Boring Designation VB-SJSP06-26

DRILLING LOG	DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 1 SHEETS

1. PROJECT: St. Johns County, FL SPP Borrow Area
2. BORING DESIGNATION: VB-SJSP06-26
LOCATION COORDINATES: X = 607,539 Y = 1,993,564
3. DRILLING AGENCY: Corps of Engineers - CESAJ
CONTRACTOR FILE NO.:
4. NAME OF DRILLER: L. Gaughf
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL:
BEARING:
6. THICKNESS OF OVERBURDEN: N/A
7. DEPTH DRILLED INTO ROCK: N/A
8. TOTAL DEPTH OF BORING: 7.5 Ft.
9. SIZE AND TYPE OF BIT: See Remarks
10. COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.) HORIZONTAL: NAD83 VERTICAL: MLW
11. MANUFACTURER'S DESIGNATION OF DRILL: Alpine 270 Vibracore on D/B Snell ☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES: DISTURBED: 3 UNDISTURBED (UD): 0
13. TOTAL NUMBER CORE BOXES: 0
14. ELEVATION GROUND WATER: N/A
15. DATE BORING: STARTED: 07-27-06 COMPLETED: 07-27-06
16. ELEVATION TOP OF BORING: -51.2 Ft.
17. TOTAL RECOVERY FOR BORING: Not Recorded
18. SIGNATURE AND TITLE OF INSPECTOR:

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-51.2	0.0						-51.2		
-52.3	1.1		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace medium-grained sand-sized shell, 10YR 5/1 gray (SP)	NR	1		Vibracore -52.2		
-52.8	1.6		SAND, silty, mostly fine-grained sand-sized quartz, little silt, 5GY 4/1 dark greenish gray (SM)	NR	2		Vibracore -53.2		
-56.2	5.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, little sand to gravel-sized shell up to 3/8", trace silt, 10Y 5/1 greenish gray (SP) At El. -53.7 Ft., mostly fine-grained sand-sized quartz, few sand to gravel-sized shell up to 3/8", trace silt, 10Y 5/1 greenish gray At El. -54.9 Ft., mostly fine-grained sand-sized quartz, little sand to gravel-sized shell up to 3/8", trace silt, 10Y 5/1 greenish gray	NR	3		Vibracore		
-58.7	7.5		CLAY, fat, few sand to gravel-sized shell up to 3/8", few fine-grained sand-sized quartz, 5BG 5/1 greenish gray (CH) At El. -57.2 Ft., few fine-grained sand-sized quartz, trace medium-grained sand-sized shell, 10G 5/1 greenish gray				-58.7		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Elevation based on predicted tide

4. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	0.0/1.0	SP*
2	1.0/1.5	SP-SM*
3	2.0/5.0	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

0
5
10
15

SAJ FORM 1836
JUN 02

Boring Designation VB-SJSP06-27

DRILLING LOG	DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS

1. PROJECT: St. Johns County, FL SPP Borrow Area
2. BORING DESIGNATION: VB-SJSP06-27
LOCATION COORDINATES: X = 611,688 Y = 1,995,127
3. DRILLING AGENCY: Corps of Engineers - CESAJ
CONTRACTOR FILE NO.:
4. NAME OF DRILLER: L. Gaughf
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL:
BEARING:
6. THICKNESS OF OVERBURDEN: N/A
7. DEPTH DRILLED INTO ROCK: N/A
8. TOTAL DEPTH OF BORING: 9.7 Ft.
9. SIZE AND TYPE OF BIT: See Remarks
10. COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.) HORIZONTAL: NAD83 VERTICAL: MLW
11. MANUFACTURER'S DESIGNATION OF DRILL: Alpine 270 Vibracore on D/B Snell ☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES: DISTURBED: 2 UNDISTURBED (UD): 0
13. TOTAL NUMBER CORE BOXES: 0
14. ELEVATION GROUND WATER: N/A
15. DATE BORING: STARTED: 07-27-06 COMPLETED: 07-27-06
16. ELEVATION TOP OF BORING: -48.7 Ft.
17. TOTAL RECOVERY FOR BORING: Not Recorded
18. SIGNATURE AND TITLE OF INSPECTOR:

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/1 FT. N-VALUE
-48.7	0.0						-48.7	
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace medium-grained sand-sized shell, 10YR 7/1 light gray (SP)	NR	1		Vibracore	
-51.2	2.5						-51.2	
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace medium-grained sand-sized shell, 10YR 6/1 gray (SP)	NR	2		Vibracore	
-58.4	9.7						-58.4	

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Elevation based on predicted tide

4. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION

Abbreviations:
NR = Not Recorded.

(Continued)

Boring Designation VB-SJSP06-27

DRILLING LOG (Cont. Sheet)	INSTALLATION: Jacksonville District	SHEET 2 OF 2 SHEETS
PROJECT: St. Johns County, FL SPP	COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.) / HORIZONTAL: NAD83 / VERTICAL: MLW	
LOCATION COORDINATES: X = 611,688 Y = 1,995,127	ELEVATION TOP OF BORING: -48.7 Ft.	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
			1 0.0/2.5 SP* 2 2.5/9.5 SP* *Lab visual classification based on gradation curve. No Atterberg limits.						

15
20
25
30
35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP06-29

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	South Atlantic	Jacksonville District	

1. PROJECT: St. Johns County, FL SPP Borrow Area		9. SIZE AND TYPE OF BIT: See Remarks	
		10. COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: MLW
2. BORING DESIGNATION: VB-SJSP06-29	LOCATION COORDINATES: X = 617,490 Y = 1,997,032	11. MANUFACTURER'S DESIGNATION OF DRILL: Alpine 270 Vibracore on D/B Snell	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: 0 / UNDISTURBED (UD): 0
4. NAME OF DRILLER: L. Gaughf		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER: N/A
		15. DATE BORING	STARTED: 07-27-06 / COMPLETED: 07-27-06
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -51.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100 %	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: ,	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-51.1	0.0						-51.1		
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, little sand to gravel-sized shell up to 1/2", 10YR 6/1 gray (SP)						
-53.6	2.5		SAND, poorly-graded, mostly fine-grained sand-sized quartz, little sand to gravel-sized shell, 10YR 5/1 gray (SP)						
-56.1	5.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace medium-grained sand-sized shell, 10Y 6/1 greenish gray (SP)						
-58.6	7.5		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace medium-grained sand-sized shell, 10YR 5/1 gray (SP)	100			Vibracore		
-62.6	11.5		SAND, clayey, medium plasticity, mostly fine-grained sand-sized quartz, some clay, trace medium-grained sand-sized shell, 10Y 4/1 dark greenish gray (SC)						
-64.5	13.4		At El. -63.3 Ft., medium plasticity, mostly fine-grained sand-sized quartz, some clay, 5G 4/1 dark greenish gray						
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, 10YR 5/1 gray (SP-SM)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP06-29

DRILLING LOG (Cont. Sheet)	INSTALLATION: Jacksonville District	SHEET 2 OF 2 SHEETS
PROJECT: St. Johns County, FL SPP	COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.) / HORIZONTAL: NAD83 / VERTICAL: MLW	
LOCATION COORDINATES: X = 617,490 Y = 1,997,032	ELEVATION TOP OF BORING: -51.1 Ft.	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	ROD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
			At El. -66.1 Ft., some fine-grained sand-sized quartz, some sand to gravel-sized shell up to 3/4", few silt, 10Y 6/1 greenish gray						
			At El. -68.5 Ft., mostly fine-grained sand-sized quartz, few sand to gravel-sized shell up to 3/8", few silt, 10YR 5/1 gray	100			Vibracore		
-71.1	20.0						-71.1		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Elevation based on predicted tide

4. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	/20.0	SP*
2	/20.0	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

15 20 25 30 35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP09-10

DRILLING LOG	DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS

1. PROJECT: St. Johns County Offshore Investigation Part I		9. SIZE AND TYPE OF BIT: 3.5" Vibracore	
		10. COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP09-10	LOCATION COORDINATES: X = 608,394 Y = 1,997,234	11. MANUFACTURER'S DESIGNATION OF DRILL: AVS Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: 4 / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Services		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 11-19-09 / COMPLETED: 11-19-09
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -50.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 95 %	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Tom Selfridge, Geotechnical Engineer,	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-50.7	0.0						-50.7		
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, few medium-grained sand-sized shell, trace silt, wet, 10YR 6/1 gray (SP)	100			Vibracore		
							-53.7		
				100	1		Vibracore		
							-56.7		
				100	2		Vibracore		
-58.9			At El. -58.4 Ft., little medium-grained sand-sized shell				-59.7		
			At El. -59.7 Ft., trace fine to medium-grained sand-sized shell	100	3		Vibracore		
-60.9	10.2		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine to medium-grained sand-sized shell, wet, 10YR 5/1 gray (SP-SM)				-62.7		
				86	4		Vibracore		

0 5 10 15

(Continued)

Boring Designation VB-SJSP09-10

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Offshore	State Plane, FLE (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 608,394 Y = 1,997,234	-50.7 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-67.0	16.3								
			CLAY, fat, high plasticity, firm, mostly clay, trace fine-grained sand-sized quartz, wet, 10YR 5/1 gray (CH)	86			Vibracore		
-69.6	18.9								
-70.7	20.0	NR					-70.7		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	3.0/3.5	SP*
2	6.0/6.5	SP*
3	9.0/9.5	SP*
4	12.0/12.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

15
20
25
30
35

Boring Designation VB-SJSP09-11

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Offshore Investigation Part I	9. SIZE AND TYPE OF BIT: 3.5" Vibracore		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP09-11	LOCATION COORDINATES: X = 610,468 Y = 1,995,524	11. MANUFACTURER'S DESIGNATION OF DRILL: AVS Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: 4 / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Services		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 11-19-09 / COMPLETED: 11-19-09
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -53.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 92 %	
8. TOTAL DEPTH OF BORING: 15.1 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Tom Selfridge, Geotechnical Engineer,	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-53.3	0.0						-53.3		
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, wet, 10YR 6/1 gray (SP)	100			Vibracore		
-54.8							-55.3		
					1				
-56.8	3.5			100			Vibracore		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, little fine to medium-grained sand-sized shell, few silt, wet, 10YR 6/1 gray (SP-SM)				-57.8		
					2				
				100			Vibracore		
							-59.8		
					3				
-61.7	8.4			100			Vibracore		
-62.3	9.0		CLAY, fat, high plasticity, firm, mostly clay, trace fine-grained sand-sized quartz, wet, 10YR 5/1 gray (CH)				-63.3		
			SAND, clayey, mostly sand to gravel-sized limestone, little fine-grained sand-sized quartz, little clay (SC)		4				
				76			Vibracore		
-67.2	13.9								
		NR							

0 5 10 15

(Continued)

Boring Designation VB-SJSP09-11

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Offshore	State Plane, FLE (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 610,468 Y = 1,995,524	-53.3 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-68.4	15.1		BORING TERMINATED IN REFUSAL				-68.4		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
2	4.5/5.0	SP-SM*
3	6.5/7.0	SP-SM*
4	10.0/10.5	SC*

*Lab visual classification based on gradation curve. No Atterberg limits.

15
20
25
30
35

Boring Designation VB-SJSP09-12

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	South Atlantic	Jacksonville District	

1. PROJECT: St. Johns County Offshore Investigation Part I		9. SIZE AND TYPE OF BIT: 3.5" Vibracore	
		10. COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP09-12	LOCATION COORDINATES: X = 611,280 Y = 1,995,869	11. MANUFACTURER'S DESIGNATION OF DRILL: AVS Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: 5 / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Services		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. ELEVATION GROUND WATER	
		15. DATE BORING	STARTED: 11-19-09 / COMPLETED: 11-19-09
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -55.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100 %	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Tom Selfridge, Geotechnical Engineer,	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-55.3	0.0						-55.3		
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, little medium-grained sand-sized shell, trace silt, wet, 10YR 6/1 gray (SP)	100			Vibracore		
							-58.8		
				100	1		Vibracore		
							-62.3		
-62.9				100	2-Post 2		-62.3 Vibracore		
				100			Vibracore		
-65.5	10.2						-65.8		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, little fine to medium-grained sand-sized shell, few silt, wet, 10YR 6/1 gray (SP-SM)	100	3		Vibracore		
							-68.3		
				100	4		Vibracore		

0 5 10 15

(Continued)

Boring Designation VB-SJSP09-12

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Offshore	State Plane, FLE (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 611,280 Y = 1,995,869	-55.3 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-72.1	16.8								
			SAND, silty, mostly fine-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, little silt, wet, 10YR 7/1 light gray (SM)	100			Vibracore		
-75.3	20.0						-75.3		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	3.5/4.0	SP*
2	7.0/7.5	SP*
2-Post	7.0/7.5	SP*
3	10.5/11.0	SP-SM*
4	13.0/13.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

15
20
25
30
35

Boring Designation VB-SJSP09-13

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Offshore Investigation Part I	9. SIZE AND TYPE OF BIT: 3.5" Vibracore		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP09-13	LOCATION COORDINATES: X = 612,094 Y = 1,996,285	11. MANUFACTURER'S DESIGNATION OF DRILL: AVS Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: 5 / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Services		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. ELEVATION GROUND WATER:
		15. DATE BORING	STARTED: 11-19-09 / COMPLETED: 11-19-09
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -53.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 98 %	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Tom Selfridge, Geotechnical Engineer,	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-53.7	0.0						-53.7		
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, some fine to medium-grained sand-sized shell, wet, 10YR 6/1 gray (SP)	100			Vibracore		
							-56.7		
				100	1		Vibracore		
							-59.7		
					2				
-60.7									
				100			Vibracore		
							-63.7		
				100	3		Vibracore		
							-65.7		
				100	4		Vibracore		
-67.2	13.5						-68.2		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few medium-grained sand-sized shell, few silt, wet, 10YR 5/1 gray (SP-SM)	91	5		Vibracore		

0 5 10 15

(Continued)

Boring Designation VB-SJSP09-13

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Offshore	State Plane, FLE (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 612,094 Y = 1,996,285	-53.7 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-69.7	16.0								
			CLAY, fat, high plasticity, firm, mostly clay, trace fine-grained sand-sized quartz, wet, 10YR 5/1 gray (CH)	91			Vibracore		
-72.2	18.5								
			SAND, silty, mostly fine-grained sand-sized quartz, little silt, wet, 10YR 5/3 brown (SM)						
-73.2	19.5								
-73.7	20.0	NR					-73.7		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	3.0/3.5	SP*
2	6.0/6.5	SP*
3	10.0/10.5	SP*
4	12.0/12.5	SP*
5	14.5/15.0	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

15
20
25
30
35

Boring Designation VB-SJSP09-14

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Offshore Investigation Part I	9. SIZE AND TYPE OF BIT: 3.5" Vibracore		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP09-14	LOCATION COORDINATES: X = 612,574 Y = 1,995,436	11. MANUFACTURER'S DESIGNATION OF DRILL: AVS Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: 5 / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Services		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 11-19-09 / COMPLETED: 11-19-09
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -56.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 95 %	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Tom Selfridge, Geotechnical Engineer,	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-56.3	0.0						-56.3		
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, little medium-grained sand-sized shell, wet, 10YR 6/1 gray (SP)	100			Vibracore		
							-58.8		
				100	-Post 1		-58.8 Vibracore		
-60.7				100			Vibracore		
							-61.8		
-62.6	6.3				2				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few fine-grained sand-sized shell, few silt, wet, 10YR 5/1 gray (SP-SM)	100			Vibracore		
							-63.3		
					3				
-65.3	9.0			100			Vibracore		
			SAND, clayey, some fine-grained sand-sized quartz, some clay, some medium to coarse-grained sand-sized limestone, wet, 5GY 6/1 greenish gray (SC)				-66.3		
					4				
-67.2	10.9								
			SAND, silty, some fine-grained sand-sized quartz, some silt, little fine-grained sand-sized shell, wet, 10YR 7/2 light gray (SM)	89			Vibracore		

0 5 10 15

(Continued)

Boring Designation VB-SJSP09-14

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Offshore	State Plane, FLE (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 612,574 Y = 1,995,436	-56.3 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-75.2	18.9		From El. -72.1 to -73.3 Ft., some shell	89			Vibracore		
-76.3	20.0	NR					-76.3		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.5/3.0	SP*
1-Post	2.5/3.0	SP*
2	5.5/6.0	SP*
3	7.0/7.5	SP-SM*
4	10.0/10.5	SC*

*Lab visual classification based on gradation curve. No Atterberg limits.

15
20
25
30
35

Boring Designation VB-SJSP09-15

DRILLING LOG	DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS

1. PROJECT: St. Johns County Offshore Investigation Part I		9. SIZE AND TYPE OF BIT: 3.5" Vibracore	
		10. COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP09-15	LOCATION COORDINATES: X = 613,014 Y = 1,994,695	11. MANUFACTURER'S DESIGNATION OF DRILL: AVS Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: 4 / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Services		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. ELEVATION GROUND WATER	
		15. DATE BORING	STARTED: 11-19-09 / COMPLETED: 11-19-09
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -60.0 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 89 %	
8. TOTAL DEPTH OF BORING: 19.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Tom Selfridge, Geotechnical Engineer,	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-60.0	0.0						-60.0		
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, little medium-grained sand-sized shell, wet, 10YR 6/1 gray (SP)	100			Vibracore		
							-62.5		
				100	1		Vibracore		
							-66.0		
-66.7	6.7		At El. -66.0 Ft., little fine-grained sand-sized shell						
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, little fine to medium-grained sand-sized shell, few silt, wet, 10YR 5/1 gray (SP-SM)	100	2		Vibracore		
							-67.5		
-69.4	9.4			100	3		Vibracore		
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few fine to medium-grained sand-sized shell, wet, 10YR 5/1 gray (SC)				-70.5		
-71.8	11.8			76	4		Vibracore		
			SAND, silty, mostly fine-grained sand-sized quartz, little silt, trace fine-grained sand-sized shell, wet, 10YR 7/1 light gray (SM)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP09-15

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Offshore	State Plane, FLE (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 613,014 Y = 1,994,695	-60.0 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-77.6	17.6			76			Vibracore		
-79.8	19.8	NR					-79.8		
			BORING TERMINATED IN REFUSAL						

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.5/3.0	SP*
2	6.0/6.5	SP*
3	7.5/8.0	SP-SM*
4	10.5/11.0	SC*

*Lab visual classification based on gradation curve. No Atterberg limits.

15
20
25
30
35

Boring Designation VB-SJSP09-16

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Offshore Investigation Part I	9. SIZE AND TYPE OF BIT: 3.5" Vibracore		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP09-16	LOCATION COORDINATES: X = 612,152 Y = 1,994,236	11. MANUFACTURER'S DESIGNATION OF DRILL: AVS Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: 5 / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Services		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 11-19-09 / COMPLETED: 11-19-09
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -57.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 93 %	
8. TOTAL DEPTH OF BORING: 18.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Tom Selfridge, Geotechnical Engineer,	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-57.2	0.0						-57.2		
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, few medium-grained sand-sized shell, wet, 10YR 6/1 gray (SP)	100			Vibracore		
-59.6							-59.7		
				100	-Post 1		-59.7 Vibracore		
				100			Vibracore		
							-63.2		
					2				
-64.8	7.6			100			Vibracore		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few fine-grained sand-sized shell, few silt, wet, 10YR 5/1 gray (SP-SM)				-65.7		
					3				
-67.2	10.0			100			Vibracore		
			SAND, clayey, some fine-grained sand-sized quartz, little medium to coarse-grained sand-sized limestone, wet, 10YR 5/1 gray (SC)				-68.2		
					4				
-69.7	12.5			81			Vibracore		
			SAND, silty, mostly fine-grained sand-sized quartz, some fine to coarse-grained sand-sized shell, little silt, wet, 10YR 7/1 light gray (SM)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP09-16

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Offshore	State Plane, FLE (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 612,152 Y = 1,994,236	-57.2 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-73.9	16.7			81			Vibracore		
-75.2	18.0	NR					-75.2		

BORING TERMINATED IN REFUSAL

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.5/3.0	SP*
1-Post	2.5/3.0	SP*
2	6.0/6.5	SP*
3	8.5/9.0	SP-SM*
4	11.0/11.5	SC*

*Lab visual classification based on gradation curve. No Atterberg limits.

15
20
25
30
35

Boring Designation VB-SJSP09-17

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Offshore Investigation Part I	9. SIZE AND TYPE OF BIT: 3.5" Vibracore		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP09-17	LOCATION COORDINATES: X = 611,338 Y = 1,993,806	11. MANUFACTURER'S DESIGNATION OF DRILL: AVS Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: 4 UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Services		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 11-19-09 COMPLETED: 11-19-09
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -55.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 93 %	
8. TOTAL DEPTH OF BORING: 16.9 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Tom Selfridge, Geotechnical Engineer,	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-55.6	0.0						-55.6		
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, little medium-grained sand-sized shell, wet, 10YR 6/1 gray (SP)	100			Vibracore		
							-58.1		
					1				
-60.3									
				100			Vibracore		
							-61.6		
			At El. -61.6 Ft., some fine to medium-grained sand-sized shell, trace silt		2				
				100			Vibracore		
							-63.6		
			At El. -63.6 Ft., little fine-grained sand-sized shell		3				
				100			Vibracore		
-66.1	10.5								
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, little medium-grained sand-sized shell, few silt, wet, 10YR 5/1 gray (SP-SM)				-66.6		
					4				
-68.4	12.8								
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace fine to medium-grained sand-sized shell, wet, 5GY 6/1 greenish gray (SC)	81			Vibracore		

0 5 10 15

(Continued)

Boring Designation VB-SJSP09-17

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Offshore	State Plane, FLE (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 611,338 Y = 1,993,806	-55.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-71.4	15.8			81			Vibracore		
-72.5	16.9	NR					-72.5		

BORING TERMINATED IN REFUSAL

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.5/3.0	SP*
2	6.0/6.5	SP*
3	8.0/8.5	SP*
4	11.0/11.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

15
20
25
30
35

Boring Designation VB-SJSP09-18

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Offshore Investigation Part I	9. SIZE AND TYPE OF BIT: 3.5" Vibracore		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLE (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP09-18	LOCATION COORDINATES: X = 610,905 Y = 1,994,659	11. MANUFACTURER'S DESIGNATION OF DRILL: AVS Vibracore	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.	12. TOTAL SAMPLES	DISTURBED: 5 / UNDISTURBED (UD): 0
4. NAME OF DRILLER: American Vibracore Services		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 11-19-09 / COMPLETED: 11-19-09
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -56.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100 %	
8. TOTAL DEPTH OF BORING: 17.1 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Tom Selfridge, Geotechnical Engineer,	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-56.4	0.0						-56.4		
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, little medium-grained sand-sized shell, wet, 10YR 6/1 gray (SP)	100			Vibracore		
							-58.9		
					1				
-60.3				100			Vibracore		
							-61.4		
			At El. -61.4 Ft., few medium-grained sand-sized shell	100	2-Post 2		-61.4 Vibracore		
				100			Vibracore		
-64.3	7.9						-64.9		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few medium-grained sand-sized shell, few silt, trace medium-grained sand-sized limestone, wet, 10YR 6/1 gray (SP-SM)	100	3		Vibracore		
							-66.4		
			From El. -66.4 to -73.5 Ft., few fine-grained sand-sized shell, discontinue medium-grained sand-sized limestone, 10YR 5/1 gray		4				
				100			Vibracore		

0 5 10 15

(Continued)

Boring Designation VB-SJSP09-18

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Offshore	State Plane, FLE (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 610,905 Y = 1,994,659	-56.4 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-73.5	17.1			100			Vibracore -73.5		

BORING TERMINATED IN REFUSAL

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.5/3.0	SP*
2	5.0/5.5	SP*
2-Post	5.0/5.5	SP*
3	8.5/9.0	SP-SM*
4	10.0/10.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

15
20
25
30
35

Boring Designation VB-SJSP09-19

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2 SHEETS
1. PROJECT	St. Johns County Offshore Investigation Part I
2. BORING DESIGNATION	VB-SJSP09-19
LOCATION COORDINATES	X = 606,187 Y = 1,990,840
3. DRILLING AGENCY	Corps of Engineers - CESAJ
CONTRACTOR FILE NO.	
4. NAME OF DRILLER	American Vibracore Services
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL	
BEARING	
6. THICKNESS OF OVERBURDEN	N/A
7. DEPTH DRILLED INTO ROCK	N/A
8. TOTAL DEPTH OF BORING	20.0 Ft.
9. SIZE AND TYPE OF BIT	3.5" Vibracore
10. COORDINATE SYSTEM/DATUM	State Plane, FLE (U.S. Ft.)
HORIZONTAL	NAD83
VERTICAL	NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL	AVS Vibracore
☐ AUTO HAMMER ☐ MANUAL HAMMER	
12. TOTAL SAMPLES	DISTURBED 4 / UNDISTURBED (UD) 0
13. TOTAL NUMBER CORE BOXES	0
14. ELEVATION GROUND WATER	
15. DATE BORING	STARTED 11-19-09 / COMPLETED 11-19-09
16. ELEVATION TOP OF BORING	-57.2 Ft.
17. TOTAL RECOVERY FOR BORING	94 %
18. SIGNATURE AND TITLE OF INSPECTOR	Tom Selfridge, Geotechnical Engineer,

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-57.2	0.0						-57.2		
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, few fine-grained sand-sized shell, wet, 10YR 6/1 gray (SP)	100			Vibracore		
							-59.7		
				100	1		Vibracore		
-62.9	5.7						-63.7		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few medium-grained sand-sized shell, wet, 10YR 5/1 gray (SP-SM)	100	2		Vibracore		
							-67.2		
				100	3		Vibracore		
-70.2	13.0						-71.2		
			SAND, clayey, some fine-grained sand-sized quartz, some medium to coarse-grained sand-sized shell, little clay, wet, 10YR 5/1 gray (SC)	78	4		Vibracore		

0 5 10 15

(Continued)

Boring Designation VB-SJSP09-19

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Offshore	State Plane, FLE (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 606,187 Y = 1,990,840	-57.2 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-75.9	18.7			78			Vibracore		
-77.2	20.0	NR					-77.2		

NOTES:

1. Soils are field visually classified in accordance with the Unified Soils Classification System.

2. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.5/3.0	SP*
2	6.5/7.0	SP-SM*
3	10.0/10.5	SP-SM*
4	14.0/14.5	SC*

*Lab visual classification based on gradation curve. No Atterberg limits.

