APPENDIX E

MARCH 15, 2018 WORK PLAN TABLE 1: RATIONALE FOR SAMPLING LOCATIONS

Table 1 Armed Forces Retirement Home (AFRH) - Main Campus - Buildings 46 and 76 Work Plan for Additional Phase II Environmental Site Assessment (ESA) Rationale for Sampling Locations

	Location	Sampling	Planned SB/Well/	Co-Located	Planned Sampling			Rationale for Sample				Ana	lyses			
Task *	ID	Location Type	VMP Depth (ft BG)	Sampling Location	Location	Rationale for Planned Sampling Location	Sample Type	Collection Depth	VOCs	PAHs	ТРН- С7-С12	TPH- GRO	TPH- DRO	TPH- ORO	RCRA 8 Metals	PCBs
							Subsurface Soil	Highest PID or depth of 5 feet $BG^{(1)}$.	Х	-	Х	-	-	-	-	-
2	SB-01	Geoprobe® DPT soil boring	50	NA	Adjacent to SV-35.	Investigate naphthalene and TPH detections in SV-35 and naphthalene detection in MACTEC soil boring G46-1.	Subsurface Soil	Depth of 3 feet BG to evaluate possible impact to soil from the tar base layer.	-	Х	-	-	-	-	-	-
							Tar Base Layer	To evaluate the contents of the tar base layer.	-	Х	-	-	-	-	-	-
2	SB-02	Geoprobe® DPT or Hand Auger soil boring	TBD	NA	Adjacent to SV-26.	Investigate PCE detection in SV-26 and along the path of waste water discharge from the former laundry and dry cleaning plant. (Note waste water discharge at this location was via piping that ran below the ceiling of the basement.)	Subsurface Soil	Highest PID or depth of 5 feet BG ⁽¹⁾ .	х	-	-	-	-	-	-	-
2	SB-03	Geoprobe® DPT soil boring	50	NA	Adjacent to SV-12.	Investigate PCE detection in SV-12 and near the manhole where waste water discharge from the former laundry and dry cleaning plant entered the sanitary sewer line. The base of the manhole located near SV-12 is at a depth of approximately 10 feet BG.	Subsurface Soil	Highest PID or depth of 10 feet BG ⁽¹⁾ .	X	-	-	-	-	-	-	-
2	SB-04	Geoprobe® DPT soil boring	50	NA	Adjacent to SV-29.	Investigate PCE detections in SV-28 and SV-29.	Subsurface Soil	Highest PID or depth of 5 feet BG ⁽¹⁾ .	Х	-	-	-	-	-	-	-
2	SB-05	Geoprobe® DPT soil boring	50	NA	West of SB-06.	Investigate PCE detections in SV-28 and SV-29.	Subsurface Soil	Highest PID or depth of 5 feet BG ⁽¹⁾ .	X	-	-	-	-	-	-	-
2	SB-06	Geoprobe® DPT soil boring	50	NA	Between SV-28 and SV- 29.	Investigate PCE detections in SV-28 and SV-29.	Subsurface Soil and Duplicate Sample	Highest PID or depth of 5 feet BG ⁽¹⁾ .	X	-	-	-	-	-	-	-
		Cassesha@ DDT					Subsurface Soil	Highest PID or depth of 5 feet $BG^{(1)}$.	Х	-	-	-	-	-	-	-
2	SB-07	soil boring	50	W46-2	Adjacent to SV-28.	Investigate PCE detections in SV-28 and SV-29.	Subsurface Soil	Depth of 3 feet BG to evaluate possible impact to soil from the tar base layer.	; _	Х	-	-	-	-	-	-
2/3	SB-11	Geoprobe® DPT soil boring	50	W46-3	Adjacent to SV-15.	Investigate TPH detection in SV-15 and along the path of the sanitary sewer line.	Subsurface Soil	See entry under Task 3	See entry under Task 3	-	See entry under Task 3	-	-	-	-	-
2	SB-12	Geoprobe® DPT soil boring	50	W71-1	Southwest of Building 71 and downgradient of Building 46A.	Investigate conditions downgradient of Building 46A and along the path of the sanitary sewer line.	Subsurface Soil	Highest PID, above groundwater, or bottom of boring.	X	-	-	-	-	-	-	-
2	SB-13	Geoprobe® DPT soil boring	50	W71-2	Southeast of Building 71.	Investigate conditions between Building 46A/monitoring well W46-1 and monitoring well W72-1.	Subsurface Soil	Highest PID, above groundwater, or bottom of boring.	х	-	-	-	-	-	-	-
2	SB-14	Geoprobe® DPT soil boring	50	NA	Adjacent to SV-06.	Investigate TPH detection in SV-06.	Subsurface Soil	Highest PID or depth of 5 feet BG ⁽¹⁾ .	X	-	Х	-	-	-	-	-
2	W46-1	Existing Groundwater Monitoring Well	NA	NA	NA	NA	Groundwater	Sample to be collected from perched groundwater zone as per existing well construction.	х	-	-	-	-	-	-	-
2	W72-1	Existing Groundwater Monitoring Well	NA	NA	NA	NA	Groundwater	Sample to be collected from deeper groundwater zone as per existing well construction.	x	-	-	-	-	-	-	-
2	W46-2	Groundwater Monitoring Well	65	SB-07	Adjacent to SV-28.	Investigate perched groundwater conditions immediately southwest of Building 46A and in the vicinity of in SV-28 and SV-29.	Groundwater and Duplicate Sample	Sample to be collected from perched groundwater zone if encountered within 65 feet BG.	X	-	-	-	-	-	-	-

Table 1 Armed Forces Retirement Home (AFRH) - Main Campus - Buildings 46 and 76 Work Plan for Additional Phase II Environmental Site Assessment (ESA) Rationale for Sampling Locations

T 1 *	Location	Sampling	Planned SB/Well/	Co-Located	Planned Sampling			Rationale for Sample	Analyses VOCs PAHs TPH- TPH- TPH-							
Task *	ID	Location Type	VMP Depth (ft BG)	Sampling Location	Location	Rationale for Planned Sampling Location	Sample Type	Collection Depth	VOCs	PAHs	ТРН- С7-С12	TPH- GRO	TPH- DRO	TPH- ORO	RCRA 8 Metals	PCBs
2	W46-3	Groundwater Monitoring Well	65	SB-11	Adjacent to SV-15.	Investigate perched groundwater conditions immediately south of Building 46A and along the path of the sanitary sewer line.	Groundwater	Sample to be collected from perched groundwater zone if encountered within 65 feet BG.	Х	-	-	-	-	-	-	-
2	W71-1	Groundwater Monitoring Well	65	SB-12	Southwest of Building 71 and downgradient of Building 46A.	Investigate perched groundwater conditions downgradient of Building 46A and along the path of the sanitary sewer line.	Groundwater	Sample to be collected from perched groundwater zone if encountered within 65 feet BG.	Х	-	-	-	-	-	-	-
2	W71-2	Groundwater Monitoring Well	65	SB-13	Southeast of Building 71.	Investigate perched groundwater conditions between Building 46A/monitoring well W46-1 and monitoring well W72-1.	Groundwater	Sample to be collected from perched groundwater zone if encountered within 65 feet BG.	Х	-	-	-	-	-	-	-
2	VMP-01	Sub-Slab Vapor Monitoring Point	0.5	SB-02	Adjacent to SV-26.	Investigate PCE detection in SV-26 and along the path of waste water discharge from the former laundry and dry cleaning plant. (Note waste water discharge at this location was via piping that ran below the ceiling of the basement.)	Sub-Slab Vapor	NA	Х	-	-	_	-	-	-	-
2	VMP-02	Soil Vapor Monitoring Point	3	SB-03	Adjacent to SV-12.	Investigate PCE detection in SV-12 and near the manhole where waste water discharge from the former laundry and dry cleaning plant entered the sanitary sewer line.	Soil Vapor	NA	Х	-	-	-	-	-	-	-
2	VMP-03	Soil Vapor Monitoring Point	3	SB-06	Between SV-28 and SV-29.	Investigate PCE detections in SV-28 and SV-29.	Soil Vapor and Duplicate Sample	NA	Х	-	-	-	-	-	-	-
2	VMP-04	Sub-Slab Vapor Monitoring Point	0.5	NA	Inside building opposite of VMP-02.	Investigate conditions inside basement of building opposite of VMP-02.	Sub-Slab Vapor	NA	Х	-	-	-	-	-	-	-
2	VMP-05	Sub-Slab Vapor Monitoring Point	0.5	NA	Inside building opposite of VMP-03.	Investigate conditions inside basement of building opposite of VMP-03. (Note: VMP-03 is at street level, adjacent to second story of the building.)	Sub-Slab Vapor	NA	Х	-	-	-	-	-	-	-
2	VMP-06	Sub-Slab Vapor Monitoring Point	0.5	NA	Inside building south of VMP-01.	Investigate conditions inside basement of building between VMP-01 and VMP-02.	Sub-Slab Vapor	NA	Х	-	-	-	-	-	-	-
3	SB-08	Geoprobe® DPT soil boring	25	NA	West of USTs	Investigate conditions surrounding the USTs at Building 46A.	Subsurface Soil	Highest PID, depth of bottom of USTs (8 feet BG), or depth of refusal.	Х	-	Х	-	-	-	-	-
3	SB-09	Geoprobe® DPT soil boring	25	NA	North of USTs	Investigate conditions surrounding the USTs at Building 46A.	Subsurface Soil and Duplicate Sample	Highest PID, depth of bottom of USTs (8 feet BG), or depth of refusal.	Х	-	х	-	-	-	-	-
3	SB-10	Geoprobe® DPT soil boring	25	NA	East of USTs	Investigate conditions surrounding the USTs at Building 46A.	Subsurface Soil	Highest PID, depth of bottom of USTs (8 feet BG), or depth of refusal.	Х	-	Х	-	-	-	-	-
2/3	SB-11	Geoprobe® DPT soil boring	50	W46-3	South of USTs	Investigate conditions surrounding the USTs at Building 46A.	Subsurface Soil	Highest PID, depth of bottom of USTs (8 feet BG), or depth of refusal.	Х	-	х	-	-	-	-	-
							Surface Soil (immediately below concrete)	Possible location for surface soil evaluation	-	TBD	-	-	TBD	TBD	-	TBD
4	SB-76-01	Geoprobe [®] DPT	25	NA	West of northern lift.	Investigate conditions surrounding the hydraulic lifts at Building 76 and TPH- DRO detection in MACTEC soil boring G76.2	Subsurface Soil	Above contamination or depth of 5 feet BG.	-	-	-	-	Х	Х	-	-
		son ooning				Die Geochon in Machine Soli Johnig C/U-2.	Subsurface Soil	Highest PID or depth of 10 feet BG.	-	-	-	-	Х	Х	Х	-
							Subsurface Soil	Below contamination or depth of 15 feet BG.	-	-	-	-	Х	Х	-	-

Table 1 Armed Forces Retirement Home (AFRH) - Main Campus - Buildings 46 and 76 Work Plan for Additional Phase II Environmental Site Assessment (ESA) Rationale for Sampling Locations

— 1.	Location	Sampling	Planned SB/Well/	Co-Located	Planned Sampling		Rationale for Planned Sampling Location Sample Type Rat C Surface Soil Default					Ana	lyses			
Task ·	ID	Location Type	VMP Depth (ft BG)	Sampling Location	Location	Rationale for Planned Sampling Location			VOCs	PAHs	ТРН- С7-С12	TPH- GRO	TPH- DRO	TPH- ORO	RCRA 8 Metals	PCBs
							Surface Soil (immediately below concrete)	Default location for surface soil evaluation	-	Х	-	-	Х	Х	-	Х
4	SB-76-02	Geoprobe® DPT	25	NA	East of northern lift.	Investigate conditions surrounding the hydraulic lifts at Building 76 and TPH-	Subsurface Soil	Above contamination or depth of 5 feet BG.	-	-	-	-	Х	Х	-	-
		son boring				DRO detection in MACTEC son borning 670-2.	Subsurface Soil	Highest PID or depth of 10 feet BG.	-	-	-	-	Х	Х	Х	-
							Subsurface Soil	Below contamination or depth of 15 feet BG.	-	-	-	-	Х	Х	-	-
							Surface Soil (immediately below concrete)	Possible location for surface soil evaluation	-	TBD	-	-	TBD	TBD	-	TBD
4	SB-76-03	Geoprobe [®] DPT	25	NA	South of northern lift.	Investigate conditions surrounding the hydraulic lifts at Building 76 and TPH- DPO detection in MACTEC soil baring G76.2	Subsurface Soil	Above contamination or depth of 5 feet BG.	-	-	-	-	Х	Х	-	-
		son bornig				DRO detection in MACTEC son borning 070-2.	Subsurface Soil	Highest PID or depth of 10 feet BG.	-	-	-	-	Х	Х	Х	-
							Subsurface Soil	Below contamination or depth of 15 feet BG.	-	-	-	-	Х	Х	-	-
							Surface Soil (immediately below concrete)	Possible location for surface soil evaluation	-	TBD	-	-	TBD	TBD	-	TBD
4	SB-76-04	Geoprobe [®] DPT	25	NA	West of central lift.	Investigate conditions surrounding the hydraulic lifts at Building 76 and TPH-	Subsurface Soil	Above contamination or depth of 5 feet BG.	-	-	-	-	Х	Х	-	-
		soll boring		INA		DRO detection in MACTEC soil boring G/6-3.	Subsurface Soil	Highest PID or depth of 10 feet BG.	-	-	-	-	Х	Х	Х	-
							Subsurface Soil	Below contamination or depth of 15 feet BG.	-	-	-	-	Х	Х	-	-
							Surface Soil (immediately below concrete)	Default location for surface soil evaluation	-	Х	-	-	Х	Х	-	Х
4	SB-76-05	Geoprobe® DPT	25	NA	South of central lift.	Investigate conditions surrounding the hydraulic lifts at Building 76 and TPH-	Subsurface Soil	Above contamination or depth of 5 feet BG.	-	-	-	-	Х	Х	-	-
		soll boring				DRO detection in MACTEC soil boring G/6-3.	Subsurface Soil	Highest PID or depth of 10 feet BG.	-	-	-	-	Х	Х	Х	-
							Subsurface Soil	Below contamination or depth of 15 feet BG.	-	-	-	-	Х	Х	-	-
							Surface Soil (immediately below concrete)	Default location for surface soil evaluation	-	х	-	-	Х	Х	-	Х
4	SB-76-06	Geoprobe [®] DPT	25	NA	Center of central lift.	Investigate conditions surrounding the hydraulic lifts at Building 76 and TPH-	Subsurface Soil	Above contamination or depth of 5 feet BG.	-	-	-	-	Х	Х	-	-
		soil boring				DRO detection in MACTEC soil boring G/6-3.	Subsurface Soil	Highest PID or depth of 10 feet BG.	-	-	-	-	Х	Х	Х	-
							Subsurface Soil	Below contamination or depth of 15 feet BG.	-	-	-	-	Х	Х	-	-

Table 1 Armed Forces Retirement Home (AFRH) - Main Campus - Buildings 46 and 76 Work Plan for Additional Phase II Environmental Site Assessment (ESA) **Rationale for Sampling Locations**

Tools *	Location	Sampling	Planned SB/Well/	Co-Located	Planned Sampling	Dationals for Diamod Compling Location	nale for Planned Sampling Location Sample Type Rationale for Collection I					Ana	lyses			
Task *	ID	Location Type	VMP Depth (ft BG)	Location	Location	Rationale for Planned Sampling Location	Sample Type	Collection Depth	VOCs	PAHs	ТРН- С7-С12	TPH- GRO	TPH- DRO	TPH- ORO	RCRA 8 Metals	PCBs
							Surface Soil (immediately below concrete)	Possible location for surface soil evaluation	-	TBD	-	-	TBD	TBD	-	TBD
4	SB-76-07	Geoprobe® DPT	25	NA	West of central lift.	Investigate conditions surrounding the hydraulic lifts at Building 76 and TPH- DPO detection in MACTEC soil boring G76.3	Subsurface Soil	Above contamination or depth of 5 feet BG.	-	-	-	-	Х	Х	-	-
		son ooring				Dico detection in MACTLE son boring 070-5.	Subsurface Soil	Highest PID or depth of 10 feet BG.	-	-	-	-	Х	Х	Х	-
							Subsurface Soil	Below contamination or depth of 15 feet BG.	-	-	-	-	Х	Х	-	-
							Surface Soil (immediately below concrete)	Default location for surface soil evaluation	-	Х	-	-	Х	Х	-	Х
4 SB-76-08 Geoprobe® DPT soil boring	25	NA	East of southern lift.	Investigate conditions surrounding the hydraulic lifts at Building 76.		Above contamination or depth of 5 feet BG.	-	-	-	-	Х	Х	-	-		
	son boring					Subsurface Soil	Highest PID or depth of 10 feet BG.	-	-	-	-	Х	Х	Х	-	
					S	Subsurface Soil	Below contamination or depth of 15 feet BG.	-	-	-	-	Х	Х	-	-	
							Surface Soil (immediately below concrete)	face Soil Possible location for surface mediately soil evaluation ow concrete)	-	TBD	-	-	TBD	TBD	-	TBD
4	SB-76-09	Geoprobe® DPT	25	NA	South of southern lift.	Investigate conditions surrounding the hydraulic lifts at Building 76.	Subsurface Soil	Above contamination or depth of 5 feet BG.	-	-	-	-	Х	Х	-	-
		son boring					Subsurface Soil	Highest PID or depth of 10 feet BG.	-	-	-	-	Х	Х	Х	-
							Subsurface Soil	Below contamination or depth of 15 feet BG.	-	-	-	-	Х	Х	-	-
4 SB-76-10 Geoprol						Surface Soil (immediately below concrete)	Possible location for surface soil evaluation	-	TBD	-	-	TBD	TBD	-	TBD	
	Geoprobe [®] DPT	25	NA	West of southern lift.	Investigate conditions surrounding the hydraulic lifts at Building 76.	Subsurface Soil	Above contamination or depth of 5 feet BG.	-	-	-	-	Х	Х	-	-	
		son boring			West of southern lift. In		Subsurface Soil	Highest PID or depth of 10 feet BG.	-	-	-	-	Х	Х	Х	-
						Subsurface Soil	Below contamination or depth of 15 feet BG.	-	-	-	-	Х	Х	-	-	

* Task Description

Task 2 - Building 46 - Additional Sampling Based on Passive Subsurface Vapor Survey Results

Task 3 - Building 46 - Soil Sampling at Inactive Underground Storage Tanks (USTs)

Task 4 - Building 76 - Soil Sampling to Delineate the Extent of Petroleum Contamination at Hydraulic Lifts

Analytical Methods

VOCs (Volatile Organic Compounds) - Soil and Groundwater: EPA Method 8260 and Vapor: EPA Method TO-15 Low Level.

PAHs (Polycyclic Aromatic Hydrocarbons) - EPA Method 8270.

TPH-C7-12 (Total Petroleum Hydrocarbons - Stoddard Solvent Range Organics) - EPA Method 8015M.

TPH-GRO (TPH - Gasoline Range Organics) - EPA Method 8015M.

TPH-DRO (Diesel Range Organics) - EPA Method 8015M.

TPH-ORO (Oil Range Organics) - EPA Method 8015M.

RCRA (Resource Conservation and Recovery Act) 8 Metals - EPA Method 6020.

PCBs (Polychlorinated Biphenyls) - EPA Method 8082.

Table Notes

BG - Below Grade TBD - To Be Determined DPT - Direct-Push Technology NA - Not Applicable

⁽¹⁾ - Should no PID readings above background levels be detected in a boring, a soil sample will be collected from the specified depth consistent with the goal of evaluating potential source areas.

