



February 13, 2025

Our File Ref.: 240203

Patrice Houle Holdings Inc.
2360 Old Highway 17
Rockland, Ontario K4K 1K7

Attention: Patrice Houle

Subject: **Geotechnical Memorandum to Address City of Ottawa Comments**
Proposed Commercial Development – 524 Lacolle Way, Ottawa ON

Dear Mr. Houle,

LRL Associates Ltd. (LRL) was retained to address the City of Ottawa pertaining to the previously completed Geotechnical Report in support of the Site Plan Control Application. The report was completed by LRL (File # 08222), dated: April 2013.

This memorandum shall be read in conjunction with the above-mentioned, previously completed report.

In order to address the comments, some additional borehole drilling was carried out onsite. These boreholes were drilled on February 4, 2025; using a track mount drill machine.

A total of three (3) boreholes were drilled across the site; and select soil samples were submitted for laboratory analysis.

The approximate location of the boreholes are shown in Figure 1, attached to this report.

Borehole Logs and Laboratory Analyses are also attached for your reference.

Please see below the responses in red to the City of Ottawa comments:

Comment #14: Please update the Trees section to reflect the City of Ottawa's Tree Planting in Sensitive Marine Clay Soils guidelines:

The Plasticity Index (PI) of the cohesive soils onsite are less than 40%. This confirms the site is considered a low-medium sensitive area for tree planting; as outlined in the "Tree Planting in Sensitive Marine Clay Soils – 2017 Guidelines" document.

Large trees (mature height greater than 14 m) may be planted onsite if the setback distance to the foundation is at least equal to the mature tree height.

Small (7.5 m mature tree height) to medium (7.5 – 14 m mature tree height) trees may be planted onsite provided they are set back a minimum of 4.5 m from the foundation if the following conditions are met:

- The USF is 2.1 m or greater below the lowest finished grade.



- A small tree must have a minimum of 25 m³ of available soil volume, and a medium tree must be provided with a minimum of 30 m³ of available soil volume as determined by a landscape architect.
- Foundation walls are reinforced with two (2) upper and two (2) lower 15M rebar.
- Grading surrounding the tree must promote draining to the tree root zone.

Furthermore, no trees of any size may be planted within the 4.5 m setback.

Comment #15: Please discuss potential geotechnical impacts to neighboring properties based on the nature of the proposed development:

Considering the proposed building's proximity to property lines/adjacent structures, and the proposed depths of excavations, there are no potential impacts to neighbouring properties from a geotechnical perspective.

Comment #16: Please provide more discussion on the estimated groundwater table for the site, as this could have significant implications on the site infrastructure design:

As part of the additional boreholes drilled onsite, piezometers were installed in BH1 and BH3 to measure the static groundwater level. The piezometers consisted of 19 mm diameter PVC pipe with slotted bottoms to allow for groundwater infiltration. These were backfilled with silica sand, and sealed with bentonite.

The groundwater was measured on February 12, 2025; and found to be at 3.72 m and 4.94 m in BH1 and BH3 respectively.

We believe the above will be satisfactory for your needs at this present time. If we may be of any more assistance to you, please don't hesitate to reach out to the undersigned.

Yours truly,
LRL Associates Ltd.



Brad Johnson, P.Eng.
Geotechnical Engineer

Attached: Borehole Locations – Figure 1
Borehole Logs
Laboratory Analyses





ENGINEERING | INGÉNIERIE

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PROJECT

GEOTECHNICAL INVESTIGATION
PROPOSED WAREHOUSE DEVELOPMENT
524 LACOLLE WAY,
OTTAWA, ONTARIO

DRAWING TITLE

BOREHOLE LOCATION
SOURCE: GOOGLE AERIAL VIEW

CLIENT

PATRICE HOULE HOLDINGS INC.