15
20
25
30
35

Boring Designation VB-SJSP12-001

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search / Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-001	LOCATION COORDINATES: X = 611,756 Y = 1,997,208	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 06-29-12 COMPLETED: 06-29-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -52.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 97.50 %	
8. TOTAL DEPTH OF BORING: 19.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Jase Ousley, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-52.7	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized shell, strong reaction with HCl, moist, 2.5Y 6/1 gray (SP)				-53.7		
			At El. -53.7 Ft., trace silt		1 1-Post		-53.7		
			At El. -55.3 Ft., few sand to gravel-sized shell						
			At El. -56.3 Ft., sandy silt seams 1/2 inch in thickness						
							-57.7		
			At El. -57.7 Ft., little medium-grained sand-sized shell, 10Y 6/1 greenish gray		2				
			At El. -58.6 Ft., mostly fine-grained sand-sized quartz, few fine to coarse-grained sand-sized shell, 2.5Y 6/1 gray						
			At El. -59.3 Ft., trace fine-grained sand-sized shell						
-60.7									
			At El. -61.7 Ft., few medium-grained sand-sized shell		3		-61.7		
-62.7	10.0								
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, trace shell, strong reaction with HCl, moist, 10Y 4/1 dark greenish gray (SP-SM)				-64.7		
			At El. -64.7 Ft., little fine-grained sand-sized shell		4				
-66.7	14.0		At El. -66.4 Ft., some sand to gravel-sized shell up to 1-1/4"						
-67.0	14.3		SAND, clayey, mostly fine to medium-grained sand-sized quartz, some clay, trace shell,						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-001

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 611,756 Y = 1,997,208	-52.7 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-68.3	15.6		strong reaction with HCl, moist, 10GY 5/1 greenish gray (SC)						
			CLAY, fat, few fine-grained sand-sized quartz, weak reaction with HCl, moist, 10GY 4/1 dark greenish gray (CH)						
			At El. -67.7 Ft., little fine to medium-grained sand-sized quartz						
			SAND, clayey, mostly fine to medium-grained sand-sized quartz, some clay, weak reaction with HCl, moist, 10GY 5/1 greenish gray (SC)						
-71.2	18.5		At El. -69.0 Ft., no reaction with HCl, 5Y 4/3 olive						
-71.6	18.9		At El. -70.2 Ft., 5Y 4/2 olive gray						
-72.4	19.7		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace clay, no reaction with HCl, moist, 2.5Y 5/2 grayish brown (SP)				-72.4		
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized shell, few silt, strong reaction with HCl, moist, 5Y 6/1 gray (SP-SM)				Abbreviations: NR = Not Recorded.		
			At El. -72.0 Ft., some sand to gravel-sized shell						

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	5.0/5.5	SP*
3	9.0/9.5	SP*
4	12.0/12.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

15 20 25 30 35

Boring Designation VB-SJSP12-002

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-002	LOCATION COORDINATES: X = 610,833 Y = 1,996,768	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 06-29-12 COMPLETED: 06-29-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -54.9 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 92.00 %	
8. TOTAL DEPTH OF BORING: 18.6 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Jase Ousley, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-54.9	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized shell, strong reaction with HCl, moist, 5Y 6/1 gray (SP)				-55.9		
					1 1-Post		-55.9		
			At El. -56.7 Ft., few sand to gravel-sized shell						
			At El. -57.5 Ft., trace shell, weak reaction with HCl, (seams of sandy silt from elevation 57.5 to 57.9)						
			At El. -59.9 Ft., few sand to gravel-sized shell				-60.9		
			At El. -60.9 Ft., trace silt At El. -61.2 Ft., trace shell, 5Y 7/1 light gray		2				
-62.9									
			At El. -63.2 Ft., 5GY 5/1 greenish gray				-63.9		
			At El. -63.9 Ft., little fine to medium-grained sand-sized shell, strong reaction with HCl		3				
-64.9	10.0								
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, trace shell, weak reaction with HCl, moist, 10Y 6/1 greenish gray (SP-SM)				-66.9		
					4				
			At El. -69.0 Ft., little sand to gravel-sized shell						
-69.9	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-002

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 610,833 Y = 1,996,768	-54.9 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-70.9	16.0		SAND, silty, mostly fine to medium-grained sand-sized quartz, some fine to coarse-grained sand-sized shell, little silt, strong reaction with HCl, moist, 10Y 6/1 greenish gray (SM)						
-73.5	18.6		SAND, silty, mostly sand to gravel-sized shell, little fine-grained sand-sized quartz (SM)				-73.5		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	6.0/6.5	SP*
3	9.0/9.5	SP*
4	12.0/12.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-003

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-003	LOCATION COORDINATES: X = 609,967 Y = 1,996,331	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 06-29-12 COMPLETED: 06-29-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -54.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 100.00 %	
8. TOTAL DEPTH OF BORING: 20.1 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Jase Ousley, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-54.2	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized shell, strong reaction with HCl, moist, 2.5Y 6/1 gray (SP)				-55.2		
					1 1-Post		-55.2		
							-57.2		
					2				
-59.3									
							-60.2		
			At El. -60.2 Ft., few medium-grained sand-sized shell, trace silt		3				
-61.3	7.1		At El. -60.9 Ft., 10Y 6/1 greenish gray						
-61.5	7.3		SILT, inorganic-H, some fine to medium-grained sand-sized quartz, few sand to gravel-sized shell, strong reaction with HCl, moist, 10Y 5/1 greenish gray (MH)				-62.2		
-61.7	7.5		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized shell, strong reaction with HCl, moist, 5Y 6/1 gray (SP)		4				
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, few fine to coarse gravel-sized shell, strong reaction with HCl, moist, 10Y 4/1 dark greenish gray (SP-SM)						
			At El. -62.2 Ft., little fine-grained sand-sized shell						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-003

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 609,967 Y = 1,996,331	-54.2 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-71.0	16.8								
-74.3	20.1		SAND, silty, some sand to gravel-sized shell up to 1-5/8", some sand to gravel-sized limestone up to 1-1/2", little fine-grained sand-sized quartz, strong reaction with HCl, moist, 10Y 6/1 greenish gray (SM)				-74.3		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	3.0/3.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-004

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search / Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-004	LOCATION COORDINATES: X = 609,097 Y = 1,995,981	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 06-29-12 COMPLETED: 06-29-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -55.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 91.92 %	
8. TOTAL DEPTH OF BORING: 18.3 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Jase Ousley, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-55.6	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to coarse gravel-sized shell, strong reaction with HCl, moist, 5Y 6/2 light olive gray (SP)				-56.6		
			At El. -56.6 Ft., little sand to gravel-sized shell		1 1-Post		-56.6		
-58.9									
			At El. -59.5 Ft., few fine to coarse-grained sand-sized shell				-59.6		
			At El. -59.6 Ft., little medium-grained sand-sized shell, trace silt		2				
			At El. -60.9 Ft., 1-1/2" thick sandy silt seam				-61.6		
-62.1	6.5				3				
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, few sand to gravel-sized shell, strong reaction with HCl, moist, 10Y 4/1 dark greenish gray (SP-SM)				-63.6		
-64.4	8.8				4				
-65.6	10.0		SAND, silty, mostly fine to medium-grained sand-sized quartz, little silt, little sand to gravel-sized shell, strong reaction with HCl, moist, 5GY 4/1 dark greenish gray (SM)						
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, few silt, strong reaction with HCl, moist, 10Y 5/1 greenish gray (SP-SM)						
			At El. -66.2 Ft., little sand to gravel-sized shell						
			At El. -68.9 Ft., some sand to gravel-sized shell						
-69.5	13.9								
			SAND, silty, mostly sand to gravel-sized shell, some fine to medium-grained sand-sized quartz, little silt, strong reaction with HCl, moist,						
-70.6	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-004

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 609,097 Y = 1,995,981	-55.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
			5GY 5/1 greenish gray (SM) SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, few silt, strong reaction with HCl, moist (SP-SM)						
-72.4	16.8		SAND, poorly-graded with silt, mostly sand to gravel-sized shell, some fine to medium-grained sand-sized quartz (SP-SM)						
-73.9	18.3						-73.9		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-005

DRILLING LOG

DIVISION South Atlantic		**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings		**9. SIZE AND TYPE OF BIT** See Remarks	
		10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83 / **VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-005	**LOCATION COORDINATES** X = 609,614 Y = 1,995,145	**11. MANUFACTURER'S DESIGNATION OF DRILL**	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5 / **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 06-29-12 / **COMPLETED** 06-29-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -58.9 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 81.50 %	
8. TOTAL DEPTH OF BORING 17.4 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Jase Ousley, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-58.9	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, strong reaction with HCl, moist, 2.5Y 6/2 light brownish gray (SP)				-59.4		
			From El. -60.2 to -60.5 Ft., sandy silt seams		1				
			At El. -60.5 Ft., 2.5Y 6/1 gray				-60.9		
-61.9	3.0				2 2-Post		-60.9		
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, trace shell, strong reaction with HCl, moist, 5GY 4/1 dark greenish gray (SP-SM)				-62.9		
			At El. -62.9 Ft., few fine-grained sand-sized shell		3				
			At El. -63.9 Ft., few sand to gravel-sized shell, 10Y 4/1 dark greenish gray				-64.9		
					4				
			At El. -65.9 Ft., some sand to gravel-sized shell						
			At El. -66.7 Ft., some sand to gravel-sized limestone, little fine to medium-grained sand-sized quartz, weak cementation						
-69.2	10.3		At El. -68.9 Ft., mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized shell, trace limestone, 10Y 5/1 greenish gray						
		Sl. Weathered	LIMESTONE, hard, slightly weathered, up to 2"						
-70.8	11.9								
			SAND, silty, some fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, little silt, strong reaction with HCl, moist, 10G 5/1 greenish gray (SM)						
-71.9	13.0		SAND, silty, mostly sand to gravel-sized shell up to 1", little silt, 10Y 5/1 greenish gray (SM)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-005

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 609,614 Y = 1,995,145	-58.9 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-75.1	16.2								
-76.3	17.4		SAND, poorly-graded with silt, mostly sand to gravel-sized limestone up to 1", few sand to gravel-sized shell, few fine gravel-sized quartz, few silt, strong reaction with HCl, moist, 2.5Y 6/2 light brownish gray (SP-SM)				-76.3		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	0.5/1.0	SP*
2	2.0/2.5	SP*
2-Post	2.0/2.5	SP*
3	4.0/4.5	SP-SM*
4	6.0/6.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-006

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search / Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-006	LOCATION COORDINATES: X = 610,025 Y = 1,994,281	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 06-29-12 COMPLETED: 06-29-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -52.0 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 90.00 %	
8. TOTAL DEPTH OF BORING: 18.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Jase Ousley, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-52.0	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to coarse gravel-sized shell, strong reaction with HCl, moist, 10Y 7/1 light greenish gray (SP)				-53.0		
			At El. -53.0 Ft., little medium-grained sand-sized shell		1 1-Post		-53.0		
			At El. -56.0 Ft., few medium-grained sand-sized shell, trace silt		2		-56.0		
-57.1			At El. -57.0 Ft., 5Y 6/1 gray						
			At El. -58.5 Ft., little fine to medium-grained sand-sized shell		3		-58.5		
-59.1	7.1		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, few fine to coarse-grained sand-sized shell, strong reaction with HCl, moist, 10Y 5/1 greenish gray (SP-SM)						
			At El. -61.0 Ft., little fine-grained sand-sized shell		4		-61.0		
			At El. -64.7 Ft., little sand to gravel-sized shell						
-65.4	13.4								
			SAND, silty, some fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, little silt, strong reaction with HCl, moist, 10Y 4/1 dark greenish gray (SM)						
-67.0	15.0								

0 5 10 15

(Continued)

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 610,025 Y = 1,994,281	-52.0 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-68.9	16.9		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, few silt, strong reaction with HCl, moist, 10Y 4/1 dark greenish gray (SP-SM)						
-70.4	18.4		SAND, poorly-graded with silt, mostly sand to gravel-sized shell, some fine-grained sand-sized quartz, 10Y 6/1 greenish gray (SP-SM)				-70.4		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	4.0/4.5	SP*
3	6.5/7.0	SP*
4	9.0/9.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

Boring Designation VB-SJSP12-007

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search / Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-007	LOCATION COORDINATES: X = 610,467 Y = 1,993,402	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 06-29-12 COMPLETED: 06-29-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -53.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 87.00 %	
8. TOTAL DEPTH OF BORING: 17.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Jase Ousley, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-53.4	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, strong reaction with HCl, moist, 10Y 7/1 light greenish gray (SP)				-55.4		
			At El. -55.4 Ft., little medium-grained sand-sized shell		1 1-Post		-55.4		
-57.1							-57.4		
			At El. -57.4 Ft., few medium-grained sand-sized shell		2				
-59.9	6.5				3		-59.4		
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, trace shell, strong reaction with HCl, moist, 10Y 5/1 greenish gray (SP-SM)				-61.4		
			At El. -61.4 Ft., few fine-grained sand-sized shell		4				
			At El. -63.4 Ft., few fine to coarse-grained sand-sized shell						
-66.3	12.9								
-66.8	13.4		SAND, silty, some fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, little silt, strong reaction with HCl, moist, 5GY 6/1 greenish gray (SM)						
			SAND, silty, mostly sand to gravel-sized shell, some fine to medium-grained sand-sized quartz, 5GY 7/1 light greenish gray (SM)						
-68.4	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-007

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 610,467 Y = 1,993,402	-53.4 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-69.1	15.7		At El. -68.0 Ft., some fine to coarse gravel-sized limestone up to 1", some sand to gravel-sized shell, little fine to medium-grained sand-sized quartz						
-71.2	17.8		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, some sand to gravel-sized limestone, little fine gravel-sized shell, few silt, strong reaction with HCl, moist, 5GY 6/1 greenish gray (SP-SM)				-71.2		
			SAND, silty, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized shell, little silt, few fine to coarse gravel-sized limestone, strong reaction with HCl, moist, 5GY 6/1 greenish gray (SM) At El. -70.4 Ft., some sand to gravel-sized shell, 5GY 5/1 greenish gray				Abbreviations: NR = Not Recorded.		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Boring Designation VB-SJSP12-008

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search / Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-008	LOCATION COORDINATES: X = 610,883 Y = 1,992,439	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 06-29-12 COMPLETED: 06-29-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -57.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 85.00 %	
8. TOTAL DEPTH OF BORING: 17.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Jase Ousley, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-57.7	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, weak reaction with HCl, moist, 5Y 7/1 light gray (SP)						
-57.1							-59.7		
			At El. -59.7 Ft., few medium-grained sand-sized shell		1		-59.7		
			At El. -60.4 Ft., 5Y 6/1 gray		1-Post				
-61.2	3.5						-61.7		
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, trace shell, strong reaction with HCl, moist, 5Y 4/2 olive gray (SP-SM)		2				
			At El. -61.7 Ft., few medium to coarse-grained sand-sized shell						
			At El. -62.7 Ft., 10Y 5/1 greenish gray						
							-64.7		
-65.2	7.5		At El. -64.7 Ft., little fine to coarse-grained sand-sized shell		3				
			SAND, silty, mostly fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, little silt, strong reaction with HCl, moist, 10Y 4/1 dark greenish gray (SM)						
-66.5	8.8		At El. -66.1 Ft., some silt, little sand to gravel-sized shell				-66.7		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, little medium to coarse-grained sand-sized shell, few silt, trace limestone, strong reaction with HCl, moist, 10Y 4/1 dark greenish gray (SP-SM)		4				
-68.9	11.2		SAND, silty, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized shell, 10Y 6/1 greenish gray (SM)						
-70.5	12.8		SAND, silty, mostly sand to gravel-sized shell, little fine gravel-sized quartz, 10Y 7/1 light greenish gray (SM)						
-72.7	15.0								

0 5 10 15

(Continued)

SAJ FORM 1836
JUN 02

Boring Designation VB-SJSP12-008

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 610,883 Y = 1,992,439	-57.7 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-73.2	15.5		SAND, silty, mostly fine to medium-grained sand-sized quartz, some silt, trace shell, weak reaction with HCl, 10Y 5/1 greenish gray (SM)						
-74.5	16.8		SILT, inorganic-H, little fine-grained sand-sized quartz, trace shell, weak reaction with HCl, moist, 10Y 4/1 dark greenish gray (MH)						
-75.5	17.8		SAND, silty, some fine to medium-grained sand-sized quartz, some silt, some sand to gravel-sized shell, strong reaction with HCl, moist, 10Y 4/1 dark greenish gray (SM)				-75.5		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP-SM*
3	7.0/7.5	SP-SM*
4	9.0/9.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-009

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-009	LOCATION COORDINATES: X = 611,782 Y = 1,992,906	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 06-29-12 COMPLETED: 06-29-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -58.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 85.00 %	
8. TOTAL DEPTH OF BORING: 17.5 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Jase Ousley, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-58.5	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace shell, strong reaction with HCl, moist, 2.5Y 6/1 gray (SP)				-59.5		
					1 1-Post		-59.5		
-60.3									
			At El. -62.0 Ft., 2.5Y 5/1 gray						
-63.5	5.0						-63.5		
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, little fine-grained sand-sized shell, few silt, strong reaction with HCl, moist, 10Y 5/1 greenish gray (SP-SM)		2				
					3		-67.0		
-69.0	10.5						-69.0		
-69.6	11.1		SAND, poorly-graded, mostly fine-grained sand-sized quartz, few fine-grained sand-sized shell, trace silt, weak reaction with HCl, moist, 10YR 6/1 gray (SP)		4				
-71.0	12.5		CLAY, fat, some fine-grained sand-sized quartz, little shell, 5Y 5/1 gray (CH)						
			SAND, clayey, mostly sand to gravel-sized shell, little fine-grained sand-sized quartz, little clay, 5Y 7/1 light gray (SC)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-009

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 611,782 Y = 1,992,906	-58.5 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-73.6	15.1		SAND, clayey, mostly fine-grained sand-sized quartz, little sand to gravel-sized shell, 5Y 5/1 gray (SC)						
-76.0	17.5						-76.0		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	5.0/5.5	SP-SM*
3	8.5/9.0	SP-SM*
4	10.5/11.0	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-010

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-010 **LOCATION COORDINATES** X = 612,605 Y = 1,993,387	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 06-29-12	**COMPLETED** 06-29-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -59.6 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 87.50 %		
8. TOTAL DEPTH OF BORING 18.0 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Jase Ousley, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-59.6	0.0								
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fine-grained sand-sized shell, trace silt, weak reaction with HCl, moist, 5Y 6/1 gray (SP)				-60.6		
			At El. -60.6 Ft., little medium-grained sand-sized shell		1 1-Post		-60.6		
-62.5	2.9								
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine-grained sand-sized shell, moist, 5Y 6/1 gray (SP-SM)				-63.6		
			At El. -63.6 Ft., few fine to medium-grained sand-sized shell		2				
-65.6	6.0						-65.6		
			SAND, silty, mostly fine-grained sand-sized quartz, little silt, few fine-grained sand-sized shell, weak reaction with HCl, moist, 5Y 6/1 gray (SM)		3		-68.6		
			At El. -68.7 Ft., little fine to coarse-grained sand-sized shell, strong reaction with HCl		4				
-69.2	9.6								
			CLAY, fat, little fine-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 10GY 7/1 light greenish gray (CH)						
			At El. -69.6 Ft., few fine to medium-grained sand-sized shell						
-74.6	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-010

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 612,605 Y = 1,993,387	-59.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-75.9	16.3		SAND, silty, some sand to gravel-sized limestone, some fine-grained sand-sized quartz, little silt, strong reaction with HCl, moist, (limestone fractured by sampling), 10GY 8/1 light greenish gray (SM)						
-77.6	18.0		CLAY, fat, some fine-grained sand-sized quartz, little fine to medium-grained sand-sized shell, weak reaction with HCl, moist (CH)				-77.6		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	4.0/4.5	SP-SM*
3	6.0/6.5	SM*
4	9.0/9.5	SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-011

DRILLING LOG

DIVISION South Atlantic		**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings		**9. SIZE AND TYPE OF BIT** See Remarks	
		10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83 / **VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-011	**LOCATION COORDINATES** X = 613,487 Y = 1,993,902	**11. MANUFACTURER'S DESIGNATION OF DRILL**	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5 / **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 06-29-12 / **COMPLETED** 06-29-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -55.5 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 87.50 %	
8. TOTAL DEPTH OF BORING 18.0 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Jase Ousley, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-55.5	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP)				-56.5		
					1		-59.5		
			At El. -58.3 Ft., few fine to medium-grained sand-sized shell						
			At El. -59.5 Ft., little medium-grained sand-sized shell, trace silt		2 2-Post		-59.5 / -61.5		
			At El. -61.5 Ft., few medium-grained sand-sized shell		3				
-62.6	7.1						-64.5		
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, few silt, weak reaction with HCl, moist, 5Y 6/1 gray (SP-SM)						
			At El. -64.5 Ft., little fine-grained sand-sized shell		4				
-65.8	10.3								
-66.7	11.2		SAND, silty, mostly fine to medium-grained sand-sized quartz, little silt, no reaction with HCl, moist, 5Y 6/1 gray (SM)						
			CLAY, fat, few fine-grained sand-sized quartz, moist, 5Y 3/1 very dark gray (CH)						
			At El. -67.0 Ft., trace fine-grained sand-sized quartz, moist						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-011

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 613,487 Y = 1,993,902	-55.5 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-73.5	18.0		At El. -70.5 Ft., few fine gravel-sized limestone, weak reaction with HCl, N 3/ very dark gray				-73.5		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
2	4.0/4.5	SP*
2-Post	4.0/4.5	SP*
3	6.0/6.5	SP*
4	9.0/9.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-012

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2 SHEETS
1. PROJECT	St. Johns County Sand Search Vibracore Borings
2. BORING DESIGNATION	VB-SJSP12-012
LOCATION COORDINATES	X = 614,385 Y = 1,994,359
3. DRILLING AGENCY	Corps of Engineers - CESAJ
CONTRACTOR FILE NO.	6738-12-5195
4. NAME OF DRILLER	
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL	
BEARING	
6. THICKNESS OF OVERBURDEN	N/A
7. DEPTH DRILLED INTO ROCK	N/A
8. TOTAL DEPTH OF BORING	18.3 Ft.
9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.)
HORIZONTAL	NAD83
VERTICAL	NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES	DISTURBED 5 / UNDISTURBED (UD) 0
13. TOTAL NUMBER CORE BOXES	0
14. ELEVATION GROUND WATER	
15. DATE BORING	STARTED 06-29-12 / COMPLETED 06-29-12
16. ELEVATION TOP OF BORING	-55.9 Ft.
17. TOTAL RECOVERY FOR BORING	87.50 %
18. SIGNATURE AND TITLE OF INSPECTOR	Jase Ousley, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-55.9	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, 5Y 8/1 white (SP)				-56.9		
			At El. -56.9 Ft., little medium-grained sand-sized shell, trace silt		1				
							-59.9		
			At El. -59.9 Ft., few medium-grained sand-sized shell		2 2-Post		-59.9		
							-61.9		
			At El. -62.1 Ft., few fine-grained sand-sized shell, 5Y 5/1 gray		3				
							-64.9		
					4				
-65.9	10.0								
			CLAY, fat, some fine-grained sand-sized quartz, few fine to medium-grained sand-sized shell, 5Y 3/1 very dark gray (CH)						
			At El. -66.6 Ft., little sand to gravel-sized shell, few fine-grained sand-sized quartz, N 6/ gray						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-012

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 614,385 Y = 1,994,359	-55.9 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
			At El. -70.9 Ft., some fine to coarse gravel-sized shell						
-72.8	16.9								
			SAND, silty, mostly fine to medium-grained sand-sized quartz, little silt, little fine gravel-sized shell, 5Y 7/1 light gray (SM)						
-74.2	18.3						-74.2		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
2	4.0/4.5	SP*
2-Post	4.0/4.5	SP*
3	6.0/6.5	SP*
4	9.0/9.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-013

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Jacksonville District	SHEET 1 OF 2 SHEETS

1. PROJECT: St. Johns County Sand Search Vibracore Borings		9. SIZE AND TYPE OF BIT: See Remarks	
		10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-013	LOCATION COORDINATES: X = 613,962 Y = 1,995,185	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 / UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. ELEVATION GROUND WATER	
		15. DATE BORING	STARTED: 06-30-12 / COMPLETED: 06-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -56.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 95.00 %	
8. TOTAL DEPTH OF BORING: 19.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-56.1	0.0								
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, few shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-58.1		
			At El. -58.1 Ft., little medium-grained sand-sized shell, trace silt, weak reaction with HCl		1 1-Post		-58.1 / -60.1		
					2				
-61.6	5.5								
-62.1	6.0		SAND, poorly-graded with clay, mostly fine-grained sand-sized quartz, few clay, few shell, no reaction with HCl, moist, 5Y 7/1 light gray (SP-SC)				-62.1		
-63.0	6.9		SAND, silty, mostly fine-grained sand-sized quartz, little silt, few medium-grained sand-sized shell, moist, 5Y 7/1 light gray (SM)		3		-64.1		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few coarse gravel-sized shell, moist, 5Y 4/2 olive gray (SP-SM) At El. -64.1 Ft., few fine-grained sand-sized shell		4				
-68.1	12.0								
-68.9	12.8		SAND, silty, mostly fine to medium-grained sand-sized quartz, some coarse gravel-sized shell, little silt, moist, 5Y 5/2 olive gray (SM)						
-70.4	14.3		SAND, clayey, mostly fine to medium-grained sand-sized quartz, little clay, few coarse gravel-sized shell, moist, 5Y 4/1 dark gray (SC)						
-71.1	15.0		SAND, poorly-graded with clay, mostly fine to medium-grained sand-sized quartz, little coarse						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-013

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 613,962 Y = 1,995,185	-56.1 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-75.5	19.4		gravel-sized shell, few clay, moist, 5Y 5/1 gray (SP-SC) SAND, poorly-graded, mostly fine-grained sand-sized quartz, little coarse gravel-sized shell, trace silt, moist, 5Y 6/1 gray (SP)				-75.5		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SM*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-014

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-014	LOCATION COORDINATES: X = 613,499 Y = 1,996,081	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 06-30-12 COMPLETED: 06-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -56.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 94.00 %	
8. TOTAL DEPTH OF BORING: 19.1 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-56.1	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little fine gravel-sized shell, 5Y 8/1 white (SP)				-57.1		
			At El. -57.1 Ft., few medium-grained sand-sized shell, trace silt		1				
			At El. -59.4 Ft., few fine to medium-grained sand-sized shell				-60.1		
					2 2-Post		-60.1		
-62.1	6.0						-62.1		
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, few medium-grained sand-sized shell, 5Y 6/1 gray (SP-SM)		3		-64.1		
			At El. -64.1 Ft., few fine to medium-grained sand-sized shell		4				
-65.0	8.9								
			CLAY, fat, some fine-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, 10Y 6/1 greenish gray (CH)						
			At El. -67.1 Ft., little fine to coarse-grained sand-sized shell, 10Y 8/1 light greenish gray						
-68.6	12.5								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine-grained sand-sized shell, trace silt, 10Y 8/1 light greenish gray (SP)						
			At El. -69.4 Ft., some fine to coarse gravel-sized shell						
-71.1	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-014

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 613,499 Y = 1,996,081	-56.1 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
			SAND, silty, mostly fine-grained sand-sized quartz, some fine to coarse gravel-sized shell, little silt, 5Y 6/2 light olive gray (SM)						
-74.3	18.2		At El. -73.8 Ft., some fine-grained sand-sized quartz, some fine to coarse gravel-sized shell, 5Y 6/1 gray						
-75.2	19.1		CLAY, fat, some fine-grained sand-sized quartz, few fine to medium-grained sand-sized shell, 5Y 5/2 olive gray (CH)				-75.2		

Abbreviations:
NR = Not Recorded.