APPENDIX F

BUILDING 46 – SOIL BORING LOGS

PROJEC	r CG-	17-1111		SOIL BORING LO)G SB-01	PAGE 1 OF 3
PROJECT:	Additiona	al Phase I	I Environ	mental Site Assessment	DATE STARTED: 04/23/2018	
LOCATION:	AFRH - 3	3700 N Ca	pitol St I	NW, Washington, DC 20011	DATE/TIME COMPLETED: 04/23/2018 14:19	Chesapeake
DRILLING CO	MPANY:	Tidewate	r, Inc.		LOGGED BY: Meg Staines	GeoSciences, Inc.
DRILLING ME	THOD:	Geoprobe)		PROJECT MANAGER: Nancy Love	
SAMPLING MI	THOD:	Macrocor	е		BORING DIAMETER: 2"	BORING DEPTH: 40'
DEPTH TO GV	V (ft) FROI	M BG: 2	3.7	DATE: 04/23/2018	NOTES: Located on the west side o	f Building 46.
DEPTH (ft) PID READINGS (ppm)	RECOVERY (%)	NOTES				

— 0.0		1	1					0
	3.3				Black ASPHALT.	11:20 Collected soil completed of CE		ľ
-	27.2		ASPH			BG.		
-10	12.8					_		-1
1.0	0.9				Grey and light grey, dry, loose ASPHALT, and fine Gravel,			·
-			GP	⊠⊠	some Silt.			
-20	0.2	0.09/		⊠.∷⊠.				2
-2.0	0.1	90%			Red and yellowish red, damp, dense BRICK, and fine to			-2
-			BRICK		medium Sand.		╎┥	
2.0	0					11:40 Collected soil sample at 3'		2
3.0	0			\pm : \pm	Brownish yellow, mottled, damp, medium stiff SILT & CLAY,	BG.	$ \neg$	-3
-					some fine Gravel. Fill.			
	0			Ξ.Ξ				.
4.0	0				Brownish vellow, mottled, damp, medium stiff SILT & CLAY, Fill.		1	-4
-			ML/	$\pm \pm \pm$				
	0		CL	:: <u> </u>		11:50 Collected soil sample at 5'		
5.0	0			\pm \pm		BG.	–	-5
-	Ū							
	0			$\pm \pm \pm$				
6.0	0	100%		•/• •/•	Brownish vellow, damp, dense, Clavev fine to medium SAND	1	-	-6
	0				some fine white quartz Gravel. Native.			
	0			· / /.				
7.0	0						-	-7
	0							
	0							
8.0			SC					-8
	0			· · / · · /			7	
9.0								-9
	0			///				
	0						1	
10.0		88%				-		-1(
	0				Brownish yellow, mottled, damp, medium stiff Clayey SILT,			
-	0				some fine Sand seams.			
11.0	Ū		м					-11
	0							
	0						-	
12.0	0				Fine GRAVEL, some fine to coarse Sand lens at 12' BG	1		-12
	0		GW		White and very pale brown, dry, hard, fine to coarse GRAVEL,			
⊢ I				\mathcal{O} .:	some fine to coarse Sand, little Clayey fine Sand seams.	I	-	1

PRC	JECT	CG-	17-1111	SOIL BORING LOG SB-01	PAGE 2 OF 3	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES	
13.0 -	0 0 0			White and very pale brown, dry, hard, fine to coarse GRAVEL, some fine to coarse Sand, little Clayey fine Sand seams.		
14.0 - 15.0	0 0	100%	GW			
- 16.0 -	0			Brownish yellow, mottled, damp, stiff Clayey SILT, little fine white quartz Gravel, trace Mica.	-	- 16 -
17.0 - 18.0	0 0 0	100%	ML			
_ — -19.0	0 0 0			Brownish yellow, mottled, damp, stiff Clayey SILT, some Mica, some fine Sand seams. little fine white guartz Gravel.	-	_ 19
- -20.0	0 0 0		MH			
21.0 - 22.0	0 0 0	100%		Brownish yellow, mottled with weak red, damp, very stiff, plastic Silty CLAY. Clayey Silt lens (3" thick) at 21.5' BG.		
- - -23.0 -	0 0 0			Light brownish yellow, mottled, damp, stiff, fine Sandy CLAY, little Mica. Weathered fine Gravel lens (2" thick) at 22.5' BG.		- 2:
24.0 - 25.0	0		CL	Yellowish brown, mottled, damp, very stiff, fine Sandy CLAY, little Mica.		
_ — -26.0 _	0.1 0	88%				-2 €
- -27.0	0 0 0			Weathered fine Gravel lens (2" thick) at 27' BG. Weak red, mottled, damp, stiff, plastic Silty CLAY.		
28.0	0		SC	Brown, wet, loose Clayey fine SAND.	Perched groundwater encountered 28-29' BG.	

PRC	JECT	CG-	17-1111	SOIL BORING LOG SB-01	PAGE 3 OF 3
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES
	0		SC	Brown wet loose Clayey fine SAND	1
29.0	0.2			Weak red, mottled, damp, very stiff, plastic Silty CLAY, little	-
-	0.5			Clayey SAND layers 29-30' BG.	
30.0	0	100%			
-	0				-
31.0	0			Color change only 31-33.5' BG: Red, mottled	
-	0				-
32.0	0				
-	0				
33.0	0				
-	0		SC	Pale brown, mottled with very dark grey, damp, dense Clayey	
34.0	0	100%		fine SAND.	
-	0			very stiff Silty CLAY, little fine Sand seams.	
35.0	0				
-	0				
36.0	0				Poor recovery 36-40 - liner got
-			CL		stuck in the Macrocore. Geoprobe Operator confirmed lithology
37.0					change at 39' BG.
-					
38.0		50%			
F	0				
-39.0	0				╡ - .
-	0		SP	Yellow, mottled with light grey, damp, hard, fine SAND, little Clay, trace Mica.	Bottom of boring 40' PC
40.0	0				

PROJECT CG-17-1111	SOIL BORING LO	DG SB-02 1	PAGE 1 OF 1
PROJECT: Additional Phase II Envir	onmental Site Assessment	DATE STARTED: 05/01/2018	
LOCATION: AFRH - 3700 N Capitol S	t NW, Washington, DC 20011	DATE/TIME COMPLETED: 05/01/2018 17:00	
DRILLING COMPANY: Tidewater, Inc.		LOGGED BY: Meg Staines	GeoSciences, Inc.
DRILLING METHOD: Geoprobe			
SAMPLING METHOD: Macrocore		BORING DIAMETER: 2"	BORING DEPTH: 8'
DEPTH TO GW (ft) FROM BG: NA	DATE: 05/01/2018	NOTES: Located inside Building 46 c	n the south side of the smokestack
DEPTH (ft) PID READINGS (ppm) (ppm) (%) (%) SOIL CLASS GRAPHIC GRAPHIC	OVERBUR DESCF	DEN / ROCK RIPTION	NOTES

0.0								Δ
0.0	0		CONC		Concrete, and Gravel base.	Due to shallow refusal, offset to the east, advancing SB-02 2 and SB-02	_	
1.0	0 0		ML		Brownish yellow, damp, stiff Clayey SILT, some fine Gravel. Fill.	3. Then offset to the south, advancing SB-02 4. Shallow refusal was encountered at depths of 6.5' BG, 8.5' BG, and 9.5' BG,		-1
-	0				Concrete pieces 1-2" in diameter at 2' BG.	respectively.	-	
	0	30%			Brownish yellow, moist, stiff Silty CLAY, some fine to coarse Sand, some fine Gravel, Fill.			-2
3 0	0							-3
	0						_	
4.0	0		-					-4
_			CL				_	
5.0								-5
-							_	
6.0	U 7 0	38%						-6
-	618.4				Black damp DEBRIS Burned material	15:10 Collected soil sample at 6.5'	-	
7.0	306		DEBRIS		Weak red, grey, white, and pale olive, mottled, moist, stiff Silty	BG		-7
-	101.7		CL		CLAY, some Silt seams.	Refusal encountered at 8' BG	_	
-8.0				////				-8

PROJE	CT CG-	17-1111		SOIL BORING LO)G SB-03	PAGE 1 OF 4
PROJECT:	Addition	al Phase I	I Enviror	mental Site Assessment	DATE STARTED: 04/25/2018	
LOCATION:	AFRH - 3	3700 N Ca	apitol St	NW, Washington, DC 20011	DATE/TIME COMPLETED: 04/25/2018 18:00	Chesapeake
DRILLING C	OMPANY:	Tidewate	r, Inc.		LOGGED BY: Meg Staines	GeoSciences, Inc.
	IETHOD:	Geoprobe	Э		PROJECT MANAGER: Nancy Love	
SAMPLING	METHOD:	Macrocor	e		BORING DIAMETER: 2"	BORING DEPTH: 50'
DEPTH TO	GW (ft) FRO	M BG: N	IA	DATE: 04/25/2018	NOTES: Located on south side of Bu	ilding 46, east side of Building 46A.
DEPTH (ft) PID READINGS	(ppm) RECOVERY (%)	SOIL CLASS	GRAPHIC LOG	OVERBUR DESCR	DEN / ROCK RIPTION	NOTES

- 0.0 F						- 11			r	0
	0		OL			1	Very dark brown, moist, soft SILT, some Organics.	Moist 0-5' BG. Recent heavy rainfall.		[
[0						Very pale brown and light yellowish brown, mottled, moist, soft]	-]
1.0	0						Clayey SILT, some Debris.			-1
-	0								-	1
2.0	0	48%								-2
-	0								-	-
3.0	0		ML						_	-3
_	0						Yellow, mottled, moist, soft Clayey SILT. Fill.		_	
	0								_	
-4.0	0									
F	0								-	1
5.0	0					:	Brownish yellow, mottled with light grey and yellow, damp,	-	-	-5
-	0			Η	:]	: _	medium stiff SILT & CLAY, little coarse Sand, little fine Gravel. Fill or reworked material.		-	1
6.0	0	100%		= : :	Ŧ	-			-	-6
-	0		ML/	H	: □	Г :			-	-
7.0	0		CL	H:-		: _			_	-7
	0			Ē	T					
	0				: □	Г :				
8.0	0			: H	: _	:			-	-8
-	0						Light grey, mottled with yellow, damp, stiff, fine Sandy CLAY,	-	-	1
9.0	0						little fine Gravel.			-9
-	0						Light grey mottled with yellow and white damp, yery stiff fine		-	-
10.0	°	100%					to coarse Sandy CLAY, some fine Gravel.		-	-1(
	U		CL				Light grey, mottled with yellow and white, damp to moist, very stiff, fine to coarse Sandy CLAY, some fine to coarse quartz		-	-
11.0	0						Gravel.		_	- 1 1
	0.4						Slightly moist 11-12' BG.			
	2.9								-]
12.0	0								-	1-12
F				$\overline{/}$				I	-	4

PRC	PROJECT CG-17-1111		17-1111	SOIL BORING LOG SB-03	PAGE 2 OF 4	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES	
13.0	0			White and red, mottled, damp, stiff Silty CLAY.		
-	1.4					_
14.0	0.8	100%			-	-14
-	1.2			Red, mottled with white, damp, very stiff Silty CLAY.		_
15.0	1.7		CL		-	
-	2.4					-
16.0	1.4		-		-	
-	2.6					-
17.0	20.0			Yellowish brown, mottled with white and yellow, damp, stiff	15:30 Collected soil sample at 17'	
-	4.1		ML	Clayey SILT, some weathered intervals.	BG.	-
18.0	2.8	100%		Red, mottled with white and yellow, damp, very stiff, plastic Silty	-	
F	2.9		CL	CLAY.		-
19.0	7.7			Yellow, white, and brownish yellow, mottled, damp, stiff Clayey	-	
-	2.3			SILT, some weathered intervals.		-
20.0			ML		-	
-						-
21.0				Light brownish yellow, mottled with black, damp, dense, very	-	
F	0		SM	Tine SAND & SILT, trace Mica.		
22.0	0	63%			-	
22.0	0			Yellow, red, and white, mottled, damp, stiff Clayey SILT, some weathered lenses, some weathered fine Gravel lenses, little]
23.0	0			Silty CLAY lenses.		
24 0	0.5					
			ML		Poor recovery 24-28 - liner got stuck in the Macrocore. Lost most	
25.0					or the soli during extraction.	
-						
26.0		25%			-	-26
-				Red, damp, hard, plastic Silty CLAY.		-
27.0			CL		-	
-						-
28.0					-	
Ļ			CL	SILT & CLAY.		_

PRC	JECT	CG-	17-1111	SOIL BORING LOG SB-03	PAGE 3 OF 4						
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL	OVERBURDEN / ROCK DESCRIPTION	NOTES						
– -29.0 -	0 0 0		ML/ CL	Yellow and very pale brown, mottled with Black, damp, very stiff SILT & CLAY.							
30.0	0 0	100%	CL	Very pale brown, mottled with black and yellow, damp, stiff, fine Sandy CLAY, trace Mica.							
32.0	0								Very pale brown and weak red, mottled with reddish yellow, damp, very stiff CLAY & SILT.		-31
- — -33.0	0 0 0		ML			_ 3:					
34.0	0 0	100%	CL	Weak red, mottled with black, white, and yellow, damp, very stiff, slightly plastic Silty CLAY.		-34					
35.0 -	0						Very weak red, mottled with yellow, white, and black, damp, stiff Clayey SILT, some Silt seams.		-3!		
36.0 -	0		ML								
37.0 -		38%	38%								
38.0 - 39.0	 0				Yellow and white, mottled, damp, dense, very fine SAND & SILT.						
40.0	0		SM	Color change only 39.5-41' BG: yellow, white, and brownish yellow.							
- 41.0				White mottled with trace vallow damp damps fine SAND little		_ 41					
- 42.0				Silt.		- 4:					
- 43.0	0	60%	SP			- 4:					
- 44.0 -	0										

PRC	OJECT	CG	·17-1111	SOIL BORING LOG SB-03	PAGE 4 OF 4	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES	
45.0 46.0 47.0 48.0 49.0 50.0	0 0 0 0 0 0 0	50%	SP	White, mottled with trace yellow, damp, dense, fine SAND, little Silt.	Bottom of boring 50' BG.	

PROJECT CG	PROJECT CG-17-1111 SOIL BORING LOG SB-04							
PROJECT: Addition	nal Phase II Enviro	nmental Site Assessment	DATE STARTED: 04/23/2018					
LOCATION: AFRH -	DATE/TIME COMPLETED: 04/23/2018 17:00	Chesapeake						
DRILLING COMPANY:	GeoSciences, Inc.							
DRILLING METHOD:	Geoprobe		PROJECT MANAGER: Nancy Love					
SAMPLING METHOD:	Macrocore		BORING DIAMETER: 2"	BORING DEPTH: 32'				
DEPTH TO GW (ft) FRO	OM BG: 29.7	DATE: 04/23/2018	NOTES: Located on west side of Buil	ding 46A.				
DEPTH (ft) PID READINGS (ppm) RECOVERY (%)	SOIL CLASS GRAPHIC LOG	OVERBUR DESCR	NOTES					

- 0.0 r		1	1			1		-0	
	0				Light grey, black, and white ASPHALT.				
	2.8		ASPH					1	
1.0	0.2		GW		Light grey, dry, loose, fine to coarse GRAVEL, some fine to coarse Sand. Fill.	1		1-1	1
	0	0.0%			Weak red, dry, loose BRICK, and Rubble. Fill.].	~
	0	90%]-4	2
	0			Brownish yellow, mottled, moist, medium stiff, slightly plastic	Brownish yellow, mottled, moist, medium stiff, slightly plastic].	。
3.0	0				Sand. Fill.]	2
	0						-		
-4.0						Due to poor recovery 4-8' BG, collected a second Macrocore			+
5.0						adjacent; similar recovery.			5
]	,
		50%							6
	0	50%			Brownish yellow, mottled, moist, medium stiff, slightly plastic Silty CLAY, some fine to coarse Gravel, some fine to coarse				,
7 0	0				Sand. Fill.			<u>.</u>	7
	0								r
8 0	0								Q
									,
9 0									a
	0								,
10 0	0	69%					_		1(
	0	0370			Yellowish red, mottled with light grey, damp, hard, slightly plastic Silty CLAY, trace fine to coarse Gravel. Native.				
11 0	0								.11
11.0	0								• 1
_ 12.0	0								11
-12.0	0							_	14
1 1		1	I		1	1	1 -	1	

PRC	JECT	CG-	17-1111	SOIL BORING LOG SB-04	PAGE 2 OF 3	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES	
13.0	0 0		CL	Yellowish red, mottled with light grey, damp, hard, slightly plastic Silty CLAY, trace fine to coarse Gravel. Layer at 13' BG (4" thick): light brownish yellow and white, damp, medium dense, fine GRAVEL, some fine to coarse Sand, some Silt		-1:
14.0	0	100%	SC	Brownish yellow, mottled with light grey, damp, dense, Clayey fine SAND. Yellow and white, damp, hard, fine to coarse rounded quartz	_	- - -
15.0	0		GW	GRAVEL, some fine to coarse Sand, little Silt. Light grey, mottled with yellowish red, damp, stiff, fine Sandy CLAY.	-	- - 1;
-	0 0			Pale yellow, very pale brown, and white, damp, hard, Clayey	-	-
16.0 -	0		SC	fine to coarse SAND, some fine quartz Gravel.	-	- -1(-
17.0	0			Red, light grey, and yellow, mottled, damp, stiff, slightly plastic Silty CLAY.	_	-17
18.0	0 0	100%			_	18
- 19.0	0 0		CL		-	19
- 20.0	0				-	- 2(
- 21.0						- -2 ′
- 		50%		SAND, some fine Gravel.	-	22
-	0 0				-	-2
_	0 0				-	-
- -24.0			SC		-	24
- -25.0	0			Brownish yellow, mottled, damp, dense, Clayey fine SAND, little fine Gravel.		2
26.0	0 0	75%			_	-26
27.0	0 0			Brownish yellow, mottled, damp, medium stiff Clayey SILT,		-27
-	0		ML	some fine to coarse Sand.	-	
28.0	0] -2 {

PROJECT CG		17-1111	SOIL BORING LOG SB-04	PAGE 3 OF 3			
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES		
— -29.0 -	0 0 0.1		ML	Brownish yellow, mottled, damp, medium stiff Clayey SILT, some fine to coarse Sand.	15:45 Collected soil sample at 29.5' BG.	2{	
30.0 - 31.0 -	0 0 0 0	95%	CL	Brownish yellow, moist to wet, soft Silty CLAY, some fine to coarse Sand. Damp 30.5-31' BG. Red, mottled with light grey and black, damp, hard, slightly plastic Silty CLAY.	Perched groundwater encountered at 30-30.5' BG Bottom of boring 32' BG	3(31	

PROJECT CG-	PAGE 1 OF 4							
PROJECT: Additiona	al Phase II Enviro	DATE STARTED: 04/24/2018						
LOCATION: AFRH - 3	DATE/TIME COMPLETED: 04/24/2018 14:00	Chesapeake						
DRILLING COMPANY: Tidewater, Inc. LOGGED BY: Meg Staines								
DRILLING METHOD:	Geoprobe		PROJECT MANAGER: Nancy Love	_				
SAMPLING METHOD:	Macrocore		BORING DIAMETER: 2"	BORING DEPTH: 52'				
DEPTH TO GW (ft) FRO	MBG: NA	DATE: 04/24/2018	NOTES: Located in roadway west of	southwest corner of Building 46A.				
DEPTH (ft) PID READINGS (ppm) RECOVERY (%)	SOIL CLASS GRAPHIC LOG	OVERBUR DESCR	NOTES					

