

# MEMORANDUM

**To:** Shane Corbin

From: Steve Swann, PE

Troy Stephens

**Date:** July 14, 2021

Re: Ocean Water Quality Sampling in Response to Bridgeport Barge Incident

On June 17, 2021, Public Utilities staff collected water samples from the ocean in four locations along the Duval County shoreline as summarized in the table on the following page. None of the analyses appear to indicate that the water samples were impacted at detectable levels by the Bridgeport Barge spill of Agremax. All four water samples analyzed had fairly consistent results.

All samples were collected in the ocean in approximately 3 FT of water off of the beach, The samples were analyzed for priority pollutant metals using standard EPA approved methods with method detection limits equal to or less than the analyses reported in RPI's Bridgeport report on June 22, 2021. Advanced Environmental Laboratories, Inc., the same laboratory used by RPI, was used to conduct the analyses. AEL is a National Environmental Laboratories Accreditation Conference (NELAC) certified laboratory, is FDEP approved is routinely used by the City for our compliance samples.

The samples were collected in the surf zone and were not filtered and likely contained some sediments entrained by wave action. Therefore, the sample results are an indicator of water quality in the surf zone at the time they were collected and are not necessarily indicative of water quality further offshore.

The method detection limit (MDL) is an estimate of the minimum amount of a substance that an analytical process can reliably detect. The practical quantitation level (PQL) is the lowest level of measurement that can be reliably achieved during routine laboratory operating conditions within acceptable limits of precisions and accuracy. The metals analyzed in most of the samples analyzed were not detected (less than the MDL). However, several samples had metals greater than the MDL but less than the PQL.

The results from all four Nickel samples, two Arsenic samples and one Zinc sample were reported as greater than the MDL but less than the PQL. From a practical standpoint this means the metals that exceeded the MDL but were less than the PQL were present but the exact concentration cannot be reliably reported.

Although the Nickel analyses appear high relative to the water quality standard, the results are consistent across all four sites and can probably be considered the background concentration for Nickel on the day the samples were collected with respect to the analytical method used for the analyses. Analytical results in the region between the MDL and PQL have a high degree of uncertainty and do not necessarily mean that there were water quality violations.

It is important to note that analyzing metals in ocean water can be difficult due to interference from the chlorides in the samples. Because of this interference, the MDLs and PQLs are often quite a bit higher than the actual water quality standard.

	Commis				Results			
Location	Sample ID	Antimony	imony Arsenic Beryllium Ca		Cadmium	Chromium	Copper	Lead
	טו	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Jax Beach Pier	1A	U	U	U	U	U	U	U
1 Ocean Hotel 2A		U	U	U	U	U	U	U
Hanna Park	3A	U	7.4	U	U	U	U	U
Huguenot Park	4A	U	6.0	U	U	U	U	U
FL Marine Standa	ırd	≤4,300	≤50	≤0.13	≤8.8	≤50	≤3.7	≤8.5
EPA Screening Va	lue	4,300	36	0.13	8.9	103	3.6	8.5
Method Detectio	n Limit	20	5.0	20	5.0	10	20	10
Practical Quantita	ation Level	80.0	20.0	80.0	20.0	40.0	80.0	40.0

	Campla			Res	ults		
Location	Sample ID	Nickel	Selenium	Silver	Thallium	Zinc	Mercury
	טו	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Jax Beach Pier	1A	54	U	U	U	190	U
1 Ocean Hotel	2A	57	U	U	U	U	U
Hanna Park	3A	70	U	U	U	U	U
Huguenot Park	4A	76	U	U	U	U	U
FL Marine Standa	ırd	≤8.3	≤71	≤2.3	≤6.3	≤86	≤0.025
EPA Screening Va	lue	8.3	71	0.1	6.3	82	0.94
Method Detection	n Limit	25	25	10	5.0	120	0.011
Practical Quantita	ation Level	100	100	40	20.0	480	0.10

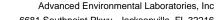
U = Not Detected

RPI's Bridgeport report was not available to us before we shipped our samples to the laboratory for analysis. The priority pollutant metals we analyzed did not include the analyses flagged as exceeding FDEP standards or EPA screening criteria in the RPI report (Barium, Boron, Iron and Manganese). However, the analyses flagged in the RPI report were less than the PQL in all cases except for Boron, which did not exceed the global ocean background level.

If you need any additional information, please let us know.