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
2	4.0/4.5	SP*
2-Post	4.0/4.5	SP*
3	6.0/6.5	SP-SM*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

15
20
25
30
35

Boring Designation VB-SJSP12-015

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Jacksonville District	SHEET 1 OF 2 SHEETS

1. PROJECT: St. Johns County Sand Search; Vibracore Borings		9. SIZE AND TYPE OF BIT: See Remarks	
		10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-015	LOCATION COORDINATES: X = 613,020 Y = 1,996,939	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 / UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. ELEVATION GROUND WATER	
		15. DATE BORING	STARTED: 06-30-12 / COMPLETED: 06-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -55.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 92.50 %	
8. TOTAL DEPTH OF BORING: 18.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-55.6	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, 5Y 8/1 white (SP)				-57.6		
			At El. -57.6 Ft., little medium-grained sand-sized shell, trace silt		1 1-Post		-57.6 / -59.6		
			At El. -59.6 Ft., few fine to medium-grained sand-sized shell		2		-61.6		
-62.8	7.2				3		-63.6		
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, trace fine to medium-grained sand-sized shell, 5Y 6/1 gray (SP-SM)		4				
			At El. -66.3 Ft., little sand to gravel-sized shell, 5Y 5/1 gray						
-67.0	11.4		CLAY, fat, few fine-grained sand-sized shell, N 6/ gray (CH)						
-67.9	12.3		SAND, clayey, mostly fine-grained sand-sized quartz, little clay, trace fine-grained sand-sized shell, 10Y 6/1 greenish gray (SC)						
-68.8	13.2		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, little fine to medium-grained sand-sized shell, few silt, 5Y 7/2 light gray (SP-SM)						
-69.2	13.6		SAND, silty, mostly fine-grained sand-sized quartz, some silt, trace fine to medium-grained						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-015

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 613,020 Y = 1,996,939	-55.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-70.8	15.2		sand-sized shell, 10Y 7/1 light greenish gray (SM)						
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine gravel-sized shell, 5Y 8/1 white (SP-SM)						
			At El. -72.8 Ft., some fine gravel-sized shell, 10Y 7/1 light greenish gray						
-74.3	18.7						-74.3		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

Boring Designation VB-SJSP12-016

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-016 **LOCATION COORDINATES** X = 612,589 Y = 1,997,860	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 06-30-12	**COMPLETED** 06-30-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -54.1 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 92.50 %		
8. TOTAL DEPTH OF BORING 18.9 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-54.1	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, 5Y 8/1 white (SP)				-55.1		
			At El. -55.1 Ft., little medium-grained sand-sized shell		1		-57.1		
			At El. -57.1 Ft., few medium-grained sand-sized shell, trace silt		2 2-Post		-57.1		
-61.8	7.7						-61.1		
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, trace fine to medium-grained sand-sized shell, 5Y 6/2 light olive gray (SP-SM)		3		-63.1		
			At El. -63.1 Ft., little medium to coarse-grained sand-sized shell		4				
-64.0	9.9								
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few fine gravel-sized shell, N 6/ gray (SC)						
-66.8	12.7								
-67.5	13.4		CLAY, fat, some fine-grained sand-sized quartz, trace fine-grained sand-sized shell (CH)						
-68.1	14.0		SAND, clayey, mostly fine to medium-grained sand-sized quartz, some fine gravel-sized shell, little clay (SC)						
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt,						

0 5 10 15

SAJ FORM 1836
JUN 02

(Continued)

Boring Designation VB-SJSP12-016

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 612,589 Y = 1,997,860	-54.1 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-69.5	15.4		5Y 8/1 white (SP-SM)						
			SAND, silty, some fine-grained sand-sized quartz, some fine gravel-sized shell, little silt, 5Y 7/1 light gray (SM)						
-73.0	18.9						-73.0		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
2	3.0/3.5	SP*
2-Post	3.0/3.5	SP*
3	7.0/7.5	SP*
4	9.0/9.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-017

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-017	LOCATION COORDINATES: X = 612,120 Y = 1,998,747	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 06-30-12 COMPLETED: 06-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -55.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 96.50 %	
8. TOTAL DEPTH OF BORING: 19.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-55.3	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-57.3		
					1 1-Post		-57.3		
			At El. -61.3 Ft., trace silt				-61.3		
-62.2	6.9				2				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few fine gravel-sized shell, few silt, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)				-64.3		
			At El. -64.3 Ft., few medium-grained sand-sized shell, 5Y 8/1 white		3		-66.3		
-67.0	11.7		At El. -66.3 Ft., few fine to medium-grained sand-sized shell, 5Y 6/2 light olive gray		4				
-68.3	13.0		CLAY, lean, some fine-grained sand-sized quartz, little fine gravel-sized shell, weak reaction with HCl, moist, 5Y 5/1 gray (CL)						
-69.2	13.9		CLAY, fat, some fine-grained sand-sized quartz, some fine gravel-sized limestone, trace fine to coarse-grained sand-sized shell, strong reaction with HCl, moist, 5Y 5/1 gray (CH)						
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, no reaction with HCl, moist,						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-017

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 612,120 Y = 1,998,747	-55.3 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-70.5	15.2		5Y 7/1 light gray (SC) SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, trace silt, weak reaction with HCl, moist (SP) At El. -71.8 Ft., some fine-grained sand-sized shell, strong reaction with HCl						
-72.5	17.2		SAND, silty, mostly fine to medium-grained sand-sized quartz, some fine gravel-sized shell, little silt, strong reaction with HCl, moist, 5Y 7/1 light gray (SM) At El. -73.3 Ft., some fine-grained sand-sized quartz						
-75.0	19.7						-75.0		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	6.0/6.5	SP*
3	9.0/9.5	SP-SM*
4	11.0/11.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-018

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-018	LOCATION COORDINATES: X = 611,314 Y = 1,998,122	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 06-30-12 COMPLETED: 06-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -56.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 88.00 %	
8. TOTAL DEPTH OF BORING: 18.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-56.1	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, moist, 5Y 8/1 white (SP)				-58.1		
			At El. -58.1 Ft., trace silt		1 1-Post		-58.1		
-60.7									
							-62.1		
			At El. -62.8 Ft., trace fine to medium-grained sand-sized shell, 5Y 6/1 gray		2		-64.1		
					3				
-66.6	10.5						-67.1		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, little medium-grained sand-sized shell, little fine to coarse-grained sand-sized shell, weak reaction with HCl, moist, 5Y 7/2 light gray (SP-SM)		4				
			At El. -68.1 Ft., some fine to coarse-grained sand-sized shell, strong reaction with HCl, 5Y 7/1 light gray						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-018

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 611,314 Y = 1,998,122	-56.1 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-71.6	15.5								
			SAND, silty, some fine-grained sand-sized quartz, some fine gravel-sized shell, little silt, strong reaction with HCl, moist, 5Y 7/1 light gray (SM)						
-74.1	18.0						-74.1		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	6.0/6.5	SP*
3	8.0/8.5	SP*
4	11.0/11.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-019

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2 SHEETS
1. PROJECT	St. Johns County Sand Search Vibracore Borings
2. BORING DESIGNATION	VB-SJSP12-019
LOCATION COORDINATES	X = 610,424 Y = 1,997,678
3. DRILLING AGENCY	Corps of Engineers - CESAJ
CONTRACTOR FILE NO.	6738-12-5195
4. NAME OF DRILLER	
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL	
BEARING	
6. THICKNESS OF OVERBURDEN	N/A
7. DEPTH DRILLED INTO ROCK	N/A
8. TOTAL DEPTH OF BORING	18.3 Ft.
9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.)
HORIZONTAL	NAD83
VERTICAL	NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES	DISTURBED 5 / UNDISTURBED (UD) 0
13. TOTAL NUMBER CORE BOXES	0
14. ELEVATION GROUND WATER	
15. DATE BORING	STARTED 06-30-12 / COMPLETED 06-30-12
16. ELEVATION TOP OF BORING	-56.0 Ft.
17. TOTAL RECOVERY FOR BORING	89.50 %
18. SIGNATURE AND TITLE OF INSPECTOR	Marianne Gruber, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-56.0	0.0								
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-58.0		
			At El. -58.0 Ft., trace silt		1 1-Post		-58.0		
			At El. -61.5 Ft., trace fine-grained sand-sized shell, 5Y 6/2 light olive gray				-62.0		
-62.9					2				
							-65.0		
					3				
							-67.0		
					4				
			At El. -68.2 Ft., some fine gravel-sized shell, strong reaction with HCl						
			At El. -69.2 Ft., trace fine gravel-sized shell, no reaction with HCl, 5Y 6/1 gray						
-70.2	14.2								
			SAND, clayey, mostly fine-grained sand-sized quartz, some fine to coarse-grained sand-sized						

0 5 10 15

(Continued)

DRILLING LOG (Cont. Sheet)	INSTALLATION		SHEET 2 OF 2 SHEETS
	Jacksonville District		
PROJECT	**COORDINATE SYSTEM/DATUM**	**HORIZONTAL**	**VERTICAL**
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88
LOCATION COORDINATES	**ELEVATION TOP OF BORING**		
X = 610,424 Y = 1,997,678	-56.0 Ft.		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-74.3	18.3		shell, little clay, no reaction with HCl, moist, 5Y 6/1 gray (SC)				-74.3		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	6.0/6.5	SP*
3	9.0/9.5	SP*
4	11.0/11.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

Boring Designation VB-SJSP12-020

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	South Atlantic	Jacksonville District	

1. PROJECT	St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT	See Remarks
		10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.) / HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION	VB-SJSP12-020	LOCATION COORDINATES	X = 609,524 Y = 1,997,283
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY	Corps of Engineers - CESAJ	CONTRACTOR FILE NO.	6738-12-5195
12. TOTAL SAMPLES	DISTURBED: 5	UNDISTURBED (UD): 0	
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES	0
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. ELEVATION GROUND WATER
15. DATE BORING	STARTED: 06-30-12	COMPLETED: 06-30-12	
6. THICKNESS OF OVERBURDEN	N/A	16. ELEVATION TOP OF BORING	-55.0 Ft.
7. DEPTH DRILLED INTO ROCK	N/A	17. TOTAL RECOVERY FOR BORING	90.00 %
8. TOTAL DEPTH OF BORING	18.7 Ft.	18. SIGNATURE AND TITLE OF INSPECTOR	Marianne Gruber, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-55.0	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, 5Y 8/1 white (SP)				-57.0		
			At El. -57.0 Ft., little medium-grained sand-sized shell		1 1-Post		-57.0		
-59.3									
							-61.0		
			At El. -61.0 Ft., trace silt		2				
-63.3	8.3						-64.0		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine to medium-grained sand-sized shell, 5Y 6/1 gray (SP-SM)		3				
							-66.0		
			At El. -66.0 Ft., little fine to medium-grained sand-sized shell		4				

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-020

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 609,524 Y = 1,997,283	-55.0 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
			└At El. -69.8 Ft., some fine gravel-sized shell, 5Y 7/1 light gray						
-72.0	17.0								
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, trace fine to medium-grained sand-sized shell, 5Y 7/1 light gray (SC)						
-73.7	18.7						-73.7		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	6.0/6.5	SP*
3	9.0/9.5	SP-SM*
4	11.0/11.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-021

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**	
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-021	**LOCATION COORDINATES** X = 608,645 Y = 1,996,907	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER	
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5 / **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 06-30-12 / **COMPLETED** 06-30-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -52.0 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 90.00 %	
8. TOTAL DEPTH OF BORING 18.5 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-52.0	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, 5Y 8/1 white (SP)				-54.0		
			At El. -54.0 Ft., little medium-grained sand-sized shell		1 1-Post		-54.0		
							-58.0		
-58.9					2				
			From El. -58.9 to -59.1 Ft., clay seam						
							-61.0		
			At El. -61.0 Ft., trace silt		3				
-62.5	10.5								
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, 5Y 5/1 gray (SP-SM)				-63.0		
					4				
-66.0	14.0								
			SAND, silty, mostly fine-grained sand-sized quartz, some fine to coarse-grained sand-sized shell, little silt, 5Y 5/1 gray (SM)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-021

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 608,645 Y = 1,996,907	-52.0 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-68.0	16.0								
-69.0	17.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, 5Y 6/2 light olive gray (SP)						
-70.5	18.5		SAND, silty, mostly fine-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, little silt, 5Y 7/2 light gray (SM)				-70.5		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	6.0/6.5	SP*
3	9.0/9.5	SP*
4	11.0/11.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-022

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**	
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-022	**LOCATION COORDINATES** X = 608,234 Y = 1,997,825	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER	
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5 / **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 06-30-12 / **COMPLETED** 06-30-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -52.7 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 85.00 %	
8. TOTAL DEPTH OF BORING 17.5 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-52.7	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, weak reaction with HCl, moist, 5Y 8/1 white (SP)				-54.7		
			At El. -54.7 Ft., little medium-grained sand-sized shell		1 1-Post		-54.7		
-58.9							-58.7		
					2				
			At El. -60.2 Ft., trace shell, trace fine to medium-grained sand-sized shell, 5Y 6/1 gray				-61.7		
					3				
			At El. -62.8 Ft., little fine-grained sand-sized shell				-63.7		
					4				
-66.3	13.6								
			SAND, clayey, mostly fine-grained sand-sized quartz, little fine-grained sand-sized shell, trace fine gravel-sized limestone, strong reaction with HCl, moist, 5Y 5/1 gray (SC)						
-67.2	14.5								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-022

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 608,234 Y = 1,997,825	-52.7 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-70.2	17.5		CLAY, fat, little fine-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, weak reaction with HCl, moist, 10GY 7/1 light greenish gray (CH)				-70.2		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	6.0/6.5	SP*
3	9.0/9.5	SP*
4	11.0/11.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-023

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**	
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-023 **LOCATION COORDINATES** X = 609,081 Y = 1,998,154	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 06-30-12	**COMPLETED** 06-30-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -53.0 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 81.50 %		
8. TOTAL DEPTH OF BORING 16.7 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-53.0	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine gravel-sized shell, weak reaction with HCl, moist, 5Y 8/1 white (SP)				-54.0		
			At El. -54.0 Ft., little sand to gravel-sized shell		1 1-Post		-54.0		
			At El. -57.0 Ft., few medium-grained sand-sized shell, trace silt		2		-57.0		
-59.3							-60.0		
			At El. -60.7 Ft., trace fine-grained sand-sized shell, 5Y 6/2 light olive gray		3		-62.0		
					4				
-66.0	13.0		SAND, silty, strong reaction with HCl, moist, 5Y 7/2 light gray (SM)						
-67.9	14.9								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-023

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 609,081 Y = 1,998,154	-53.0 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-68.8	15.8		SAND, poorly-graded with silt, weak reaction with HCl, moist, 5Y 7/1 light gray (SP-SM)						
-69.7	16.7		SAND, clayey, strong reaction with HCl, moist, 5Y 7/6 yellow (SC)				-69.7		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	4.0/4.5	SP*
3	7.0/7.5	SP*
4	9.0/9.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-024

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-024	LOCATION COORDINATES: X = 609,996 Y = 1,998,586	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 06-30-12 COMPLETED: 06-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -55.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 92.00 %	
8. TOTAL DEPTH OF BORING: 18.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-55.2	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-56.2		
			At El. -56.2 Ft., little medium-grained sand-sized shell		1 1-Post		-56.2		
			At El. -59.2 Ft., few medium-grained sand-sized shell, trace silt		2		-59.2		
			At El. -61.9 Ft., trace fine to medium-grained sand-sized shell, 5Y 6/2 light olive gray		3		-61.2		
-62.9							-63.2		
					4				
-66.2	11.0								
-67.2	12.0		CLAY, lean, some fine to medium-grained sand-sized quartz, some fine to medium-grained sand-sized shell, weak reaction with HCl, moist, 5Y 5/2 olive gray (CL)						
			SAND, clayey, some fine-grained sand-sized quartz, some fine to coarse-grained sand-sized shell, little clay, strong reaction with HCl, moist, 5Y 7/1 light gray (SC)						
-70.2	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-024

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 609,996 Y = 1,998,586	-55.2 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-72.8	17.6		CLAY, lean, mostly fine to coarse gravel-sized shell, some fine-grained sand-sized quartz, strong reaction with HCl, moist, 5Y 7/1 light gray (CL)						
-74.0	18.8		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to coarse-grained sand-sized shell, weak reaction with HCl, moist, 5Y 7/2 light gray (SP-SM)				-74.0		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-025

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**	
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-025	**LOCATION COORDINATES** X = 607,730 Y = 1,998,720	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER	
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 4 / **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 06-30-12 / **COMPLETED** 06-30-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -54.9 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 96.50 %	
8. TOTAL DEPTH OF BORING 19.4 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-54.9	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-55.9		
			At El. -55.9 Ft., few medium-grained sand-sized shell, trace silt		1 1-Post		-55.9		
			At El. -58.9 Ft., trace shell		2		-58.9		
			At El. -60.3 Ft., few fine to coarse-grained sand-sized shell, few fine to coarse-grained sand-sized shell, 5Y 6/2 light olive gray		3		-60.9		
-62.3									
-64.3	9.4		SAND, clayey, mostly fine-grained sand-sized quartz, little clay, trace fine to medium-grained sand-sized shell, weak reaction with HCl, moist, N 5/ gray (SC)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-025

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 607,730 Y = 1,998,720	-54.9 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-74.3	19.4		At El. -72.7 Ft., little fine to medium-grained sand-sized shell, strong reaction with HCl				-74.3		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-026

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-026	LOCATION COORDINATES: X = 606,844 Y = 1,998,239	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 06-30-12 COMPLETED: 06-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -53.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 81.50 %	
8. TOTAL DEPTH OF BORING: 16.6 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-53.7	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little fine to medium-grained sand-sized shell, weak reaction with HCl, moist, 5Y 8/1 white (SP)				-54.7		
			At El. -54.7 Ft., few medium-grained sand-sized shell, trace silt		1 1-Post		-54.7		
			At El. -56.4 Ft., trace fine to medium-grained sand-sized shell, no reaction with HCl				-57.7		
			At El. -58.3 Ft., few fine to coarse-grained sand-sized shell, 5Y 6/2 light olive gray		2				
-59.2							-59.7		
					3				
-61.3	7.6						-61.7		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, few silt, weak reaction with HCl, moist, 10Y 5/1 greenish gray (SP-SM)		4				
			At El. -63.3 Ft., little medium to coarse-grained sand-sized shell, trace fine to medium-grained sand-sized shell, 5Y 7/1 light gray						
-65.3	11.6								
			CLAY, fat, some fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 10Y 5/1 greenish gray (CH)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-026

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 606,844 Y = 1,998,239	-53.7 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-69.3	15.6								
-70.3	16.6		SAND, silty, mostly fine-grained sand-sized quartz, little silt, no reaction with HCl, moist, 5Y 6/1 gray (SM)				-70.3		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-027

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**	
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-027	**LOCATION COORDINATES** X = 607,300 Y = 1,997,354	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER	
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5 / **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 06-30-12 / **COMPLETED** 06-30-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -54.6 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 92.00 %	
8. TOTAL DEPTH OF BORING 19.1 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-54.6	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-55.6		
			At El. -55.6 Ft., little medium-grained sand-sized shell, trace silt		1 1-Post		-55.6		
			At El. -58.6 Ft., few medium-grained sand-sized shell		2		-58.6		
-59.2			At El. -59.0 Ft., few fine to medium-grained sand-sized shell, 5Y 6/2 light olive gray						
			At El. -60.6 Ft., little medium to coarse-grained sand-sized shell, trace silt		3		-60.6		
-62.3	7.7						-62.6		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)		4				
			At El. -64.1 Ft., some fine to coarse-grained sand-sized shell, weak reaction with HCl, 5Y 7/2 light gray						
-68.3	13.7								
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, few fine to coarse-grained sand-sized shell, weak reaction with HCl, moist, 5Y 7/1 light gray (SP)						

0 5 10 15

SAJ FORM 1836
JUN 02

(Continued)

Boring Designation VB-SJSP12-027

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 607,300 Y = 1,997,354	-54.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-69.7	15.1		SAND, clayey, some fine-grained sand-sized quartz, some fine to coarse-grained sand-sized shell, little clay, strong reaction with HCl, moist, 5Y 5/1 gray (SC)						
-73.7	19.1						-73.7		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-028

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-028 **LOCATION COORDINATES** X = 607,743 Y = 1,996,455	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 06-30-12	**COMPLETED** 06-30-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -51.9 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 96.00 %		
8. TOTAL DEPTH OF BORING 19.4 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-51.9	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, weak reaction with HCl, moist, 5Y 8/1 white (SP)				-52.9		
					1 1-Post		-52.9		
							-56.9		
			At El. -56.9 Ft., trace shell, trace silt		2				
-59.2									
							-60.9		
-61.5	9.6		At El. -60.9 Ft., few medium-grained sand-sized shell		3				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, weak reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)				-63.9		
					4				
-66.3	14.4								
			CLAY, fat, some fine-grained sand-sized quartz, few fine to medium-grained sand-sized						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-028

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 607,743 Y = 1,996,455	-51.9 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-67.3	15.4		shell, weak reaction with HCl, moist, 5Y 5/1 gray (CH)						
-68.9	17.0		SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few fine to medium-grained sand-sized shell, weak reaction with HCl, moist, 5Y 5/1 gray (SC)						
-69.8	17.9		SAND, poorly-graded, mostly fine-grained sand-sized quartz, few fine to medium-grained sand-sized shell, weak reaction with HCl, moist, 5Y 8/1 white (SP)						
-71.3	19.4		SAND, silty, mostly fine-grained sand-sized quartz, some fine gravel-sized shell, little silt, strong reaction with HCl, moist, 5Y 7/1 light gray (SM)				-71.3		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	5.0/5.5	SP*
3	9.0/9.5	SP*
4	12.0/12.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-029

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**	
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-029	**LOCATION COORDINATES** X = 608,196 Y = 1,995,564	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER	
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5 / **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 06-30-12 / **COMPLETED** 06-30-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -54.3 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 90.00 %	
8. TOTAL DEPTH OF BORING 18.6 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-54.3	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-56.3		
			At El. -56.3 Ft., few medium-grained sand-sized shell		1 1-Post		-56.3		
							-58.3		
					2				
-59.2									
			At El. -60.3 Ft., trace silt				-60.3		
-61.3	7.0				3				
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, few fine gravel-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)				-62.3		
			At El. -62.3 Ft., few medium-grained sand-sized shell		4				
-66.8	12.5								
			SAND, silty, mostly fine to medium-grained sand-sized quartz, some fine to coarse gravel-sized shell, little silt, strong reaction with HCl, moist, 5Y 7/2 light gray (SM)						
-69.3	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-029

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 608,196 Y = 1,995,564	-54.3 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-72.9	18.6		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, 5Y 6/1 gray (SP-SM)				-72.9		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-030

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-030	LOCATION COORDINATES: X = 608,649 Y = 1,994,681	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 06-30-12 COMPLETED: 06-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -54.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 92.00 %	
8. TOTAL DEPTH OF BORING: 16.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-54.4	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-56.4		
					1 1-Post		-56.4		
			At El. -58.4 Ft., trace silt, trace silt		2		-58.4		
-59.2							-60.4		
			At El. -60.4 Ft., little medium-grained sand-sized shell		3				
-61.2	6.8		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, few fine to coarse gravel-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)				-62.4		
					4				
-66.4	12.0		SAND, silty, mostly fine to medium-grained sand-sized quartz, some fine gravel-sized shell, little silt, strong reaction with HCl, moist, 5Y 6/2 light olive gray (SM)						
			At El. -67.7 Ft., 5Y 7/1 light gray						
-69.4	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-030

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 608,649 Y = 1,994,681	-54.4 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-70.1	15.7		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 7/2 light gray (SP-SM)						
-71.1	16.7		SAND, clayey, mostly fine-grained sand-sized quartz, little clay, little fine to coarse gravel-sized shell, strong reaction with HCl, moist, 5Y 6/2 light olive gray (SC)				-71.1		

Abbreviations:
NR = Not Recorded.

