foliation and compositional layering. Mechanical break shown at 72.3'.



Filename: Sec54C_72.0to72.5_EV207255.jpg

DUKE GEOLOGICAL LABORATORY

36 Fawn Lane

Westbury, NY 11590

Phone: (516) 280-7144

E-Mail: CharlesM@dukelabs.com

Web: www.dukelabs.com

Client Sample No. ConEd Bronx Boring 54C		
--	--	--

Depth: 72.5' to 73.0' [Run 1C]

Massive, medium-textured whitish-gray variegated calcite and dolomitic marble with tan-, green-, and gray interlayers displaying moderate dips of foliation and compositional layering. Iron-stained sub-horizontal cross joint in weathered rock zone at 72.95'.



Filename: Sec54C_72.5to73.0_EV207256.jpg

DUKE GEOLOGICAL LABORATORY

36 Fawn Lane

Westbury, NY 11590

Phone: (516) 280-7144

E-Mail: CharlesM@dukelabs.com

Web: www.dukelabs.com

Client Sample No. ConEd Bronx Boring 54C		
--	--	--

Depth: 73.0' to 73.5' [Run 1C]

Massive, medium-textured whitish-gray variegated with tan-, green-, and gray interlayers of calcite and dolomitic marble exhibiting increased mica (phlogopite and sericite) content. Iron-stained weathered zone in rock mass is host to another sub-horizontal joint at 73.1' which displays a thin coating of greenish, presumably microfine grout. Driller's log reports brown water return from 73.5' to 73.8', evidently the result of coring through the weathered joints.



Filename: Sec54C_73.0to73.5_EV207258.jpg

Assessment:

Run 1C (69'-74') of Boring #54C, which was conducted outside of the secant ring, shows an interval of rounded glacial boulders on the top of rock, evidently derived from glacial till given the polymict though locally-derived nature of the clasts. The top of rock, exposes blocky, medium-textured whitish-gray calcite and dolomitic marble with variegated tan-, green-, and gray-colored interlayers rich in phlogopite, sericite, chlorite, pyrite, and diopside. The rock displays moderate dips of foliation and compositional layering and is honed flat at 70.0' depth. The rock mass is blocky and only slightly weathered with only one mechanical break and two iron-stained joints (centered near 73.0') before the end of the run. The lower weathered joint displays a thin coating of green, micro-fine grout. With increasing mica, the run grades downwards into calc-schist (mica+/-diopside calcite marble).

Run 2C (74'-79.2') consists of blocky calc-schist and marble with interlayers of calcite and dolomitic marble and coarse-textured calcite marble. The run is massive with few breaks except for three mechanical breaks (75.4', 77.55', and 78.4' depths) and two natural joints in the very coarse textured calcite marble facies at 76.4' and 77.0' depths. The joint at 76.4' has accepted a very slight trace of green micro-fine grout and the lower one is weathered with iron-staining.

Run 3C (79.2'-84.2') consists of the same blocky rock as noted above and contains two joints at 82.3' depth (with a very slight trace of green micro-fine grout) and at 84.0' depth. Between the joints, a mechanical break at 83.2' is localized in the very coarse textured calcite marble facies. **Run 4C** (84.2'-89.2') is massive and shows a single joint at 84.65' which has accepted a thin trace of green grout.

Thus, boring 54C displays competent rock with an increase in rock mass quality with depth with no voids or pervasive fracturing just outside the secant wall near Secant #54. A minor trace of green micro-fine grout indicates limited communication as a result of grouting efforts.



Analyst: Charles Merguerian, Ph.D.

Filename: Boring 54C Report.doc