-00										0					
0.0	19.1						Black, grey, and white ASPHALT.			U I					
	1.3		АЗРН												
1.0	1.0			C) ;	 ~.	Grey, dry, loose, fine to coarse GRAVEL, and fine to coarse			-1					
-	0.1			GW		_ : :	/. : : .	Sand. Asphait base.		-					
2.0	0	75%	CL				Red, damp, stiff Silty CLAY. Fill.			-2					
-	0							T		Red, yellow, and black, mottled, damp, stiff Clayey SILT. Fill.					
3.0	0										-3				
-	0														
4.0	0				Yellow, mottled, damp, stiff Clayey SILT, little fine Gravel.	Yellow, mottled, damp, stiff Clayey SILT, little fine Gravel.			-4						
	0									Possibly III.	11:45 Collected soil sample at 5'		· _		
5.0	0													BG.	
	0) 100%	100%	ML											
6.0	0										-6				
-	0									I					
7.0	0											Pale brown and dark brown, mottled, damp, medium stiff Clayey			-7
-	0						SILT (less Clay than 4-7 BG). Possibly fill.		-	Ι.					
8.0	0									-8					
-	0											-	Ι.		
9.0	0						Yellow and light grey, mottled, damp, stiff SILT & CLAY.			-9					
	0		ML/		- : : 										
10.0	0	100%	CL	 						-1(
	0			Т.: Н					-						
11.0	0						Yellow and light grey, mottled, damp, medium stiff Clayey SILT.			- 1 1					
-	0		ML						-	1					
12.0	0						-12								
⊢ I		I	I					1	. –						

PRC	JECT	CG-	17-1111	SOIL BORING LOG SB-05	PAGE 2 OF 4]																	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES																		
I	0			11111	I	1																	
13.0	0			Yellow and light grey, mottled, damp, stiff Clayey SILT.	-	1:																	
-	0		мі			-																	
14.0	0	100%			-	14																	
-	0				-	-																	
15.0	0			Light grey, mottled with reddish yellow, damp, very stiff, fine	-	15																	
-	0			Sandy CLAY, some fine to coarse Gravel.	-	-																	
16.0	0		sc		-	- -1€																	
-	0				-	1																	
17.0	0				-	17																	
-	0		GW	White and yellow, mottled, dry, hard, fine to coarse GRAVEL,		1																	
18.0	0	100%		Weak red, mottled with light grey, damp, stiff, plastic Silty CLAY.		18																	
-	0		CL		-																		
19.0	0			Yellow and weak red, mottled, damp, stiff Clayey SILT.		1																	
20.0	0			Color change only 19.5-20' BG: White, mottled with yellow and weak red																			
-20.0	0			Pale brown, mottled with weak red and yellow, damp, stiff Clavey SILT, little Mica, some fine SAND.																			
21 0	0		ML		_	21																	
	0																						
22.0	0	100%			_	2;																	
	0	100%	100%	100%																			
23.0	0			Pale brown, damp, dense fine SAND, and Silt, trace Mica.	_	23																	
_	0																						
24.0	0		SM		_	24																	
-	0					_																	
-25.0	0				_	2!																	
-	0			Pale brown, mottled, damp, stiff Silty CLAY.		-																	
-26.0		100%	sc	Yellowish brown and black, mottled, damp, dense, Clayey fine SAND, little Mica.	_	-26																	
-	0					-																	
27.0					-	-27																	
-				weathered seam (2" thick) at 27.6' BG.		-																	
28.0			ML	Pale brown, mottled, damp, stiff Clayey SILT.	-																		
F																							

PRC	JECT	CG-	17-1111	SOIL BORING LOG SB-05	PAGE 3 O	F 4
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES	
			MI			
29.0	0			Pale brown, mottled, damp, stiff Clayey SILT. Red, very pale brown, and weak red, mottled, damp, stiff, plastic		
-	0			Silty CLAY.		
30.0	0	80%				-3
_	0					
31.0	0			Red, very pale brown, weak red, and black, mottled, damp, stiff,		-3
-	0		CL	plastic Silty CLAY.		
32.0				Weak red, mottled with black, damp, stiff, slightly plastic Silty		
				CLAT.		
33.0	0					
34.0	0	75%				
-34.0	0	1570		Weak red, mottled with black, reddish yellow, and light grey, damp, stiff SILT & CLAY.		
35.0	0					
_	0		ML/	Weak red, mottled with black, reddish yellow, and light grey,		
36.0	0		CL	damp, stiff SILT & CLAY, little fine Sand seams.		
_	0					
37.0	0					
-	0			Red, weak red, and brown, mottled, damp, stiff, slightly plastic Silty CLAY.		-
38.0	0	95%	CL			
-	0					
39.0	0			Yellow white pale vellow dark grey and very pale brown		
-	0			striped, damp, dense, fine SAND, little Clay.		
-40.0	0		SP			-4
-	0					
-41.0	0		• 	White, damp, dense, very fine SAND, and Silt, trace Mica.		-4
-	0					
-42.0	0	95%	SM .			-4
	0					
-43.0	0			Weak red, mottled with white and yellow, damp, stiff, slightly plastic Silty CLAY, some very fine Sand seams		-4
44 0	0		CL			
-44.0	0					

PRC	JECT	CG-	17-111 <i>′</i>	SOIL BORING LOG SB-05	PAGE 4 OF 4]
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES	
45.0	0 0			Weak red, mottled with white and yellow, damp, stiff, slightly plastic Silty CLAY, some very fine Sand seams.	-	4
46.0	0 0	100%	CL		-	4
47.0	0 0			White, striped with yellow, damp, dense, very fine SAND, some	-	4
48.0	0			White, mottled with reddish yellow, damp, dense, very fine	-	4
49.0	0 0		SM		-	4
50.0	0 0	100%			-	-
51.0	0 0		SP	White, mottled with reddish yellow, damp, hard, fine SAND.	-	_ 5
-52.0	0				Bottom of boring 52' BG.	

PROJECT CG-17-1111	SOIL BORING LO)G SB-06	PAGE 1 OF 2
PROJECT: Additional Phase I	Environmental Site Assessment	DATE STARTED: 04/24/2018	
LOCATION: AFRH - 3700 N Ca	pitol St NW, Washington, DC 20011	DATE/TIME COMPLETED: 04/24/2018 11:14	Chesapeake
DRILLING COMPANY: Tidewater	GeoSciences, Inc.		
DRILLING METHOD: Geoprobe		PROJECT MANAGER: Nancy Love	
SAMPLING METHOD: Macrocor	9	BORING DIAMETER: 2"	BORING DEPTH: 28'
DEPTH TO GW (ft) FROM BG: N	A - caved DATE: 04/24/2018	NOTES: Located adjacent to the sou	thwest corner of Building 46A.
DEPTH (ft) PID (ppm) (ppm) (%) SOIL SOIL CLASS	OVERBUR OVERBUR DESCF	DEN / ROCK RIPTION	NOTES

0										
	7.9		ASPH		Black, grey, and white ASPHALT.					
1.0	2.4						-1			
	0.2		GW		Grey, dry, loose, fine to coarse GRAVEL base.	_				
2 0	0	75%	FILL		Weak red and yellow, dry, loose, fine to coarse SAND, little fine Gravel, little Brick. Fill.		-2			
	0	7570			Brownish yellow and weak red, moist, medium stiff Silty CLAY. Coarse Gravel laver (2" thick) at 2.5' BG.					
3.0	0		CL				-3			
	0		SC		Weak red and yellow, damp, medium stiff, Clayey fine SAND.					
	0				Weak red and yellow, damp, medium stiff, Clayey SILT, little Gravel Fill					
-4.0	0				Yellow, mottled, damp, medium stiff Clayey SILT, little fine Gravel		-4			
5.0	0								00.50 Collected soil completed	5
5.0	0					duplicate SB-D1 at 5' BG.	-5			
	0	750/					6			
0.0	0	75%	ML				-0			
	0							-		
7.0	0						-/			
	0				Pale brown, mottled with dark brown, damp, medium stiff					
8.0	0				Yellow, mottled with weak red and light grey, damp, stiff Clayey		-8			
	0									
9.0	0			∶	Very pale brown, mottled with yellow and weak red, damp, very		-9			
	0	1000/					41			
10.0	0	100%	ML/		Very pale brown and yellow, damp, very stiff SILT & CLAY.		-10			
	0		CL							
11.0	0						-11			
	0									
12.0	0		ML		Yellow, very pale brown, and light grey, mottled, damp, stiff Clayey SILT.		-12			

PRC	JECT	CG-	·17-111′	1 S	DIL BORING LOG SB-06	PAGE 2 OF 2	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS		OVERBURDEN / ROCK DESCRIPTION	NOTES	
I		I	I			1	1 1
13.0	0				Yellow, very pale brown, and light grey, mottled, damp, stiff Clayey SILT.		
_	0		ML				
14.0	0	95%			Clayey coarse GRAVEL lens (3" thick) at 13.75-14' BG.		-1-
_	0						
15.0	0		SC		Yellow, mottled, damp, Clayey fine SAND.		
_	0		GW		White and yellow, dry, hard, fine to coarse GRAVEL, some fine to coarse Sand.		
16.0	0						
_	0				White, yellow, and pale brown, damp, very dense, Clayey fine to coarse GRAVEL, some fine to coarse Sand.		
17.0	0						
_	0		GC				
18 0	0	98%					
	0	5070		<mark>//</mark> ∞			
10.0	0						
19.0	0				Weak red, yellow, and light grey, damp, stiff Silty CLAY.		
	0						
20.0	0						
	0						
21.0	0				Pale brown, mottled, damp, stiff Clayey SILT.		
-	0						
22.0	0	100%	ML				
-	0						
23.0	0						
-	0		SM		Very dark brown, mottled, damp, dense, fine SAND & SILT.		
24.0	0				Pale yellow and pale brown, mottled, damp, very dense, Clayey		
-	0		SC		ine to coarse SAIND, little fine Gravel.		
25.0	0				Very dark brown, wet, soft, very fine SAND & SILT. Swamp	Perched groundwater encountered 25-26' BG.	
F	0		SM		searments.		
26.0	0	100%			Yellow, damp, dense, fine SAND & SILT 26-26.25' BG.		-20
-	0		M		Pale brown, mottled, damp, stiff Clayey SILT, little Mica.		
27.0	0						-2
-	0		CL		Red, mottled, damp, stiff, plastic Silty CLAY.	Bottom of boring 28' BG.	
└─ -28.0						I	2

PROJECT CG-17-111		DG SB-07	PAGE 1 OF 3						
PROJECT: Additional Phase	II Environmental Site Assessment	DATE STARTED: 04/24/2018							
LOCATION: AFRH - 3700 N C	LOCATION: AFRH - 3700 N Capitol St NW, Washington, DC 20011 DATE/TIME COMPLETED: 04/24/2018 17:15								
DRILLING COMPANY: Tidewate	GeoSciences, Inc.								
DRILLING METHOD: Geoprob	e	PROJECT MANAGER: Nancy Love	_						
SAMPLING METHOD: Macroco	re	BORING DIAMETER: 2"	BORING DEPTH: 40'						
DEPTH TO GW (ft) FROM BG: 1	NA - caved DATE: 04/24/2018	NOTES: Located southwest of southwest corner of Building 46A.							
DEPTH (ft) PID READINGS (ppm) (ppm) (ppm) (%) (%) SOIL CLASS	OVERBUR DESCF	DEN / ROCK RIPTION	NOTES						

					-		0				
0.0	0			Black, grey, and white ASPHALT.			U				
	0.1		ASPH								
	0		0.04	White and grey, dry, loose fine to coarse GRAVEL, some fine to coarse Sand base			-1				
	0	750/	GW				2				
-2.0	0	75%		Red, yellow, and black, damp, loose/soft FILL: Brick, Silty Clay, and fine to coarse Sand			-2				
	0		FILL		14:18 Collected soil sample at 3'		2				
-3.0	0			Weak red, yellow, and brown, mottled, damp, medium stiff Clavey SILT, little fine Gravel, Fill.	BG.		-3				
10	0						-1				
	0					ML	М				
5 0	0										
	0						Ŭ				
	0	70%					-6				
	0	1070	CI	Weak red and yellow, mottled, medium stiff Silty CLAY. Fill.							
7.0	0		02				-7				
	0		GC	Weak red and yellow, mottled, damp, dense, Clayey coarse GRAVEL, little fine to coarse Sand.			-				
8.0	0			Greyish brown, mottled with black and yellow, damp, medium stiff Clayey SILT. Fill.		_	-8				
	0			Light grey, brownish yellow, and yellow, mottled, damp, stiff Clayey SILT. Fill.							
9.0	0							-9			
	0										
10.0	0	98%	МІ				-1(
	0	0070	IVIE	Light grey, brownish yellow, and yellow, mottled, damp, stiff Clayey SILT. Fill or reworked material.							
11.0	0						-11				
	0						•				
12 0	0						-11				
	0						-14				
1 1		I	I		•	ר ו					

PRC	JECT	CG	-17-111 ⁻	SOIL BORING LOG SB-07	PAGE 2 OF 3	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES	
	0		ML	Mottled, damp, stiff Clayey SILT. Fill/reworked material.		
13.0	0			Brownish yellow and light grey, damp, stiff SILT & CLAY.		-1
-	0		ML/	Native. ⊥ ⊥		
14.0	0	95%				
-	0		ML	Brownish yellow and light grey, mottled, damp, stiff Clayey SILT, some fine Gravel.		
15.0	0			Light yellowish brown and white, dry, hard Clayey fine to coarse		-1-1
16.0	0		60			
10.0	0					
17.0	0					
_	0			White and light brownish yellow, damp, hard, fine to coarse GRAVEL, some Clayey fine to coarse Sand.		
18.0	0	90%	GW			
_	0					
19.0	0					
-	0			Very pale brown, weak red, and white, mottled, damp, stiff Silty CLAY, some fine quartz Gravel.		
20.0	0					-2
-	0		CL			
21.0	0					-2
-	0			Very pale brown, mottled, damp, stiff Clayey SILT, trace Mica.		
22.0	0	100%	ML			-2
_	0					
23.0	0			Very pale brown, mottled, damp, dense very fine SAND & SILT.		
-	0			Color change only 23.4-23.6' BG: pale brown.		
24.0	0		SM	Color change only 23.8-24' BG: reddish yellow.		- -2
-	0					1
25.0	0			Light brownish yellow, mottled, damp, stiff Clayey SILT, and Silty CLAY lenses.		2
26 0	0	100%	ML/			
	0	100 /0	CL			
27.0	0				Developed at 07 (LDO - (1-)	
	0			Weak red, yellow, and black, mottled, damp, stiff, slightly plastic Silty CLAY.	Borenole caved at 27.4' BG after Macrocore and rods were pulled	
28.0	0		CL		Perchad aroundwater encountered	
				Red, mottled with light grey, damp, stiff, very plastic Silty CLAY.	32-33' BG.	

PRC	JECT	CG-	17-1111	SOIL BORING LOG SB-07	PAGE 3 OF 3	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES	
— -29.0 _	 0			Red, mottled with light grey, damp, stiff, very plastic Silty CLAY.		-29
30.0	0 0	75%	CL			-3(
31.0	0 0			Light brownish yellow, Clayey SILT lens 30.5-30.75' BG. Red and weak red, damp, stiff, very plastic Silty CLAY.		-3 [,]
- 32.0	0			Brownish vellow, wet, soft Clavey, SILT		-32
- 33.0	0.2		ML		15:40 Collected soil sample at 32.5' BG.	-3:
-	0 0	1000/		Light grey, mottled with yellow, damp, stiff SILT & CLAY. Very weak red, mottled with black, damp, stiff SILT & CLAY.	-	2
34.0 -	0 0	100%	ML/ CL		-	-34
- -35.0	0					-3
36.0	0		ML	Pink, damp, stiff Clayey SILT.		-36
_	0			Yellow, white, and black, striped, damp, dense, fine SAND, some Clay stringers, little Clay in the Sand.	-	
37.0	0		SC			-37
38.0	0	88%			- - .	-38
-	0		SP	black, damp, very fine SAND, little Silt.		
39.0	0					-39
	0		SM	Very pale brown, mottled with yellow and white, damp, dense, very fine SAND, and Silt.	Bottom of boring 40' BG.	-4(

PROJECT CG-17-	-1111	SOIL BORING LO)G SB-08	PAGE 1 OF 2				
PROJECT: Additional Pl	hase II Environ	mental Site Assessment	DATE STARTED: 05/01/2018					
LOCATION: AFRH - 3700	DATE/TIME COMPLETED: 05/01/2018 14:00	Chesapeake						
DRILLING COMPANY: Tidewater, Inc. LOGGED BY: Meg Staines								
DRILLING METHOD: Geo	oprobe		PROJECT MANAGER: Nancy Love					
SAMPLING METHOD: Ma	crocore		BORING DIAMETER: 2"	BORING DEPTH: 28'				
DEPTH TO GW (ft) FROM B	3G: 20.5	DATE: 05/01/2018	NOTES: Located south of Building 46	A, on the ramp, southwest of the USTs.				
DEPTH (ft) PID READINGS (ppm) (ppm) (%)	SUL CLASS GRAPHIC LOG	OVERBUR	DEN / ROCK RIPTION	NOTES				

-00								0											
0.0	34.5				Black, grey, and white, loose ASPHALT, and fine to coarse														
	23.8		ASPH		Salu, Solie line Glavel.														
1.0	29.7				Red, mottled with yellow and black, damp, stiff Clayey SILT. Fill.			-1											
	16.7	700/						2											
2.0	0.4	70%						-2											
- 3 0	3.7		М					-3											
	0.8		IVIL					-5											
-4.0	0.4							-4											
_	8.0																		
5.0	9.8					12:25 Collected soil sample at 5'		-5											
_	9.9	CL		Weak red and light brownish yellow, damp, stiff, fine Sandy CLAY. Layer of black burned material (2" thick) at 5.5' BG. Fill.	BG.	_													
6.0	0.4	100%						-6											
-	0.3		MI /	= ; <u> </u> ; ;	Pale brown, mottled with dark brown, moist, soft, weathered CLAY & SILT. Fill.		_												
7.0	0.1		CL					-7											
-	0.1				Weak red and light vellowish brown, damp, verv stiff. Clavev		-												
8.0	0.1		ML		SILT, some fine to medium Sand. Native reworked material.		_	-8											
-	0															& SILT. Native reworked material.		-	
9.0	0			 				-9											
-	0		ML/ CL				-												
10.0	0	100%			Light vellowish brown, vellow, and light grey, damp, hard CLAV		-	-1(
-	0			= : = :	& SILT. Native reworked material.		-												
11.0	0				Yellowish brown, damp, stiff Clayey SILT, little fine Gravel,		-	-1 1											
-	0				some fine Sand. Native material.		-												
12.0	0		ML				-	-12											
F								I											

PRC	JECT	CG-	·17-111′	1 S	DIL BORING LOG SB-08	PAGE 2 OF 2		
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS		OVERBURDEN / ROCK DESCRIPTION	NOTES		
	0				I	I		
13.0	0				Grev, mottled with vellow and white, damp, very dense, Clayev			-1:
-	0		CL		fine SAND, little fine Gravel.		-	•
14.0	0	93%		·//.	Grey, white, and yellow, damp, very dense Clayey fine to			-14
-	0				coarse SAND, some fine Gravel.		-	-
15.0	0							-1
-	0		SC				-	-
16.0	0		-					-16
-	0						-	
17.0	0				Light grey, red, and yellow, damp, stiff, slightly plastic Silty			-17
-	0				CLAY.		-	
18.0	0	100%	CL					1-18
-	0						-	
19.0	0							-19
	0				Brownish yellow, damp, dense, very weathered fine to coarse		-	
20.0	0		SW		on the state of the state, some site			-20
21.0	0.2							2
-21.0	0.2				Yellow, light grey, weak red, and brownish yellow, damp, dense, fine SAND & SII T			-2
22 0	0	05%						-22
-22.0	0	9378						-24
23.0	0.1						_	-23
_	0						_	
24.0	0		-		Clayey SILT lens (3" thick) at 24' BG.		_	-24
_	0		SM		Brownish yellow, mottled, damp, dense, fine SAND & SILT.		-	
25.0	0					Perched aroundwater encountered	_	-25
-	0				Wet 25-27' BG.	25-27' BG.	-	
26.0	0	100%					_	-26
-	0						-	-
27.0	0						_	-27
-	0				Damp 27-27.5' BG. Red. mottled with black and light brownish vellow damp stiff	Bottom of boring 28' BG.	-	-
-28.0	U		CL		plastic Silty CLAY.]	