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

15
20
25
30
35

Boring Designation VB-SJSP12-031

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-031	LOCATION COORDINATES: X = 609,089 Y = 1,993,772	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 4 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 06-30-12 COMPLETED: 06-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -61.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 85.00 %	
8. TOTAL DEPTH OF BORING: 17.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-61.2	0.0						-61.2		
-61.8	0.6		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, trace silt, no reaction with HCl, moist, 5Y 8/1 white (SP)		1 1-Post		-61.2		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)				-63.2		
					2		-65.2		
-67.7	6.5				3				
-70.2	9.0		SAND, clayey, mostly fine-grained sand-sized quartz, some fine gravel-sized shell, little clay, strong reaction with HCl, moist, 5Y 6/2 light olive gray (SC)						
-71.2	10.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fine-grained sand-sized shell, trace silt, no reaction with HCl, moist, 5Y 7/1 light gray (SP)						
-74.2	13.0		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, little fine gravel-sized shell, few silt, strong reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)						
			SAND, silty, mostly fine-grained sand-sized quartz, some fine gravel-sized shell, little silt, strong reaction with HCl, moist, 5Y 7/2 light gray (SM)						
			At El. -75.7 Ft., some silt, little fine-grained						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-031

DRILLING LOG (Cont. Sheet)	INSTALLATION		SHEET 2 OF 2 SHEETS
	Jacksonville District		
PROJECT	**COORDINATE SYSTEM/DATUM**	**HORIZONTAL**	**VERTICAL**
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88
LOCATION COORDINATES	**ELEVATION TOP OF BORING**		
X = 609,089 Y = 1,993,772	-61.2 Ft.		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-78.4	17.2		sand-sized quartz				-78.4		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	0.0/0.5	SP*
1-Post	0.0/0.5	SP*
2	2.0/2.5	SP-SM*
3	4.0/4.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-032

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-032	LOCATION COORDINATES: X = 609,560 Y = 1,992,883	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 06-30-12 COMPLETED: 06-30-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -54.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 80.00 %	
8. TOTAL DEPTH OF BORING: 16.5 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-54.2	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-55.2		
			At El. -55.2 Ft., few medium-grained sand-sized shell		1				
							-57.2		
			At El. -57.2 Ft., few fine to medium-grained sand-sized shell, trace silt		2 2-Post		-57.2		
-58.1									
							-59.2		
					3				
-60.1	5.9								
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)				-61.2		
			At El. -61.2 Ft., few fine-grained sand-sized shell		4				
-67.2	13.0								
			CLAY, lean, some fine-grained sand-sized quartz, little fine to medium-grained sand-sized shell, weak reaction with HCl, moist, 5G 6/1 greenish gray (CL)						
-68.5	14.3								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt,						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-032

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 609,560 Y = 1,992,883	-54.2 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-70.7	16.5		no reaction with HCl, moist, 5Y 7/1 light gray (SP)				-70.7		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
2	3.0/3.5	SP*
2-Post	3.0/3.5	SP*
3	5.0/5.5	SP*
4	7.0/7.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-033

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-033	LOCATION COORDINATES: X = 609,960 Y = 1,992,016	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 4 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 07-01-12 COMPLETED: 07-01-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -58.0 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 81.50 %	
8. TOTAL DEPTH OF BORING: 15.9 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Steve Myers, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-58.0	0.0								
-58.1			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, no reaction with HCl, moist, 5Y 7/1 light gray (SP)				-60.0		
-60.5	2.5		At El. -60.0 Ft., few medium-grained sand-sized shell, trace silt		1 1-Post		-60.0		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)				-62.0		
			At El. -62.0 Ft., few fine-grained sand-sized shell		2				
			At El. -64.0 Ft., trace fine to medium-grained sand-sized shell, 5Y 6/1 gray		3		-64.0		
-68.5	10.5								
-70.0	12.0		SAND, clayey, mostly fine-grained sand-sized quartz, some fine to coarse gravel-sized shell, little clay, strong reaction with HCl, moist, 5Y 4/1 dark gray (SC)						
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 7/1 light gray (SP)						
-73.0	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-033

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 609,960 Y = 1,992,016	-58.0 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-73.9	15.9		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, strong reaction with HCl, moist, 5Y 7/1 light gray (SP-SM)				-73.9		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP-SM*
3	6.0/6.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-034

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	South Atlantic	Jacksonville District	

1. PROJECT: St. Johns County Sand Search Vibracore Borings		9. SIZE AND TYPE OF BIT: See Remarks	
		10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-034	LOCATION COORDINATES: X = 609,083 Y = 1,991,521	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 4 / UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. ELEVATION GROUND WATER	
		15. DATE BORING	STARTED: 07-01-12 / COMPLETED: 07-01-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -58.2 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 85.00 %	
8. TOTAL DEPTH OF BORING: 17.9 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Steve Myers, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-58.2	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 7/1 light gray (SP)				-59.2		
-59.7	1.5		At El. -59.2 Ft., few fine-grained sand-sized shell, trace silt		1 1-Post		-59.2		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)				-61.2		
					2				
							-64.2		
-65.7	7.5				3				
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, little fine gravel-sized shell, weak reaction with HCl, moist, 5Y 5/1 gray (SC)						
			At El. -67.2 Ft., some fine-grained sand-sized quartz, some fine gravel-sized shell, little clay, strong reaction with HCl, moist, 5Y 7/2 light gray						
-68.7	10.5								
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, trace silt, weak reaction with HCl, moist, 5Y 7/1 light gray (SP)						
-70.7	12.5								
			SAND, poorly-graded with silt, mostly fine to coarse-grained sand-sized quartz, few silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 7/1 light gray (SP-SM)						
-72.4	14.2		At El. -71.2 Ft., little fine to medium-grained sand-sized shell, strong reaction with HCl, moist						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-034

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 609,083 Y = 1,991,521	-58.2 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-74.1	15.9		CLAY, fat, little fine to medium-grained sand-sized quartz, no reaction with HCl, moist, 10Y 5/1 greenish gray (CH)						
-74.6	16.4		SAND, clayey, mostly fine-grained sand-sized quartz, some fine gravel-sized shell, little clay, strong reaction with HCl, moist, N 5/ gray (SC)						
-75.5	17.3		CLAY, fat, little fine-grained sand-sized quartz, no reaction with HCl, moist, 10Y 5/1 greenish gray (CH)						
-76.1	17.9		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, little fine to coarse gravel-sized shell, few silt, strong reaction with HCl, moist, 5Y 6/1 gray (SP-SM)				-76.1		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	3.0/3.5	SP-SM*
3	6.0/6.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-035

DRILLING LOG

DIVISION South Atlantic		**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**

1. PROJECT St. Johns County Sand Search Vibracore Borings		**9. SIZE AND TYPE OF BIT** See Remarks	
		10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83 / **VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-035	**LOCATION COORDINATES** X = 608,684 Y = 1,992,458	**11. MANUFACTURER'S DESIGNATION OF DRILL**	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5 / **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 07-01-12 / **COMPLETED** 07-01-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -51.0 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 90.50 %	
8. TOTAL DEPTH OF BORING 18.7 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Steve Myers, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-51.0	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, weak reaction with HCl, moist, 5Y 8/1 white (SP)				-53.0		
			At El. -53.0 Ft., trace silt		1 1-Post		-53.0		
			At El. -56.0 Ft., few medium-grained sand-sized shell		2		-56.0		
-57.7									
					3		-60.0		
-61.0	10.0								
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, few silt, strong reaction with HCl, moist, 5Y 5/2 olive gray (SP-SM)				-63.0		
					4				

0 5 10 15

SAJ FORM 1836
JUN 02

(Continued)

Boring Designation VB-SJSP12-035

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 608,684 Y = 1,992,458	-51.0 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-69.7	18.7						-69.7		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	5.0/5.5	SP*
3	9.0/9.5	SP*
4	12.0/12.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-036

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2 SHEETS
1. PROJECT	St. Johns County Sand Search Vibracore Borings
2. BORING DESIGNATION	VB-SJSP12-036
LOCATION COORDINATES	X = 608,230 Y = 1,993,355
3. DRILLING AGENCY	Corps of Engineers - CESAJ
CONTRACTOR FILE NO.	6738-12-5195
4. NAME OF DRILLER	
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL	
BEARING	
6. THICKNESS OF OVERBURDEN	N/A
7. DEPTH DRILLED INTO ROCK	N/A
8. TOTAL DEPTH OF BORING	18.2 Ft.
9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.) / HORIZONTAL NAD83 / VERTICAL NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES	DISTURBED 3 / UNDISTURBED (UD) 0
13. TOTAL NUMBER CORE BOXES	0
14. ELEVATION GROUND WATER	
15. DATE BORING	STARTED 07-01-12 / COMPLETED 07-01-12
16. ELEVATION TOP OF BORING	-58.3 Ft.
17. TOTAL RECOVERY FOR BORING	91.00 %
18. SIGNATURE AND TITLE OF INSPECTOR	Steve Myers, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-58.3	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, no reaction with HCl, moist, 5Y 8/1 white (SP)				-59.3		
-60.1	1.8		At El. -59.3 Ft., few fine to medium-grained sand-sized shell, trace silt		1 1-Post		-59.3		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)				-61.3		
-63.9	5.6				2				
-65.3	7.0		SAND, silty, mostly fine-grained sand-sized quartz, little silt, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/2 olive gray (SM)						
-66.3	8.0		CLAY, lean, some fine-grained sand-sized quartz, few fine gravel-sized shell, no reaction with HCl, moist, N 4/ dark gray (CL)						
-67.8	9.5		CLAY, fat, some fine-grained sand-sized quartz, no reaction with HCl, moist, 10Y 5/1 greenish gray (CH)						
-68.2	9.9		SAND, clayey, some fine-grained sand-sized quartz, some clay, some fine gravel-sized shell, strong reaction with HCl, moist, 10Y 6/1 greenish gray (SC)						
-70.3	12.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, few fine to medium-grained sand-sized shell, trace silt, weak reaction with HCl, moist, 5Y 7/2 light gray (SP)						
-71.2	12.9		SAND, clayey, mostly fine-grained sand-sized quartz, some fine to coarse-grained sand-sized shell, little clay, strong reaction with HCl, moist, 5Y 7/2 light gray (SC)						
-73.3	15.0		CLAY, lean, some fine-grained sand-sized quartz, no reaction with HCl, moist, 10Y 6/1 greenish gray (CL)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-036

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 608,230 Y = 1,993,355	-58.3 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-76.5	18.2		CLAY, fat, little fine-grained sand-sized quartz, no reaction with HCl, moist, N 4/ dark gray (CH)				-76.5		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	3.0/3.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-037

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-037	LOCATION COORDINATES: X = 607,805 Y = 1,994,250	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 07-01-12 COMPLETED: 07-01-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -52.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 92.00 %	
8. TOTAL DEPTH OF BORING: 19.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Steve Myers, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-52.6	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, no reaction with HCl, moist, 5Y 8/1 white (SP)				-54.6		
			At El. -54.6 Ft., trace shell, trace silt		1 1-Post		-54.6		
-56.8							-56.6		
					2				
							-58.6		
					3				
-59.9	7.3						-60.6		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few fine to medium-grained sand-sized shell, few silt, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)		4				
-63.2	10.6								
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 4/1 dark gray (SC)						
-64.6	12.0								
			CLAY, fat, some fine-grained sand-sized quartz, no reaction with HCl, moist, 5Y 4/1 dark gray (CH)						
-66.0	13.4								
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, trace fine to medium-grained sand-sized shell, weak reaction with HCl, moist, 5Y 5/2 olive gray (SC)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-037

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 607,805 Y = 1,994,250	-52.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-68.6	16.0								
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP-SM)						
-71.6	19.0						-71.6		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-038

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search / Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-038	LOCATION COORDINATES: X = 607,300 Y = 1,995,092	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 07-01-12 COMPLETED: 07-01-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -51.8 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 91.50 %	
8. TOTAL DEPTH OF BORING: 19.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Steve Myers, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-51.8	0.0								
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, no reaction with HCl, moist, 5Y 8/1 white (SP)				-53.8		
			At El. -53.8 Ft., few fine to medium-grained sand-sized shell		1 1-Post		-53.8		
-56.8							-56.8		
			At El. -56.8 Ft., trace silt		2				
-58.8	7.0						-59.8		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)		3				
			At El. -59.8 Ft., few medium-grained sand-sized shell						
			At El. -61.1 Ft., little fine to coarse-grained sand-sized shell, weak reaction with HCl, moist				-62.8		
-64.8	13.0				4				
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, little fine to coarse-grained sand-sized shell, weak reaction with HCl, moist, 10GY 6/1 greenish gray (SC)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-038

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 607,300 Y = 1,995,092	-51.8 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-70.8	19.0		At El. -67.8 Ft., some fine to coarse-grained sand-sized shell, strong reaction with HCl At El. -69.5 Ft., some fine-grained sand-sized quartz, 10Y 7/1 light greenish gray				-70.8		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	5.0/5.5	SP*
3	8.0/8.5	SP-SM*
4	11.0/11.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-039

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search / Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-039	LOCATION COORDINATES: X = 606,829 Y = 1,995,999	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 4 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 07-01-12 COMPLETED: 07-01-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -58.1 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 99.50 %	
8. TOTAL DEPTH OF BORING: 20.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Steve Myers, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-58.1	0.0						-58.1		
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)		1 1-Post		-58.1		
-59.7							-60.1		
			At El. -60.1 Ft., few medium-grained sand-sized shell, trace silt, 5Y 6/2 light olive gray		2				
-62.1	4.0						-62.1		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)		3				
-63.6	5.5		SAND, clayey, mostly fine-grained sand-sized quartz, little clay, no reaction with HCl, moist, (clay seams), 5Y 6/1 gray (SC)						
-65.4	7.3		At El. -65.1 Ft., some fine-grained sand-sized quartz, little fine gravel-sized limestone, strong reaction with HCl, moist, 10Y 5/1 greenish gray CLAY, fat, some fine-grained sand-sized quartz, little fine gravel-sized limestone, trace fine-grained sand-sized shell, strong reaction with HCl, moist, 5G 6/1 greenish gray (CH)						
-67.0	8.9								
-67.6	9.5		SAND, clayey, mostly fine-grained sand-sized quartz, little clay, trace fine-grained sand-sized shell, weak reaction with HCl, moist, 5Y 6/1 gray (SC)						
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, some fine gravel-sized shell, few silt, strong reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-039

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 606,829 Y = 1,995,999	-58.1 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-73.4	15.3								
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few fine to medium-grained sand-sized shell, weak reaction with HCl, moist, 5Y 7/1 light gray (SC)						
-75.1	17.0								
			SAND, silty, mostly fine-grained sand-sized quartz, some fine gravel-sized shell, little silt, strong reaction with HCl, moist, 5Y 6/1 gray (SM)						
-78.1	20.0						-78.1		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	0.0/0.5	SP*
1-Post	0.0/0.5	SP*
2	2.0/2.5	SP*
3	4.0/4.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-040

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**	
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-040	**LOCATION COORDINATES** X = 606,442 Y = 1,996,925	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER	
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5 **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 07-01-12 **COMPLETED** 07-01-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -56.3 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 98.58 %	
8. TOTAL DEPTH OF BORING 20.1 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Steve Myers, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-56.3	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-57.3		
					1				
			At El. -58.3 Ft., trace silt				-59.3		
-59.7					2		-59.3 2-Post		
			At El. -60.3 Ft., few fine to coarse-grained sand-sized shell				-61.3		
					3				
							-63.3		
					4				
			At El. -64.3 Ft., little fine to coarse-grained sand-sized shell, weak reaction with HCl, moist						
-65.3	9.0		SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, occasional seams of clay, 5Y 6/1 gray (SC)						
-66.9	10.6		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, trace fine-grained sand-sized shell, no reaction with HCl, moist, 5Y 7/1 light gray (SP-SM)						
-68.6	12.3		CLAY, fat, little fine-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 10Y 6/1 greenish gray (CH)						
-70.5	14.2		SAND, clayey, some fine-grained sand-sized quartz, some fine to coarse-grained sand-sized						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-040

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 606,442 Y = 1,996,925	-56.3 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-71.9	15.6		shell, strong reaction with HCl, moist, 10Y 6/1 greenish gray (SC)						
			CLAY, fat, little fine-grained sand-sized quartz, no reaction with HCl, moist, 10GY 6/1 greenish gray (CH)						
-74.6	18.3								
			SAND, clayey, mostly fine-grained sand-sized quartz, some sand to gravel-sized shell, little clay, strong reaction with HCl, moist, 5Y 6/2 light olive gray (SC)						
-76.4	20.1						-76.4		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
2	3.0/3.5	SP*
2-Post	3.0/3.5	SP*
3	5.0/5.5	SP*
4	7.0/7.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-041

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	South Atlantic	Jacksonville District	

1. PROJECT	St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT	See Remarks
		10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.) / HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION	VB-SJSP12-041	LOCATION COORDINATES	X = 605,989 Y = 1,997,804
3. DRILLING AGENCY	Corps of Engineers - CESAJ	CONTRACTOR FILE NO.	6738-12-5195
4. NAME OF DRILLER			
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING
6. THICKNESS OF OVERBURDEN	N/A		
7. DEPTH DRILLED INTO ROCK	N/A		
8. TOTAL DEPTH OF BORING	16.7 Ft.		
11. MANUFACTURER'S DESIGNATION OF DRILL		☐ AUTO HAMMER ☐ MANUAL HAMMER	
12. TOTAL SAMPLES	DISTURBED: 5	UNDISTURBED (UD): 0	
13. TOTAL NUMBER CORE BOXES	0		
14. ELEVATION GROUND WATER			
15. DATE BORING	STARTED: 07-01-12	COMPLETED: 07-01-12	
16. ELEVATION TOP OF BORING	-53.5 Ft.		
17. TOTAL RECOVERY FOR BORING	80.00 %		
18. SIGNATURE AND TITLE OF INSPECTOR	Steve Myers, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-53.5	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-56.5		
			At El. -56.5 Ft., few medium-grained sand-sized shell, trace silt		1 1-Post		-56.5		
-59.7							-60.5		
			At El. -60.5 Ft., little medium-grained sand-sized shell		2				
-61.8	8.3						-62.5		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)		3				
			At El. -62.5 Ft., few fine-grained sand-sized shell				-64.5		
			At El. -64.5 Ft., little fine to coarse-grained sand-sized shell		4				
			At El. -66.1 Ft., few fine to medium-grained sand-sized shell, thin silt seams throughout, 5Y 7/1 light gray						
-67.5	14.0								
			SAND, clayey, some fine-grained sand-sized quartz, some sand to gravel-sized shell, little clay, strong reaction with HCl, moist,						
-68.5	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-041

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 605,989 Y = 1,997,804	-53.5 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
			5Y 4/1 dark gray (SC)						
-69.6	16.1		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, few silt, trace fine to coarse gravel-sized sandstone, strong reaction with HCl, moist, 5Y 7/1 light gray (SP-SM)						
-70.2	16.7						-70.2		
			SAND, clayey, mostly fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, little clay, strong reaction with HCl, moist, 10YR 5/6 yellowish brown (SC)				Abbreviations: NR = Not Recorded.		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	3.0/3.5	SP*
1-Post	3.0/3.5	SP*
2	7.0/7.5	SP*
3	9.0/9.5	SP-SM*
4	11.0/11.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

15 20 25 30 35

Boring Designation VB-SJSP12-042

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search / Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-042	LOCATION COORDINATES: X = 605,536 Y = 1,998,699	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 07-01-12 COMPLETED: 07-01-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -58.7 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 62.50 %	
8. TOTAL DEPTH OF BORING: 13.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Steve Myers, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-58.7	0.0								
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, no reaction with HCl, moist, 5Y 6/1 gray (SP)						
-59.7							-60.7		
			At El. -60.7 Ft., little fine to coarse-grained sand-sized shell, trace silt		1 1-Post		-60.7		
-61.7	3.0						-62.7		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to coarse gravel-sized shell, weak reaction with HCl, moist (SP-SM)		2		-64.7		
					3		-66.7		
					4				
-69.6	10.9								
-70.5	11.8		SAND, clayey, mostly fine-grained sand-sized quartz, some sand to gravel-sized shell, little clay, strong reaction with HCl, moist, 5Y 5/1 gray (SC)						
			CLAY, fat, little fine-grained sand-sized quartz, no reaction with HCl, moist, N 5/ gray (CH)						
-71.9	13.2						-71.9		
			NOTES: 1. USACE Jacksonville is the custodian for these original files.				Abbreviations: NR = Not Recorded.		

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-042

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 605,536 Y = 1,998,699	-58.7 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP-SM*
3	6.0/6.5	SP-SM*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

15
20
25
30
35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-043

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	South Atlantic	Jacksonville District	

1. PROJECT	St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION	VB-SJSP12-043	LOCATION COORDINATES: X = 604,607 Y = 1,998,250	
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY	Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	
12. TOTAL SAMPLES	DISTURBED: 2	UNDISTURBED (UD): 0	
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES	0
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
15. DATE BORING	STARTED: 07-01-12	COMPLETED: 07-01-12	
6. THICKNESS OF OVERBURDEN	N/A	16. ELEVATION TOP OF BORING	-62.6 Ft.
7. DEPTH DRILLED INTO ROCK	N/A	17. TOTAL RECOVERY FOR BORING	93.00 %
8. TOTAL DEPTH OF BORING	19.3 Ft.	18. SIGNATURE AND TITLE OF INSPECTOR	Steve Myers, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-62.6	0.0								
			SAND, silty, mostly fine-grained sand-sized quartz, little silt, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 10YR 5/1 gray (SM)				-63.6		
					1 1-Post		-63.6		
			At El. -64.6 Ft., little fine to medium-grained sand-sized shell, weak reaction with HCl, moist						
-65.5	2.9								
			CLAY, fat, little fine to medium-grained sand-sized quartz, few sand to gravel-sized shell, weak reaction with HCl, moist, N 5/ gray (CH)						
			At El. -67.9 Ft., some fine to medium-grained sand-sized quartz						
			At El. -69.6 Ft., some fine gravel-sized shell, weak reaction with HCl						
-70.6	8.0								
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, no reaction with HCl, moist, 5Y 6/1 gray (SC)						
-73.1	10.5								
			CLAY, fat, little fine-grained sand-sized quartz, no reaction with HCl, moist, 5Y 5/1 gray (CH)						
-74.8	12.2								
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, no reaction with HCl, moist, 5Y 6/1 gray (SC)						
-76.8	14.2								
			SAND, silty, mostly fine-grained sand-sized quartz, little fine gravel-sized limestone, little						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-043

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 604,607 Y = 1,998,250	-62.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-81.9	19.3		silt, strong reaction with HCl, moist, 10YR 6/2 light brownish gray (SM) At El. -80.3 Ft., few fine to coarse gravel-sized limestone, 10YR 6/3 pale brown				-81.9		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SM*
1-Post	1.0/1.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-044

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**	
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-044	**LOCATION COORDINATES** X = 605,054 Y = 1,997,329	**11. MANUFACTURER'S DESIGNATION OF DRILL**	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5 **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL**	**BEARING**	**14. ELEVATION GROUND WATER**
		15. DATE BORING	**STARTED** 07-01-12 **COMPLETED** 07-01-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -57.6 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 96.46 %	
8. TOTAL DEPTH OF BORING 19.5 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Steve Myers, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-57.6	0.0								
-58.1			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-59.6		
			At El. -59.6 Ft., few medium-grained sand-sized shell, trace silt		1 1-Post		-59.6		
							-61.6		
-62.6	5.0				2				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/1 gray (SP-SM)				-63.6		
					3				
							-65.6		
					4				
			At El. -66.7 Ft., little fine to medium-grained sand-sized shell, weak reaction with HCl						
-67.9	10.3								
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5BG 5/1 greenish gray (SC)						
-68.9	11.3								
			CLAY, fat, some fine-grained sand-sized quartz, trace fine-grained sand-sized shell, 5BG 5/1 greenish gray (CH)						
-71.0	13.4								
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, little sand to gravel-sized shell, strong reaction with HCl, moist, 10Y 7/1 light greenish gray (SC)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-044

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 605,054 Y = 1,997,329	-57.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-77.1	19.5		At El. -72.6 Ft., some fine to coarse gravel-sized shell				-77.1		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP-SM*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-045

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	South Atlantic	Jacksonville District	

