An Exelon Company

Appendix O

USGS Lithologic Core and Regional Profile

Project Anacostia Ground Water
Site name DCHP01
Latitude / Longitude 38° 54' 05.8" / 076° 57' 34.2"
Land-surface elevation 2.75 feet (ft) above sea level
Total depth 30.5 ft below land surface

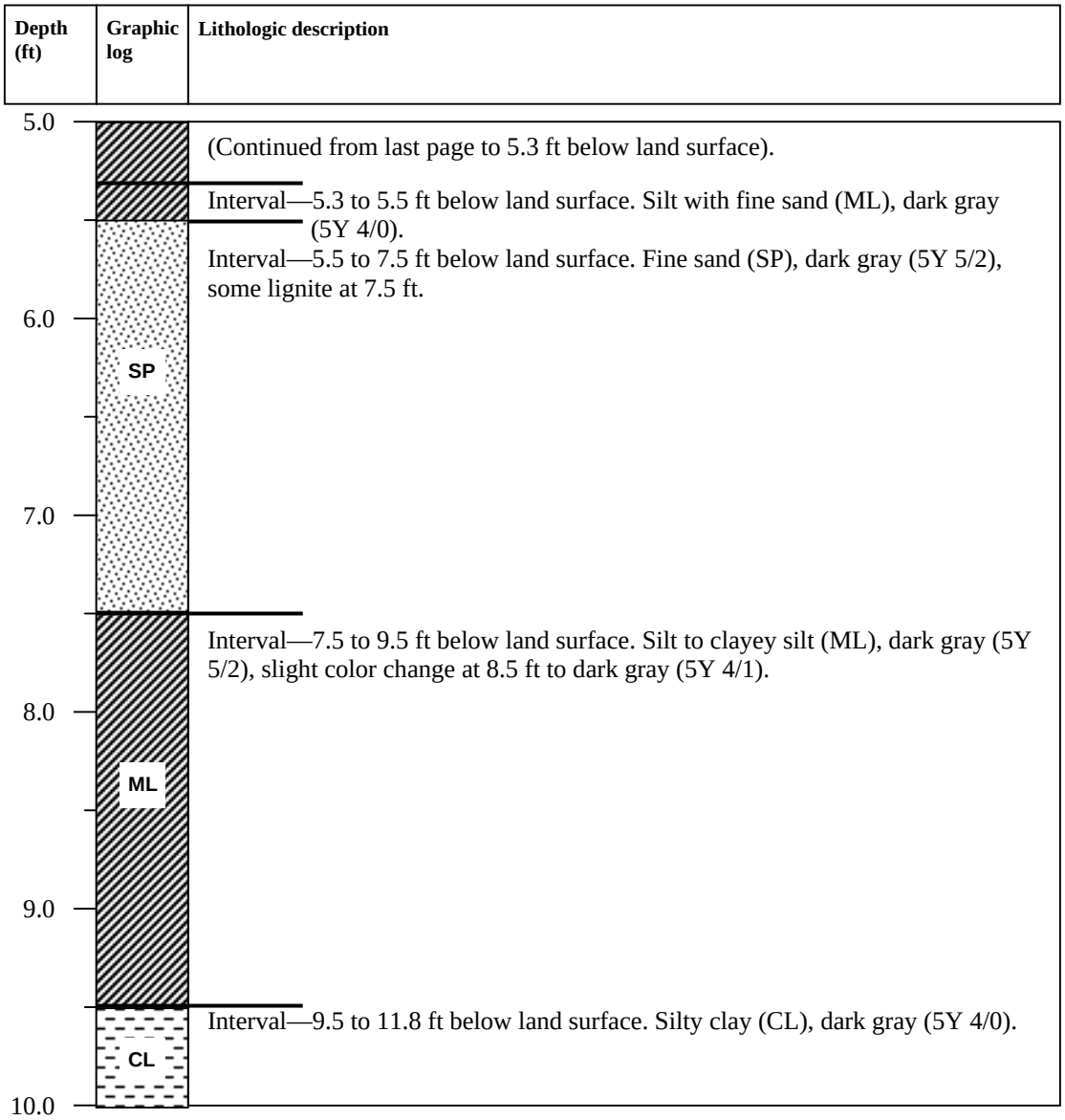
Date drilled 7/2/2002
Date described 7/15/2002
Described by Phelan / Tenbus
Interval 0.0 to 5.0 ft
Drilling method Vibracore