PROJE	CT CG-	17-1111		SOIL BORING LO)G SB-09		PAGE 1 OF 2
PROJECT:	Addition	al Phase I	I Environ	mental Site Assessment	DATE STARTE	D: 04/26/2018	
LOCATION	AFRH - 3	3700 N Ca	pitol St I	NW, Washington, DC 20011	DATE/TIME COMPLETED:	04/26/2018 16:00	Chesapeake
DRILLING (COMPANY:	GeoSciences, Inc.					
DRILLING N	METHOD:	Geoprobe	9		PROJECT MAN	AGER: Nancy Love	
SAMPLING	METHOD:	Macrocor	e		BORING DIAMI	ETER: 2"	BORING DEPTH: 26'
DEPTH TO	GW (ft) FRO	M BG: N	A - cave	d DATE: 04/26/2018	NOTES: Locate	ed south of Building 4	6A, north of the USTs.
DEPTH (ft) PID READINGS	(ppm) RECOVERY (%)	SOIL CLASS	GRAPHIC LOG	OVERBUR DESCR	DEN / ROCK RIPTION	NOTES	

— 0.0 п				·// <u>//</u>		Moist 0.6.5' BC. Passat basis	ı —	0								
	0		CONC		Concrete.	rainfall; boring location is lower than										
	0				Brownish yellow, mottled, moist, soft Clayey SILT, little fine to	surrounding ground surface.										
1.0	0							-1								
-	0															
2.0	0	75%						-2								
-	0		М													
3.0	0							-3								
-	0												Silty CLAY lenses 3.5-4' BG.			
4.0																
-	0															
5.0	0				Brownish yellow, mottled with red, moist, medium stiff SILT &			-5								
-	0		CL		CLAY, little fine to coarse Gravel. Fill.											
6.0	0	83%	ML/					-6								
-	0				Brownish yellow, mottled with light grey, damp, stiff Clayey											
7.0	0				SIL1, little fine to coarse Gravel. Fill or reworked material.			-7								
-	0		ML													
8.0	0							-8								
-	0															
9.0	0				Light grey, mottled with yellow, damp, very stiff, slightly plastic	-		-9								
-	0				Silty CLAY, little fine to coarse Gravel, little fine to coarse Sand. Possibly native material.											
10.0	0	100%						-1(
-	0.7		CL		Light grey, mottled with yellow, damp, stiff, not plastic Silty											
11.0	1.2				CLAY, some fine to coarse Gravel, some fine to coarse Sand. Native material.			-1 1								
-	14.1															
12.0	23.8				Light grey, mottled with red, yellowish brown, yellow, and olive,			-12								
⊢				///	damp, stiff, slightly plastic Silty CLAY.		_	I								

PRC	PROJECT CG-17-1111			CG-17-1111 SOIL BORING LOG SB-09													
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS		OVERBURDEN / ROCK DESCRIPTION	NOTES											
13.0	22.7 13.3		CL	Lig da	ght grey, mottled with red, yellowish brown, yellow, and olive, amp, stiff, slightly plastic Silty CLAY.		1:										
14.0 -	3.2 59.2 21.7	100%	ML/	Bri Sil	rownish yellow and light grey, mottled, damp, stiff, not plastic Ity CLAY, and weathered Silt lenses.	14:30 Collected soil sample at 14' BG.											
15.0 -	4.3		CL	⊥ : ⊥ : ⊥ : ⊥			-1 !										
16.0	0.3		CL	Resti	ed, white, yellow and brownish yellow, mottled, damp, very iff Silty CLAY, little Silt lenses.		-16										
17.0	2.7 3.8			Br	ownish yellow, weak red, and light grey, mottled, damp, stiff,		-17										
- 18.0	0.2 0	100%	ML	SI	LT & CLAY, some weathered Silt lenses.												
_ 19.0	0 0			Bru SA	rownish yellow and very pale brown, mottled, damp, fine AND & SILT, trace Mica.												
20.0	0.2 0.5		SM	Mc	oist 20-21' BG.												
21.0	2.8 0.5	100% ML	100%		Br	rownish yellow, wet, soft Clayey SILT.	Perched groundwater encountered 21-23' BG.										
22.0	0 0			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	ML	Bri	Brownish yellow, wet, soft SILT, and fine Sand.	
23.0	1.9 0			Re	ed, mottled with brownish yellow and dark brown, damp, stiff,												
24.0	0			no	or prastic Silly GLAT, fille weathered Sill Seams.	Perched aroundwater encountered	-24										
-	0		CL	Re	ed, mottled with black, wet, stiff, plastic Silty CLAY.	24-25' BG.											
25.0	0.5	100%		Da	amp 25-26' BG.		-2										
-26.0	0.2					Bottom of boring 26' BG.	-26										

PROJECT	PAGE 1 OF 2				
PROJECT:	Additional Pl	hase II Env	ronmental Site Assessment	DATE STARTED: 04/26/2018	
LOCATION: A	AFRH - 3700	Chesapeake			
DRILLING COMF	PANY: Tide	LOGGED BY: Meg Staines	GeoSciences, Inc.		
DRILLING METH	IOD: Geo	oprobe		PROJECT MANAGER: Nancy Love	
SAMPLING MET	HOD: Mad	crocore		BORING DIAMETER: 2"	BORING DEPTH: 27'
DEPTH TO GW ((ft) FROM B	G: 18	DATE: 04/26/2018	NOTES: Located SE of SE corner of	Building 46A, NE of the USTs.
DEPTH (ft) PID READINGS (ppm)	RECOVERY (%) SOII	SUIL CLASS GRAPHIC	OVERBUR DESCR	DEN / ROCK RIPTION	NOTES

-00		1							-0											
0.0	0.2		OL			Dark brown, moist, soft SILT, some Organics, some Rubble.														
	0.3	68%				Brownish yellow, mottled, damp, medium stiff Clayey SILT, little														
1.0	0.2		68%							1-1										
	0.1			68%	000/	000/	000/	000/											-	
2.0	0.3									-2										
20	0.1		ML],											
-3.0	0.3								-3											
-10	0.2										_									
-4.0	0								-4											
5 0	0.2					Brownish yellow, damp, stiff, slightly plastic Sandy fine CLAY, some lavers of Silty Clay.		_	-5											
	1.7		CI																	
-60	6.2	100%	0L					_	-6											
	225.7	10078																		
- 7 0	390.4		ML			Brownish yellow, mottled, damp, medium stiff Clayey SILT. Fill.	12:20 Collected soil sample at 7'	_	-7											
_	603.3					Brownish yellow and grey, damp, hard Silty CLAY, some fine Sand, some Gravel. Native material.	BG.	_	ļ.											
8.0	92.2		CL					_	-8											
_	5.8							_												
9.0	50.9		МІ			Brownish yellow, mottled, damp, stiff Clayey SILT.		_	-9											
_	10.2							-												
10.0	209.2	93%				Grey, white, and yellow, damp, dense, Clayey fine to coarse Sand, some fine Gravel.		_	-1(
_	411.1							_												
11.0	188.5							_	- 1 1											
	546.2		SC					_												
12.0	536.5							_	-12											
	5.6							_												

PRC	JECT	CG-1	7-1111	S	OIL BORING LOG SB-10	PAGE 2 OF 2		
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS		OVERBURDEN / ROCK DESCRIPTION	NOTES		
1		1	1		1	1		
13.0	3.6							
-	2.5				Red, brownish yellow, and white, damp, stiff, slightly plastic Silty CLAY, little fine to coarse Gravel lenses.			
14.0	2.6	100%						
-	1.5							
15.0	1.5							
-	2.8							
16.0	0.7		CL					
-	6.9				some weathered Gravel lenses (1-3" thick).			
17.0	78.7							
-	29.9							
18.0	9.6	95%						
-	5.5							
19.0	43.8					-		
-	16.9				Brownish yellow, mottled, damp, dense, Clayey fine SAND, little Mica.			
20.0	9.1		-			Perched groundwater encountered		
_			SC		Wet 20-21' BG.	20-21' BG.		
21.0							-2	
_					Damp 21-21.5' BG.			
22.0		50%			Brownish yellow, mottled with black and white, damp, stiff Clayey SILT, little weathered Gravel seams.		-22	
-	4.2		ML					
23.0	3.5					-		
F	1.5				Red, mottled with yellow, black, and white, damp, stiff, plastic Silty CLAY, little weathered seams (1-3" thick).			
24.0	4.5					Perched groundwater encountered	-24	
F	4.0				Wet 24-26' BG.	24-26' BG.		
25.0	1.7		CL				-2	
F	1.9	100%						
26.0	1.1						-26	
F	1.1				Red, mottled with black and white, damp, stiff, plastic Silty CLAY, some Clayey Silt seams, little weathered seams (1-3"	Bottom of boring 27' BG		
-27.0	0.5			///	unck).			

PROJEC	r CG-	PAGE 1 OF 2				
PROJECT:	Additiona	al Phase I	I Enviror	mental Site Assessment	DATE STARTED: 05/01/2018	
LOCATION:	AFRH - 3	Chesapeake				
DRILLING CO	GeoSciences, Inc.					
DRILLING ME	THOD:	Geoprobe	Э		PROJECT MANAGER: Nancy Love	
SAMPLING M	ETHOD:	Macrocor	e		BORING DIAMETER: 2"	BORING DEPTH: 28'
DEPTH TO G	V (ft) FROI	M BG: 2	0.7	DATE: 05/01/2018	NOTES: Located south of Building 4	6A and the USTs, north of Building 71.
DEPTH (ft) PID READINGS (DDM)	RECOVERY (%)	SOIL CLASS	GRAPHIC LOG	OVERBUR DESCR	DEN / ROCK RIPTION	NOTES

— 0.0		1	1				1	
0.0	31.6						Black, grey, and white ASPHALT, and Gravel base.	
	47.3		АЗРН					
1.0	7.5		BRICK	<u> </u>) J		Red and brownish yellow, dry, loose BRICK, and Debris.	1
	0.5				M		Red and brownish yellow, damp, stiff Clayey SILT, trace Mica.	
2.0	0.2	70%					T 10.	-2
-	0							
3.0	0							
-	0						Yellowish brown, damp, stiff Clayey SILT, some fine Sand, trace	
4.0	0						Pale brown, mottled, damp, soft Clayey SILT. Fill.	-4
-	0							
5.0	0.1							
-	0.1		ML					
6.0	0	95%					Yellow, mottled with light grey, damp, stiff Clayey SILT, some	-6
-	0						fine to medium Sand, little weathered fine Gravel and coarse Sand. Fill or reworked material.	
7.0	0							-7
-	0							
8.0	0						Brownish yellow, mottled with light grey, damp, very stiff Clayey	-8
-	0						SILT, some fine to medium Sand, some weathered coarse Sand to fine Gravel. Reworked material.	
9.0	0							-9
-	0							-
10.0	0	100%				:	Reddish yellow, mottled with grey, damp, very stiff SILT &	- -10
-	0			 	 	:	CLAY, little coarse Sand to fine Gravel. Possibly Native material.	
11.0	0		ML/			i :		-11
-	0		CL	: H		:		
12.0	0				Ξ	:		- -1:
F	Ŭ				.,			

PRC	JECT	CG-	·17-1111	SOIL BORING LOG SB-11	PAGE 2 OF 2			
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES			
	0			Light grev, damp, very stiff, fine Sandy CLAY, some fine Gravel.	I			
13.0	0			White, light grey, and yellow, damp, hard, fine to coarse guartz				
-	0		GW	GRAVEL, some Clayey fine to coarse Sand.				
14.0	0	100%		Grey, yellow, and white, damp, dense, Clayey fine to coarse		-14		
-	0		SC	SAND, little fine Gravel. Color change only at 14.5' BG: yellow.				
15.0	0					-1:		
-	0			Light grey, mottled with yellow, damp, stiff, slightly plastic Silty				
16.0	0		-	Red, yellow, and white, mottled, damp, stiff, plastic Silty CLAY.				
47.0	0.6							
-17.0	0.3	100%	CL					
18.0	0.2					 1		
-18.0	0							
19.0	0							
_	0		GP	Brownish yellow, damp, dense, very weathered, fine GRAVEL &				
20.0	0.3	ML/ CL		-	Weak red, mottled with white and yellow, damp, stiff, CLAY & SILT, little Mica, and a weathered Silt lens.			
_	0.1				ML/ CL			
21.0	0.2							
_	0.5					10:05 Collected soil sample at		
22.0	0.0	90%	ML	Pale brown, damp, stiff Clayey SIL I, trace Mica.	21.5' BG.			
_	0.3			Brownish vellow mottled damp dense fine SAND and Silt				
23.0	0.1		SM					
_	0.1			₩ Weak red, mottled with dark brown, black, and white, damp, stiff				
24.0	0		-	SILT & CLAY, some very weathered Gravel lenses.	Perched groundwater encountered			
-	0.2		ML/		24-20 DU.	-		
25.0	0.2		CL	₩et 24-26' BG.		-2		
-	0							
26.0	0.3	100%						
-	0.1			Red, mottled with white, yellow, and black, damp, very stiff,				
27.0	0		CL					
	0				Bottom of boring 28' BG.			
-20.0						-20		

PROJECT	CG-	PAGE 1 OF 3				
PROJECT:	Additiona	al Phase I	I Environ	mental Site Assessment	DATE STARTED: 04/25/2018	
LOCATION:	AFRH - 3	Chesapeake				
DRILLING COM	PANY:	GeoSciences, Inc.				
DRILLING MET	HOD:	Geoprobe	9		PROJECT MANAGER: Nancy Love	
SAMPLING ME	THOD:	Macrocor	е		BORING DIAMETER: 2"	BORING DEPTH: 32'
DEPTH TO GW	(ft) FROM	MBG: N	IA - cave	d DATE: 04/25/2018	NOTES: Located in roadway, SW of	SW corner of Building 71.
DEPTH (ft) DEPTH (ft) DEPTH (ft) CLASS CLASS CLASS CLASS CLASS CLASS CLASS CLASS CLASS CLASS CLASS DEPTH (ft) DEPCH DEPC						NOTES

-00-						 	0												
0.0	0		ASPH		Black, grey, and white ASPHALT.	ľ	0												
	0		GW		Light grey, dry, loose, fine to coarse GRAVEL.														
1.0	0				Multicolored, damp, medium dense, burned DEBRIS, and fine	-	-1												
	0		FILL		to coarse Sand, some Graver. Fill.		_												
2.0	0	75%	75%		//	Red, mottled, damp, stiff, plastic Silty CLAY. Fill or reworked		-2											
-	0				material.														
3.0	0						-3												
-	0		CL			1													
4.0							-4												
-						-													
5.0	0					Red, mottled, medium stiff Clayey SILT. Fill.		-5											
-	0	73%				-													
6.0	0		73%	73%	%				-6										
-	0					1													
7.0	0																DEBRIS and Gravel layer (3" thick) at 7' BG.		-7
-	0														Pale brown, multicolored, damp, medium stiff Clayey SILT. Fill.	-			
8.0	0				Yellow and light grey, mottled with black, damp, medium stiff		-8												
-	0		ML		Clayey SILT. Fill or reworked material - weathered.	-													
9.0	0						-9												
-	0					-													
10.0	0	100%				-	-1(
-	0					-													
11.0	0					-	-1 1												
-	0					+													
12.0	0					-	-12												
⊢						4													

PRC	JECT	CG-	17-1111	SOIL BORING LOG SB-12	PAGE 2 OF 3	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES	
13.0	0		ML	Damp, medium stiff Clayey SILT. Fill/reworked material.	_	
13.0	0			Light grey and brownish yellow, mottled, damp, stiff SILT & CLAY. Native.		
14.0	0	100%			Borehole caved at 13.7' BG after Macrocore and rods were pulled	14
_	0		ML/	Light grey and brownish yellow, mottled, damp, stiff SILT & CLAY, some fine to medium Sand seams.		_
15.0	0		CL		-	1:
-	0			Coarse GRAVEL layer (2" thick) at 15 BG.	-	-
16.0	0			Coarse GRAVEL layer (2" thick) at 16' BG.	-	-16
-	0		SW	quartz Gravel.	-	-
17.0	0			Red, yellow, and light grey, mottled, damp, stiff, plastic Silty	-	-17
-	0	40000		CLAY.	-	
-18.0	0	100%	CL			
19.0	0				_	19
-	0			Red, yellow, and white, mottled, damp, stiff Clayey SILT, and weathered Gravel.	-	-
20.0	0		-	Very pale brown, mottled, damp, medium stiff Clavey SILT	-	20
-	0				-	-
21.0	0		ML		-	- -2 1
_	0			Weathered GRAVEL layer (3" thick) at 21.75-22' BG.	-	
22.0	0	100%				-22
23.0	0					-23
-	0			Very pale brown, mottled with yellow, damp, stiff SILT & CLAY, some Silt seams.	-	-
24.0	0		ML/		09:45 Collected soil sample at 24'	-24
-	0					-
25.0	0			Pale yellow, wet, loose, Clayey fine SAND.	Perched groundwater encountered	-2
-	0		SC			-
26.0	0	100%		Very pale brown, mottled with yellow, damp, stiff, Clayey fine	-	-26
	0		ML	Very pale brown, damp, stiff Clayey SILT.		
27.0	0			Red, mottled, damp, stiff, plastic Silty CLAY.		-21
28.0	0		CL		_	28
F				Red, mottled with light grey, black, and yellow, damp, stiff, plastic Silty CLAY.	-	
PRC	JECT	CG	-17-1111	SOIL BORING LOG SB-12	PAGE 3 OF 3	
------------	----------------------	----------	---------------	--	--------------------------	-----
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES	
1		I	1 1			-
29.0	0			Red, mottled with light grey, black, and yellow, damp, stiff, plastic Silty CLAY	_	29
	0					
	0					
30.0	0	80%	CL		-	-30
-	0				-	1
31.0	0				-	31
32.0	0				Bottom of boring 32' BG.	-32

PRO	OJECT	CG-	17-111 ⁻	1	SOIL BORING LO	DG SB-13	PAGE 1 OF 4	
PROJ	ECT:	Additiona						
LOCA	TION:	AFRH - 3	3700 N Ca	DATE/TIME COMPLETED: 04/25/2018 14:36	Chesapeake			
DRILL		IPANY:	Tidewate	r, Inc.		LOGGED BY: Meg Staines	GeoSciences, Inc.	
DRILL	ING MET	HOD:	Geoprob	e		PROJECT MANAGER: Nancy Love	_	
SAMF	PLING ME	THOD:	Macroco	re		BORING DIAMETER: 2"	BORING DEPTH: 50'	
DEPT	H TO GW	(ft) FRO	M BG: N	١A	DATE: 04/25/2018	NOTES: Located at top of hill, SE of SE corner of Building 71.		
DEPTH (ft)	PID READINGS (ppm)	RECOVERY (%)	SOIL CLASS	GRAPHIC LOG	OVERBUR DESCR	OVERBURDEN / ROCK DESCRIPTION		
0.0 1.0	0 0 0				Red and yellow, mottled, o Silty CLAY (alternating lay	damp, medium stiff Clayey SILT & /ers), little fine to coarse Gravel. Fill.	-	