1. PROJECT: St. Johns County Sand Search Vibracore Borings		9. SIZE AND TYPE OF BIT: See Remarks	
		10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-045	LOCATION COORDINATES: X = 605,490 Y = 1,996,460	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 / UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. ELEVATION GROUND WATER	
		15. DATE BORING	STARTED: 07-01-12 / COMPLETED: 07-01-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -54.5 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 94.92 %	
8. TOTAL DEPTH OF BORING: 18.7 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Steve Myers, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-54.5	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 7/1 light gray (SP)				-56.5		
			At El. -56.5 Ft., few fine to medium-grained sand-sized shell, trace silt		1 1-Post		-56.5		
-58.1							-58.5		
					2				
							-60.5		
					3				
-62.2	7.7						-62.5		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5GY 4/1 dark greenish gray (SP-SM)		4				
-65.9	11.4								
			SAND, silty, mostly fine-grained sand-sized quartz, little silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5GY 4/1 dark greenish gray (SM)						
-68.5	14.0								
			CLAY, fat, few fine-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5B 5/1 bluish gray						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-045

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 605,490 Y = 1,996,460	-54.5 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-70.5	16.0		(CH)						
-73.2	18.7		SAND, clayey, mostly fine to medium-grained sand-sized quartz, little clay, little sand to gravel-sized shell, strong reaction with HCl, moist, 5Y 7/1 light gray (SC)				-73.2		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-046

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**	
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-046	**LOCATION COORDINATES** X = 605,939 Y = 1,995,569	**11. MANUFACTURER'S DESIGNATION OF DRILL**	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 6 / **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 07-01-12 / **COMPLETED** 07-01-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -53.3 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 95.00 %	
8. TOTAL DEPTH OF BORING 19.5 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Steve Myers, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-53.3	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/1 gray (SP)				-55.3		
			At El. -55.3 Ft., few medium-grained sand-sized shell		1 1-Post		-55.3		
			At El. -57.3 Ft., trace silt		2		-57.3		
-58.1									
					3		-59.3		
-60.3	7.0								
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5GY 5/1 greenish gray (SP-SM)		4		-61.3		
			At El. -61.3 Ft., few fine-grained sand-sized shell				-62.3		
					5				
-67.4	14.1								
			SAND, clayey, mostly fine to medium-grained sand-sized quartz, some fine to coarse gravel-sized shell, little clay, strong reaction						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-046

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 605,939 Y = 1,995,569	-53.3 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-72.8	19.5		with HCl, moist, 10Y 6/1 greenish gray (SC)				-72.8		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP-SM*
5	9.0/9.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-047

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search / Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-047	LOCATION COORDINATES: X = 606,385 Y = 1,994,653	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 07-01-12 COMPLETED: 07-01-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -53.0 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 94.00 %	
8. TOTAL DEPTH OF BORING: 19.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Steve Myers, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-53.0	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/1 gray (SP)				-56.0		
			At El. -55.0 Ft., few medium-grained sand-sized shell		1 1-Post		-56.0		
			At El. -57.0 Ft., trace silt						
-58.1							-59.0		
-60.1	7.1				2				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine-grained sand-sized shell, no reaction with HCl, moist, 10Y 4/1 dark greenish gray (SP-SM)				-61.0		
					3		-62.0		
-64.0	11.0				4				
			CLAY, fat, little fine-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 10Y 4/1 dark greenish gray (CH)						
-67.5	14.5								
			SAND, poorly-graded with silt, mostly						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-047

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 606,385 Y = 1,994,653	-53.0 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-72.0	19.0		fine-grained sand-sized quartz, few silt, strong reaction with HCl, moist, 10Y 7/1 light greenish gray (SP-SM)				-72.0		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	3.0/3.5	SP*
1-Post	3.0/3.5	SP*
2	6.0/6.5	SP*
3	8.0/8.5	SP-SM*
4	9.0/9.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-048

DRILLING LOG

DIVISION South Atlantic		**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**

1. PROJECT St. Johns County Sand Search Vibracore Borings		**9. SIZE AND TYPE OF BIT** See Remarks	
		10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83 / **VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-048	**LOCATION COORDINATES** X = 606,815 Y = 1,993,765	**11. MANUFACTURER'S DESIGNATION OF DRILL**	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5 / **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 07-01-12 / **COMPLETED** 07-01-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -49.8 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 95.00 %	
8. TOTAL DEPTH OF BORING 19.5 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Steve Myers, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-49.8	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-52.8		
			At El. -52.8 Ft., trace silt, 5Y 5/1 gray		1 1-Post		-52.8		
-54.2									
							-55.8		
-56.8	7.0				2				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few medium-grained sand-sized shell, few silt, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)				-58.8		
					3				
							-61.8		
					4				
-63.6	13.8								
			CLAY, fat, few fine-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 10GY 4/1 dark greenish gray (CH)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-048

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 606,815 Y = 1,993,765	-49.8 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-67.2	17.4								
-69.3	19.5		SAND, clayey, mostly fine to medium-grained sand-sized quartz, some fine to coarse-grained sand-sized shell, little clay, strong reaction with HCl, moist, 10Y 5/1 greenish gray (SC)				-69.3		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	3.0/3.5	SP*
1-Post	3.0/3.5	SP*
2	6.0/6.5	SP*
3	9.0/9.5	SP-SM*
4	12.0/12.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-049

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-049	LOCATION COORDINATES: X = 607,297 Y = 1,992,874	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 07-01-12 COMPLETED: 07-01-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -53.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 87.50 %	
8. TOTAL DEPTH OF BORING: 17.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Steve Myers, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-53.3	0.0						-53.3		
-54.2			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-55.3		
-56.2	2.9		At El. -55.3 Ft., few fine-grained sand-sized shell, trace silt		1 1-Post		-55.3		
-62.1	8.8		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)		2		-57.3		
-62.7	9.4		SAND, clayey, mostly fine-grained sand-sized quartz, little clay, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SC)		3		-59.3		
-65.6	12.3		CLAY, fat, some fine-grained sand-sized quartz, trace fine-grained sand-sized shell, no reaction with HCl, moist, 5Y 4/2 olive gray (CH)		4		-61.3		
-68.3	15.0		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace fine-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SC)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-049

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 607,297 Y = 1,992,874	-53.3 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-69.6	16.3		SAND, silty, mostly fine-grained sand-sized quartz, little silt, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 7/2 light gray (SM)						
-71.1	17.8		CLAY, fat, little fine-grained sand-sized quartz, few fine-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (CH)				-71.1		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP-SM*
3	6.0/6.5	SP-SM*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-050

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	South Atlantic	Jacksonville District	

1. PROJECT	St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT	See Remarks
		10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.) / HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION	VB-SJSP12-050	LOCATION COORDINATES	X = 607,765 Y = 1,991,976
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY	Corps of Engineers - CESAJ	CONTRACTOR FILE NO.	6738-12-5195
12. TOTAL SAMPLES	DISTURBED: 3	UNDISTURBED (UD): 0	
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES	0
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	
14. ELEVATION GROUND WATER			
15. DATE BORING	STARTED: 07-01-12	COMPLETED: 07-01-12	
6. THICKNESS OF OVERBURDEN	N/A	16. ELEVATION TOP OF BORING	-59.9 Ft.
7. DEPTH DRILLED INTO ROCK	N/A	17. TOTAL RECOVERY FOR BORING	92.50 %
8. TOTAL DEPTH OF BORING	18.8 Ft.	18. SIGNATURE AND TITLE OF INSPECTOR	Steve Myers, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-59.9	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little medium-grained sand-sized shell, trace silt, weak reaction with HCl, moist, 5Y 6/2 light olive gray (SP) At El. -60.7 Ft., few fine gravel-sized shell				-61.9		
-62.9	3.0				1 1-Post		-61.9		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few medium-grained sand-sized shell, weak reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)				-63.9		
-65.6	5.7				2				
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few fine-grained sand-sized shell, no reaction with HCl, moist, (little seams of clay), 5Y 5/1 gray (SC)						
-74.1	14.2								
			SAND, silty, mostly fine to medium-grained sand-sized quartz, some sand to gravel-sized						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-050

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 607,765 Y = 1,991,976	-59.9 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
			shell, little silt, strong reaction with HCl, moist, 5Y 7/1 light gray (SM)						
-77.0	17.1								
			CLAY, fat, few fine-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 10GY 5/1 greenish gray (CH)						
-78.7	18.8						-78.7		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-051

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-051 **LOCATION COORDINATES** X = 606,868 Y = 1,991,528	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-01-12	**COMPLETED** 07-01-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -50.6 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 77.00 %		
8. TOTAL DEPTH OF BORING 15.5 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Steve Myers, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-50.6	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, no reaction with HCl, moist, 5Y 8/1 white (SP)				-53.6		
			At El. -53.6 Ft., few medium-grained sand-sized shell, trace silt		1 1-Post		-53.6		
							-55.6		
			At El. -55.6 Ft., trace shell		2				
							-57.6		
-58.6	8.0				3				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)				-59.6		
			At El. -59.6 Ft., few fine-grained sand-sized shell		4				
-63.4	12.8								
			SAND, clayey, mostly fine-grained sand-sized quartz, some clay, no reaction with HCl, moist, 5Y 5/1 gray (SC)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-051

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 606,868 Y = 1,991,528	-50.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-66.1	15.5						-66.1		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	3.0/3.5	SP*
1-Post	3.0/3.5	SP*
2	5.0/5.5	SP*
3	7.0/7.5	SP*
4	9.0/9.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-052

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	

1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-052	LOCATION COORDINATES: X = 606,436 Y = 1,992,441	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 / UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 07-01-12 / COMPLETED: 07-01-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -47.8 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 72.50 %	
8. TOTAL DEPTH OF BORING: 15.4 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Steve Myers, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-47.8	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-50.8		
			At El. -50.8 Ft., few medium-grained sand-sized shell, trace silt		1 1-Post		-50.8		
			At El. -53.8 Ft., trace shell		2		-53.8		
			At El. -56.8 Ft., little medium to coarse-grained sand-sized shell		3		-56.8		
			At El. -58.4 Ft., trace fine-grained sand-sized shell, trace fine-grained sand-sized shell, 5Y 6/1 gray				-59.8		
			At El. -59.8 Ft., few fine-grained sand-sized shell		4				

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-052

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 606,436 Y = 1,992,441	-47.8 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-63.2	15.4						-63.2		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	3.0/3.5	SP*
1-Post	3.0/3.5	SP*
2	6.0/6.5	SP*
3	9.0/9.5	SP*
4	12.0/12.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-064

DRILLING LOG

DIVISION South Atlantic		**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings		**9. SIZE AND TYPE OF BIT** See Remarks	
		10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83 / **VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-064	**LOCATION COORDINATES** X = 613,452 Y = 1,998,329	**11. MANUFACTURER'S DESIGNATION OF DRILL**	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5 / **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 07-03-12 / **COMPLETED** 07-03-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -57.8 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 87.18 %	
8. TOTAL DEPTH OF BORING 17.1 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-57.8	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-59.8		
-60.6	2.8		At El. -59.8 Ft., little medium-grained sand-sized shell, trace silt		1 1-Post		-59.8		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)				-61.8		
			At El. -61.8 Ft., little fine to medium-grained sand-sized shell		2		-63.8		
-64.8	7.0				3				
			SAND, silty, mostly fine-grained sand-sized quartz, some silt, few fine-grained sand-sized shell, no reaction with HCl, moist, 5Y 7/1 light gray (SM)				-65.8		
			At El. -65.8 Ft., some fine to medium-grained sand-sized shell, some fine-grained sand-sized quartz, little silt, trace limestone, strong reaction with HCl		4				
			At El. -67.8 Ft., some fine to coarse gravel-sized shell, few fine to coarse gravel-sized limestone						

0 5 10 15

SAJ FORM 1836
JUN 02

(Continued)

Boring Designation VB-SJSP12-064

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 613,452 Y = 1,998,329	-57.8 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-74.9	17.1						-74.9		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP-SM*
3	6.0/6.5	SP-SM*
4	8.0/8.5	SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-065

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Jacksonville District	SHEET 1 OF 2 SHEETS

1. PROJECT: St. Johns County Sand Search Vibracore Borings		9. SIZE AND TYPE OF BIT: See Remarks	
		10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-065	LOCATION COORDINATES: X = 613,924 Y = 1,997,452	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 / UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. ELEVATION GROUND WATER	
		15. DATE BORING	STARTED: 07-02-12 / COMPLETED: 07-02-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -56.9 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 96.32 %	
8. TOTAL DEPTH OF BORING: 18.6 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-56.9	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-58.9		
			At El. -58.9 Ft., little medium-grained sand-sized shell, trace silt		1 1-Post		-58.9 / -60.9		
-61.4	4.5		At El. -60.9 Ft., few medium-grained sand-sized shell		2				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)				-62.9		
			At El. -62.9 Ft., little fine to medium-grained sand-sized shell, trace limestone		3		-64.9		
-65.8	8.9		At El. -64.9 Ft., few fine-grained sand-sized shell		4				
-66.9	10.0		SAND, clayey, mostly fine-grained sand-sized quartz, little clay, trace fine-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/2 olive gray (SC)						
-69.8	12.9		CLAY, fat, some fine-grained sand-sized quartz, trace fine-grained sand-sized shell, no reaction with HCl, moist, 5GY 5/1 greenish gray (CH)						
			SAND, silty, mostly fine-grained sand-sized quartz, little silt, little sand to gravel-sized shell, weak reaction with HCl, moist, 5Y 5/2 olive gray (SM)						
			At El. -71.3 Ft., some fine-grained sand-sized quartz, some fine to coarse gravel-sized shell,						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-065

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 613,924 Y = 1,997,452	-56.9 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-75.5	18.6		strong reaction with HCl				-75.5		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP-SM*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

Boring Designation VB-SJSP12-066

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-066 **LOCATION COORDINATES** X = 614,402 Y = 1,996,553	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-02-12	**COMPLETED** 07-02-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -54.6 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 89.50 %		
8. TOTAL DEPTH OF BORING 17.9 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-54.6	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)						
							-56.6		
			At El. -56.6 Ft., little medium-grained sand-sized shell		1				
							-59.6		
			At El. -59.6 Ft., few medium-grained sand-sized shell		2 2-post		-59.6		
							-62.6		
-63.6	9.0				3				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)				-64.6		
					4				
-67.1	12.5								
			SAND, clayey, some fine-grained sand-sized quartz, some clay, little fine to coarse-grained sand-sized shell, weak reaction with HCl, moist, 10Y 7/1 light greenish gray (SC) At El. -68.1 Ft., some sand to gravel-sized shell, little clay, strong reaction with HCl, 5Y 8/3 pale yellow						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-066

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 614,402 Y = 1,996,553	-54.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-70.6	16.0								
-72.5	17.9		SAND, silty, mostly fine-grained sand-sized quartz, little silt, few sand to gravel-sized shell, weak reaction with HCl, moist, 5Y 8/1 white (SM)				-72.5		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
2	5.0/5.5	SP*
2-post	5.0/5.5	SP*
3	8.0/8.5	SP*
4	10.0/10.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-067

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2 SHEETS
1. PROJECT	St. Johns County Sand Search Vibracore Borings
2. BORING DESIGNATION	VB-SJSP12-067
LOCATION COORDINATES	X = 614,874 Y = 1,995,665
3. DRILLING AGENCY	Corps of Engineers - CESAJ
CONTRACTOR FILE NO.	6738-12-5195
4. NAME OF DRILLER	
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL	
BEARING	
6. THICKNESS OF OVERBURDEN	N/A
7. DEPTH DRILLED INTO ROCK	N/A
8. TOTAL DEPTH OF BORING	19.5 Ft.
9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.) / HORIZONTAL NAD83 / VERTICAL NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES	DISTURBED 5 / UNDISTURBED (UD) 0
13. TOTAL NUMBER CORE BOXES	0
14. ELEVATION GROUND WATER	
15. DATE BORING	STARTED 07-02-12 / COMPLETED 07-02-12
16. ELEVATION TOP OF BORING	-57.9 Ft.
17. TOTAL RECOVERY FOR BORING	96.50 %
18. SIGNATURE AND TITLE OF INSPECTOR	Marianne Gruber, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-57.9	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-59.9		
			At El. -59.9 Ft., few medium-grained sand-sized shell, trace silt		1 (1-post)		-59.9 -61.9		
-62.9	5.0				2		-63.9		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)		3		-65.9		
			At El. -63.9 Ft., few medium-grained sand-sized shell		4				
-68.3	10.4								
			CLAY, fat, some fine-grained sand-sized quartz, some sand to gravel-sized shell, weak reaction with HCl, moist, 10GY 6/1 greenish gray (CH)						
-71.9	14.0								
			SAND, clayey, mostly fine-grained sand-sized quartz, some sand to gravel-sized shell, little clay, strong reaction with HCl, moist,						

(Continued)

Boring Designation VB-SJSP12-067

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 614,874 Y = 1,995,665	-57.9 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
			10Y 7/1 light greenish gray (SC)						
			At El. -74.0 Ft., 5Y 5/6 olive						
-76.4	18.5								
			SILT, inorganic-L, some fine-grained sand-sized quartz, some sand to gravel-sized shell, no reaction with HCl, moist, N 3/ very dark gray (ML)						
-77.4	19.5						-77.4		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP-SM*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

Boring Designation VB-SJSP12-068

DRILLING LOG

DIVISION South Atlantic		**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings		**9. SIZE AND TYPE OF BIT** See Remarks	
		10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83 / **VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-068	**LOCATION COORDINATES** X = 615,369 Y = 1,994,777	**11. MANUFACTURER'S DESIGNATION OF DRILL**	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5 / **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 07-02-12 / **COMPLETED** 07-02-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -55.2 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 88.50 %	
8. TOTAL DEPTH OF BORING 18.4 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-55.2	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, weak reaction with HCl, moist, 5Y 8/1 white (SP)				-57.2		
			At El. -57.2 Ft., few medium-grained sand-sized shell, trace silt		1 (1-post)		-57.2 / -59.2		
					2		-61.2		
			At El. -60.8 Ft., trace fine to coarse-grained sand-sized shell, no reaction with HCl, 5Y 5/1 gray		3		-63.2		
			At El. -61.2 Ft., few fine to medium-grained sand-sized shell		4				
			At El. -66.2 Ft., little fine to coarse-grained sand-sized shell, weak reaction with HCl, moist						
-69.1	13.9		CLAY, fat, little fine-grained sand-sized quartz, no reaction with HCl, moist, 10GY 6/1 greenish gray (CH)						

0 5 10 15

SAJ FORM 1836
JUN 02

(Continued)

Boring Designation VB-SJSP12-068

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 615,369 Y = 1,994,777	-55.2 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-73.6	18.4						-73.6		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-069

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2 SHEETS
1. PROJECT	St. Johns County Sand Search Vibracore Borings
2. BORING DESIGNATION	VB-SJSP12-069
LOCATION COORDINATES	X = 615,783 Y = 1,993,871
3. DRILLING AGENCY	Corps of Engineers - CESAJ
CONTRACTOR FILE NO.	6738-12-5195
4. NAME OF DRILLER	
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL	
BEARING	
6. THICKNESS OF OVERBURDEN	N/A
7. DEPTH DRILLED INTO ROCK	N/A
8. TOTAL DEPTH OF BORING	20.0 Ft.
9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.)
HORIZONTAL	NAD83
VERTICAL	NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES	DISTURBED: 4 UNDISTURBED (UD): 0
13. TOTAL NUMBER CORE BOXES	0
14. ELEVATION GROUND WATER	
15. DATE BORING	STARTED: 07-02-12 COMPLETED: 07-02-12
16. ELEVATION TOP OF BORING	-56.0 Ft.
17. TOTAL RECOVERY FOR BORING	100.00 %
18. SIGNATURE AND TITLE OF INSPECTOR	Marianne Gruber, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-56.0	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-57.0		
			At El. -57.0 Ft., trace silt		1 1-Post		-57.0		
			At El. -58.5 Ft., few fine-grained sand-sized shell, 5Y 5/1 gray				-59.0		
-60.0	4.0				2				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)				-61.0		
-62.8	6.8				3				
-63.3	7.3		SAND, silty, mostly fine-grained sand-sized quartz, some sand to gravel-sized shell, little silt, weak reaction with HCl, moist, 5Y 5/2 olive gray (SM)						
			CLAY, fat, little fine-grained sand-sized quartz, no reaction with HCl, moist, N 3/ very dark gray (CH)						

0 5 10 15

(Continued)

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 615,783 Y = 1,993,871	-56.0 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-73.8	17.8								
-76.0	20.0		SAND, silty, some fine-grained sand-sized quartz, little silt, little fine to coarse gravel-sized limestone, strong reaction with HCl, moist, 10Y 7/1 light greenish gray (SM)				-76.0		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	3.0/3.5	SP*
3	5.0/5.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

Boring Designation VB-SJSP12-070

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Jacksonville District	SHEET 1 OF 2 SHEETS

1. PROJECT: St. Johns County Sand Search; Vibracore Borings		9. SIZE AND TYPE OF BIT: See Remarks	
		10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-070	LOCATION COORDINATES: X = 614,869 Y = 1,993,411	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 / UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. ELEVATION GROUND WATER	
		15. DATE BORING	STARTED: 07-02-12 / COMPLETED: 07-02-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -59.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 75.00 %	
8. TOTAL DEPTH OF BORING: 15.1 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-59.6	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, no reaction with HCl, moist, 5Y 8/1 white (SP)				-60.6		
			At El. -60.6 Ft., few medium-grained sand-sized shell		1 1-Post		-60.6		
			At El. -62.6 Ft., 5Y 5/1 gray		2		-62.6		
-63.6	4.0								
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)		3		-64.6		
			At El. -66.5 Ft., (few seams of silt), 5Y 8/1 white		4		-66.6		
-67.6	8.0								
			CLAY, fat, little fine-grained sand-sized quartz, no reaction with HCl, moist, 10Y 6/1 greenish gray (CH)						
			At El. -70.6 Ft., some fine-grained sand-sized quartz, few fine to coarse-grained sand-sized shell, weak reaction with HCl						
-71.6	12.0								
			SAND, silty, some fine-grained sand-sized quartz, some sand to gravel-sized limestone, little silt, trace fine to coarse-grained sand-sized shell, strong reaction with HCl, moist, 2.5Y 7/2 light gray (SM)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-070

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 614,869 Y = 1,993,411	-59.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-74.7	15.1		NOTES: 1. USACE Jacksonville is the custodian for these original files. 2. Soils are field visually classified in accordance with the Unified Soils Classification System. 3. Laboratory Testing Results SAMPLE ID / SAMPLE DEPTH / LABORATORY CLASSIFICATION 1 — 1.0/1.5 — SP* 1-Post — 1.0/1.5 — SP* 2 — 3.0/3.5 — SP* 3 — 5.0/5.5 — SP-SM* 4 — 7.0/7.5 — SP-SM* *Lab visual classification based on gradation curve. No Atterberg limits.				-74.7 Abbreviations: NR = Not Recorded.		