Remarks: Site was on a mud flat on the eastern bank of the Anacostia River in Washington, D.C., north of the Benning bridge. Land-surface elevation was estimated from tide table and visual observations at the time of drilling. Vibracore method can cause compaction or stretching of cores; accuracy of depths in the descriptions is estimated to be ± 0.3 ft. Core from 0 to 11.8 ft is archived in core box 1.

Depth (ft)	Graphic log	Lithologic description
0 – 3.1	ML	Interval—0.0 to 3.1 ft below land surface. Clayey silt (ML), dark greenish gray (5Y 4/1), with thin, nearly black streaks of organic silt (OL) from 0.3 to 1.5 ft.
3.1 – 4.0	OL	Interval—3.1 to 4.0 ft below land surface. Organic silt (OL), very dark gray (2.5Y 3/0), soft, seems to have a faint organic or petroleum odor.
4.0 – 5.3	ML	Interval—4.0 to 5.3 ft below land surface. Clayey silt (ML), dark gray (5Y 4/0).

Project	Anacostia Ground Water	**Date drilled**	7/2/2002
Site name	DCHP01	**Date described**	7/15/2002
Latitude / Longitude	38° 54’ 05.8” / 076° 57’ 34.2”	**Described by**	Phelan / Tenbus
Land-surface elevation	2.75 ft above sea level	**Interval**	5.0 to 10.0 ft
Total depth	30.5 ft below land surface	**Drilling method**	Vibracore

Remarks: Site was on a mud flat on the eastern bank of the Anacostia River in Washington, D.C., north of the Benning bridge. Land-surface elevation was estimated from tide table and visual observations at the time of drilling. Vibracore method can cause compaction or stretching of cores; accuracy of depths in the descriptions is estimated to be ± 0.3 ft. Core from 0 to 11.8 ft is archived in core box 1.



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Date drilled 7/2/2002
Date described 7/15/2002
Described by Phelan / Tenbus
Interval 10.0 to 15.0 ft
Drilling method Vibracore

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Depth (ft)	Graphic log	Lithologic description
10.0		(Continued from last page to 11.8 ft below land surface).
	CL	
11.0		
		Interval—11.8 to 12.0 ft below land surface. Sandy clay (SC), same as above with medium sand.
	SC	
12.0		Interval—12.0 to 13.5 ft below land surface. Silty clay (CL), gray (5Y 6/0), stiff, with a gradual transition to very stiff from 13.0 to 13.5 ft.
	CL	
13.0		
		Interval—13.5 to 18.0 ft below land surface. Silty clay (CL), marbled olive and brown, dry, very stiff, becomes hard clay from 17.9 to 18.0 ft.
14.0	CL	
15.0		

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Date drilled 7/2/2002
Date described 7/15/2002
Described by Phelan / Tenbus
Interval 15.0 to 20.0 ft
Drilling method Vibracore

Remarks: Site was on a mud flat on the eastern bank of the Anacostia River in Washington, D.C., north of the Benning bridge. Land-surface elevation was estimated from tide table and visual observations at the time of drilling. Vibracore method can cause compaction or stretching of cores; accuracy of depths in the descriptions is estimated to be ± 0.3 ft. Core from11.8 to 18.0 ft is archived in core box 2; core from 18.0 to 27.5 ft is archived in core box 3.