1.0	0				-	-1
-	0				-	1
2.0	0	100%			-	2
-	0		FILL		-	1
3.0	0			BRICK pieces, and fine to coarse SAND, layer 3.5-4' BG.	-	3
-	0				-	1
4.0	0			Mottled, damp, medium stiff Clayey SILT.	-	-4
-	0				-	1_
5.0	0			Light brownish yellow, damp, soft, fine to medium SAND, trace		-5
	0		SP	lines. Fill.	-	
6.0	0	90%				6
	0			Red, mottled with white and pale yellow, damp, hard, slightly plastic Silty CLAY, trace fine to coarse Gravel.	-	1_
7.0	0					-7
	0				-	
8.0	0					-8
	0				-	
9.0	0		CL	Red, mottled with white and pale yellow, damp to dry, hard,		-9
	0	4000/			-	
-10.0	0	100%		Red, mottled with white and yellow, damp to dry, hard, plastic		-10
	0				-	
11.0	0			Red, mottled with white and yellow, damp, hard, plastic Silty		-1
	0				-]
-12.0	0					-12
		I	I		1 -	٦

PRC	JECT	CG-	17-1111	SOIL BORING LOG SB-13	PAGE 2 OF 4	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES	
13.0	0			Red, mottled with white and yellow, damp, hard, plastic Silty CLAY.		-1:
14.0	0	100%			-	-14
- 15.0 -	0 0					-1{
16.0	0			Red, mottled with white, damp, hard, plastic Silty CLAY.	Borehole caved at 15.7' BG after Macrocore and rods were pulled out.	-16
- -17.0	0 0		CL			-17
— -18.0 -	0	100%				-18
19.0 -	0				-	-19
20.0 - 21.0	0			Red, mottled with yellow and white, damp, very stiff, plastic Silty CLAY, some weathered Gravel seams.		-20
- 	0	100%			-	-22
- 23.0	0		ML	Yellow, mottled with white, damp, stiff Clayey SILT, some weathered Gravel seams.	-	-2:
- 24.0	0		sc	dense, Clayey very fine SAND.		-24
- 25.0	0		CL/	Yellow and red, mottled, damp, very stiff CLAY & SILT, some Silty CLAY, some Silt seams (each 2-3" thick), some weathered Gravel at the seams.		-2
— -26.0	0	88%	ML			-26
- -27.0	0		CL	Red, mottled with black and white, damp, very stiff, plastic Silty CLAY.		-27
28.0 -	0					-28

PRC	JECT	CG	17-1111	SOIL BORING LOG SB-13	PAGE 3 OF 4	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES	
I	l o	l		Red, mottled, damp, very stiff, plastic Silty CLAY	I	I
29.0	0			Red and very pale brown, mottled with black, damp Clayey		
-	0			Red, mottled with black, damp, stiff Silty CLAY.		-
30.0	0	85%	CL			
F	0					-
31.0	0			Very pale brown and weak red, mottled with black, damp, stiff		
F	0			Clayey SIL1. Slightly moist 31-32' BG; damp 32-33' BG.		_
32.0			ML			
	0					
33.0	0			Red and weak red, mottled with yellow and black, damp, very		
	0	809/				
-54.0	0	0078				
35.0	0		CL			
	0					
36.0	0		-		14:00 Collected soil sample at 36'	
Ļ	0.3				BG.	_
37.0	0			Weak red and very pale brown, mottled with black and white, damp, stiff SILT & CLAY.		
-	0		ML /			_
38.0	0	68%	CL			
-	0					_
39.0	0					
+	0			some interbedded lenses of Silty Clay and Clayey very fine		-
-40.0	0		er.			-40
-	0		30			-
41.0	0					
+	0			Yellow and white striped, damp, stiff SILT, some very fine		-
-42.0	0			SAND.		-42
F	0	46%	ML			-
43.0	0					-43
F	0					-
⊢ -44.0 └	0		SM	White and yellow striped, damp, dense, very fine SAND, and Silt.		-4 4

PRC	JECT	CG-	17-1111	SOIL BORING LOG SB-13	PAGE 4 OF 4		
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES		
- 45.0	0			White and yellow striped, damp, dense, very fine SAND, and			
-45.0	0					-4.	
	0					1	
46.0	0		SM		_	-46	
-	0						1
47.0	0				-	-47	
-	0	40%		White mottled with vellow, damp, dense, fine SAND, little Silt	-		
48.0					_	-48	
-					-	-	
-49.0	0		SP		_	-49	
L	0						
-50.0	0				3ottom of boring 50' BG.	-50	

PROJECT CG-17	PAGE 1 OF 2							
PROJECT: Additional F								
LOCATION: AFRH - 370	Chesapeake							
DRILLING COMPANY: Tic	DRILLING COMPANY: Tidewater, Inc. LOGGED BY: Meg Staines							
DRILLING METHOD: Ge	eoprobe		PROJECT MANAGER: Nancy Love	_				
SAMPLING METHOD: Ma	acrocore		BORING DIAMETER: 2"	BORING DEPTH: 20'				
DEPTH TO GW (ft) FROM E	BG: 14.9	DATE: 04/26/2018	NOTES: Located southeast of the so	utheast corner of Building 46				
DEPTH (ft) PID READINGS (ppm) RECOVERY (%)	SOIL CLASS GRAPHIC LOG	OVERBUR DESCR	DEN / ROCK RIPTION	NOTES				

— 0.0		1	1				r	⊓0	
	51.8				Black, grey, and white ASPHALT (9" thick), and Gravel base (3"				
-	103.5		ASPH		thick)		-	1	
1.0	68.4						_	-1	1
	2.6				Red, mottled with yellow and grey, damp, stiff SILT & CLAY.				
	0.5				Reworked material, possibly native.		-	1	
2.0	0	80%						-2	2
	0						_		
	0		ML/						
3.0	0		CL	::±:				-3	\$
-	Ū			$\Xi:\Xi$			-	-	
4.0	0			= : = :					
-4.0	0			\pm \pm				1-4	ł
-	0			=: =:			-	1	
	0			エ:エ		09:00 Collected soil sample at 5'	_	-5	5
	0				Red, mottled with light grey and yellow, damp, very stiff, plastic	BG			
	0				Sity CLAT. Native.		-	1	
6.0		100%						-6	5
	0								
	0			$\langle / / \rangle$					
7.0	0							-7	1
-	Ũ						-	-	
	0								
8.0	0				Red, mottled with yellow and black, damp, very stiff, very plastic			-a	5
-	0				Silty CLAY.		-	1	
	0						_	-9)
	0								
	0						-	1	
10.0		100%					-	-1	1(
	0				Red, mottled with yellow and black, damp, very stiff, very plastic Silty CLAY.		_		
	0			$\langle / / \rangle$					
11.0	0							 - 1	11
-	0						-	-	
	0								
12.0	0		1		Red, mottled with yellow and black, damp, very stiff, very plastic			1-1	1à
⊢					Silty CLAY.		-	-	

PRC	JECT	CG-17	7-1111	SOIL BORING LOG SB-14	PAGE 2 OF 2		
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES		
13.0 -	0				-	1:	
14.0	0	100%			-	14	
15.0	0 0				_	1:	
16.0	0		CL	Red, mottled with yellow and black, wet, medium stiff, very	Perched groundwater encountered	16	
- 17.0	0			plastic Silty CLAY.	-	- 17	
- 18.0 _	0	100%		Red, yellow, and light grey, mottled, wet, stiff, slightly plastic Silty CLAY, some weathered Gravel lenses.		18	
19.0	0			Wet 16-19' BG. Damp 19-19.5' BG.		19	
20.0	0		ML	Yellow, mottled with light grey, damp, stiff Clayey SILT, some very weathered fine Gravel.	Bottom of boring 20' BG.	(

APPENDIX G

BUILDING 76 – SOIL BORING LOGS

Additional Phase II Environmental Site Assessment (ESA) at Buildings 46 and 76 Armed Forces Retirement Home (AFRH) - Main Campus 3700 N. Capital Street, NW, Washington, DC 20011 August 2018

PROJECT CG-17-1111	PAGE 1 OF 2		
PROJECT: Additional Phase II Environ	nental Site Assessment	DATE STARTED: 04/27/2018	
LOCATION: AFRH - 3700 N Capitol St N	IW, Washington, DC 20011	DATE/TIME COMPLETED: 04/27/2018 12:15	Chesapeake
DRILLING COMPANY: Tidewater, Inc.		LOGGED BY: Meg Staines	GeoSciences, Inc.
DRILLING METHOD: Geoprobe		PROJECT MANAGER: Nancy Love	_
SAMPLING METHOD: Macrocore		BORING DIAMETER: 2"	BORING DEPTH: 26'
DEPTH TO GW (ft) FROM BG: NA	DATE: NA	NOTES: PID reading immediately be	low Concrete at top of soil: 0ppm.
DEPTH (ft) PID READINGS (ppm) RECOVERY (%) SOIL CLASS GRAPHIC CLASS LOG	OVERBUR DESCF	DEN / ROCK RIPTION	NOTES

-0.0								-0
0.0			CONC		CONCRETE.	Concrete cracked at boring location. Stains not present on		ľ
			GW	<mark>- 2 : •</mark>	Fine to coarse GRAVEL.	concrete or surface soil.	-	1
1.0	0				Brownish yellow, mottled, damp, stiff Clayey SILT. Little	10:35 Collected surface soil sample below Concrete and Gravel,		-1
-	U				discoloration 1-2' BG (light grey and very dark brown) and 3.5-4' (black). Reworked material	at top of soil.	-	-
2.0	0	68%	ML				_	-2
	0	0070						
	0							
3.0	0			工 工	Ded mettled with white and vallow, down, stiff CLAV & CUT			-3
-	0				trace fine Gravel.		-	-
4.0	0			_ <u>⊥</u> : ⊥				-4
	0		CL/				_	
	0		ML					
5.0	0							-5
-	0						-	1
6.0	0	100%			Ded. mettled with year, and a brown and light vallowish brown			-6
-	0				damp, stiff, slightly plastic Silty CLAY.		-	-
7 0	0						_	-7
-7.0	0							
-	0		CL				-	1
8.0	0					10:45 Collected soil sample at 8'		-8
-	Ū					b0.	-	-
9.0	0					10:50 Collected soil sample at 9'	_	9
	33.9			$\Xi:\Xi$	Red, mottled with yellow and brownish yellow, damp, stiff Silty	BG.		
	25.6			= : = :	CLAY, and weathered Silt layers. Black discoloration at 10' BG.		-	1
10.0	7.4	100%	CL/	_ <u> </u>				-1
-	15		ML	- : - : : 			-	1
11.0	1.0						_	-1
	0.6			Ξ:Ι			_	
	2.0				Very pale brown, damp, stiff SILT, and very fine Sand.			
12.0	0		ML				-	1-1
⊢							-	4

PRC	JECT	CG-	17-1111	1 SOIL BORING LOG SB-76-01	PAGE 2 OF 2	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES	
		I	I			
13.0	0				11:30 Collected soil sample at 13'	
-			ML		BG.	
14.0		100%				
-				Very pale brown, damp, sun Clayey Sic1.	-	
15.0				Vollow and white damp dance fine to medium SAND		
-					-	
16.0	0		SP			
-	0					
17.0	0			Weak red, mottled, damp, stiff Silty CLAY.	1	
-	0				-	
18.0	0	100%	CL			
-	0				4" fine SAND lens at 18.5' BG.	
19.0	0			Weak red, mottled, damp, stiff Clayey SILT.		
-	0					
20.0	0			Weak red, mottled with yellow and black, damp, stiff Clayey		
	0			SILT.		
21.0	0				-2	
_	0	4000/	M			
-22.0	0	100%	IVIL		Borehole stayed open to 25.9' BG. No groundwater encountered.	
23.0	0			Weak red, mottled, damp, stiff Clayey SILT.	2	
	0					
24.0	0		-			
-	0			4" fine SAND lens at 24" BG.		
25.0	0	100%			2°	
-	0		SM	Very pale brown, damp, dense, fine SAND, and Silt.	Bottom of boring 26' BG	
-26.0	0				-2 ⁻²	

PROJECT CG-17-1111	ROJECT CG-17-1111 SOIL BORING LOG SB-76-02					
PROJECT: Additional Phase II Environ	nental Site Assessment	DATE STARTED: 04/27/2018				
LOCATION: AFRH - 3700 N Capitol St N	IW, Washington, DC 20011	DATE/TIME COMPLETED: 04/27/2018 14:01	Chesapeake			
DRILLING COMPANY: Tidewater, Inc.	LOGGED BY: Meg Staines	GeoSciences, Inc.				
DRILLING METHOD: Geoprobe		PROJECT MANAGER: Nancy Love				
SAMPLING METHOD: Macrocore		BORING DIAMETER: 2"	BORING DEPTH: 26'			
DEPTH TO GW (ft) FROM BG: NA	DATE: NA	NOTES: PID reading immediately be	low Concrete at top of soil: 0ppm.			
DEPTH (ft) DID READINGS ppm) RECOVERY (%) SOIL CLASS GRAPHIC CLASS CLASS	OVERBUR DESCF	DEN / ROCK RIPTION	NOTES			

0.0				/////	CONCRETE	No cracks in concrete at boring	0 0
			CONC			location. Stains not present on	
	0		GW		Fine to coarse GRAVEL.	concrete or surface soil.	
1.0	0				Yellow and red, damp, stiff Clayey SILT, and Silty Clay. Fill.		
	0						
	0		N/I				
2.0		53%	IVIL			No recovery 2-4' BG	
					2" diameter Cobble in Macrocore at 2' BG blocked recovery 2-4'	No recovery 2-4 DO.	
					66.		1
3.0				┛┓╹┓┱┟╢┓╴			
-							1
4.0							
	0				Red, mottled with white and brownish yellow, damp, stiff SILT &		
-	0				CLAY, some Slit seams. Native.		1
5.0	Ũ			= :			
	0						
-	0			= : = :			-
-6.0	0	100%	ML/	\pm			-6
	0	10070	CL	= : <u>+</u> : :			
-	0						-
-70	0			= : = :			
-7.0	0			$\pm : \pm$			-'
-				= : = :		13:05 Collected soil sample at 7.5'	-
	0					BG.	
0.0	0			= : = : :			~~
-				\pm : \pm			-
	17.9			= : = :			
9.0	14.3			\pm : \pm			
-				= : = :			
	16.2			Т:Т			
10.0	22.4	100%			Yellow mottled with white and red damp, stiff Clavey SILT	12:55 Collected soil sample at 10'	
-					some weathered Silt lenses (each 1-3" thick), some Silty Clay	50.	
	19.3				lenses.		
11.0	12.6						-11
	12.0		ML				
	5.4						
12.0	0						
	U				Very pale brown, mottled, damp, stiff Clayey SILT, trace Mica.		
1 I						I Contraction of the second	1 1

PRC	JECT	CG-	·17-1111	SOIL BORING LOG SB-76-02	PAGE 2 OF 2	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL	OVERBURDEN / ROCK DESCRIPTION	NOTES	
13.0	1.6 0.1			Very pale brown, mottled with black, fine to medium SAND		-1:
- 14.0 -	0 0	100%	ML	Seam at 13-13.25' BG. Very pale brown, mottled, damp, stiff Clayey SILT, trace Mica.	13:15 Collected soil sample at 14'	-14
— -15.0 -	0			Weathered SILT seam at 14.75-15' BG. Red, mottled with white and brownish yellow, damp, stiff Silty CLAY lenses, and Silt seams.		-15
— -16.0 -	0.3 0.1		CL/ ML		-	-16
17.0 - 18.0 -	0.1 0 0	100%	ML	Pale brown, mottled with black, damp, stiff Clayey SILT, trace Mica.		-17 -18
19.0 -	0			Weak red and brownish yellow, damp, stiff SILT & CLAY.	-	-19
— -20.0 -	0		ML/ CL			-2(
21.0 - 22.0	0	100%	SM	Very pale brown and brownish yellow, damp, dense, fine to medium SAND, some Silt, some Clayey Silt lenses.	Boring caved in at 21.8' BG.	-21 -21
- 23.0	0			Brownish vellow, mottled with black and very pale brown, damp	-	-23
- 24.0	0		CL/	stiff CLAY & SILT.		-24
- 25.0	0	100%			-	-2{
-26.0	0		ML	Sand, some fine Sand seams.	Bottom of boring 26' BG.	-26

PROJECT CG-17-1111	SOIL BORING LO	PAGE 1 OF 2	
PROJECT: Additional Phase II Environ	nental Site Assessment	DATE STARTED: 04/27/2018	
LOCATION: AFRH - 3700 N Capitol St N	IW, Washington, DC 20011	DATE/TIME COMPLETED: 04/27/2018 17:30	Chesapeake
DRILLING COMPANY: Tidewater, Inc.		LOGGED BY: Meg Staines	GeoSciences, Inc.
DRILLING METHOD: Geoprobe		PROJECT MANAGER: Nancy Love	_
SAMPLING METHOD: Macrocore		BORING DIAMETER: 2"	BORING DEPTH: 26'
DEPTH TO GW (ft) FROM BG: NA	DATE: NA	NOTES: PID reading immediately be	low Concrete at top of soil: 0ppm.
DEPTH (ft) PID READINGS ppm) RECOVERY (%) SOIL CLASS GRAPHIC CLASS CLASS	OVERBUR DESCF	DEN / ROCK RIPTION	NOTES

-00							0	
0.0			CONC		CONCRETE.	No cracks in concrete. Concrete is stained at boring location and		
	0		GW	0	Fine to coarse GRAVEL.	vicinity. Stains not present on surface soil.		
- -1.0	0				Brownish yellow, light gray, and red, mottled, damp, medium stiff Clayey SILT, trace fine Gravel. Fill.	14:25 Collected surface soil sample below Concrete and Gravel, at top of soil.	1	
2.0	0	93%	ML			14:55 Collected soil sample at 1.5'	2	
_	0						BG.	
2 0	30.7						2	
-3.0	75.5				Black burned material at 3' BG.	15:05 Collected soil sample at 3' BG. Duplicate SB-76-D1 also	-3	
	20.4				Red, mottled with white and yellow, damp, stiff, plastic Silty	collected.		
4.0	34.7				Red, mottled with white and yellow, damp, stiff, plastic Silty			
-	43.4				CLAY, some weathered fine Gravel and coarse Sand seams. Native.			
5.0	6.2							
-	3.9							
6.0	12	100%					6	
-	1.2		CL					
7.0	1.0							
-	4.1							
8.0	1.2							
_	3.7							
9.0	7.5						9	
	20.3							
	14.9	4000/						
10.0	23.1	100%			Yellow and red, mottled with white, damp, stiff Clayey SILT		-10	
F	57.1		ML		thick).			
11.0	36.3				Red, mottled with white and brownish yellow, damp, stiff, not		− -1 1	
	24.9		CL/		plastic CLAY & SILT.		4	
12.0	8.5		ML				-12	
⊢				: T :				