15 20 25 30 35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-071

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-071 **LOCATION COORDINATES** X = 614,008 Y = 1,992,944	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 4	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-02-12	**COMPLETED** 07-02-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -59.2 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 92.50 %		
8. TOTAL DEPTH OF BORING 18.8 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-59.2	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-60.2		
					1 1-Post		-60.2		
							-62.2		
			At El. -62.2 Ft., trace silt, trace shell		2				
-63.2	4.0								
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace sand to gravel-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)				-64.2		
			At El. -64.2 Ft., few fine-grained sand-sized shell		3				
-68.2	9.0		At El. -67.7 Ft., some sand to gravel-sized shell, weak reaction with HCl						
			SAND, silty, mostly fine-grained sand-sized quartz, little silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/2 olive gray (SM)						
-71.0	11.8								
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, no reaction with HCl, moist, 5Y 7/1 light gray (SP-SM)						
-73.2	14.0								
			SAND, silty, mostly fine-grained sand-sized quartz, little silt, no reaction with HCl, moist, 5Y 6/1 gray (SM)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-071

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 614,008 Y = 1,992,944	-59.2 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-75.1	15.9								
-76.2	17.0		SAND, clayey, some fine-grained sand-sized quartz, some sand to gravel-sized shell, little clay, strong reaction with HCl, moist, 5Y 5/1 gray (SC)						
-78.0	18.8		SAND, silty, some fine-grained sand-sized quartz, some fine to coarse gravel-sized limestone, strong reaction with HCl, moist, 10Y 7/1 light greenish gray (SM)				-78.0		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	3.0/3.5	SP*
3	5.0/5.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-072

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**	
1. PROJECT St. Johns County Sand Search; Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-072	**LOCATION COORDINATES** X = 613,127 Y = 1,992,464	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER	
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5 / **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 07-02-12 / **COMPLETED** 07-02-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -56.6 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 82.50 %	
8. TOTAL DEPTH OF BORING 17.3 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-56.6	0.0								
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-58.6		
			At El. -58.6 Ft., trace silt		1 1-Post		-58.6		
-59.6									
							-60.6		
			At El. -60.8 Ft., 5Y 5/1 gray		2				
-61.6	5.0						-62.6		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace sand to gravel-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)		3				
			At El. -62.6 Ft., few fine to medium-grained sand-sized shell				-64.6		
					4				
-66.6	10.0								
-67.3	10.7		SAND, silty, some fine-grained sand-sized quartz, some sand to gravel-sized shell, little silt, strong reaction with HCl, moist, 5Y 5/1 gray (SM)						
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 7/1 light gray (SP)						
-70.1	13.5								
			SAND, clayey, some fine-grained sand-sized quartz, some sand to gravel-sized shell, little clay, weak reaction with HCl, moist, N 5/ gray (SC)						
-71.6	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-072

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 613,127 Y = 1,992,464	-56.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-73.9	17.3		SAND, silty, some fine-grained sand-sized quartz, some sand to gravel-sized shell, little silt, weak reaction with HCl, moist, N 7/ light gray (SM)				-73.9		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP-SM*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-073

DRILLING LOG

DIVISION South Atlantic		**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**

1. PROJECT St. Johns County Sand Search Vibracore Borings		**9. SIZE AND TYPE OF BIT** See Remarks	
		10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83 / **VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-073	**LOCATION COORDINATES** X = 612,254 Y = 1,992,026	**11. MANUFACTURER'S DESIGNATION OF DRILL**	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 4 / **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 07-02-12 / **COMPLETED** 07-02-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -59.3 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 90.00 %	
8. TOTAL DEPTH OF BORING 18.8 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-59.3	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, no reaction with HCl, moist, 5Y 8/1 white (SP)				-60.3		
-60.3									
			At El. -60.3 Ft., few fine to medium-grained sand-sized shell, trace silt		1 1-Post		-60.3		
-62.3	3.0						-62.3		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)		2				
							-64.3		
			At El. -64.3 Ft., little medium-grained sand-sized shell		3				
-65.3	6.0								
			SAND, silty, mostly fine-grained sand-sized quartz, some sand to gravel-sized shell, little silt, weak reaction with HCl, moist, 5Y 7/1 light gray (SM)						
-66.6	7.3								
			CLAY, fat, little fine-grained sand-sized quartz, no reaction with HCl, moist, N 4/ dark gray (CH)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-073

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 612,254 Y = 1,992,026	-59.3 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-75.3	16.0		At El. -74.3 Ft., some fine-grained sand-sized quartz, N 5/ gray						
-78.1	18.8		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, trace fine-grained sand-sized shell, no reaction with HCl, moist, (some seams of clay), 10Y 6/1 greenish gray (SC)				-78.1		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	3.0/3.5	SP-SM*
3	5.0/5.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-074

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	South Atlantic	Jacksonville District	

1. PROJECT: St. Johns County Sand Search; Vibracore Borings		9. SIZE AND TYPE OF BIT: See Remarks	
		10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-074	LOCATION COORDINATES: X = 611,398 Y = 1,991,564	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 / UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL:	BEARING:	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 07-02-12 / COMPLETED: 07-02-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -58.9 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 75.00 %	
8. TOTAL DEPTH OF BORING: 15.9 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-58.9	0.0								
-57.1			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, no reaction with HCl, moist, 5Y 8/1 white (SP)				-60.9		
			At El. -60.9 Ft., few fine-grained sand-sized shell, trace silt		1 1-Post		-60.9		
			At El. -62.1 Ft., 5Y 6/2 light olive gray				-62.9		
-63.9	5.0		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)		2		-64.9		
					3		-66.9		
					4				
-69.7	10.8								
-69.9	11.0		SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few fine-grained sand-sized shell, no reaction with HCl, moist, (little seams of clay), 5Y 5/2 olive gray (SC)						
-71.1	12.2		SAND, silty, mostly fine-grained sand-sized quartz, some sand to gravel-sized shell, little silt, weak reaction with HCl, moist, 5Y 5/2 olive gray (SM)						
-72.7	13.8		CLAY, fat, little fine-grained sand-sized quartz, no reaction with HCl, moist, 5GY 5/1 greenish gray (CH)						
			SAND, silty, mostly fine-grained sand-sized quartz, little silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist,						

0 5 10 15

(Continued)

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 611,398 Y = 1,991,564	-58.9 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-74.8	15.9		5Y 5/2 olive gray (SM)				-74.8		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP-SM*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-075

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	South Atlantic	Jacksonville District	

1. PROJECT: St. Johns County Sand Search; Vibracore Borings		9. SIZE AND TYPE OF BIT: See Remarks	
		10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-075	LOCATION COORDINATES: X = 613,567 Y = 1,991,654	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 3 / UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. ELEVATION GROUND WATER	
		15. DATE BORING	STARTED: 07-04-12 / COMPLETED: 07-04-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -59.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 94.92 %	
8. TOTAL DEPTH OF BORING: 18.8 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Eve Huggins, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-59.3	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, no reaction with HCl, moist, 5Y 8/1 white (SP)						
-60.8	1.5						-61.3		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)		1				
			At El. -61.3 Ft., few fine-grained sand-sized shell				-63.3		
			At El. -63.3 Ft., little fine-grained sand-sized shell		2 2-Post		-63.3		
-64.6	5.3								
			CLAY, lean, some fine-grained sand-sized quartz, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, N 7/ light gray (CL)						
-67.1	7.8								
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, few fine-grained sand-sized shell, no reaction with HCl, moist, 5Y 7/2 light gray (SP-SM)						
			At El. -69.3 Ft., mostly fine-grained sand-sized quartz, 5Y 8/1 white						
			At El. -70.3 Ft., few fine gravel-sized shell, weak reaction with HCl, 5Y 6/1 gray						
-74.1	14.8								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-075

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 613,567 Y = 1,991,654	-59.3 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-78.1	18.8		SAND, silty, mostly fine-grained sand-sized quartz, little silt, little fine to coarse-grained sand-sized shell, weak reaction with HCl, moist, 5Y 5/1 gray (SM) At El. -76.6 Ft., some fine-grained sand-sized quartz, some sand to gravel-sized limestone, strong reaction with HCl, N 8/ white				-78.1		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP-SM*
2	4.0/4.5	SP-SM*
2-Post	4.0/4.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2 SHEETS
1. PROJECT	St. Johns County Sand Search Vibracore Borings
2. BORING DESIGNATION	VB-SJSP12-076
LOCATION COORDINATES	X = 614,441 Y = 1,992,018
3. DRILLING AGENCY	Corps of Engineers - CESAJ
CONTRACTOR FILE NO.	6738-12-5195
4. NAME OF DRILLER	
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL	
BEARING	
6. THICKNESS OF OVERBURDEN	N/A
7. DEPTH DRILLED INTO ROCK	N/A
8. TOTAL DEPTH OF BORING	20.0 Ft.
9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.) / HORIZONTAL NAD83 / VERTICAL NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES	DISTURBED 4 / UNDISTURBED (UD) 0
13. TOTAL NUMBER CORE BOXES	0
14. ELEVATION GROUND WATER	
15. DATE BORING	STARTED 07-04-12 / COMPLETED 07-04-12
16. ELEVATION TOP OF BORING	-60.1 Ft.
17. TOTAL RECOVERY FOR BORING	100.00 %
18. SIGNATURE AND TITLE OF INSPECTOR	Eve Huggins, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-60.1	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace sand to gravel-sized shell, no reaction with HCl, moist, 5Y 7/1 light gray (SP)				-61.1		
			At El. -61.1 Ft., few fine-grained sand-sized shell, trace silt		1 1-Post		-61.1		
							-63.1		
-64.1	4.0				2				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/2 olive gray (SP-SM)				-65.1		
-66.8	6.7				3				
-67.6	7.5		SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few sand to gravel-sized shell, no reaction with HCl, moist, (little seams of clay), 5Y 5/1 gray (SC)						
			SAND, silty, mostly fine-grained sand-sized quartz, little silt, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/1 gray (SM)						
			At El. -68.9 Ft., some sand to gravel-sized shell, strong reaction with HCl, 5Y 5/1 gray						
-70.1	10.0								
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, little sand to gravel-sized shell, few silt, strong reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-076

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 614,441 Y = 1,992,018	-60.1 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-75.2	15.1		CLAY, fat, some fine-grained sand-sized quartz, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (CH)						
-76.6	16.5		SAND, clayey, mostly fine-grained sand-sized quartz, little clay, little sand to gravel-sized shell, weak reaction with HCl, moist, 5Y 5/1 gray (SC)						
-77.9	17.8		SAND, silty, some fine-grained sand-sized quartz, some sand to gravel-sized limestone, few sand to gravel-sized shell, strong reaction with HCl, moist, 5Y 7/1 light gray (SM)						
-80.1	20.0						-80.1		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	3.0/3.5	SP*
3	5.0/5.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-077

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2 SHEETS
1. PROJECT	St. Johns County Sand Search Vibracore Borings
2. BORING DESIGNATION	VB-SJSP12-077
LOCATION COORDINATES	X = 615,330 Y = 1,992,535
3. DRILLING AGENCY	Corps of Engineers - CESAJ
CONTRACTOR FILE NO.	6738-12-5195
4. NAME OF DRILLER	
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL	
BEARING	
6. THICKNESS OF OVERBURDEN	N/A
7. DEPTH DRILLED INTO ROCK	N/A
8. TOTAL DEPTH OF BORING	18.8 Ft.
9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.) / HORIZONTAL: NAD83 / VERTICAL: NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES	DISTURBED: 5 / UNDISTURBED (UD): 0
13. TOTAL NUMBER CORE BOXES	0
14. ELEVATION GROUND WATER	
15. DATE BORING	STARTED: 07-04-12 / COMPLETED: 07-04-12
16. ELEVATION TOP OF BORING	-57.9 Ft.
17. TOTAL RECOVERY FOR BORING	94.42 %
18. SIGNATURE AND TITLE OF INSPECTOR	Eve Huggins, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-57.9	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-59.9		
					1 1-Post		-59.9		
			At El. -61.9 Ft., 5Y 5/1 gray				-62.4		
					2		-63.9		
-64.9	7.0				3		-65.9		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)		4				
-67.9	10.0								
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SC)						
-69.7	11.8								
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, no reaction with HCl, moist, 5Y 6/1 gray (SP-SM)						
			At El. -71.2 Ft., few fine gravel-sized shell						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-077

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 615,330 Y = 1,992,535	-57.9 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-73.7	15.8								
-74.5	16.6		SAND, silty, mostly fine-grained sand-sized quartz, some sand to gravel-sized shell, little silt, strong reaction with HCl, moist, 5Y 6/1 gray (SM)						
-75.9	18.0		SAND, clayey, some fine-grained sand-sized quartz, little clay, little sand to gravel-sized shell, strong reaction with HCl, moist, 5Y 6/1 gray (SC)						
-76.7	18.8		SAND, silty, some fine-grained sand-sized quartz, some fine to coarse-grained sand-sized shell, little silt, few fine to coarse-grained sand-sized limestone, strong reaction with HCl, moist, 10Y 6/1 greenish gray (SM)				-76.7		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.5/5.0	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-078

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2 SHEETS
1. PROJECT	St. Johns County Sand Search Vibracore Borings
2. BORING DESIGNATION	VB-SJSP12-078
LOCATION COORDINATES	X = 616,228 Y = 1,992,952
3. DRILLING AGENCY	Corps of Engineers - CESAJ
CONTRACTOR FILE NO.	6738-12-5195
4. NAME OF DRILLER	
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL	
BEARING	
6. THICKNESS OF OVERBURDEN	N/A
7. DEPTH DRILLED INTO ROCK	N/A
8. TOTAL DEPTH OF BORING	15.8 Ft.
9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.) / HORIZONTAL NAD83 / VERTICAL NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES	DISTURBED 5 / UNDISTURBED (UD) 0
13. TOTAL NUMBER CORE BOXES	0
14. ELEVATION GROUND WATER	
15. DATE BORING	STARTED 07-04-12 / COMPLETED 07-04-12
16. ELEVATION TOP OF BORING	-53.5 Ft.
17. TOTAL RECOVERY FOR BORING	78.28 %
18. SIGNATURE AND TITLE OF INSPECTOR	Eve Huggins, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-53.5	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-54.5		
			At El. -54.5 Ft., trace silt		1		-56.5		
					2 2-Post		-56.5 -58.5		
					3		-60.5		
			At El. -59.7 Ft., 5Y 5/1 gray		4				
-63.9	10.4								
			CLAY, fat, some fine-grained sand-sized quartz, some sand to gravel-sized shell, strong reaction with HCl, moist, 10Y 5/1 greenish gray (CH)						
-65.5	12.0								
-66.0	12.5		SAND, clayey, some fine-grained sand-sized quartz, some clay, no reaction with HCl, moist, 10Y 5/1 greenish gray (SC)						
-67.0	13.5		SAND, silty, mostly fine to medium-grained sand-sized quartz, little silt, few fine to medium-grained sand-sized shell, weak reaction with HCl, moist, 5Y 5/2 olive gray (SM)						
-68.4	14.9		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-078

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 616,228 Y = 1,992,952	-53.5 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-69.3	15.8		to medium-grained sand-sized shell, weak reaction with HCl, moist, 5Y 7/1 light gray (SP-SM)				-69.3		
			SAND, silty, mostly fine to medium-grained sand-sized quartz, little silt, little sand to gravel-sized shell, strong reaction with HCl, moist (SM)				Abbreviations: NR = Not Recorded.		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
2	3.0/3.5	SP*
2-Post	3.0/3.5	SP*
3	5.0/5.5	SP*
4	7.0/7.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

15 20 25 30 35

Boring Designation VB-SJSP12-079

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-079 **LOCATION COORDINATES** X = 616,681 Y = 1,992,104	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-04-12	**COMPLETED** 07-04-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -58.6 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 97.94 %		
8. TOTAL DEPTH OF BORING 19.4 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Eve Huggins, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-58.6	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-60.6		
			At El. -60.6 Ft., trace silt		1 1-Post		-60.6 -62.6		
					2		-64.6		
			At El. -64.6 Ft., 5Y 5/1 gray		3		-66.6		
					4				
			At El. -67.2 Ft., some sand to gravel-sized shell, strong reaction with HCl, 5Y 6/1 gray						
-68.0	9.4		SAND, silty, mostly fine-grained sand-sized quartz, little silt, no reaction with HCl, moist, 5Y 5/2 olive gray (SM)						
-69.0	10.4		SAND, poorly-graded, mostly fine-grained sand-sized quartz, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)						
-72.6	14.0		SAND, silty, mostly fine-grained sand-sized quartz, little silt, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist,						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-079

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 616,681 Y = 1,992,104	-58.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-78.0	19.4		5Y 6/2 light olive gray (SM) At El. -76.7 Ft., some sand to gravel-sized shell, strong reaction with HCl				-78.0		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**	
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-080	**LOCATION COORDINATES** X = 615,782 Y = 1,991,596	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER	
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 4 / **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 07-04-12 / **COMPLETED** 07-04-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -59.5 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 93.30 %	
8. TOTAL DEPTH OF BORING 18.5 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Eve Huggins, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-59.5	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-60.5		
			At El. -60.5 Ft., trace silt		1 1-Post		-60.5		
			At El. -62.1 Ft., few fine to coarse-grained sand-sized shell, 5Y 5/1 gray				-62.5		
					2		-64.5		
					3				
-66.5	7.0								
			CLAY, fat, little fine-grained sand-sized quartz, no reaction with HCl, moist, 10GY 6/1 greenish gray (CH)						
			At El. -68.7 Ft., some fine-grained sand-sized quartz, little sand to gravel-sized shell, weak reaction with HCl						
-69.7	10.2								
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, no reaction with HCl, moist, 10GY 6/1 greenish gray (SC)						
-71.7	12.2		At El. -71.4 Ft., some sand to gravel-sized shell, strong reaction with HCl						
			SAND, silty, mostly fine to medium-grained sand-sized quartz, little silt, little sand to gravel-sized shell, weak reaction with HCl, moist, 10Y 7/1 light greenish gray (SM)						
-74.0	14.5								
			SILT, inorganic-L, some fine-grained						

0 5 10 15

(Continued)

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 615,782 Y = 1,991,596	-59.5 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-74.6	15.1		sand-sized quartz, little sand to gravel-sized shell, weak reaction with HCl, moist, (occasional seams of sand), N 5/ gray (ML)						
-76.0	16.5		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, few silt, strong reaction with HCl, moist, 5Y 7/1 light gray (SP-SM)						
-78.0	18.5		SAND, silty, mostly fine-grained sand-sized quartz, some sand to gravel-sized shell, little silt, strong reaction with HCl, moist, 5GY 5/1 greenish gray (SM)				-78.0		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	3.0/3.5	SP*
3	5.0/5.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-082

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2 SHEETS
1. PROJECT	St. Johns County Sand Search Vibracore Borings
2. BORING DESIGNATION	VB-SJSP12-082
LOCATION COORDINATES	X = 617,590 Y = 1,992,562
3. DRILLING AGENCY	Corps of Engineers - CESAJ
CONTRACTOR FILE NO.	6738-12-5195
4. NAME OF DRILLER	
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL	
BEARING	
6. THICKNESS OF OVERBURDEN	N/A
7. DEPTH DRILLED INTO ROCK	N/A
8. TOTAL DEPTH OF BORING	15.7 Ft.
9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.) / HORIZONTAL NAD83 / VERTICAL NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES	DISTURBED 5 / UNDISTURBED (UD) 0
13. TOTAL NUMBER CORE BOXES	0
14. ELEVATION GROUND WATER	
15. DATE BORING	STARTED 07-04-12 / COMPLETED 07-04-12
16. ELEVATION TOP OF BORING	-52.6 Ft.
17. TOTAL RECOVERY FOR BORING	76.88 %
18. SIGNATURE AND TITLE OF INSPECTOR	Eve Huggins, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-52.6	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-54.6		
			At El. -54.6 Ft., few medium-grained sand-sized shell, trace silt		1 1-Post		-54.6		
							-57.6		
					2		-59.6		
					3		-61.6		
-61.0	8.4								
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/1 gray (SP)		4				
-62.7	10.1								
			SAND, silty, some fine-grained sand-sized quartz, some sand to gravel-sized shell, little silt, weak reaction with HCl, moist, 5Y 5/2 olive gray (SM)						
-64.7	12.1								
			SAND, silty, mostly fine-grained sand-sized quartz, few fine to coarse gravel-sized limestone, strong reaction with HCl, N 7/ light gray (SM)						
-65.6	13.0								
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, no reaction with HCl, moist, 10Y 7/1 light greenish gray (SP-SM)						
-66.6	14.0								
-66.8	14.2		SAND, silty, mostly fine-grained sand-sized						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-082

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 617,590 Y = 1,992,562	-52.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-68.3	15.7		quartz, some sand to gravel-sized shell, little silt, strong reaction with HCl, moist, 10Y 6/1 greenish gray (SM)				-68.3		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few sand to gravel-sized shell, weak reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)				Abbreviations: NR = Not Recorded.		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	5.0/5.5	SP*
3	7.0/7.5	SP*
4	9.0/9.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Boring Designation VB-SJSP12-083

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-083 **LOCATION COORDINATES** X = 617,098 Y = 1,993,475	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-04-12	**COMPLETED** 07-04-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -54.9 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 87.31 %		
8. TOTAL DEPTH OF BORING 17.8 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Eve Huggins, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-54.9	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-56.9		
			At El. -56.9 Ft., few medium-grained sand-sized shell, trace silt		1 1-Post		-56.9		
							-59.9		
					2				
							-62.9		
			At El. -63.9 Ft., trace fine to medium-grained sand-sized shell, 5Y 5/1 gray		3				
							-64.9		
					4				
-66.4	11.5								
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few sand to gravel-sized shell, weak reaction with HCl, moist, 5Y 5/1 gray (SC)						
-68.8	13.9								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-083

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 617,098 Y = 1,993,475	-54.9 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-70.0	15.1		with HCl, moist, 5Y 8/1 white (SP) SAND, clayey, mostly fine-grained sand-sized quartz, little clay, little fine to coarse-grained sand-sized shell, strong reaction with HCl, moist, (little clay seams throughout), 5Y 6/2 light olive gray (SC)						
-72.7	17.8						-72.7		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	5.0/5.5	SP*
3	8.0/8.5	SP*
4	10.0/10.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-084

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	South Atlantic	Jacksonville District	

1. PROJECT: St. Johns County Sand Search Vibracore Borings		9. SIZE AND TYPE OF BIT: See Remarks		
		10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-084	LOCATION COORDINATES: X = 616,623 Y = 1,994,334	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER	
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5	UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0		
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER	
			15. DATE BORING	STARTED: 07-03-12 COMPLETED: 07-03-12
6. THICKNESS OF OVERBURDEN: N/A			16. ELEVATION TOP OF BORING: -55.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A			17. TOTAL RECOVERY FOR BORING: 152.50 %	
8. TOTAL DEPTH OF BORING: 18.6 Ft.			18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-55.4	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-57.4		
			At El. -57.4 Ft., few medium-grained sand-sized shell, trace silt		1 1-Post		-57.4		
							-59.4		
					2				
			At El. -61.2 Ft., 5Y 5/1 gray				-61.4		
					3				
							-63.4		
					4				
-64.6	9.2		CLAY, fat, little fine-grained sand-sized quartz, no reaction with HCl, moist, 10Y 5/1 greenish gray (CH)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-084

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 616,623 Y = 1,994,334	-55.4 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-74.0	18.6						-74.0		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-085

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-085 **LOCATION COORDINATES** X = 616,143 Y = 1,995,220	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-03-12	**COMPLETED** 07-03-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -55.4 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 94.36 %		
8. TOTAL DEPTH OF BORING 18.6 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-55.4	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-57.4		
			At El. -57.4 Ft., few medium-grained sand-sized shell		1 1-Post		-57.4 -59.4		
			At El. -59.4 Ft., little medium-grained sand-sized shell, trace silt		2		-61.4		
			At El. -61.4 Ft., little fine to medium-grained sand-sized shell		3		-63.4		
			At El. -62.4 Ft., trace fine to medium-grained sand-sized shell, 5Y 5/1 gray		4				
-66.6	11.2		SAND, silty, mostly fine-grained sand-sized quartz, little silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, occasional seams of silt, 5Y 5/1 gray (SM)						
-70.0	14.6		CLAY, fat, some fine-grained sand-sized						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-085

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 616,143 Y = 1,995,220	-55.4 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-74.0	18.6		quartz, some sand to gravel-sized shell, weak reaction with HCl, moist, 10Y 6/1 greenish gray (CH)				-74.0		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-086

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-086 **LOCATION COORDINATES** X = 615,686 Y = 1,996,064	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-03-12	**COMPLETED** 07-03-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -55.9 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 192.86 %		
8. TOTAL DEPTH OF BORING 14.4 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-55.9	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-56.9		
			At El. -56.9 Ft., little medium-grained sand-sized shell, trace silt		1		-58.9		
			At El. -58.9 Ft., mostly fine to medium-grained sand-sized quartz, few medium-grained sand-sized shell		2 2-Post		-58.9 -60.9		
			At El. -60.9 Ft., mostly fine-grained sand-sized quartz		3		-62.9		
-62.5	6.6								
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 6/1 gray (SP-SM)		4				
-63.9	8.0								
			CLAY, fat, little fine-grained sand-sized quartz, little sand to gravel-sized shell, little sand to gravel-sized limestone, strong reaction with HCl, moist, 10GY 6/1 greenish gray (CH)						
-70.3	14.4						-70.3		
			NOTES:				Abbreviations:		

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-086

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 615,686 Y = 1,996,064	-55.9 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
2	3.0/3.5	SP*
2-Post	3.0/3.5	SP*
3	5.0/5.5	SP*
4	7.0/7.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

NR = Not Recorded.