Depth (ft)	Graphic log	Lithologic description
15.0		(Continued from last page to 18.0 ft below land surface).
16.0	CL	
17.0		
18.0		Interval—18.0 to 19.8 ft below land surface. Clay (CL), gray (5Y 6/0), medium stiff.
	CL	
19.0		
	GM	Interval—19.8 to 24.5 ft below land surface. (See description next page).
20.0		

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Date drilled 7/2/2002
Date described 7/15/2002
Described by Phelan / Tenbus
Interval 20.0 to 25.0 ft
Drilling method Vibracore

Remarks: Site was on a mud flat on the eastern bank of the Anacostia River in Washington, D.C., north of the Benning bridge. Land-surface elevation was estimated from tide table and visual observations at the time of drilling. Vibracore method can cause compaction or stretching of cores; accuracy of depths in the descriptions is estimated to be ± 0.3 ft. Core from 18.0 to 27.5 ft is archived in core box 3.

Depth (ft)	Graphic log	Lithologic description
20.0		
	GM	(continued from last page to 24.5 ft below land surface). Gravel, sand, and silt mixture (GM), variegated color, top is reddish yellow (7.5 YR 6/8), color changes to pale olive (5Y 6/3) from 21.0 to 24.5 ft. Contains cobbles as large as 60 millimeters in diameter.
21.0		
22.0		
23.0		
24.0		
	SC	Interval—24.5 to 24.8 ft below land surface. Sandy clay (SC), variegated.
	GC	Interval—24.8 to 25.0 ft below land surface. Clay, sand, and gravel mix (GC), light yellowish brown (2.5Y 6/4), gravel sizes to 25 millimeters.
25.0		

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Date drilled 7/2/2002
Date described 7/15/2002
Described by Phelan / Tenbus
Interval 25.0 to 30.5 ft
Drilling method Vibracore

Remarks: Site was on a mud flat on the eastern bank of the Anacostia River in Washington, D.C., north of the Benning bridge. Land-surface elevation was estimated from tide table and visual observations at the time of drilling. Vibracore method can cause compaction or stretching of cores; accuracy of depths in the descriptions is estimated to be ± 0.3 ft. Core from 18.0 to 27.5 ft is archived in core box 3; core from 27.5 to 30.5 ft is in core box 4.

Depth (ft)	Graphic log	Lithologic description
25.0	SC	Interval—25.0 to 26.5 ft below land surface. Sandy clay (SC), pale olive (5Y 6/2).
26.0		
	SP	Interval—26.5 to 29.5 ft below land surface. Poorly graded fine sand (SP), pale olive (5Y 6/2).
27.0		
28.0		
29.0		
	CL	Interval—29.5 to 30.5 ft below land surface. Clay (CL), red and olive marbled, very stiff.
30.0		BOH at 30.5 ft below land surface.