PRC	JECT	CG-	17-1111	1 SC	DIL BORING LOG SB-76-03	PAGE 2 OF 2		
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL		OVERBURDEN / ROCK DESCRIPTION	NOTES		
	10.4	1	1					
13.0	16.4		CL/ML				-1	
-	5.8				Pale brown, damp, medium stiff Clayey SILT, trace MIca.			
14.0	3.5	98%	м				-1-	
-	3.9							
15.0	2.4				Black mottling at 14.5-15' BG.		-1	
-	2.0							
16.0	1.7		SP		Yellow, white, and brownish yellow, damp, dense, fine to medium SAND, little Silt.		-1	
_	13.1							
17.0	10.5				Pale brown and weak red, mottled with black, damp, stiff Clayey SILT.		-1	
_	14.6							
18.0	6.0	100%			Fine to medium SAND lens at 17.7-18' BG.	40:45. Oplie stad opil operations of 401		
	3.0				Pale brown and weak red, mottled with black, damp, stiff Clayey	BG.		
19.0	1.8		ML					
	1.6							
20 0	1.3							
-20.0	1.0				Pale brown, damp, stiff Clayey SILT, little Silty Clay lenses.		-2	
24.0	0.8							
	0.5				Yellow, mottled with black, damp, dense, fine SAND, and Silt.		-2	
	0.5		SM					
22.0	0.3	100%	CL		Red, mottled with light brownish yellow, damp, stiff Silty CLAY.			
-	29.5				Brownish yellow and very pale brown, damp, stiff Clayey SILT.			
23.0	0.2		ML			Borehole caved in at 23.4' BG.		
F	0.2				Very pale brown, damp, dense, fine SAND, some Silt.	No groundwater encountered.		
24.0	0.5		SM				-2	
F	1.1		ML/		Weak red, mottled with black, damp, stiff SILT & CLAY.			
25.0	0.1	100%	CL				-2	
-	0		ML		Very pale brown, mottled with brown, damp, stiff Clayey SILT, little fine Sand seams	Bottom of boring 26' BG.		
└ -26.0					naio nno ouno ouno.	1	⊥ <u> </u>	

PROJECT CG-17-1111	PROJECT CG-17-1111 SOIL BORING LOG SB-76-04						
PROJECT: Additional Phase II Environ	nental Site Assessment	DATE STARTED: 04/30/2018					
LOCATION: AFRH - 3700 N Capitol St N	IW, Washington, DC 20011	DATE/TIME COMPLETED: 04/30/2018 10:45	Chesapeake				
DRILLING COMPANY: Tidewater, Inc.		LOGGED BY: Meg Staines	GeoSciences, Inc.				
DRILLING METHOD: Geoprobe		PROJECT MANAGER: Nancy Love					
SAMPLING METHOD: Macrocore		BORING DIAMETER: 2"	BORING DEPTH: 26'				
DEPTH TO GW (ft) FROM BG: NA	DATE: NA	NOTES: PID reading immediately be	low Concrete at top of soil: 0ppm.				
DEPTH (ft) PID READINGS (ppm) RECOVERY (%) SOIL CLASS GRAPHIC CLASS CLASS	OVERBUR DESCF	DEN / ROCK RIPTION	NOTES				

- 0.0 ,		1		/ /-	/ /_/-			(D																
			CONC			CONCRETE.	No cracks in concrete at boring location. Stains not present on		-																
			GW		•••••	Fine to coarse GRAVEL.	concrete or surface soil.																		
1.0	0			_ <u></u>	⊐	Red, mottled with white and yellow, little black mottling, damp,		-	·1																
-	0			-:-	; ; ; ; ;	stiff SILT and CLAY, some fine to coarse Sand lenses, some fine Gravel layers; fill.		-																	
2.0	0	83%	ML/	_::	т:			-	-2																
_	0		CL	H																					
20	0			= :	⊥: 				2																
	0				· · ·	Black burned material at 3' BG.			.5																
-	0							Ξ																	
4.0	0				=:	<u> </u>			-	-4															
-	0					Light brownich vellow, weak red, and white, dry, stiff Clayey		-																	
5.0	0					SILT, some fine to coarse, rounded Gravel; fill.			-5																
_	0	100%																							
6.0	0								6																
-6.0	0	100 %				Weak red and light brownish yellow, mottled with white, damp,			.0																
	0					sun Clayey SiL1, hauve.																			
7.0	0						09:30 Collected soil sample at 7.0'	-	-7																
-	0																							-	
8.0	0								-8																
_	0.9		ML			Weak red, mottled with light brownish yellow, damp, stiff Clayey SILT.																			
0	0.1								-0																
-5.0	0								.9																
	4.5																								
10.0	12.9	100%				Red. mottled with light brownish vellow, damp, stiff, verv		- .	-1(
-	13.0		weathered Clayey SILT.	weathered Clayey SILT.	09:35 Collected soil sample at	-																			
11.0	0.5					Red, mottled with gray and yellowish brown, damp, stiff Clayey	10.0 DG.		-1 1																
	9.5					SILI, trace Gravel.																			
12 0	6.3									-11															
-12.0						Very pale brown, damp, stiff SILT, and fine Sand, little Mica.			14																
⊢ I		I	I			I	I	-																	

PRC	JECT	CG-	17-1111	SOIL BORING LOG SB-76-04	PAGE 2 OF 2		
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL	OVERBURDEN / ROCK DESCRIPTION	NOTES		
13.0 -	2.8 1.4			Very pale brown, damp, stiff SILT and fine Sand, little Mica.		1	
- -14.0	0.9	88%	ML				
15.0 -	0.5 0.2						
16.0 -	0.3 2.2		SM	Reddish yellow, mottled, damp, dense, fine SAND, some Silt, trace Mica.			
17.0	0.3 0.3			Very pale brown, mottled with weak red and yellow, damp, stiff CLAY & SILT, trace black mottling, trace Sand seams.		-1	
18.0	0.2 0.1	100%					
19.0	0.1 0.1			Clayey SILT layer, mottled with black at 19-19.25' BG.			
20.0	0.2 0.9		CL/ ML	Vonupale brown mettled with red and black damp stiff SILT 8		-2	
- 21.0	0.9 1.3			CLAY, some fine to medium Sand seams, trace fine Gravel.			
- 22.0	1.7 1.7	100%				- 2	
- 23.0	2.1 1.9			Very pale brown and weak red, mottled with black, damp,		- -2	
- 24.0	3.3 3.5			dense, fine to medium SAND, some Clayey Silt lenses.	3orehole stayed open to 25.9' BG. No groundwater encountered.	- -2	
- 25.0	4.0 4.5 8.6 9.6	100%	SM	fine to medium SAND, some Clayey Silt lenses.	10:40 Collected soil sample at 25' 3G.	- 2	
-26.0	12.9			E E E E E E E E E E E E E E E E E E E	3ottom of boring 26' BG.		

PROJECT CG-17-1111	SOIL BORING LO	DG SB-76-05	PAGE 1 OF 2
PROJECT: Additional Phase II Environ	mental Site Assessment	DATE STARTED: 04/30/2018	
LOCATION: AFRH - 3700 N Capitol St N	Chesapeake		
DRILLING COMPANY: Tidewater, Inc.	GeoSciences, Inc.		
DRILLING METHOD: Geoprobe		PROJECT MANAGER: Nancy Love	
SAMPLING METHOD: Macrocore		BORING DIAMETER: 2"	BORING DEPTH: 26'
DEPTH TO GW (ft) FROM BG: NA	DATE: NA	NOTES: PID reading immediately be	low Concrete at top of soil: 0ppm.
DEPTH (ft) PID READINGS ppm) RECOVERY (%) SOIL CLASS GRAPHIC GRAPHIC LOG	OVERBUR DESCF	DEN / ROCK RIPTION	NOTES

0.0		1		/////		No gradka in congrate at baring	0	
			CONC		Concrete.	location. Stains not present on		
			GW	<u>()</u>	Fine to coarse GRAVEL.	concrete or surface soil.		
- -1.0	0 0				Light brownish yellow, red, and trace black, mottled, damp, medium stiff Clayey SILT. Fill.		- -1	
2.0	0	83%	ML				2	
-						-		
- 3.0	0		ML/	 	Brownish yellow and red, mottled with black and white, damp, stiff SILT & CLAY.		-3	
-0.0	0		CL					
-	0				Light vellowish brown, damp, medium dense, verv fine SAND	-		
4.0	0				and Silt, some fine to coarse Gravel. Fill.			
	0							
	0.1		SM				1	
5.0	0							
	0							
	0.1							
6.0	0	100%			Red mottled with vellow and white damp stiff SILT and Clav	1		
-	Ū						Native.	
	0							
7.0	0		ML			11:20 Collected soil sample at 7.0' BG.	-7	
-								
-80	0							
-0.0	0.1						-0	
-	0.2				Ped mottled with vellow and white damp, stiff Silty CLAX, and	-		
9.0	0.2				weathered Silt seams.		9	
	1.9							
F	1.5		CL/				1	
10.0	4.0	100%	ML					
	1.9							
	3.6							
11.0	15				Very pale brown mottled with weak red vellow and black	1	-1 [·]	
-	1.0				damp, fine SAND, some Silt.			
	1.1		SM					
12.0	0						- -12	
⊢						I	-	

PRC	JECT	CG-	17-1111	SOIL BORING LOG SB-76-05	PAGE 2 OF 2				
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES				
13.0 -	0 0 0		SM	Very pale brown, mottled with yellow and black, damp, medium dense, fine SAND, and Silt, some fine Sand lenses, trace Mica.		-1:			
14.0	0	100%	ML	Very pale brown, mottled with weak red and yellow, damp,	-	-14			
-	0		SP	Very pale brown, mottled with yelllow and white, damp, dense, fine SAND, little fine Gravel, little Silt.					
15.0	9.2			■ ■ ■ Brownish red, mottled, damp, stiff SILT & CLAY, some fine Sand lenses.	11:50 Collected soil sample at	-1:			
16.0	92.6				15.5' BG.	-1(
- 17.0	2.3 43.8				3 .8	ML/ CL		-	-17
18.0	42.1 22.9	100%			-	-11			
- 19.0	9.9 10.3 8.0	10070		Weak red and very pale brown, mottled with black, damp, stiff Clayey SILT.	-	-1			
20.0	2.6 0		ML			-20			
- 21.0 -	0 0.1						12:00 Collected soil sample at 21' – BG. –	-2 [,]	
- -22.0	0.1	100%		Brownish yellow and very pale brown, mottled with black, damp,	-	-22			
- -23.0	0 0	10070		Alternating layers 20-26' BG.	_	-23			
24.0	0 0		SM		Borehole stayed open to 24.7' BG. No groundwater encountered.	-24			
- 25.0	0 0.1				-	-2			
-26.0	0.1				Bottom of boring 26' BG.	-20			

PROJECT CG-17-1111	T CG-17-1111 SOIL BORING LOG SB-76-06					
PROJECT: Additional Phase II Environ	nental Site Assessment	DATE STARTED: 04/30/2018				
LOCATION: AFRH - 3700 N Capitol St N	IW, Washington, DC 20011	DATE/TIME COMPLETED: 04/30/2018 13:50	Chesapeake			
DRILLING COMPANY: Tidewater, Inc.		LOGGED BY: Meg Staines	GeoSciences, Inc.			
DRILLING METHOD: Geoprobe		PROJECT MANAGER: Nancy Love				
SAMPLING METHOD: Macrocore		BORING DIAMETER: 2"	BORING DEPTH: 25'			
DEPTH TO GW (ft) FROM BG: NA	DATE: NA	NOTES: PID reading immediately be	low Concrete at top of soil: 0ppm.			
DEPTH (ft) PID READINGS (ppm) RECOVERY (%) SOIL CLASS GRAPHIC CLASS LOG	PID READINGS Soll (ppm)					

- 0.0 r		1	1				ı — 10
			CONC		CONCRETE.	Concrete cracked at boring location. Stains not present on	
-			GW	<u></u>	Fine to coarse GRAVEL.	concrete or surface soil.	
1.0	0			= : = :	Red, brownish yellow, white, and yellow, mottled with black,	12:25 Collected surface soil sample below Concrete and Gravel,	
_	0			\pm : \pm	damp, medium stiff SILT & CLAY, little fine Gravel, little fine to coarse Sand, Fill.	at top of soil.	
	0			=: .			
2.0	0	88%	ML/				
-	Ũ		CL				
3.0	0						
-5.0	0				Silty CLAY lens at 3-3.25' BG. Black discoloration at 3.5' BG.		-5
-	0			·/:·/:	Pale brown dry dense Clayey fine SAND	-	
4.0			SC	··/·/·/·			-4
	0						
	0				Red, mottled with white and yellowish brown, damp, stiff, slightly		
5.0	0.1		CI		plastic Silty CLAY.		
-	011						
- 60	0	100%					
-0.0	0	100%			Red, white, and brownish yellow, mottled, damp, stiff Clay &		-0
-	0				SILT.		-
7.0	Ū		ML/	\pm \pm			-7
	0		CL	= : = :		12:55 Collected soil comple at 7.5	
	0					BG.	
8.0	0		-				
-	Ū						
0.0	0.1				Red, mottled with white, damp, stiff, plastic Silty CLAY.		
-9.0	6.5						 -9
-	74		N 41		Light brownish yellow and white, mottled, damp, stiff Clayey		
10.0		100%			SILT.		-1
	12.6				Red, mottled with yellow, white, and black, damp, stiff, slightly plastic Silty CLAY, little Silt seams, little fine Gravel		
	6.8						
11.0	59		CL		Black discoloration 10-10 5' BG and 11 5-12' BG		-1
	0.0						
42.0	5.4					12:10 Collected coil completet 10	
12.0	34.6					BG. Duplicate SB-76-D2 also	- -1)
⊢						collected.	-

PRC	JECT	CG-	17-1111	SOIL BORING LOG SB-76-06	PAGE 2 OF 2	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL	OVERBURDEN / ROCK DESCRIPTION	NOTES	
13.0	13.7 8.2		ML	Very pale brown and weak red, mottled with black, damp, stiff Clayey SILT.	.	
14 0	7.5	100%				-
	16.5	100 %	SC	Very pale brown, mottled, damp, dense, Clayey fine SAND.		-
15.0	10.1		ML	Very pale brown, damp, stiff Clayey SILT.	-	15
16.0	4.3			Very pale brown, mottled with yellow and black, damp, dense, fine SAND, some Silt, some Clayey Silt stringers.	-	
-	13.1		SM			-
17.0	3.4		CL/	Weak red and light brownish yellow, damp, stiff CLAY and SIL	-	
18.0	0.9	75%	ML			-
_	1.0		SM	Pale yellow, damp, dense, fine SAND, and Silt.	_	_
19.0	0.7		ML	Yellow and weak red, damp, stiff Clayey SILT.	13:15 Collected soil sample at 19'	
-	0.6		SM	Light brownish yellow, damp, dense, tine SAND, some Slit.	BG.	-
20.0			-	19.5-19.75' BG. Red Silty CLAY lens 19.75-20' BG.	-	
21 0						
- 21.0	0.4			Very pale brown and weak red, mottled with black, damp, stiff CLAY & SILT, some fine Sand seams.		_
22.0	0.4		ML/		-	
_	0.3	100%	CL			-
23.0	0.4					
24.0	0.3				Borehole stayed open to 24.2' BG. No groundwater encountered.	
-	0.2				Bottom of boring 25' BG.	_
L -25.0	0.0					

PROJECT CG-17-1111	SOIL BORING LO	DG SB-76-07	PAGE 1 OF 2
PROJECT: Additional Phase II Environ	nental Site Assessment	DATE STARTED: 04/30/2018	
LOCATION: AFRH - 3700 N Capitol St N	W, Washington, DC 20011	DATE/TIME COMPLETED: 04/30/2018 15:38	Chesapeake
DRILLING COMPANY: Tidewater, Inc.		LOGGED BY: Meg Staines	GeoSciences, Inc.
DRILLING METHOD: Geoprobe		PROJECT MANAGER: Nancy Love	
SAMPLING METHOD: Macrocore		BORING DIAMETER: 2"	BORING DEPTH: 26'
DEPTH TO GW (ft) FROM BG: NA	DATE: NA	NOTES: PID reading immediately be	low Concrete at top of soil: 0ppm.
DEPTH (ft) PID READINGS ppm) RECOVERY (%) SOIL CLASS GRAPHIC CLASS CLASS	OVERBUR DESCF	NOTES	

0.0			CONC		CONCRETE.	No cracks in concrete at boring location. Stains not present on]]]	0
-			GW	<mark>0:*</mark>	Fine to coarse GRAVEL.	concrete or surface soil.		ı
1.0	7.7		CL/		Red, light brownish yellow, white, and trace black, mottled,		-	-1
-	22.8		ML	= = = = =	damp CLAY & SILT, little fine to coarse Sand. Fill.		-	1
2.0	28.8	100%		I :I		14:20 Collected soil sample at 1'		-2
	5.0				Pale yellow, mottled, damp, dense, fine Clayey SAND.			1
	3.0		SC					1
3.0	8.5				Red, mottled with white and brownish yellow, damp Silty CLAY,			-3
-	2.8		CI		little fine Gravel. Fill.		-	1
4.0	2.5						_	-4
	10.4							1
	0.7		ML/		Red, very pale brown, and brownish yellow, damp, stiff SILT &			-
5.0	0		CL					-5
-	0				Red, mottled with white and brownish vellow, damp, stiff, plastic		-	I
6.0	0.4	100%			Silty CLAY. Native.			-6
_	2.1							1
7.0	1.7		CL					-7
-7.0	1.8							-1
	1.9							1
8.0	5.2						-	-8
-	0.2						-	1
9.0	3.2				Yellow, mottled with white, damp, stiff Clayey SIL1.			-9
	1.8		ML					I
	12.5				Dark brownish red and black, very weathered GRAVEL 9.5-9.8' BG.			I
10.0	9.1	100%			Red, mottled with black and brownish yellow, damp, stiff, slightly			-1
-	Q /				plastic Silty CLAY.		-	I
11.0	5.4		CL		Very dark brown black and brownish red weathered Gravel			-1
	6.4				layer (4" thick).			1
	6.2		CL/		Red, mottled with yellow, damp, stiff CLAY & SILT, some very			.
12.0	3.0		ML			15:00 Collected soil sample at 12'		-1:
⊢					<u> </u>	1	-	

PRC	JECT	CG-	17-1111	SOIL BORING LOG SB-76-07	PAGE 2 OF 2	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL CLASS	OVERBURDEN / ROCK DESCRIPTION	NOTES	
12.0	2.6			Pale brown, mottled, damp, stiff Clayey SILT.		
-13.0	4.4		MI			
14 0	2.1	100%				
14.0	2.8	100 %				
15.0	2.7			Pale brown, mottled, damp, dense, fine SAND, some Silt, some Clayey Silt lenses.		
	2.1					
16.0	2.3					
_	0		SIM			
17.0	1.4					
_	0.6					_
18.0	0.4	100%	CL	Weak red, mottled, damp, stiff, slightly plastic Silty CLAY.		
_	1.1		SM	Silt, some Clayey Silt lenses.		_
19.0	0.7			Red, mottled with very pale brown and black, damp, stiff Clayey SILT, some fine Sand seams.	13:15 Collected soil sample at 10'	
-	1.1				BG.	-
20.0	1.4		-			
-			ML			-
21.0	1.3					
-	2.0					-
22.0	0.9				Borehole caved in at 21.2' BG.	
-	0.3		SM	└└└└└ Very pale brown, mottled with yellow and black, damp, dense,	No groundwater encountered.	-
23.0	0	67%		Image: Second start sta	15:10 Collected soil sample at 23'	
-	0			SILT.	BG.	-
24.0	0		CL/			
F	0		ML			-
-25.0	0					
-	0				Bottom of boring 26' BG.	+
└─ -26.0	L		I			

PROJECT CG-17-1111	SOIL BORING LO	DG SB-76-08	PAGE 1 OF 2
PROJECT: Additional Phase II Environr	nental Site Assessment	DATE STARTED: 04/30/2018	
LOCATION: AFRH - 3700 N Capitol St N	W, Washington, DC 20011	DATE/TIME COMPLETED: 04/30/2018 18:00	Chesapeake
DRILLING COMPANY: Tidewater, Inc.		LOGGED BY: Meg Staines	GeoSciences, Inc.
DRILLING METHOD: Geoprobe		PROJECT MANAGER: Nancy Love	
SAMPLING METHOD: Macrocore		BORING DIAMETER: 2"	BORING DEPTH: 26'
DEPTH TO GW (ft) FROM BG: NA	DATE: NA	NOTES: PID reading immediately be	low Concrete at top of soil: 0ppm.
DEPTH (ft) PID READINGS (ppm) (ppm) (%) (%) SOIL CLASS GRAPHIC LOG	NOTES		