15
20
25
30
35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-087

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-087 **LOCATION COORDINATES** X = 615,241 Y = 1,996,980	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-03-12	**COMPLETED** 07-03-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -57.6 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 96.50 %		
8. TOTAL DEPTH OF BORING 19.6 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-57.6	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-58.6		
			At El. -58.6 Ft., few medium-grained sand-sized shell, trace silt		1 1-Post		-58.6		
							-60.6		
					2				
							-62.6		
			At El. -62.7 Ft., 5Y 5/1 gray		3				
-63.6	6.0								
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)				-64.6		
-65.1	7.5				4				
-65.8	8.2		SAND, clayey, some fine-grained sand-sized quartz, some sand to gravel-sized shell, little clay, strong reaction with HCl, moist, 5Y 5/2 olive gray (SC)						
			CLAY, fat, some fine-grained sand-sized quartz, some sand to gravel-sized shell, weak reaction with HCl, moist, 10Y 6/1 greenish gray (CH)						
-68.1	10.5								
			SAND, clayey, some fine-grained sand-sized quartz, some sand to gravel-sized shell, little clay, weak reaction with HCl, moist, 5Y 6/2 light olive gray (SC)						
-70.6	13.0								
-71.6	14.0		SAND, poorly-graded with clay, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized shell, few clay, weak reaction with HCl, moist, 5Y 6/6 olive yellow (SP-SC)						
-72.6	15.0		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-087

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 615,241 Y = 1,996,980	-57.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
			to coarse-grained sand-sized shell, weak reaction with HCl, moist, 5Y 7/1 light gray (SP-SM)						
			SAND, silty, mostly fine-grained sand-sized quartz, little silt, few sand to gravel-sized shell, weak reaction with HCl, moist, 5Y 7/1 light gray (SM)						
			At El. -73.6 Ft., some fine-grained sand-sized quartz, some sand to gravel-sized shell, strong reaction with HCl						
-77.2	19.6						-77.2		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	3.0/3.5	SP*
3	5.0/5.5	SP*
4	7.0/7.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-088

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2 SHEETS
1. PROJECT	St. Johns County Sand Search Vibracore Borings
2. BORING DESIGNATION	VB-SJSP12-088
LOCATION COORDINATES	X = 614,789 Y = 1,997,875
3. DRILLING AGENCY	Corps of Engineers - CESAJ
CONTRACTOR FILE NO.	6738-12-5195
4. NAME OF DRILLER	
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL	
BEARING	
6. THICKNESS OF OVERBURDEN	N/A
7. DEPTH DRILLED INTO ROCK	N/A
8. TOTAL DEPTH OF BORING	18.0 Ft.
9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.)
HORIZONTAL	NAD83
VERTICAL	NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES	DISTURBED 5 / UNDISTURBED (UD) 0
13. TOTAL NUMBER CORE BOXES	0
14. ELEVATION GROUND WATER	
15. DATE BORING	STARTED 07-03-12 / COMPLETED 07-03-12
16. ELEVATION TOP OF BORING	-55.2 Ft.
17. TOTAL RECOVERY FOR BORING	98.33 %
18. SIGNATURE AND TITLE OF INSPECTOR	Marianne Gruber, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-55.2	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, no reaction with HCl, moist, 5Y 8/1 white (SP)				-57.2		
			At El. -57.2 Ft., little medium to coarse-grained sand-sized shell, trace silt		1 1-Post		-57.2 -59.2		
			At El. -59.2 Ft., few medium-grained sand-sized shell		2		-61.2		
-62.0	6.8				3		-63.2		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)		4				
-66.1	10.9								
-66.8	11.6		SAND, silty, mostly fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, little silt, weak reaction with HCl, moist, 5Y 4/1 dark gray (SM)						
-67.2	12.0		SAND, clayey, mostly fine to medium-grained sand-sized quartz, few sand to gravel-sized shell, no reaction with HCl, moist, 10GY 7/1 light greenish gray (SC)						
-68.7	13.5		SAND, poorly-graded with clay, mostly fine-grained sand-sized quartz, few clay, few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 7/1 light gray (SP-SC)						
			SAND, poorly-graded with silt, mostly						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-088

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 614,789 Y = 1,997,875	-55.2 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-70.6	15.4		fine-grained sand-sized quartz, few silt, few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 6/1 gray (SP-SM)						
			SAND, silty, mostly fine-grained sand-sized quartz, little silt, little sand to gravel-sized shell, strong reaction with HCl, moist, 5Y 6/1 gray (SM)						
			At El. -71.0 Ft., some fine-grained sand-sized quartz, some sand to gravel-sized shell, strong reaction with HCl						
-73.2	18.0						-73.2		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-089

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2 SHEETS
1. PROJECT	St. Johns County Sand Search Vibracore Borings
2. BORING DESIGNATION	VB-SJSP12-089
LOCATION COORDINATES	X = 614,369 Y = 1,998,754
3. DRILLING AGENCY	Corps of Engineers - CESAJ
CONTRACTOR FILE NO.	6738-12-5195
4. NAME OF DRILLER	
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL	
BEARING	
6. THICKNESS OF OVERBURDEN	N/A
7. DEPTH DRILLED INTO ROCK	N/A
8. TOTAL DEPTH OF BORING	19.7 Ft.
9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.) / HORIZONTAL NAD83 / VERTICAL NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES	DISTURBED 5 / UNDISTURBED (UD) 0
13. TOTAL NUMBER CORE BOXES	0
14. ELEVATION GROUND WATER	
15. DATE BORING	STARTED 07-03-12 / COMPLETED 07-03-12
16. ELEVATION TOP OF BORING	-58.6 Ft.
17. TOTAL RECOVERY FOR BORING	113.53 %
18. SIGNATURE AND TITLE OF INSPECTOR	Marianne Gruber, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-58.6	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-60.6		
					1 1-Post		-60.6 -62.6		
			At El. -63.6 Ft., few medium-grained sand-sized shell, trace silt, 5Y 5/1 gray		2		-64.6		
-65.6	7.0				3		-66.6		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)		4				
			At El. -69.1 Ft., some sand to gravel-sized shell, weak reaction with HCl						
-70.9	12.3								
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 10Y 5/1 greenish gray (SC)						
			At El. -71.8 Ft., some sand to gravel-sized shell, strong reaction with HCl, 5Y 5/2 olive gray						
-73.6	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-089

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 614,369 Y = 1,998,754	-58.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-75.6	17.0		SAND, silty, mostly fine-grained sand-sized quartz, little silt, little fine to coarse-grained sand-sized shell, weak reaction with HCl, moist, 5Y 5/2 olive gray (SM) At El. -74.6 Ft., some sand to gravel-sized shell, strong reaction with HCl						
-76.4	17.8		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, little sand to gravel-sized shell, few silt, weak reaction with HCl, moist, 5Y 6/2 light olive gray (SP-SM)						
-77.6	19.0		SAND, silty, some fine-grained sand-sized quartz, some fine to coarse gravel-sized limestone, little silt, trace fine to coarse gravel-sized shell, strong reaction with HCl, moist, 5Y 6/1 gray (SM)						
-78.3	19.7		SAND, silty, mostly fine-grained sand-sized quartz, little sand to gravel-sized shell, weak reaction with HCl, 5Y 4/2 olive gray (SM)				-78.3		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-090

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-090 **LOCATION COORDINATES** X = 615,699 Y = 1,998,355	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-03-12	**COMPLETED** 07-03-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -55.4 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 90.00 %		
8. TOTAL DEPTH OF BORING 18.3 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-55.4	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-56.4		
			At El. -56.4 Ft., little fine to coarse-grained sand-sized shell, little fine to coarse-grained sand-sized shell, weak reaction with HCl		1 1-Post		-56.4		
			At El. -56.9 Ft., trace fine to medium-grained sand-sized shell, no reaction with HCl				-58.4		
					2				
			From El. -59.2 to -59.4 Ft., 2" thick silt seam				-60.4		
					3				
			At El. -61.0 Ft., few fine to coarse-grained sand-sized shell, 5Y 5/1 gray				-62.4		
					4				
-66.1	10.7								
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5G 5/1 greenish gray (SC)						
-67.5	12.1								
			CLAY, fat, some fine-grained sand-sized quartz, few sand to gravel-sized shell, no reaction with HCl, moist, 5G 5/1 greenish gray (CH)						
-69.0	13.6								
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 6/2 light olive gray (SC)						
-70.4	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-090

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 615,699 Y = 1,998,355	-55.4 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-73.7	18.3		SAND, silty, mostly fine-grained sand-sized quartz, little silt, little fine-grained sand-sized shell, weak reaction with HCl, moist, 5Y 6/2 light olive gray (SM)				-73.7		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	3.0/3.5	SP*
3	5.0/5.5	SP*
4	7.0/7.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

Boring Designation VB-SJSP12-091

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2 SHEETS
1. PROJECT	St. Johns County Sand Search Vibracore Borings
2. BORING DESIGNATION	VB-SJSP12-091
LOCATION COORDINATES	X = 616,160 Y = 1,997,468
3. DRILLING AGENCY	Corps of Engineers - CESAJ
CONTRACTOR FILE NO.	6738-12-5195
4. NAME OF DRILLER	
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL	
BEARING	
6. THICKNESS OF OVERBURDEN	N/A
7. DEPTH DRILLED INTO ROCK	N/A
8. TOTAL DEPTH OF BORING	18.8 Ft.
9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.) / HORIZONTAL NAD83 / VERTICAL NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES	DISTURBED 5 / UNDISTURBED (UD) 0
13. TOTAL NUMBER CORE BOXES	0
14. ELEVATION GROUND WATER	
15. DATE BORING	STARTED 07-03-12 / COMPLETED 07-03-12
16. ELEVATION TOP OF BORING	-57.1 Ft.
17. TOTAL RECOVERY FOR BORING	93.00 %
18. SIGNATURE AND TITLE OF INSPECTOR	Marianne Gruber, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-57.1	0.0								
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-59.1		
			At El. -59.1 Ft., little medium-grained sand-sized shell, trace silt, weak reaction with HCl		1 1-Post		-59.1 -61.1		
			At El. -61.3 Ft., few fine to medium-grained sand-sized shell, no reaction with HCl		2		-63.1		
			At El. -63.1 Ft., 5Y 5/1 gray		3		-65.1		
-64.1	7.0		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, weak reaction with HCl, moist, 5Y 5/1 gray (SP-SM)		4				
-65.8	8.7		SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few sand to gravel-sized shell, no reaction with HCl, moist, (little clay seams), 10G 5/1 greenish gray (SC)						
			At El. -66.9 Ft., little fine gravel-sized shell, weak reaction with HCl						
			At El. -68.4 Ft., some fine gravel-sized shell, strong reaction with HCl, 2.5Y 7/2 light gray						
-69.9	12.8		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized shell, few silt, strong reaction with HCl, moist, 2.5Y 7/1 light gray (SP-SM)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-091

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 616,160 Y = 1,997,468	-57.1 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-75.1	18.0								
-75.9	18.8		SAND, silty, some fine-grained sand-sized quartz, some sand to gravel-sized shell, little silt, strong reaction with HCl, moist, 2.5Y 6/1 gray (SM)				-75.9		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-092

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2 SHEETS

1. PROJECT	St. Johns County Sand Search Vibracore Borings
2. BORING DESIGNATION	VB-SJSP12-092
LOCATION COORDINATES	X = 616,610 Y = 1,996,584
3. DRILLING AGENCY	Corps of Engineers - CESAJ
CONTRACTOR FILE NO.	6738-12-5195
4. NAME OF DRILLER	
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL	
BEARING	
6. THICKNESS OF OVERBURDEN	N/A
7. DEPTH DRILLED INTO ROCK	N/A
8. TOTAL DEPTH OF BORING	19.6 Ft.
9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.)
HORIZONTAL	NAD83
VERTICAL	NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES	DISTURBED 5 / UNDISTURBED (UD) 0
13. TOTAL NUMBER CORE BOXES	0
14. ELEVATION GROUND WATER	
15. DATE BORING	STARTED 07-03-12 / COMPLETED 07-03-12
16. ELEVATION TOP OF BORING	-54.6 Ft.
17. TOTAL RECOVERY FOR BORING	99.49 %
18. SIGNATURE AND TITLE OF INSPECTOR	Marianne Gruber, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-54.6	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-56.6		
			At El. -56.6 Ft., little medium-grained sand-sized shell, trace silt, weak reaction with HCl		1		-58.6		
					2 2-Post		-58.6 -60.6		
					3		-62.6		
			At El. -61.4 Ft., few medium-grained sand-sized shell, few fine to medium-grained sand-sized shell, 5Y 5/1 gray						
			At El. -62.6 Ft., little fine-grained sand-sized shell		4				
-65.0	10.4								
-65.8	11.2		CLAY, fat, some fine-grained sand-sized quartz, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 10GY 6/1 greenish gray (CH)						
-67.2	12.6		SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 10GY 6/1 greenish gray (SC)						
-68.1	13.5		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, some sand to gravel-sized shell, few silt, weak reaction with HCl, moist, 5Y 7/1 light gray (SP-SM)						
-69.6	15.0		SAND, clayey, some fine-grained sand-sized quartz, some fine to coarse gravel-sized shell, little clay, strong reaction with HCl, moist,						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-092

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 616,610 Y = 1,996,584	-54.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-74.2	19.6		5Y 6/1 gray (SC) SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few sand to gravel-sized shell, weak reaction with HCl, moist, 5Y 6/1 gray (SP-SM)				-74.2		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
2	4.0/4.5	SP*
2-Post	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-093

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-093 **LOCATION COORDINATES** X = 617,090 Y = 1,995,696	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-03-12	**COMPLETED** 07-03-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -56.0 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 89.50 %		
8. TOTAL DEPTH OF BORING 18.4 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-56.0	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)						
							-58.0		
			At El. -58.0 Ft., little fine to medium-grained sand-sized shell, trace silt, weak reaction with HCl		1				
							-60.0		
					2 2-Post		-60.0		
							-62.0		
			At El. -62.0 Ft., few medium-grained sand-sized shell, no reaction with HCl		3				
			At El. -63.0 Ft., 5Y 5/1 gray				-64.0		
					4				
			At El. -65.0 Ft., little fine gravel-sized shell, weak reaction with HCl						
-66.0	10.0								
			SAND, silty, mostly fine to medium-grained sand-sized quartz, little silt, few sand to gravel-sized shell, no reaction with HCl, moist, little silt seams throughout, 5Y 5/1 gray (SM)						
-70.0	14.0								
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few sand to gravel-sized shell, no reaction with HCl,						
-71.0	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-093

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 617,090 Y = 1,995,696	-56.0 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
			moist, 5Y 5/1 gray (SP-SM)						
-74.4	18.4		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-74.4		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
2	4.0/4.5	SP*
2-Post	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-094

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-094	LOCATION COORDINATES: X = 617,551 Y = 1,994,807	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 07-03-12 COMPLETED: 07-03-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -53.8 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 85.00 %	
8. TOTAL DEPTH OF BORING: 17.6 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-53.8	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-56.8		
			At El. -56.8 Ft., little medium-grained sand-sized shell, trace silt, weak reaction with HCl		1 1-Post		-56.8 -58.8		
					2		-60.8		
			At El. -60.8 Ft., few medium-grained sand-sized shell, no reaction with HCl		3		-62.8		
			At El. -62.3 Ft., few fine to medium-grained sand-sized shell, 5Y 5/1 gray		4				
			At El. -64.3 Ft., some sand to gravel-sized shell, strong reaction with HCl						
-65.1	11.3		SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, (little clay seams throughout), 5GY 6/1 greenish gray (SC)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-094

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 617,551 Y = 1,994,807	-53.8 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-71.4	17.6		At El. -68.8 Ft., 10GY 6/1 greenish gray				-71.4		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	3.0/3.5	SP*
1-Post	3.0/3.5	SP*
2	5.0/5.5	SP*
3	7.0/7.5	SP*
4	9.0/9.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-095

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-095 **LOCATION COORDINATES** X = 618,021 Y = 1,993,897	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-04-12	**COMPLETED** 07-04-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -52.6 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 84.26 %		
8. TOTAL DEPTH OF BORING 16.8 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Eve Huggins, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-52.6	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)						
							-55.6		
			At El. -55.6 Ft., little medium to coarse-grained sand-sized shell, trace silt, weak reaction with HCl		1 1-Post		-55.6		
							-59.6		
			At El. -59.6 Ft., little medium-grained sand-sized shell		2				
							-63.6		
			At El. -63.6 Ft., few medium-grained sand-sized shell, no reaction with HCl		3				
-65.4	12.8								
-66.0	13.4		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)				-66.1		
-66.6	14.0				4				
			SAND, clayey, mostly fine-grained sand-sized quartz, little clay, little medium to coarse-grained sand-sized shell, weak reaction						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-095

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 618,021 Y = 1,993,897	-52.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
			with HCl, moist, 5Y 5/1 gray (SC)						
-68.6	16.0		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)						
-69.4	16.8		SAND, silty, mostly fine-grained sand-sized quartz, little silt, few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 4/1 dark gray (SM)				-69.4		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	3.0/3.5	SP*
1-Post	3.0/3.5	SP*
2	7.0/7.5	SP*
3	11.0/11.5	SP*
4	13.5/14.0	SC*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-096

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-096 **LOCATION COORDINATES** X = 618,441 Y = 1,992,985	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-04-12	**COMPLETED** 07-04-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -53.6 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 83.84 %		
8. TOTAL DEPTH OF BORING 17.2 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Eve Huggins, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-53.6	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-55.6		
			At El. -55.6 Ft., little medium-grained sand-sized shell, trace silt, weak reaction with HCl		1 1-Post		-55.6		
							-58.6		
					2		-61.6		
-62.6	9.0				3				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace sand to gravel-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)				-64.6		
			At El. -64.6 Ft., few medium-grained sand-sized shell		4				
-65.3	11.7								
-66.0	12.4		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 7/1 light gray (SP)						
			SAND, silty, some fine-grained sand-sized quartz, some fine to coarse gravel-sized shell, little silt, weak reaction with HCl, moist, 5Y 5/1 gray (SM)						
-68.1	14.5		At El. -66.6 Ft., 10Y 7/1 light greenish gray						
			SAND, poorly-graded with silt, mostly						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-096

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 618,441 Y = 1,992,985	-53.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-70.8	17.2		fine-grained sand-sized quartz, few silt, few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)				-70.8		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	5.0/5.5	SP*
3	8.0/8.5	SP*
4	11.0/11.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-100

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-100 **LOCATION COORDINATES** X = 619,330 Y = 1,993,503	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-04-12	**COMPLETED** 07-04-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -52.5 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 82.32 %		
8. TOTAL DEPTH OF BORING 16.7 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Eve Huggins, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-52.5	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-55.5		
			At El. -55.5 Ft., little medium-grained sand-sized shell, trace silt, weak reaction with HCl		1 1-Post		-55.5		
							-59.5		
					2				
			At El. -62.5 Ft., 5Y 6/1 gray				-63.5		
			At El. -63.5 Ft., few fine to medium-grained sand-sized shell, few silt		3		-65.5		
					4				
			At El. -66.1 Ft., little fine to coarse-grained sand-sized shell, weak reaction with HCl						

0 5 10 15

(Continued)

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 619,330 Y = 1,993,503	-52.5 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-69.2	16.7						-69.2		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	3.0/3.5	SP*
1-Post	3.0/3.5	SP*
2	7.0/7.5	SP*
3	11.0/11.5	SP*
4	13.0/13.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-101

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-101 **LOCATION COORDINATES** X = 618,891 Y = 1,994,435	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-04-12	**COMPLETED** 07-04-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -54.9 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 80.80 %		
8. TOTAL DEPTH OF BORING 16.8 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Eve Huggins, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-54.9	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-55.9		
			At El. -55.9 Ft., little medium-grained sand-sized shell, trace silt, weak reaction with HCl		1		-58.9		
					2 2-Post		-58.9		
			At El. -61.9 Ft., little fine to medium-grained sand-sized shell		3		-61.9		
			At El. -62.9 Ft., clay seams starting at 8 feet. At El. -63.0 Ft., few fine to medium-grained sand-sized shell, 5Y 5/1 gray		4		-63.9		
-67.9	13.0								
-68.4	13.5		SAND, well-graded with silt, mostly quartz, strong reaction with HCl, 5Y 6/1 gray (SW-SM)						
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to coarse-grained sand-sized shell, weak reaction with HCl, moist, 5Y 6/1 gray (SP-SM)						

0 5 10 15

SAJ FORM 1836
JUN 02

(Continued)

Boring Designation VB-SJSP12-101

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 618,891 Y = 1,994,435	-54.9 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-71.7	16.8						-71.7		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
2	4.0/4.5	SP*
2-Post	4.0/4.5	SP*
3	7.0/7.5	SP*
4	9.0/9.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-102

DRILLING LOG	DIVISION	INSTALLATION	SHEET / OF
	South Atlantic	Jacksonville District	SHEET 1 OF 2 SHEETS

1. PROJECT: St. Johns County Sand Search Vibracore Borings		9. SIZE AND TYPE OF BIT: See Remarks	
		10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-102	LOCATION COORDINATES: X = 618,399 Y = 1,995,252	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 / UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. ELEVATION GROUND WATER	
		15. DATE BORING	STARTED: 07-03-12 / COMPLETED: 07-03-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -54.4 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 89.00 %	
8. TOTAL DEPTH OF BORING: 18.2 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-54.4	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized shell, weak reaction with HCl, moist, 5Y 8/1 white (SP)				-56.4		
			At El. -56.4 Ft., some medium to coarse-grained sand-sized shell, trace silt, strong reaction with HCl		1 1-Post		-56.4		
			At El. -57.9 Ft., 2" thick silt seam				-59.4		
			At El. -59.4 Ft., little medium-grained sand-sized shell, weak reaction with HCl		2				
			At El. -63.4 Ft., some fine to medium-grained sand-sized shell, strong reaction with HCl		3		-63.4		
-65.4	11.0		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)				-66.4		
			At El. -66.4 Ft., few fine-grained sand-sized shell		4				
-67.4	13.0		SAND, well-graded with silt, mostly fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, few silt, strong reaction with HCl, moist, 5Y 6/1 gray (SW-SM)						
-68.4	14.0		SAND, silty, mostly fine-grained sand-sized quartz, little silt, trace fine to medium-grained						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-102

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 618,399 Y = 1,995,252	-54.4 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-72.6	18.2		sand-sized shell, no reaction with HCl, moist, 10Y 6/1 greenish gray (SM) At El. -69.4 Ft., little silt seams throughout, 10Y 7/1 light greenish gray				-72.6		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	5.0/5.5	SP*
3	9.0/9.5	SP*
4	12.0/12.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

Boring Designation VB-SJSP12-103

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-103 **LOCATION COORDINATES** X = 617,961 Y = 1,996,149	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-03-12	**COMPLETED** 07-03-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -54.9 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 80.00 %		
8. TOTAL DEPTH OF BORING 16.5 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-54.9	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized shell, weak reaction with HCl, moist (SP)				-56.9		
			At El. -56.9 Ft., some medium to coarse-grained sand-sized shell, trace silt, strong reaction with HCl		1 1-Post		-56.9		
			At El. -57.9 Ft., 1" thick silt seam				-58.9		
			At El. -59.9 Ft., few sand to gravel-sized shell, no reaction with HCl		2		-60.9		
-62.2	7.3				3				
-62.8	7.9		SAND, well-graded, mostly fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SW)				-62.9		
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, trace silt, trace fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP)		4				
			At El. -62.9 Ft., few fine to medium-grained sand-sized shell						
-66.5	11.6								
-67.3	12.4		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, no reaction with HCl, moist, 5Y 8/1 white (SP-SM)						
-68.4	13.5		SAND, silty, mostly fine to medium-grained sand-sized quartz, little silt, few sand to gravel-sized shell, no reaction with HCl, moist, 10Y 5/1 greenish gray (SM)						
			CLAY, fat, little fine-grained sand-sized quartz, no reaction with HCl, moist, N 3/ very dark gray (CH)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-103

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 617,961 Y = 1,996,149	-54.9 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-70.9	16.0								
-71.4	16.5		SILT, organic-H, trace fine-grained sand-sized quartz, N 2.5/ black (OH)				-71.4		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-104

DRILLING LOG

DIVISION South Atlantic		**INSTALLATION** Jacksonville District	**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings		**9. SIZE AND TYPE OF BIT** See Remarks	
		10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83 / **VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-104	**LOCATION COORDINATES** X = 617,006 Y = 1,997,905	**11. MANUFACTURER'S DESIGNATION OF DRILL**	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY Corps of Engineers - CESAJ	**CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5 / **UNDISTURBED (UD)** 0
4. NAME OF DRILLER		**13. TOTAL NUMBER CORE BOXES** 0	
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	**DEG. FROM VERTICAL** / **BEARING**	**14. ELEVATION GROUND WATER**	
		15. DATE BORING	**STARTED** 07-03-12 / **COMPLETED** 07-03-12
6. THICKNESS OF OVERBURDEN N/A		**16. ELEVATION TOP OF BORING** -58.6 Ft.	
7. DEPTH DRILLED INTO ROCK N/A		**17. TOTAL RECOVERY FOR BORING** 96.00 %	
8. TOTAL DEPTH OF BORING 19.5 Ft.		**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-58.6	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized shell, weak reaction with HCl, moist, 5Y 8/1 white (SP)				-59.6		
			At El. -59.5 Ft., few sand to gravel-sized shell, no reaction with HCl		1 1-Post		-59.6		
			At El. -59.6 Ft., some fine to coarse-grained sand-sized shell, strong reaction with HCl				-61.6		
			At El. -61.6 Ft., little fine to medium-grained sand-sized shell, weak reaction with HCl		2		-63.6		
			At El. -63.6 Ft., few fine-grained sand-sized shell, no reaction with HCl		3		-65.6		
-64.6	6.0								
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)						
-66.1	7.5		At El. -65.6 Ft., little fine to medium-grained sand-sized shell, weak reaction with HCl		4				
			SAND, silty, mostly fine-grained sand-sized quartz, little silt, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SM)						
-68.3	9.7		At El. -67.4 Ft., some sand to gravel-sized shell, weak reaction with HCl, 5Y 4/1 dark gray						
			CLAY, fat, some fine-grained sand-sized quartz, some sand to gravel-sized shell, weak reaction with HCl, moist, 5G 6/1 greenish gray (CH)						
-69.4	10.8								
-70.0	11.4		SAND, clayey, some fine-grained sand-sized quartz, some fine to coarse gravel-sized shell, little clay, strong reaction with HCl, moist, 5Y 5/2 olive gray (SC)						
-70.9	12.3		SAND, silty, some fine-grained sand-sized quartz, some sand to gravel-sized shell, little silt, strong reaction with HCl, moist, 5Y 8/2 pale yellow (SM)						
			SAND, silty, mostly fine-grained sand-sized quartz, few sand to gravel-sized shell, no reaction with HCl, 5Y 8/1 white (SM)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-104

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 617,006 Y = 1,997,905	-58.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-78.1	19.5		At El. -77.8 Ft., some fine-grained sand-sized quartz, some sand to gravel-sized limestone, strong reaction with HCl, 5Y 7/1 light gray				-78.1		

Abbreviations:
NR = Not Recorded.