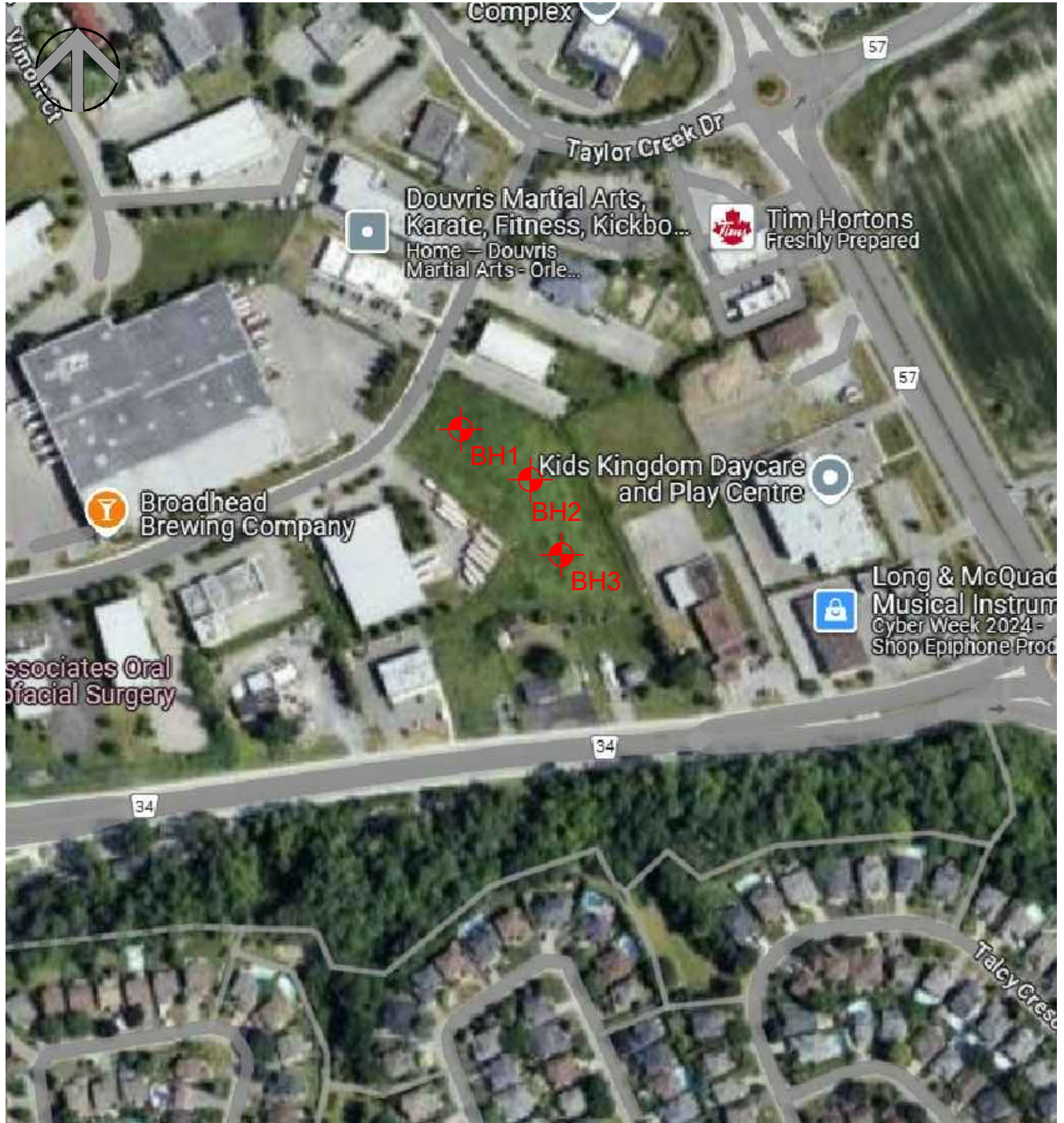
DATE

FEBRUARY 2025

PROJECT

240203

FIGURE 1





Project No.: 240203
Client: Patrice Houle Holdings Inc.
Date: February 4, 2025

Borehole Log: BH-1

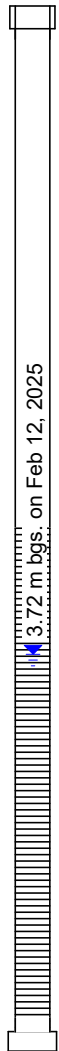
Project: Proposed Commercial Development
Location: 524 Lacolle Way, Ottawa ON
Field Personnel: KB

Driller: George Downing Estate Drilling.

Drilling Equipment: Track Mount CME 75

Drilling Method: Hollow Stem Auger

SUBSURFACE PROFILE		SAMPLE DATA					Shear Strength (kPa)	Water Content (%)	Water Level (Standpipe or Open Borehole)					
Depth ft / m	Soil Description	Elev./Depth(m)	Lithology	Type	Sample Number	N or RQD	Recovery (%)	50		150	25	50	75	
								SPT N Value (Blows/0.3 m)		Liquid Limit (%)				
								20	40	60	80	25	50	75
0	Ground Surface	57.80												
0	TOPSOIL About 300 mm thick.	0.00												
1	FILL MATERIAL silt-sand-clay, some organic material, wood debris, greyish brown, moist, compact.	57.50			SS1	16	100	16				35		
2		0.30												
3					SS2	16	20	16						
4														
5	SILTY CLAY grey, stiff to soft, moist.	56.35			SS3	9	100	9				41		
6		1.45												
7					SS4	3	100	3					72	
8														
9					SS5	3	100	3					70	
10														
11														
12	SILT AND CLAY grey, soft to very soft, moist	54.14												
13		3.66												
14														
15														
16					SS6	3	92	3					64	
17														
18														
19														
20														
21					SS7	2	100	2						70
22														
	End of Borehole	51.09												
		6.71												