-0.0			1				-0
			CONC	CONCRETE.	No cracks in concrete at boring location. Stains not present on		
			GW	Fine to coarse GRAVEL.	concrete or surface soil.	-	
- -1.0	0			Red, very pale brown, yellow, and black, mottled, damp, stiff FILL.		-	-1
2.0	0	100%	FILL	Lenses of Silty CLAY interbedded with Clavey Silt, fine to		-	-2
-	0			coarse Sand, and fine Gravel.		-	-
3.0	0					_	-3
-	0			Red, mottled with yellow, black, and weak red, damp, stiff, slightly plastic Silty CLAY.		-	
4.0	0		CL			_	-4
							_
5.0	0			Weak red, mottled, damp, stiff Clayey SILT, some fine to coarse		-	-5
-	0			Sand.		-	
6.0	0	75%		Light brownish vellow, mottled, soft, slightly moist Clavey SILT.			-6
-	0		ML	Fill or reworked material.		-	-
7.0	0					-	-7
-	0					-	
8.0	0.1			Very pale brown, mottled, damp, stiff Clayey SILT, some fine Sand, little fine Gravel.	16:10 Collected seil completet 9'	_	-8
	0				BG.	_	
	0			Red, yellow, and very pale brown, damp, stiff, slightly plastic Silty CLAY, Native			
9.0	18.8		CL				-9
	13.1					-	1
10.0	12.3	100%	SW	White, very pale brown, and yellowish brown, dry, loose, fine to coarse SAND some fine Gravel some Silt		-	-1(
	22.0			Very pale brown, mottled, damp, stiff Clayey SILT.		-	1
11.0	17.7					-	-1 1
-	27 5		ML			-	-
12.0	21.5					-	-12
	18.1					_	

PRC	JECT	CG-	17-1111	SOIL BORING LOG SB-76-08 PAGE 2 OF 2	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL	OVERBURDEN / ROCK DESCRIPTION NOTES	
13.0	24.4 10.9		SM	Yellowish brown, mottled, damp, medium dense, fine SAND, and Silt, trace Mica.	-
-	8.3		ML	Yellowish brown, mottled with white, yellow, and light gray,	1
14.0	11.3	100%		Brownish yellow and yellow, mottled, damp, dense, fine SAND,	- -1·
-	8.9		SP		
15.0	7.8			Yellow, mottled with brownish yellow and white, damp, stiff Clavey SILT, some fine Sand seams	1
16.0	8.6				
_	5.4			Yellowish brown, mottled, damp, stiff Clayey SILT, some fine Sand seams.	
17.0	13.9		IVIL		1
_	14.6			16:40 Collected soil sample at	-
18.0	31.4	100%		17.5' BG.	
_	5.2		CL	Red, mottled with yellow, white, and black, damp, stiff, slightly plastic Silty CLAY.	-
19.0	5.2			Weak red and brownish vellow, mottled, damp, stiff Clavey	19
-	7.6			SILT, some fine Sand seams.	-
20.0				- Weak red and light brownish yellow, damp, stiff Clayey SILT,	20
-				and fine Sand seams, little fine Gravel.	-
21.0	0				
-	28.8				
22.0	16.8		ML	Very weak red, mottled, damp, stiff Clayey SILT. Borehole stayed open to 24.2' BG. No groundwater encountered.	
23 0	13.2				
-23.0	27.0	50%			
24.0	18.1				24
-	16.5				-
25.0	12.1			16:45 Collected soil sample at 25'	2
-	8.2		SM	BG. BG. Bd. Bd. BG. Bottom of boring 26' BG.	-
26.0	6.3			dense, fine to medium SAND, some Silt.	

PROJECT CG-17-1111	SOIL BORING LO	DG SB-76-09	PAGE 1 OF 2
PROJECT: Additional Phase II Environ	nental Site Assessment	DATE STARTED: 04/30/2018	
LOCATION: AFRH - 3700 N Capitol St N	W, Washington, DC 20011	DATE/TIME COMPLETED: 05/01/2018 09:30	Chesapeake
DRILLING COMPANY: Tidewater, Inc.		LOGGED BY: Meg Staines	GeoSciences, Inc.
DRILLING METHOD: Geoprobe		PROJECT MANAGER: Nancy Love	
SAMPLING METHOD: Macrocore		BORING DIAMETER: 2"	BORING DEPTH: 26'
DEPTH TO GW (ft) FROM BG: NA	DATE: NA	NOTES: PID reading immediately be	low Concrete at top of soil: 0ppm.
DEPTH (ft) ID READINGS Ppm) Ppm) SolL (%) SolL CLASS GRAPHIC GRAPHIC LOG	NOTES		

0.0			CONC		CONCRETE.	Concrete cracked at boring location. Stains not present on]] 0
-			GW	<u> </u>	Fine to coarse GRAVEL.	concrete or surface soil.	
1.0 - 2.0 - 3.0	4,159 211 69.1 32.4 25.3 10.3 20.5	50%	ML		Red, light yellowish brown, and yellow, damp, stiff Clayey SILT, some rounded Gravel. Red, mottled with yellow and black, damp, stiff Clayey SILT. 2" Quartz Gravel layer at 2' BG. Red and yellow, damp, stiff Clayey SILT.	09:15 Collected surface soil sample below Concrete and Gravel, at top of soil. 10:50 Collected soil sample at 0.5' below top of soil. Duplicate sample SB-76-D3 also collected.	1
-10	6.7						
-4.0							
- 5.0	 10.2				Light yellowish brown, mottled with gray, damp, stiff Silty CLAY.	11:00 Collected soil sample at 5' BG.	-
	6.7		CL				
— -6.0	2.3	75%					-6
7.0	1.6 2.5		ML		Light yellowish brown, mottled with gray, damp, stiff Clayey SILT, trace Gravel.		7
-	1.6		SP		Yellowish brown, damp, dense, fine to medium SAND, some quartz Gravel, little Clayey Silt.		
8.0	1.7		ML		Yellowish brown, damp, stiff Clayey SILT, little quartz Gravel.		-8
	1.3		SP		Gray, dry, loose, fine to medium SAND, and Gravel.		
	0.8				Red, mottled with yellowish brown and gray, damp, stiff Silty CLAY.		
10 0	0.8	100%	CL				
_	0.3	10078					
	0.6						
11.0	0.4				Yellowish brown, damp, stiff Clayey SILT, some fine Sand.]	
F	0.3		ML				
12.0	0					10:55 Collected soil sample at 12'	-12
⊢					l	DG.	_

PRC	JECT	CG-	·17-1111	SOIL BORING LOG SB-76-09	PAGE 2 OF 2
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL	OVERBURDEN / ROCK DESCRIPTION	NOTES
13.0 - 14.0	0 0 0 0 0	100%	ML	Very pale brown, mottled with reddish brown, damp, stif SILT, some fine Sand.	f Clayey
- 15.0	0 0		SP	Yellowish brown, mottled with black, damp, dense, fine medium SAND.	o 1
16.0	0		ML	Reddish brown, damp, dense Clayey SILT, and fine Sar Gravel.	nd, little1
17.0	0		GP	Yellowish brown, damp, loose, coarse GRAVEL, little fir	e to
17.0 18.0 19.0	0 0 0 0	100%	ML	Dark brown, mottled with reddish brown, damp, stiff Clay SILT, and fine Sand. Dark brown, mottled with black, damp, stiff Clayey SILT, fine Sand.	/ey -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1
- 20.0	0		-	Reddish brown, mottled with black, damp, stiff Silty CLA	Y
- 21.0 -	0 0 0 0				
22.0 - 23.0	0 0	1000/	CL	Reddish brown, mottled with black, damp, stiff Silty CLA fine Sand lenses.	Y, little Borehole stayed open to 24.2' BG.
24.0	0 0 0	100%			
- 25.0	0		SP	Yellowish brown, damp, loose, fine SAND.	Bottom of boring 26' BG.
L -26.0				·····	

PROJECT CG-17-1111	SOIL BORING LO	DG SB-76-10	PAGE 1 OF 2								
PROJECT: Additional Phase II Environ	PROJECT: Additional Phase II Environmental Site Assessment DATE STARTED: 04/30/2018										
LOCATION: AFRH - 3700 N Capitol St N	Chesapeake										
DRILLING COMPANY: Tidewater, Inc.	GeoSciences, Inc.										
DRILLING METHOD: Geoprobe		PROJECT MANAGER: Nancy Love									
SAMPLING METHOD: Macrocore		BORING DIAMETER: 2"	BORING DEPTH: 26'								
DEPTH TO GW (ft) FROM BG: NA	DATE: NA	NOTES: PID reading immediately be	low Concrete at top of soil: 0ppm.								
DEPTH (ft) PID READINGS ppm) RECOVERY (%) SOIL CLASS GRAPHIC CLASS	OVERBUR DESCF	DEN / ROCK RIPTION	NOTES								

г — 0.0 г				× / /				r	⊣0
			CONC			CONCRETE.	location. Stains not present on		
			GW	i ()		Fine to coarse GRAVEL.	concrete or surface soil.	-	1
1.0	0					Light brown, damp, dense, fine SAND, little Quartz Gravel.		-	1
-	0		SP					-	-
2.0	0	100%							-2
	0						_		
	0		SM			Light brownish yellow, damp, stiff Clayey SAND & SILT, trace Gravel.			
3.0	0					Reddish brown, mottled with yellowish brown, damp, very stiff			-3
-	0					Silty CLAY.		-	1
4.0			CL						4
-								-	-
5.0					4			_	5
						Red, mottled with yellowish brown, damp, stiff Clayey SILT, little Gravel			
6.0	0	50%	ML					-	6
-	0							-	-
7.0	ů								7
_	0			<mark></mark>	ĻĻ,			.	_
0	0		SP	<mark></mark>		Yellowish brown, damp, dense, fine SAND, some quartz Gravel.			
-0.0	0					Yellow, mottled with black, yellowish brown, and gray, damp,			-0
-	0					stiff Clayey SIL I, trace Gravei.	12:50 Collected soil sample at 8.5'	-	1
9.0	0.9						60.		9
-	0.0							-	-
10.0	0.3	100%					12:20 Collected soil sample at 10	_	
	11.3		ML			Yellowish brown, mottled with black, dense, damp Clayey SILT.	BG.	_	
	7.7								
11.0	10.6							-	- - 1
-	9.8							-	-
12.0	27					Dark raddiab brown mattled with black and vallewish brown		-	
	3.1					damp, stiff Clayey SILT, trace Gravel.		-	_

PRC	JECT	CG	·17-1111	SOIL BORING LOG SB-76-10	PAGE 2 OF 2	
DEPTH (ft)	PID READING (ppm)	RECOVERY	SOIL	OVERBURDEN / ROCK DESCRIPTION	NOTES	
42.0	3.6					
13.0	2.1			Brown, mottled with black, damp, stiff Clayey SILT, little fine		-1
14 0	1.9	100%				-1
- 14.0	2.0	100 %	ML		-	
15.0	1.8					1
-	1.5				-	
16.0	1.2		-	Light yellowish brown, damp, stiff Clayey SILT, and fine Sand.	-	1
-	0.8			Reddish brown, damp, stiff Clayey SILT, trace Gravel.		-
17.0	1.8		SP	Gravel.	-	
-	1.2			Vellowish brown damp, stiff Clavey SILT, little fine Sand		-
18.0	0.8	100%		renowish brown, damp, sun Glayey SiLT, inde inte Sand.		-1-
-	0.6		ML		-	-
19.0	0.6				-	1
-	0.5			Red, mottled with black, damp, stiff Silty CLAY.	12:55 Collected soil sample at	-
20.0			CL		-	2
					-	
			00	Yellowish brown, mottled with black, damp, dense, fine SAND.		-2
22 0			5P		_	. 2
	0		CI	Red, mottled with black, stiff Silty CLAY, trace Gravel.	Borehole stayed open to 23.9' BG. No groundwater encountered.	
23.0	0	67%				-2
F	0.3	01%			.	-
24.0	0				-	-2
F			SP	Yellowish brown, mottled with black, damp, fine SAND.	.	-
-25.0					-	2
-					Bottom of boring 26' BG.	-
L -26.0				••••••		⊥ -2

APPENDIX H

BUILDING 46 – SOIL BORING/WELL CONSTRUCTION LOGS

PROJECT CG-17-1111	WELL CONSTRU	ICTION LOG W46-2	PAGE	1 OF 5
PROJECT: Additional Phase II Environn	nental Site Assessment	DATE STARTED: 05/08/2018		
LOCATION: AFRH - 3700 N Capitol St N	W, Washington, DC 20011	DATE/TIME COMPLETED: 05/10/2018 19:00		Chesapeake
DRILLING COMPANY: Allied Well Drillin	LOGGED BY: Meg Staines		GeoSciences, Inc.	
DRILLING METHOD: Hollow Stem Aug	jers	PROJECT MANAGER: Nancy Love		
SAMPLING METHOD: Split Spoons		WELL DIAMETER: 2"	WELL DEP	'TH: 114'
DEPTH TO GW (ft) FROM BG: 106.73	DATE: 06/05/2018	BORING DIAMETER: 8"	BORING D	EPTH: 117'
DEPTH (ft) PID READINGS (PPM) (PPM) (%) RECOVERY (%) BLOW COUNTS SOIL CLASS	OVERBU DES	JRDEN / ROCK CRIPTION	NOTES	WELL COMPLETION LOG

0									(0
				ASPH		Asphalt with thin Gravel base.	Augered 0-24' BG; logged drill cuttings:	Flushmount surface completion		
- 2	0	NA	NA			Strong brown, damp, medium stiff Clayey SILT.	did not collect split spoons. Refer to co- located Geoprobe soil boring log			2
4 -						Strong brown, damp to moist, stiff Clayey SILT, little fine	SB-07 for detailed lithology descriptions.			4
6 -	0	NA	NA	ML		Gravel.			-	6
-8									-	8
- 10				ML/ CL	ы:¦!:ы:	Brown, damp, medium stiff SILT & CLAY.			_	10
- 14	0	NA	NA	MI		Yellowish brown, damp, stiff Clayey SILT.			-	12
- 16						Yellowish brown, damp, stiff Clayey SILT, little fine Gravel.			-	16
- 18	0	NA	NA	ML/ GM	N.N.N.	Yellowish brown, damp, stiff Clayey SILT, some fine to coarse Gravel.				18
-					N N					

PRC	JECT	CG-17	'-1111		WELL	CONSTRUCTION LOG W46-2	PAGE	2 OF 5	
DEPTH (ft)	PID READINGS	RECOVERY (%)	BLOW COUNTS	SOIL	CLASS GRAPHIC LOG	OVERBURDEN / ROCK DESCRIPTION	NOTES	WELL COMPLETION LOG	
- 20 - - 22	0	NA	NA	ML/ GM		Dark yellowish brown, damp, stiff Clayey SILT, and fine to coarse Gravel.			20
	82.9		40	ML		Yellowish brown, damp, stiff Clayey SILT, little fine Gravel.	Collected split		24
- 26	95.5 164.4 116.4 59.3 39.6	75%	12 15 22	GP SM CL		White and yellow, dry, hard, coarse GRAVEL, little Sand. Yellowish brown, damp, dense, fine SAND, some Silt. Light reddish brown, mottled, damp, stiff, plastic Silty	BG to identify potential perched groundwater		26
-	11.5 9.6 11.5 12.0	75%	18 16 16 21	SM ML/ CL	, <u> </u>	CLAY. Yellowish brown, damp, dense, fine SAND & SILT. Red, mottled, damp, stiff SILT & CLAY.	zones.		
- 28 -	25.5 9.0 3.3	50%	30 13 17			Yellowish red, mottled with yellow and black, damp, stiff, plastic Silty CLAY.	-		28
- 30 - - 32	2.5 1.0 1.1 0.9 0.5 0.3	100%	21 13 8 15 21 20	CL		Red, mottled with light grey and black, damp, very stiff, plastic Silty CLAY.	Drill cuttings 30-34' BG were very moist. Moisture was not observed in split spoons 20 24' BC		30
-	0.2 0.5	100%	23 21	SM		Light grey, damp, dense, fine SAND & SILT, little Mica.	30-34 BG.		
- 34	1.0 0.2 0.4	100%	25 6 13	ML/ CL SM		Light reddish brown, mottled, damp, stiff SILT, and Clay, some Silt seams. Pale grey, damp, dense, fine SAND, and Silt.	-		34
- 36	0.2 0.4	10070	11 20	ML		Pale grey, mottled with black, damp, stiff Clayey SILT, some fine Sand.	Augered 36-		- 36
- 38	0	NA	NA	CI		Yellowish red, damp, stiff, plastic Silty CLAY, some dry, weathered, Gravel.	40' BG; logged drill cuttings; did not collect split spoons. 05/08/2018		38
- 40				OL			augers in the ground at 40' BG to see if water entered		40
-	1.8 0.9 0	100%	7 8 9			Pink, mottled with yellow and light grey, damp, dense, fine	borehole overnight. 05/09/2018		
- 42	0 0.6 0.7	40000	15 22 15	SM		SAND & SILT, little Clay stringers.	07:15 No water in the borehole. Resumed	Bentonite- cement qrout 1-	42
- 44	0 0.1	100%	19 20	SP ML/ CL		Light grey, mottled, damp, dense, fine SAND, little Silt. Light brown, mottled, damp, stiff SILT & CLAY.	driving split spoons 40-44' BG.	86' BG.	