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	3.0/3.5	SP*
3	5.0/5.5	SP*
4	7.0/7.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

15
20
25
30
35

Boring Designation VB-SJSP12-105

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	South Atlantic	Jacksonville District	

1. PROJECT	St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION	VB-SJSP12-105	LOCATION COORDINATES: X = 616,576 Y = 1,998,797	
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY	Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	
12. TOTAL SAMPLES	DISTURBED: 4	UNDISTURBED (UD): 0	
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES	0
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
15. DATE BORING	STARTED: 07-03-12	COMPLETED: 07-03-12	
6. THICKNESS OF OVERBURDEN	N/A	16. ELEVATION TOP OF BORING	-59.6 Ft.
7. DEPTH DRILLED INTO ROCK	N/A	17. TOTAL RECOVERY FOR BORING	97.50 %
8. TOTAL DEPTH OF BORING	19.9 Ft.	18. SIGNATURE AND TITLE OF INSPECTOR	Marianne Gruber, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-59.6	0.0								
-60.6	1.0		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, few fine to coarse-grained sand-sized shell, weak reaction with HCl, moist, 5Y 8/1 white (SP)				-60.6		
-60.7	1.1		SAND, poorly-graded, mostly sand to gravel-sized shell, some fine-grained sand-sized quartz, trace silt, strong reaction with HCl (SP)		1 1-Post		-60.6		
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few sand to gravel-sized shell, few fine to coarse-grained sand-sized shell, no reaction with HCl (SP) At El. -62.2 Ft., 5Y 5/1 gray At El. -62.6 Ft., little fine to medium-grained sand-sized shell, weak reaction with HCl				-62.6		
					2				
							-64.6		
-66.1	6.5				3				
-67.7	8.1		SAND, clayey, mostly fine-grained sand-sized quartz, some clay, little sand to gravel-sized shell, weak reaction with HCl, moist, 10GY 6/1 greenish gray (SC)						
-68.4	8.8		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few sand to gravel-sized shell, no reaction with HCl, moist, 10Y 7/1 light greenish gray (SP-SM)						
-71.9	12.3		SAND, clayey, some fine-grained sand-sized quartz, some sand to gravel-sized shell, little clay, strong reaction with HCl, moist, 5Y 7/2 light gray (SC)						
-72.5	12.9		SAND, poorly-graded with clay, mostly fine-grained sand-sized quartz, little sand to gravel-sized shell, few clay, weak reaction with HCl, moist, 5G 7/1 light greenish gray (SP-SC)						
-73.6	14.0		SAND, clayey, some fine-grained sand-sized quartz, some sand to gravel-sized shell, little clay, strong reaction with HCl, moist, 10Y 7/1 light greenish gray (SC)						
			SAND, silty, some fine-grained sand-sized						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-105

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 616,576 Y = 1,998,797	-59.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
			quartz, some sand to gravel-sized shell, little silt, strong reaction with HCl, moist, 2.5Y 5/6 light olive brown (SM) At El. -74.2 Ft., some fine to coarse gravel-sized shell, 2.5Y 6/1 gray						
			At El. -78.2 Ft., some fine to coarse gravel-sized limestone, 2.5Y 7/1 light gray						
-79.5	19.9						-79.5		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	3.0/3.5	SP*
3	5.0/5.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-106

DRILLING LOG	DIVISION	INSTALLATION	SHEET 1 OF 2 SHEETS
	South Atlantic	Jacksonville District	

1. PROJECT	St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT	See Remarks
		10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.) / HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION	VB-SJSP12-106	LOCATION COORDINATES	X = 617,930 Y = 1,998,406
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY	Corps of Engineers - CESAJ	CONTRACTOR FILE NO.	6738-12-5195
12. TOTAL SAMPLES	DISTURBED: 4	UNDISTURBED (UD): 0	
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES	0
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	
14. ELEVATION GROUND WATER			
15. DATE BORING	STARTED: 07-03-12	COMPLETED: 07-03-12	
6. THICKNESS OF OVERBURDEN	N/A	16. ELEVATION TOP OF BORING	-60.3 Ft.
7. DEPTH DRILLED INTO ROCK	N/A	17. TOTAL RECOVERY FOR BORING	95.00 %
8. TOTAL DEPTH OF BORING	19.4 Ft.	18. SIGNATURE AND TITLE OF INSPECTOR	Marianne Gruber, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-60.3	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized shell, weak reaction with HCl, moist, 5Y 8/1 white (SP)				-61.3		
			At El. -61.3 Ft., some sand to gravel-sized shell, strong reaction with HCl		1 1-Post		-61.3		
			At El. -61.8 Ft., few sand to gravel-sized shell, no reaction with HCl				-63.3		
			At El. -63.3 Ft., little fine to medium-grained sand-sized shell, trace silt, 5Y 5/1 gray		2		-65.3		
-66.4	6.1				3				
			SAND, silty, mostly fine-grained sand-sized quartz, little silt, trace sand to gravel-sized shell, no reaction with HCl, moist, (little silt seams throughout), 10GY 6/1 greenish gray (SM)						
			At El. -68.9 Ft., some fine-grained sand-sized quartz, some fine to coarse gravel-sized shell, strong reaction with HCl, moist, 10Y 5/1 greenish gray						
-74.3	14.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few sand to gravel-sized shell, no reaction with HCl, moist,						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-106

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 617,930 Y = 1,998,406	-60.3 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-75.8	15.5		5Y 8/1 white (SP)						
			SAND, silty, mostly fine-grained sand-sized quartz, little sand to gravel-sized shell, little silt, weak reaction with HCl, moist, 10Y 6/1 greenish gray (SM)						
-79.7	19.4						-79.7		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	3.0/3.5	SP*
3	5.0/5.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-107

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	
1. PROJECT: St. Johns County Sand Search Vibracore Borings	9. SIZE AND TYPE OF BIT: See Remarks		
	10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83	VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-107	LOCATION COORDINATES: X = 618,389 Y = 1,997,540	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL	BEARING	14. ELEVATION GROUND WATER
		15. DATE BORING	STARTED: 07-03-12 COMPLETED: 07-03-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -57.6 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 91.00 %	
8. TOTAL DEPTH OF BORING: 18.1 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-57.6	0.0						-57.6		
			SAND, poorly-graded, mostly sand to gravel-sized shell, some fine-grained sand-sized quartz, strong reaction with HCl, moist, 5Y 8/1 white (SP)		1				
-58.6	1.0		SAND, poorly-graded, mostly fine-grained sand-sized quartz, few fine to coarse-grained sand-sized shell, no reaction with HCl (SP)				-59.6		
			At El. -59.6 Ft., little medium-grained sand-sized shell, trace silt, weak reaction with HCl		2 2-Post		-59.6		
							-61.6		
-62.6	5.0				3				
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few fine to medium-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)				-63.6		
-65.6	8.0				4				
			SAND, silty, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized silt, trace fine-grained sand-sized shell, no reaction with HCl, moist, (little silt seams throughout), 10Y 5/1 greenish gray (SM)						
-69.4	11.8								
-69.9	12.3		SILT, inorganic-L, some fine-grained sand-sized quartz, no reaction with HCl, moist (ML)						
			SAND, silty, mostly fine to medium-grained sand-sized quartz, little silt, no reaction with HCl, moist (SM)						
			At El. -71.0 Ft., some fine to coarse gravel-sized shell, strong reaction with HCl						
-72.6	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-107

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 618,389 Y = 1,997,540	-57.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-75.7	18.1		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few sand to gravel-sized shell, weak reaction with HCl, moist, 5Y 7/1 light gray (SP-SM) At El. -74.3 Ft., some sand to gravel-sized shell, strong reaction with HCl				-75.7		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	0.0/0.5	SP*
2	2.0/2.5	SP*
2-Post	2.0/2.5	SP*
3	4.0/4.5	SP*
4	6.0/6.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

Boring Designation VB-SJSP12-108

DRILLING LOG	DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS

1. PROJECT: St. Johns County Sand Search Vibracore Borings		9. SIZE AND TYPE OF BIT: See Remarks	
		10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.)	HORIZONTAL: NAD83 / VERTICAL: NAVD88
2. BORING DESIGNATION: VB-SJSP12-108	LOCATION COORDINATES: X = 618,851 Y = 1,996,640	11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
3. DRILLING AGENCY: Corps of Engineers - CESAJ	CONTRACTOR FILE NO.: 6738-12-5195	12. TOTAL SAMPLES	DISTURBED: 5 / UNDISTURBED (UD): 0
4. NAME OF DRILLER		13. TOTAL NUMBER CORE BOXES: 0	
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED	DEG. FROM VERTICAL / BEARING	14. ELEVATION GROUND WATER	
		15. DATE BORING	STARTED: 07-03-12 / COMPLETED: 07-03-12
6. THICKNESS OF OVERBURDEN: N/A		16. ELEVATION TOP OF BORING: -57.3 Ft.	
7. DEPTH DRILLED INTO ROCK: N/A		17. TOTAL RECOVERY FOR BORING: 87.50 %	
8. TOTAL DEPTH OF BORING: 18.0 Ft.		18. SIGNATURE AND TITLE OF INSPECTOR: Marianne Gruber, Geologist	

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-57.3	0.0								
-58.3	1.0		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, weak reaction with HCl, moist, 5Y 6/1 gray (SP)				-58.3		
			SAND, poorly-graded, mostly sand to gravel-sized shell, some fine-grained sand-sized quartz, trace silt, strong reaction with HCl (SP)		1 1-Post		-58.3		
			At El. -59.8 Ft., trace fine to coarse-grained sand-sized shell, no reaction with HCl, 5Y 7/1 light gray				-61.3		
			At El. -61.3 Ft., little fine to medium-grained sand-sized shell, weak reaction with HCl		2		-63.3		
-64.3	7.0				3		-65.3		
-65.5	8.2		SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, trace fine-grained sand-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)		4				
-67.1	9.8		SAND, silty, mostly fine-grained sand-sized quartz, little silt, little sand to gravel-sized shell, weak reaction with HCl, moist, 5Y 5/1 gray (SM)						
-69.3	12.0		SAND, clayey, mostly fine-grained sand-sized quartz, little clay, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, (little clay seams throughout), 10GY 6/1 greenish gray (SC)						
			CLAY, fat, few fine-grained sand-sized quartz, few sand to gravel-sized shell, no reaction with HCl, moist, 5G 5/1 greenish gray (CH)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-108

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 618,851 Y = 1,996,640	-57.3 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-75.3	18.0		At El. -72.3 Ft., trace limestone				-75.3		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-109

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-109 **LOCATION COORDINATES** X = 619,284 Y = 1,995,745	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-03-12	**COMPLETED** 07-03-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -57.5 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 94.00 %		
8. TOTAL DEPTH OF BORING 19.2 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Marianne Gruber, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-57.5	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, weak reaction with HCl, moist, 5Y 6/2 light olive gray (SP)						
-58.5	1.0		SAND, poorly-graded, mostly sand to gravel-sized shell, some fine-grained sand-sized quartz, strong reaction with HCl (SP)		1 1-Post		-58.5		
-59.5	2.0		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to coarse-grained sand-sized shell, no reaction with HCl, 5Y 8/1 white (SP)				-58.5		
			At El. -62.5 Ft., some fine to coarse-grained sand-sized shell, trace silt, strong reaction with HCl		2		-62.5		
			At El. -64.5 Ft., few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 5/1 gray						
					3		-66.5		
-68.8	11.3								
-69.0	11.5		SAND, well-graded, some fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, strong reaction with HCl, moist, 5Y 6/1 gray (SW)				-69.5		
-70.5	13.0		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, little fine to medium-grained sand-sized shell, few silt, weak reaction with HCl, moist, 5Y 5/1 gray (SP-SM)		4				
			CLAY, fat, few fine-grained sand-sized quartz, trace fine-grained sand-sized shell, no reaction with HCl, moist, 5G 5/1 greenish gray (CH)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-109

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 619,284 Y = 1,995,745	-57.5 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-74.9	17.4								
-76.7	19.2		SAND, silty, some fine to coarse gravel-sized shell, little fine-grained sand-sized quartz, little silt, strong reaction with HCl, moist, N 6/ gray (SM)				-76.7		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	5.0/5.5	SP*
3	9.0/9.5	SP*
4	12.0/12.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-110

DRILLING LOG

DIVISION	South Atlantic
INSTALLATION	Jacksonville District
SHEET	1 OF 2 SHEETS
1. PROJECT	St. Johns County Sand Search Vibracore Borings
2. BORING DESIGNATION	VB-SJSP12-110
LOCATION COORDINATES	X = 619,765 Y = 1,994,829
3. DRILLING AGENCY	Corps of Engineers - CESAJ
CONTRACTOR FILE NO.	6738-12-5195
4. NAME OF DRILLER	
5. DIRECTION OF BORING	☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL	
BEARING	
6. THICKNESS OF OVERBURDEN	N/A
7. DEPTH DRILLED INTO ROCK	N/A
8. TOTAL DEPTH OF BORING	19.4 Ft.
9. SIZE AND TYPE OF BIT	See Remarks
10. COORDINATE SYSTEM/DATUM	State Plane, FLN (U.S. Ft.) / HORIZONTAL NAD83 / VERTICAL NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL	☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES	DISTURBED 5 / UNDISTURBED (UD) 0
13. TOTAL NUMBER CORE BOXES	0
14. ELEVATION GROUND WATER	
15. DATE BORING	STARTED 07-04-12 / COMPLETED 07-04-12
16. ELEVATION TOP OF BORING	-56.2 Ft.
17. TOTAL RECOVERY FOR BORING	97.36 %
18. SIGNATURE AND TITLE OF INSPECTOR	Eve Huggins, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-56.2	0.0								
			SAND, poorly-graded, mostly fine-grained sand-sized quartz, some sand to gravel-sized shell, strong reaction with HCl, moist, 5Y 6/2 light olive gray (SP)				-57.2		
			At El. -57.7 Ft., few fine to coarse-grained sand-sized shell, no reaction with HCl, 5Y 8/1 white		1 1-Post		-57.2 -59.2		
			At El. -59.2 Ft., little fine to medium-grained sand-sized shell, trace silt, weak reaction with HCl At El. -59.7 Ft., 5Y 5/1 gray		2		-61.2		
			At El. -61.2 Ft., little fine-grained sand-sized shell		3		-64.2		
			At El. -64.2 Ft., few fine to medium-grained sand-sized shell, no reaction with HCl		4				
-66.7	10.5								
-67.2	11.0		SAND, well-graded, mostly fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, strong reaction with HCl, moist, 5Y 6/2 light olive gray (SW)						
			SAND, silty, mostly fine-grained sand-sized quartz, some sand to gravel-sized shell, little silt, strong reaction with HCl, moist, 5Y 6/1 gray (SM)						
-71.2	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-110

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 619,765 Y = 1,994,829	-56.2 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-72.2	16.0		SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, few silt, few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)						
-75.6	19.4		SAND, silty, mostly fine-grained sand-sized quartz, little sand to gravel-sized shell, little silt, no reaction with HCl, moist, 5Y 5/1 gray (SM)				-75.6		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
1-Post	1.0/1.5	SP*
2	3.0/3.5	SP*
3	5.0/5.5	SP*
4	8.0/8.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

Boring Designation VB-SJSP12-112

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-112 **LOCATION COORDINATES** X = 620,152 Y = 1,996,195	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-04-12	**COMPLETED** 07-04-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -54.9 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 101.48 %		
8. TOTAL DEPTH OF BORING 20.1 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Eve Huggins, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-54.9	0.0		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-56.9		
			At El. -56.9 Ft., little fine to medium-grained sand-sized shell, trace silt, weak reaction with HCl		1 1-Post		-56.9		
			At El. -60.9 Ft., few medium-grained sand-sized shell, no reaction with HCl		2		-60.9		
			At El. -63.6 Ft., some sand to gravel-sized shell, strong reaction with HCl						
			At El. -65.0 Ft., few fine to coarse-grained sand-sized shell, few silt, no reaction with HCl				-65.9		
					3		-67.9		
			At El. -67.9 Ft., few fine-grained sand-sized shell		4				

0 5 10 15

(Continued)

DRILLING LOG (Cont. Sheet)	INSTALLATION		SHEET 2 OF 2 SHEETS
	Jacksonville District		
PROJECT	**COORDINATE SYSTEM/DATUM**	**HORIZONTAL**	**VERTICAL**
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88
LOCATION COORDINATES	**ELEVATION TOP OF BORING**		
X = 620,152 Y = 1,996,195	-54.9 Ft.		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-75.0	20.1						-75.0		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	6.0/6.5	SP*
3	11.0/11.5	SP*
4	13.0/13.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

Boring Designation VB-SJSP12-113

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-113 **LOCATION COORDINATES** X = 619,716 Y = 1,997,037	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-04-12	**COMPLETED** 07-04-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -56.5 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 88.61 %		
8. TOTAL DEPTH OF BORING 18.3 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Eve Huggins, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-56.5	0.0		SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 8/1 white (SP)				-57.5		
			At El. -57.5 Ft., little fine to coarse-grained sand-sized shell, trace silt, weak reaction with HCl		1		-60.5		
					2 2-Post		-60.5		
			At El. -63.5 Ft., few fine-grained sand-sized shell, no reaction with HCl		3		-63.5		
			At El. -64.2 Ft., trace fine to coarse-grained sand-sized shell, 5Y 5/1 gray				-65.5		
			At El. -65.5 Ft., few fine-grained sand-sized shell		4				
			At El. -69.2 Ft., some sand to gravel-sized shell, strong reaction with HCl						
			At El. -69.5 Ft., trace sand to gravel-sized shell, no reaction with HCl						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-113

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 619,716 Y = 1,997,037	-56.5 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-72.8	16.3								
-74.8	18.3		SAND, silty, mostly fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, little silt, strong reaction with HCl, moist (SM) At El. -73.1 Ft., some silt, few sand to gravel-sized shell, weak reaction with HCl				-74.8		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	1.0/1.5	SP*
2	4.0/4.5	SP*
2-Post	4.0/4.5	SP*
3	7.0/7.5	SP*
4	9.0/9.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-114

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-114 **LOCATION COORDINATES** X = 619,276 Y = 1,997,967	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-04-12	**COMPLETED** 07-04-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -55.3 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 80.65 %		
8. TOTAL DEPTH OF BORING 15.9 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Eve Huggins, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-55.3	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized shell, weak reaction with HCl, moist, 5Y 8/1 white (SP)				-57.3		
			At El. -57.3 Ft., little medium to coarse-grained sand-sized shell, trace silt		1 1-Post		-57.3		
			At El. -58.0 Ft., few fine to coarse-grained sand-sized shell, no reaction with HCl				-59.3		
			At El. -59.3 Ft., little medium-grained sand-sized shell, weak reaction with HCl		2				
-60.3	5.0						-61.3		
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few sand to gravel-sized shell, few silt, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)		3				
			At El. -61.3 Ft., little fine to medium-grained sand-sized shell, weak reaction with HCl				-63.3		
					4				
-65.3	10.0								
			SAND, silty, mostly fine-grained sand-sized quartz, little silt, no reaction with HCl, moist, (little silt seams throughout), N 5/ gray (SM)						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-114

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 619,276 Y = 1,997,967	-55.3 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-71.2	15.9						-71.2		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP-SM*
4	8.0/8.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15
20
25
30
35

SAJ FORM 1836-A
JUN 02

Boring Designation VB-SJSP12-115

DRILLING LOG

DIVISION South Atlantic	**INSTALLATION** Jacksonville District		**SHEET** 1 **OF** 2 **SHEETS**
1. PROJECT St. Johns County Sand Search Vibracore Borings	**9. SIZE AND TYPE OF BIT** See Remarks		
	10. COORDINATE SYSTEM/DATUM State Plane, FLN (U.S. Ft.)	**HORIZONTAL** NAD83	**VERTICAL** NAVD88
2. BORING DESIGNATION VB-SJSP12-115 **LOCATION COORDINATES** X = 618,786 Y = 1,998,900	**11. MANUFACTURER'S DESIGNATION OF DRILL** ☐ AUTO HAMMER ☐ MANUAL HAMMER		
3. DRILLING AGENCY Corps of Engineers - CESAJ **CONTRACTOR FILE NO.** 6738-12-5195	**12. TOTAL SAMPLES**	**DISTURBED** 5	**UNDISTURBED (UD)** 0
4. NAME OF DRILLER	**13. TOTAL NUMBER CORE BOXES** 0		
5. DIRECTION OF BORING ☒ VERTICAL ☐ INCLINED **DEG. FROM VERTICAL** **BEARING**	**14. ELEVATION GROUND WATER**		
	15. DATE BORING	**STARTED** 07-04-12	**COMPLETED** 07-04-12
6. THICKNESS OF OVERBURDEN N/A	**16. ELEVATION TOP OF BORING** -57.6 Ft.		
7. DEPTH DRILLED INTO ROCK N/A	**17. TOTAL RECOVERY FOR BORING** 95.31 %		
8. TOTAL DEPTH OF BORING 18.7 Ft.	**18. SIGNATURE AND TITLE OF INSPECTOR** Eve Huggins, Geologist		

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-57.6	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, little fine to coarse-grained sand-sized shell, weak reaction with HCl, moist, 5Y 8/1 white (SP)				-59.6		
			At El. -59.6 Ft., some sand to gravel-sized shell, strong reaction with HCl At El. -59.9 Ft., few fine to medium-grained sand-sized shell, no reaction with HCl		1 1-Post		-59.6 -61.6		
			At El. -61.6 Ft., little medium-grained sand-sized shell, trace silt, weak reaction with HCl		2		-63.6		
			At El. -63.3 Ft., few fine to coarse-grained sand-sized shell, no reaction with HCl, 5Y 5/1 gray At El. -63.6 Ft., little fine to coarse-grained sand-sized shell, weak reaction with HCl		3		-65.6		
-66.2	8.6				4				
			SAND, well-graded, some fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, strong reaction with HCl, moist, 5Y 6/1 gray (SW)						
-68.0	10.4								
			SAND, silty, mostly fine-grained sand-sized quartz, little silt, few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SM) At El. -68.6 Ft., some fine to medium-grained sand-sized quartz, some sand to gravel-sized shell, strong reaction with HCl						
-69.6	12.0								
			SAND, poorly-graded with silt, mostly fine to medium-grained sand-sized quartz, little sand to gravel-sized shell, few silt, weak reaction with HCl, moist, 5Y 7/1 light gray (SP-SM)						
-72.1	14.5								
			SAND, silty, some fine-grained sand-sized						

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-115

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 618,786 Y = 1,998,900	-57.6 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
-72.7	15.1		quartz, some sand to gravel-sized shell, some silt, strong reaction with HCl, moist, 10GY 5/1 greenish gray (SM) CLAY, fat, few fine-grained sand-sized quartz, few fine to coarse-grained sand-sized shell, no reaction with HCl, moist, N 5/ gray (CH) At El. -74.6 Ft., 10Y 6/1 greenish gray						
-76.3	18.7						-76.3		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	4.0/4.5	SP*
3	6.0/6.5	SP*
4	8.0/8.5	SP*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35

Boring Designation VB-SJSP12-116

DRILLING LOG

DIVISION: South Atlantic	INSTALLATION: Jacksonville District	SHEET 1 OF 2 SHEETS	

1. PROJECT: St. Johns County Sand Search Vibracore Borings
2. BORING DESIGNATION: VB-SJSP12-116
LOCATION COORDINATES: X = 620,187 Y = 1,998,392
3. DRILLING AGENCY: Corps of Engineers - CESAJ
CONTRACTOR FILE NO.: 6738-12-5195
4. NAME OF DRILLER:
5. DIRECTION OF BORING: ☒ VERTICAL ☐ INCLINED
DEG. FROM VERTICAL:
BEARING:
6. THICKNESS OF OVERBURDEN: N/A
7. DEPTH DRILLED INTO ROCK: N/A
8. TOTAL DEPTH OF BORING: 17.3 Ft.
9. SIZE AND TYPE OF BIT: See Remarks
10. COORDINATE SYSTEM/DATUM: State Plane, FLN (U.S. Ft.) HORIZONTAL: NAD83 VERTICAL: NAVD88
11. MANUFACTURER'S DESIGNATION OF DRILL: ☐ AUTO HAMMER ☐ MANUAL HAMMER
12. TOTAL SAMPLES: DISTURBED 6 UNDISTURBED (UD) 0
13. TOTAL NUMBER CORE BOXES: 0
14. ELEVATION GROUND WATER:
15. DATE BORING: STARTED 07-04-12 COMPLETED 07-04-12
16. ELEVATION TOP OF BORING: -57.4 Ft.
17. TOTAL RECOVERY FOR BORING: 85.19 %
18. SIGNATURE AND TITLE OF INSPECTOR: Eve Huggins, Geologist

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/1 FT.	N-VALUE
-57.4	0.0								
			SAND, poorly-graded, mostly fine to medium-grained sand-sized quartz, few fine to coarse-grained sand-sized shell, trace silt, no reaction with HCl, moist, 5Y 8/1 white (SP)				-59.4		
			At El. -59.4 Ft., little fine to medium-grained sand-sized shell, trace silt, weak reaction with HCl		1 1-Post		-59.4		
							-62.4		
					2				
			At El. -65.1 Ft., little sand to gravel-sized shell				-65.4		
					3				
			At El. -67.2 Ft., few sand to gravel-sized shell, no reaction with HCl, 5Y 5/1 gray				-68.4		
					4				
			At El. -70.1 Ft., trace sand to gravel-sized shell, trace silt, no reaction with HCl, 5Y 7/1 light gray						
-72.4	15.0								

0 5 10 15

(Continued)

Boring Designation VB-SJSP12-116

DRILLING LOG (Cont. Sheet)	INSTALLATION	SHEET 2 OF 2 SHEETS
	Jacksonville District	

PROJECT	COORDINATE SYSTEM/DATUM	HORIZONTAL	VERTICAL
St. Johns County Sand Search	State Plane, FLN (U.S. Ft.)	NAD83	NAVD88

LOCATION COORDINATES	ELEVATION TOP OF BORING
X = 620,187 Y = 1,998,392	-57.4 Ft.

ELEV.	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	% REC.	BOX OR SAMPLE	RQD OR UD	REMARKS	BLOWS/ 1 FT.	N-VALUE
			SAND, poorly-graded with silt, mostly fine-grained sand-sized quartz, few silt, few sand to gravel-sized shell, no reaction with HCl, moist, 5Y 5/1 gray (SP-SM)				-73.4		
			At El. -73.4 Ft., little fine to medium-grained sand-sized shell, weak reaction with HCl		5				
-74.7	17.3						-74.7		

NOTES:

1. USACE Jacksonville is the custodian for these original files.

2. Soils are field visually classified in accordance with the Unified Soils Classification System.

3. Laboratory Testing Results

SAMPLE ID	SAMPLE DEPTH	LABORATORY CLASSIFICATION
1	2.0/2.5	SP*
1-Post	2.0/2.5	SP*
2	5.0/5.5	SP*
3	8.0/8.5	SP*
4	11.0/11.5	SP*
5	16.0/16.5	SP-SM*

*Lab visual classification based on gradation curve. No Atterberg limits.

Abbreviations:
NR = Not Recorded.

15 20 25 30 35