Easting: 462332 **Northing:** 5037513
Site Datum: Site Benchmark
Groundsurface Elevation: 57.80 m **Top of Riser Elev.:** 59.00
Hole Diameter: 200mm

NOTES:



Project No.: 240203
Client: Patrice Houle Holdings Inc.
Date: February 4, 2025

Borehole Log: BH-2
Project: Proposed Commercial Development
Location: 524 Lacolle Way, Ottawa ON
Field Personnel: KB

Driller: George Downing Estate Drilling.

Drilling Equipment: Track Mount CME 75

Drilling Method: Hollow Stem Auger

SUBSURFACE PROFILE		SAMPLE DATA						Shear Strength (kPa)	Water Content (%)	Water Level (Standpipe or Open Borehole)				
Depth	Soil Description	Elev./Depth (m)	Lithology	Type	Sample Number	N or RQD	Recovery (%)	50	150		25	50	75	
								SPT N Value (Blows/0.3 m)			Liquid Limit (%)			
								20	40	60	80	25	50	75
0	Ground Surface	58.35												
0	TOPSOIL About 300 mm thick.	0.00												
1	SILTY CLAY grey, very stiff to very soft, moist.	58.05			SS1	18	86	18				46		
2		0.30												
3					SS2	17	92	17				34		
4														
5					SS3	9	92	9				47	66	
6	SILT AND CLAY grey, very soft, moist													
7					SS4	3	100	3				47		
8														
9														
10					SS5	WH	100	100	0				70	
11			54.69											
12			3.66											
13								32						
14														
15														
16					SS6	2	100	2				71		
17														
18														
19														
20														
21					SS7	1	100	1				67		
22	End of Borehole	51.64												
		6.71												

Easting: 462361

Northing: 5037491

Site Datum: Site Benchmark

Groundsurface Elevation: 58.35 m

Top of Riser Elev.: NA

Hole Diameter: 200mm

NOTES:



Project No.: 240203
Client: Patrice Houle Holdings Inc.
Date: February 4, 2025

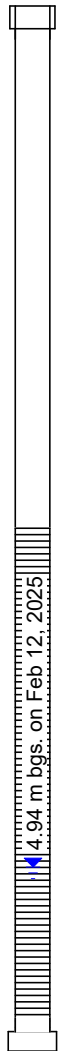
Borehole Log: BH-3
Project: Proposed Commercial Development
Location: 524 Lacolle Way, Ottawa ON
Field Personnel: KB

Driller: George Downing Estate Drilling.

Drilling Equipment: Track Mount CME 75

Drilling Method: Hollow Stem Auger

SUBSURFACE PROFILE		SAMPLE DATA						Shear Strength (kPa)	Water Content (%)	Water Level (Standpipe or Open Borehole)				
Depth	Soil Description	Elev./Depth(m)	Lithology	Type	Sample Number	N or RQD	Recovery (%)	50	150		25	50	75	
								SPT N Value (Blows/0.3 m)			Liquid Limit (%)			
								20	40	60	80	25	50	75
0	Ground Surface	58.80												
0	TOPSOIL About 300 mm thick.	0.00												
1	SILTY CLAY brownish grey, stiff to very soft, moist.	58.50			SS1	20	67	20						71
2		0.30												
3					SS2	13	75	13			32			
4					SS3	12	75	12				37		
5					SS4	5	100	5					45	
6	SILT AND CLAY grey, very soft, moist	55.14			SS5	2	100	2						60
7		3.66												
8														
9														
10														
11														
12														
13								38						
14														
15														
16					SS6	WH	100	0						68
17														
18														
19								50+						
20														
21					SS7	1	100	1						72
22	End of Borehole	52.09												
		6.71												



Easting: 462390
Site Datum: Site Benchmark
Groundsurface Elevation: 58.80 m
Hole Diameter: 200mm
Northing: 5037455
Top of Riser Elev.: 60.00 m

NOTES:



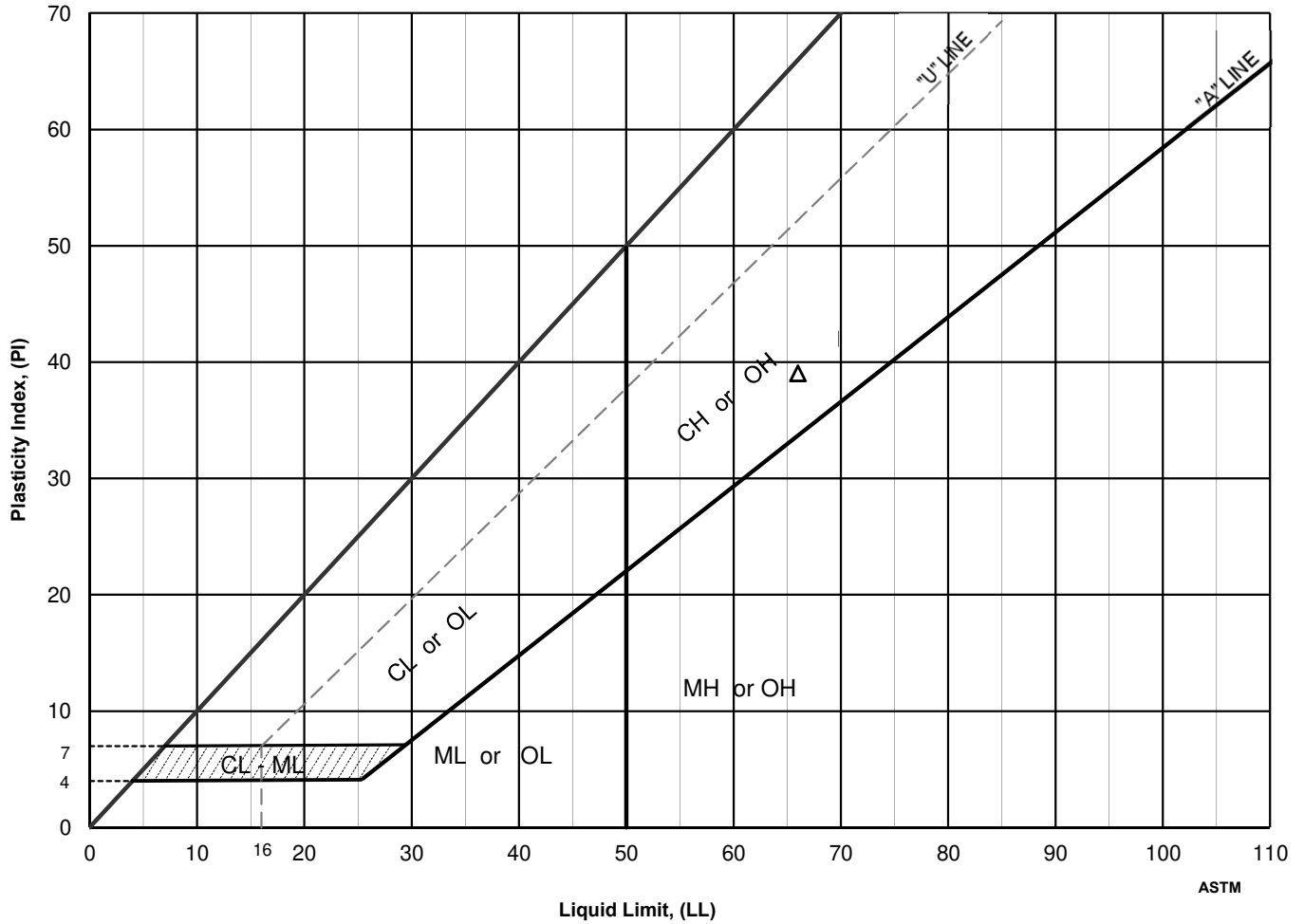
Plasticity Index

ASTM D 4318 / LS-703/704

Client: Patrice Houle Holdings Inc.
 Project: Geotechnical Investigation
 Location: 524 Lacolle Way, Ottawa, ON.