PRC	DJECT	CG-17	7-1111		WELL	CONSTRUCTION LOG W46-2	PAGE	3 OF	5	
DEPTH (ft)	PID READINGS	RECOVERY (%)	BLOW COUNTS	SOIL	CLASS GRAPHIC LOG	OVERBURDEN / ROCK DESCRIPTION	NOTES	WE COMPL LC	LL ETION)G	
44										44
- 46	11.1 3.3 8.2 22.7	100%	10 17 26 24			Light grey, mottled with yellow, damp, medium dense, very fine SAND, little Silt.	-			46
- 49	0.3 0.7 0.8 0	100%	19 19 17 24	SP				2" Schedule 40 PVC		10
- 40	2.5		14				-	riser pipe		40
F	3.5	100%	19	SM		Damp, medium dense, very fine SAND, and Silt.	-	0-34 DG.		
	1.8		21	SP		White, mottled with yellow, damp, medium dense, fine to medium SAND.				
- 50	4.8		11				Collected split			50
L	5.3	100%	13	SM	ı <mark>: : : :</mark>	White, damp, medium dense, very fine SAND, some Silt.	BG to identify			
	3.1	100%	15		•••••	White, dry, medium dense, fine to medium SAND.	potential			
- 52	2.5		20	-	•••••	Light brownish yellow, mottled, damp, medium dense, fine	groundwater			52
	0.5		15 14		••••••	White mottled with brownish vellow and vellow, dry to	zones.			
-	0.4	100%	14		••••••	damp, medium dense, fine SAND, trace Silt.				
- 54	0.2		17		••••••					54
54	0.8		18		••••••	White, damp, medium dense, fine SAND, trace Silt.				54
-	0.7	100%	17		•••••					
	0.9		15	SP						
- 56	0.3		27			dense, fine SAND, little Silt.				56
L	0	4000	19			White, dry to damp, medium dense, fine SAND, little Silt.				
	0	100%	18							
- 58	0		19							58
	0.2		13			White, dry to damp, medium dense, fine SAND, little Silt.				
+	0.1	100%	14							
	0		35				-			
- 60	5.5		3			Light grey, damp, stiff Clayey SILT.	-			60
Ļ	4.2	100%	12			white, dry to damp, medium dense to loose, fine to medium SAND, trace Silt.				
	5.2	100 /0	14		••••••	Light grey, mottled, damp Clayey SILT lens 61-61.2' BG.				
- 62	5.0		21	-	••••••	White, dry to damp, medium dense, fine SAND, little Silt.				62
			21		••••••	vvnite, dry to damp, dense, fine SAND, trace Silt.				
F	0	100%	24		••••••					
- 64	0		22		••••••					64
	0		19	SP	••••••	White, dry to damp, dense, fine SAND, trace Silt.				U-1
-	0	100%	19		••••••		Starting at 66'			
			21		·····		BG, collected			
- 66	0		22				every 10 ft. Descriptions of drill cuttings			66
- 68	0	NA	NA				are not reliably representative due to mixing with soil from			68



PRC	DJECT	CG-17	7-1111		WELL	CONSTRUCTION LOG W46-2	PAGE	5 OF	5]
DEPTH (ft)	PID READINGS	RECOVERY (%)	BLOW COUNTS	SOIL	CLASS GRAPHIC LOG	OVERBURDEN / ROCK DESCRIPTION	NOTES	WE COMPLI LC	LL ETION)G	
	I	1		1			1			
- 94	NA	NA	NA							- 94
	0.1		10 17	ML	-	Very pale brown, mottled with dark grey and white, damp, stiff Clayey SILT, some fine Sand seams.				-
- 96	0	100%	39 49			Light grey, mottled with red and yellow, damp, hard, plastic Silty CLAY, some damp fine Sand seams.	-			- 96
- 98	0.1			CL		Light grey, mottled with yellow and very dark reddish brown, damp, stiff, fine Sandy CLAY, little Mica.	Augered 97- 105' BG; did not collect split spoons.			- 98
- - 100	0.2 0.5 0.5						Very hard drilling.			- 10
- — 102	0.0	NA	NA				Very hard drilling.	#2 sand filter pack 91-114' BG.		- 10:
- 104	0.2			SP		Light grey, mottled with yellow, damp, very hard, fine	Split spoon	20-slot 2" PVC screen 94-		- 104
Γ	0.3	100%	50/5		•••••••	SAND, little Silt.	105.4' BG.	114' BG.		-
- 106 -	0					to moist, very hard, fine SAND, some Silt. Soil cuttings from approximately 105-110' BG were moist.	Groundwater encountered at approximately			— 10 -
- 108 -	1.6			SM	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Augered 105.4-115' BG; did not collect split			— 10
- 110	0.1	NA	NA				spoons.			- 11 _
- 112	0.5									- 11:
- 114	0.1			SP			Encountered running sands and lost 3 feet of the borehole during well	Bottom of well 114' BG.		- 114
- 116	0.1 0 0.1 0	100%	5 7 14 19			Light grey, mottled with pink, yellow, and dark brown, wet, dense, fine SAND, little little Clay stringers, trace fine rounded Gravel. Color change only at 117' BG: yellow.	Bottom of borehole at 117' BG.		-	- 11

PROJECT CG-17-1111	WELL CONSTRU	JCTION LOG W46-3	PAGE	1 OF 5		
PROJECT: Additional Phase II Environr	nental Site Assessment	DATE STARTED: 05/11/2018				
LOCATION: AFRH - 3700 N Capitol St N	W, Washington, DC 20011	DATE/TIME COMPLETED: 05/18/2018 16:00		Chesapeake		
DRILLING COMPANY: Allied Well Drillin	g	LOGGED BY: Meg Staines		GeoSciences, Inc.		
DRILLING METHOD: Hollow Stem Aug	gers	PROJECT MANAGER: Nancy Love				
SAMPLING METHOD: Split Spoons		WELL DIAMETER: 2"	WELL DEP	'TH: 109'		
DEPTH TO GW (ft) FROM BG: 102.70	DATE: 06/05/2018	BORING DIAMETER: 8"	BORING D	EPTH: 118'		
DEPTH (ft) PID READINGS (PPM) (PPM) (%) (%) BLOW COUNTS SOIL CLASS	OVERB COG DES	URDEN / ROCK SCRIPTION	NOTES	WELL COMPLETION LOG		

____0

□				ASPH	Asphalt with thin Gravel base	Augered 0-20'	Flushmount	
-2 4	0	NA	NA		Yellowish red, damp, medium stiff Clayey SILT, some fine to coarse Sand, little fine Gravel.	BG; logged drill cuttings; did not collect split spoons. Refer to co- located Geoprobe soil boring log SB-11 for detailed lithology descriptions.	surface completion.	- -2 -4
6 8	0	NA	NA		Brown, damp to moist, medium stiff Clayey SILT.			- - - -8
- 10 -				ML			Bentonite- cement grout 1- 81' BG.	- 10 -
- 12	0	NA	NA		Strong brown, damp, medium stiff Clayey SILT, little fine Gravel.			- 12 -
- 14					Strong brown, damp, medium stiff Clayey SILT, little fine Gravel, little fine to coarse Sand.			- 14
- 16	0	NA	NA		Strong brown down modium stiff Clover SILT come fine			- 16
- 18 -	0	NA	NA		to coarse Sand, little fine Gravel.			- 18 -

PRC	JECT	CG-17	7-1111		WELL	CONSTRUCTION LOG W46-3	PAGE	2 OF 5				
DEPTH (ft)	PID READINGS	RECOVERY (%)	BLOW COUNTS	SolL	CLASS GRAPHIC LOG	OVERBURDEN / ROCK DESCRIPTION	NOTES	WELL COMPLETIO LOG	N			
						Strong brown, down, modium stiff Clovery SILT, some fine						
- 20	0 0		11 14	ML		to coarse Sand, little fine Gravel.	Collected split spoons 20-28'					
-	0	95%	16 18			Light brown, damp, medium dense, fine SAND, and Silt, little Mica.	potential					
- 22	0		10 12 17	SM		Reddish yellow, mottled, damp (small moist spot at 23' BG) medium dense, fine SAND & SILT, little Mica.	groundwater zones. Small moist		∧ - 22 ∧			
-	0	100%	17				spots in split spoons at 23'					
- 24	0		24 12	ML		Very weathered GRAVEL seam (2" thick). Red, yellow, pink, and light grey, mottled, damp (small moist spot at 24' BG), stiff Clayey SILT, some Silty Clay	BG, 24' BG, and 26' BG. 2' of water		^ - 24			
-	0	100%	20 15			Red, mottled with light grey, yellow, and brownish yellow,	accumulated in split spoon	^' ^'				
- 26	0		24 13	-		Silty CLAY, some fine Sand & Silt seams, some Clayey Silt seams.	hole. Small wet		^ ^ ^ ^			
-	0 0	100%	14 19			Very weathered GRAVEL seam (2" thick). Red, mottled with yellow, light grey, pink, and black, damp (small wet spots at 27' BG and 28' BG), very stiff, plastic	spoons at 27' BG and 28'					
- 28	0		25	-		Silty CLAY, some Clayey Silt seams.	BG. 05/11/2018 11:45 Augered		28			
-						Red, moist, very stiff, plastic Silty CLAY.	to 28' BG, pulled augers	^' ^'				
- 30							BG, installed		^ 30			
-				CL			screen & riser pipe; left					
- 32	0	NA	NA				days (weekend), to					
_							see if sufficient					
- 34							to set shallow well. Borehole	~' ^'				
							protected from surface runoff					
	0 0		11 5			Red, mottled with yellow, damp, very stiff, plastic Silty CLAY.	05/14/2018 07:55 Gauged					
- 30	0	85%	11 10	CL/M		Weak red, mottled with black, damp, stiff CLAY & SILT.	temporary well: 1.45 feet					
-				-	·/··/··	medium dense Clayey fine SAND.	accumulated; decided this					
- 38	0	NA	NA	sc			was not sufficient for a well, Collected	^' ^'	^/ 38 ^/			
-							grab- groundwater					
- 40	0		8				08:30am. Resumed					
-	0 0	100%	13 18	ML/ SC		Weak red, mottled with pink and yellow, damp, stiff Clayey SILT, and Clayey SAND lenses.	drilling 05/14/2018 10:30am					
- 42	0		33	-		White, mottled with yellow, damp, dense, fine SAND, some Silt.	10.50am.		^ 			
_	0	NA	NA	SM			Collected 1 split spoon					
- 44							every 5 ft 35- 47' BG.					
PR	OJECT	CG-17	7-1111		WELL	CONSTRUCTION LOG W46-3		PAGE	3	OF	5]
------------------	------------------	-----------------	----------------------	------	-------------------------	---	---	--	--------------------	-------------------	-------------------	------------
DEPTH (ft)	PID READINGS	RECOVERY (%)	BLOW COUNTS	SOIL	CLASS GRAPHIC LOG	OVERBURDEN / ROCK DESCRIPTION		NOTES	C	WE OMPLI LC	LL ETION)G	
44												4 4
- 46	0 0.8 0	100%	10 11 17	SM	1	White, mottled with yellow and very dark grey, damp, dense, fine SAND & SILT.	Co	ollected at				- 46
- 48	0	NA	21 NA			White, mottled with yellow and very dark grey, damp, dense, fine to medium SAND.	Sp 10 BC De of at	oon every oft 47-118' G. escriptions drill cuttings this depth				- 48
— 50 -	0	NA	NA				are rej du wit bo Th sp	e not reliably presentative e to mixing th soil from rehole. herefore only lit spoon				- 50 -
- 52							lith de are Pli in	nology escriptions e presented. D readings between				- 52 -
- 54							sp we cu ch fre	lit spoons ere from drill ttings. Also ecked in equently with				- 54
- 56	0 0 0 0	100%	6 7 11 14			White with trace yellow mottling, dry to damp, very hard, fine SAND, little Silt.	Dr ob tha inc lith	iller to track servations at may dicate hology				- 56
- 58				SP		plastic Silty CLAY lens (2" thick).	cn be sp	anges in tween split oons.	2" Sche 40 P	edule VC		— 58 -
- 60	0	NA	NA				Dr dic up	ill cuttings d not come 60-65' BG.	0-89	BG.		- 60
- 62							dri	illing.				- 62 -
- 64												- 64 -
- 66	0 0 0 0	90%	12 15 17 28			White with trace pale yellow mottling, dry to damp, very hard, fine to medium SAND, trace Silt.						- 66
- 68							Au 75 co sp	igered 67- ' BG; did not llect split oons.				- 68



PRC	JECT	CG-17	7-1111		WEL	CONSTRUCTION LOG W46-3	PAGE	5 OF	5
DEPTH (ft)	PID READINGS	RECOVERY (%)	BLOW COUNTS	SOIL	CLASS GRAPHIC 1 OG	OVERBURDEN / ROCK DESCRIPTION	NOTES	WE COMPLI LO	LL ETION IG
- 94 -	0	NA	0	SF		White, mottled with yellow, brownish yellow, reddish brown, and pink, damp, very hard, fine SAND, little Silt.	Augered 92- 100' BG; did not collect split spoons. Drill cuttings		94
- 96 - - 98 -	0	NA	0	CL			did not come up 96-100' BG, causing very hard drilling conditions. Added 40 gallons of water to help bring up cuttings.	20-slot 2" PVC screen 89-	- 91
- 102	0 0 0	100%	18 48 50/5			Light grey, mottled with yellow, brownish yellow, very dark grey, and pink, damp, very stiff, fine Sandy CLAY.	Split spoon refusal at 101.4' BG. Augered 102- 110' BG; did not collect split spoons.	109' BG.	
- 104	0	NA	NA				Groundwater encountered at approximately 103' BG. Drilling got		
- 106 - - 108	0	NA	50/5 NA	SN	1	Yellow, wet, very hard, fine SAND, some Silt.	mucn easier at 103' BG. Split spoon refusal at 105.4' BG.		
- 110 -	0	100%	8 24			Very pale brown, mottled with yellow, moist, dense, fine SAND & SILT, some Clayey Silt lenses.	Split spoon refusal at 111.2' BG. 05/15/2018 Drilled 5'	Bottom of well 109' BG. Lost 4 feet of borehole	- 1
- 112			50/2			Grey, mottled with black, moist, dense, Clayey fine SAND, some Sandy Clay lenses, some jet black, platey coal-like pieces. Possible swamp materials.	deeper than target depth (113' BG) in case of running sands. Running	well construc- tion.	- 1
- 114	0	NA	NA	sc	; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;		sands pushed up 11'.		
118							Bottom of borehole at 118' BG.		

PROJECT CG-17-1111	WELL CONSTRU	JCTION LOG W71-2	PAGE	1 OF 5			
PROJECT: Additional Phase II Environm	nental Site Assessment	DATE STARTED: 05/21/2018					
LOCATION: AFRH - 3700 N Capitol St N	W, Washington, DC 20011	DATE/TIME COMPLETED: 05/25/2018 08:45		Chesapeake			
DRILLING COMPANY: Allied Well Drillin	g	LOGGED BY: Meg Staines		GeoSciences, Inc.			
DRILLING METHOD: Spin Casing and	Roller Bit	PROJECT MANAGER: Nancy Love					
SAMPLING METHOD: Split Spoons		WELL DIAMETER: 2"	WELL DEP	WELL DEPTH: 113'			
DEPTH TO GW (ft) FROM BG: 101.03	DATE: 06/05/2018	BORING DIAMETER: 7"	BORING D	EPTH: 116'			
DEPTH (ft) PID READINGS (PPM) (PPM) (PPM) (%) RECOVERY (%) BLOW COUNTS SOIL CLASS	OVERBI DO DES	URDEN / ROCK SCRIPTION	NOTES	WELL COMPLETION LOG			

•								0
-2 -4	0	NA	NA		Red, yellow, and light brownish yellow, damp, FILL, including Clayey Silt, Silty Clay, fine to coarse Gravel, brick pieces, and fine to coarse Sand.	Hand augered 0-7' BG because utility sand was observed 5- 6.3' BG in SB- 13. Advanced spin casing and drilled with roller bit 0-60' BG; logged drill cuttings from roller bit; did not collect	Flushmount surface completion.	- 2 4
6 8 10	0	NA	NA			split spoons. Refer to co- located Geoprobe soil boring log SB-13 for detailed lithology descriptions.	Bentonite- cement grout 1- 85' BG.	6
- 12 - 14 -	0	NA	NA	CL	Red, damp, stiff, very plastic CLAY.			- - 12 - 14 -
- 16 - 18 -	0	NA	NA					- 16 - 18 - 18

PRC	DJECT	CG-17	7-1111		WELL	CONSTRUCTION LOG W71-2		PAGE	2	OF	5		
DEPTH (ft)	PID READINGS	RECOVERY (%)	BLOW COUNTS	SOIL	CLASS GRAPHIC LOG	OVERBURDEN / ROCK DESCRIPTION		NOTES	C	WEL OMPLE LO	-L ETION G		
- 20						Red, damp, stiff, very plastic CLAY.	Lo cu rol wh	gged drill ttings from ller bit, nich					- 20
- 22	0	NA	NA				rej lith sa	presentative nological mples, cept in very					- 22
- 24	0	NA	NA			Brownish red, mottled with light grey, damp, very stiff,	ma Sa do ad Pl	aterial (very andy soil les not lhere to bit). D readings					- 24
- 26	0	NA	NA			plastic Silty CLAY.	in sp we cu cir wa	between lit spoons ere in drill ttings. Used culated ater to keep					- 26
- 28	0	NA	NA				bo an dri Th mo	rehole open d bring up ill cuttings. herefore, bisture ntent in drill					- 28
- 30 -	0	NA	NA			Brownish red, mottled with light grey and pale yellow, damp, stiff, very plastic Silty CLAY.	cu ob	ttings is scured.					- 30
- 32 -	0	NA	NA	CL									- 32
- 34 -	0	NA	NA			Light brownish red, damp, stiff, slightly plastic Silty CLAY.							- 34
- 36 -	0	NA	NA										- 36
- 38 -	0	NA	NA										- 38
- 40	0	NA	NA										- 40
- 42	0	NA	NA										- 42
- 44					<mark></mark> -		-					-	- 44



PR	OJECT	CG-17	7-1111		WELL	CONSTRUCTION LOG W71-2	PAGE	4 OF	5	
DEPTH (ft)	PID READINGS	RECOVERY (%)	BLOW COUNTS	SOIL	CLASS GRAPHIC LOG	OVERBURDEN / ROCK DESCRIPTION	NOTES	WE COMPL L(:LL .ETION DG	
F					•••••					— †
- 70	0	NA	NA 10							-70
		5.00/	26			White, mottled with pale yellow and very pale brown, dense, fine to medium SAND, little Silt.				
	0	50%	15 19							
- 72				SP	· · · · ·		Drilled 72-80' BG; did not			- 72
-					·····		collect split spoons.			+
- 74	0	INA	INA							- 74
					· · · · ·					
- 76			-		· - <mark> </mark>					- 76
-										-
- 78										- 78
-				SM						
- 80	11.8		12			Very pale brown, dense, fine SAND, some Silt, little Silt				- 80
-	25.5	100%	20 16			Sungers.				F
- 82	37.2		28		····	Very pale brown, mottled with very dark grey, dense, fine to medium SAND, little Silt.	Drilled 82-90'			- 82
-							BG; did not collect split			-
04							spoons.			
- 04							Drill cuttings did not come			- 04
-							up on roller bit 82-90' BG,			F
- 86	0	NA	NA	SP	·····		lithology is verv Sandy.			- 86
-							PID readings were	Bentonite		-
- 88							measured in drill cuttings	seal 85- 90' BG		- 88
	0	NA	NA				water tub.			
†										F
- 90	0		14		•••••	White, dense, fine to medium SAND.				- 90
+	10.5	100%	18 22	GP		White, mottled with red and vellow, dense. fine quartz	}			╞
- 92	10.3		31			GRAVEL, some fine to coarse Sand, little Silt. Red fine / Sand seam (1" thick) at 91.3' BG.				- 92
				ML/ CL		Light grey, mottled with weak red and yellow, stiff, not plastic SILT & CLAY.	BG; did not			
ſ	0	NA	NA		± : =	Red, yellow, and light grey, stiff, plastic SILT & CLAY.	spoons.			Γ

PRC	DJECT	CG-17	7-1111		WELL	CONSTRUCTION LOG W71-2	PAGE	5 OF	5	
DEPTH (ft)	PID READINGS	RECOVERY (%)	BLOW COUNTS	SOIL	CLASS GRAPHIC LOG	OVERBURDEN / ROCK DESCRIPTION	NOTES	WEI COMPLI LO	_L ΞTION G	
- 94						Red, yellow, and light grey, mottled, stiff, plastic SILT & CLAY.		#2 sand filter pack 90-113' BC		- 94
- 96 -	0	NA	NA							- 96
- 98	0	NA	NA	ML/ CL						- 98
- 100 -	0.1 0.2	100%	19 50/2			Light grey, mottled with pale yellow, hard, not plastic SILT & CLAY, some very fine Sand.	Split spoon refusal at 100.7' BG. Drilled 102-			- 100
- 102							110' BG; did not collect split spoons.	20-slot 2"		- 102
- 104	0	NA	NA			SAND, with very little Silt or Clay.		PVC screen 93- 113' BG.		- 104
- 106	0	NA	NA				Very hard drilling. Did not collect a split spoon sample 110- 112' BG.			- 106
- 108	0	NA	NA							- 108
- 110	0	NA	NA	SP			Drilled 110- 116' BG; did not collect split spoons.			- 11(
- 112							Drilled 5' deeper than target depth	Bottom of well 113' BG.		- 112
- 114							case of running sands. Bottom of borehole at 116' BG.	of borehole during well con- struction.		- 114