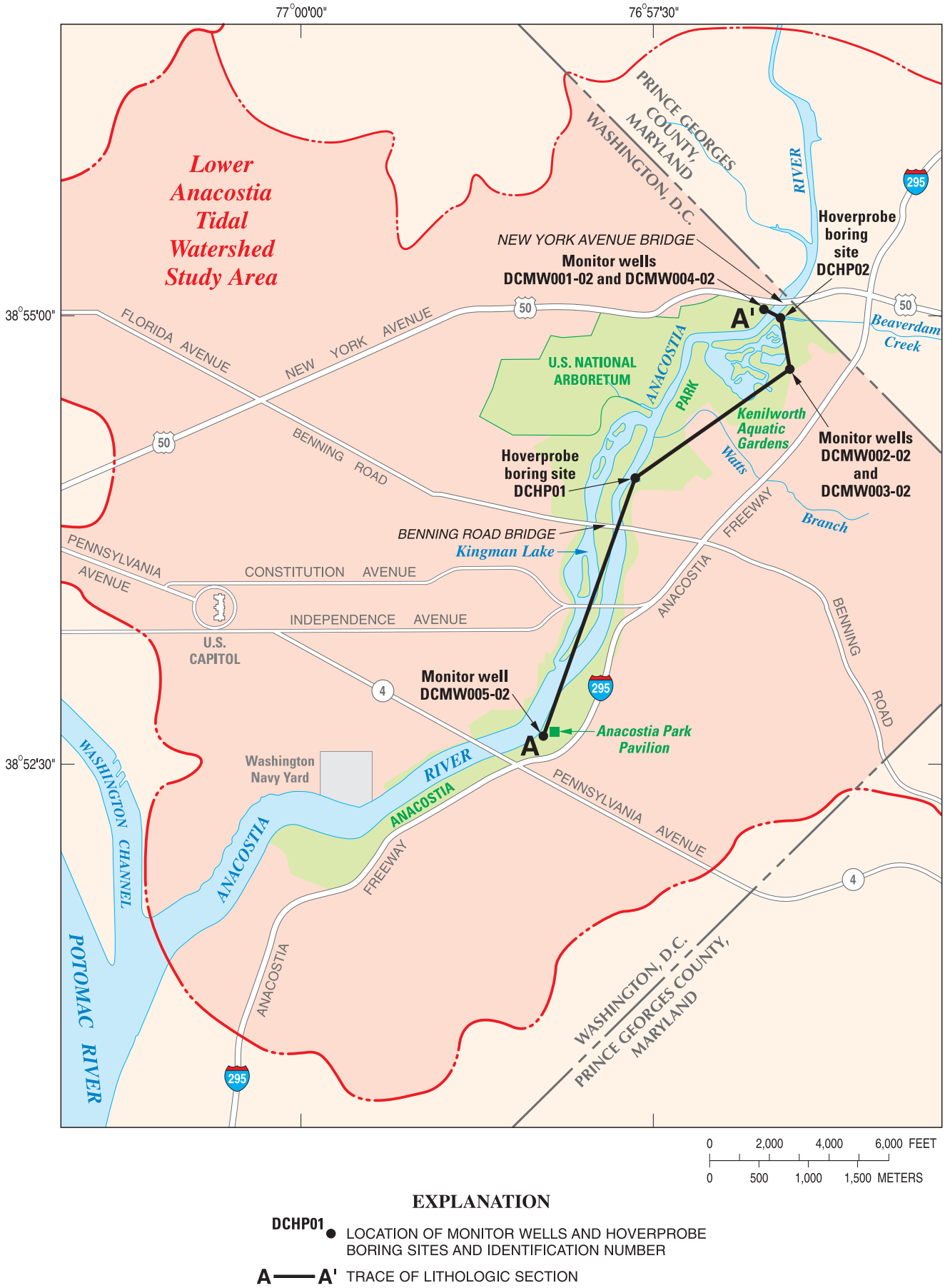
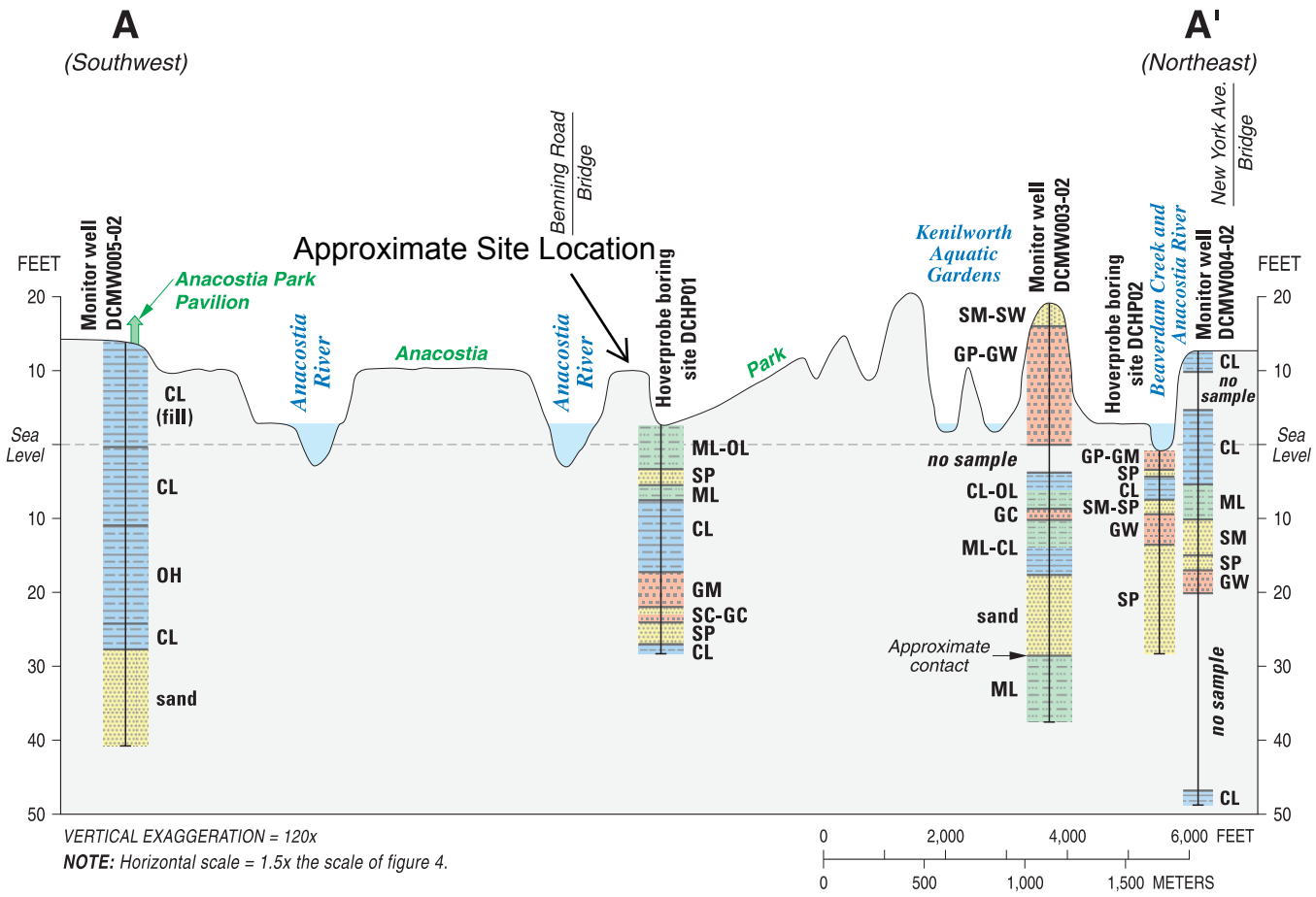


Figure 4. Location of monitor wells, hoverprobe boring sites, and trace of lithologic section A-A' along the Anacostia River, Washington, D.C., July 2002.



EXPLANATION

DCHP01

MONITOR WELL OR HOVERPROBE BORING SITE AND IDENTIFICATION NUMBER

STRATIGRAPHIC CONTACT

UNIFIED SOIL CLASSIFICATION SYSTEM

SYMBOL AND MAJOR DIVISION	LETTER	DESCRIPTION
GRAVEL	GP	Poorly graded gravel
	GW	Well graded gravel
	GM	Silty gravel
	GC	Clayey gravel
SAND	SP	Poorly graded sand
	SW	Well graded sand
	SM	Silty sand
	SC	Clayey sand
SILT	ML	Inorganic silt, very fine sand, and clayey silt
	OL	Organic silt and organic clayey silt
CLAY	CL	Inorganic clay, silty clay, and sandy clay
	OH	Organic clay

Figure 7. Lithologic section A-A' along the Anacostia River, Washington, D.C.