File No.: 240203
 Report No.: 1
 Date: February 4, 2025

Plasticity Chart



Location	Sample	Depth, m	Moisture Content, %	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Activity Number	USCS
△ BH 2	SS-3	1.52 - 2.13	47	66	27	39	0.51	n/d	CH





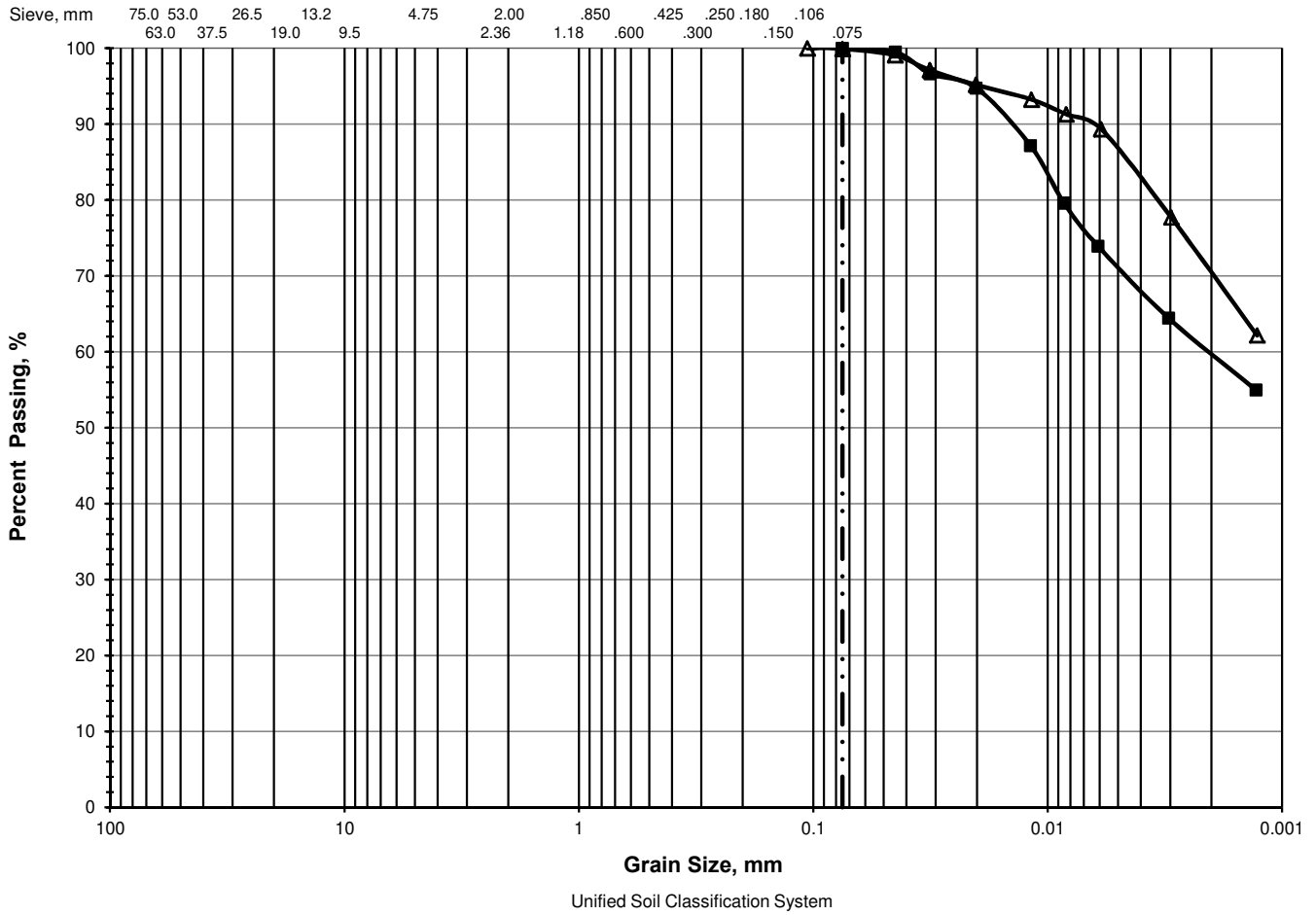
LRL Associates Ltd.

Particle Size Analysis

ASTM D 422 / LS-702

Client: Patrice Houle Holdings Inc.
Project: Geotechnical Investigation
Location: 524 Lacolle Way, Ottawa, ON.

File No.: 240203
Report No.: 2
Date: February 4, 2025



> 75 mm	% GRAVEL		% SAND			% FINES	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
△	0.0	0.0	0.0	0.0	0.1	31.1	68.8
■	0.0	0.0	0.0	0.0	0.0	41.2	58.8

Location	Sample	Depth, m	D ₆₀	D ₅₀	D ₃₀	D ₁₅	D ₁₀	C _c	C _u
△	BH 1	SS-3	1.52 - 2.13						
■	BH 3	SS-6	4.57 - 5.18	0.0022					