Attachment – Analytical Results

SCS/s



6681 Southpoint Pkwy Jacksonville, FL 32216

Payments: P.O. Box 551580 Jacksonville, FL 32255-1580

Phone: (904)363-9350 Fax: (904)363-9354



July 14, 2021

Troy Stephens City of Atlantic Beach 902 Assisi Lane Atlantic Beach, FL 32233

RE: Workorder: J2108213 Priority Pollutants

Dear Troy Stephens:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, June 18, 2021. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. The analytical results for the samples contained in this report were submitted for analysis as outlined by the Chain of Custody and results pertain only to these samples.

If you have any questions concerning this report, please feel free to contact me.

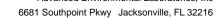
Sincerely,

Jerry Allen - Project Manager JAllen@aellab.com

**Enclosures** 

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# **SAMPLE SUMMARY**

Workorder: J2108213 Priority Pollutants

Lab ID	Sample ID	Matrix	Date Collected	Date Received
J2108213001	1A	Water	6/17/2021 09:40	6/18/2021 12:20
J2108213002	2A	Water	6/17/2021 10:00	6/18/2021 12:20
J2108213003	3A	Water	6/17/2021 10:40	6/18/2021 12:20
J2108213004	4A	Water	6/17/2021 11:45	6/18/2021 12:20

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#### **ANALYTICAL RESULTS**

Workorder: J2108213 Priority Pollutants

Lab ID: **J2108213001** Date Received: 06/18/21 12:20 Matrix: Water

Sample ID: 1A Date Collected: 06/17/21 09:40

Sample Description: Location:

					Adjusted	Adjusted						
Parameters	Results	Qual	Units	DF	PQL	MDL	Analyzed	Lab				
METALS												
Analysis Desc: E200.8 Analysis, Waters	Prep	aration I	Method: EF	A 200.8								
Analytical Method: EPA 200.8												
Antimony	0.020	U	mg/L	20	0.080	0.020	7/10/2021 23:52	J				
Arsenic	0.0050	U	mg/L	20	0.020	0.0050	6/25/2021 17:00	J				
Beryllium	0.020	U	mg/L	20	0.080	0.020	6/25/2021 17:00	J				
Cadmium	0.0050	U	mg/L	20	0.020	0.0050	6/25/2021 17:00	J				
Chromium	0.010	U	mg/L	20	0.040	0.010	6/25/2021 17:00	J				
Copper	0.020	U	mg/L	20	0.080	0.020	6/25/2021 17:00	J				
Lead	0.010	U	mg/L	20	0.040	0.010	6/25/2021 17:00	J				
Nickel	0.054	ı	mg/L	20	0.10	0.025	6/25/2021 17:00	J				
Selenium	0.025	U	mg/L	20	0.10	0.025	7/9/2021 13:28	J				
Silver	0.010	U	mg/L	20	0.040	0.010	6/25/2021 17:00	J				
Thallium	0.0050	U	mg/L	20	0.020	0.0050	6/25/2021 17:00	J				
Zinc	0.19	I	mg/L	20	0.48	0.12	6/25/2021 17:00	J				
Analysis Desc: EPA 245.1	Prep	aration I	Method: EF	PA 245.1								
Analysis, Water	Anal	ytical Me	ethod: EPA	245.1								
Mercury	0.000011	U	mg/L	1	0.00010	0.000011	6/23/2021 15:41	J				

Lab ID: **J2108213002** Date Received: 06/18/21 12:20 Matrix: Water

Sample ID: 2A Date Collected: 06/17/21 10:00

Sample Description: Location:

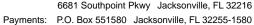
Parameters	Results	Qual	Units	DF	Adjusted PQL	Adjusted MDL	Analyzed	Lab
METALS								
Analysis Desc: E200.8 Analysis, Waters	Prep	aration I	Method: El	PA 200.8				
	Anal	ytical Me	ethod: EPA	200.8				
Antimony	0.020	U	mg/L	20	0.080	0.020	7/10/2021 23:58	J
Arsenic	0.0050	U	mg/L	20	0.020	0.0050	6/25/2021 17:04	J
Beryllium	0.020	U	mg/L	20	0.080	0.020	6/25/2021 17:04	J
Cadmium	0.0050	U	mg/L	20	0.020	0.0050	6/25/2021 17:04	J
Chromium	0.010	U	mg/L	20	0.040	0.010	6/25/2021 17:04	J
Copper	0.020	U	mg/L	20	0.080	0.020	6/25/2021 17:04	J

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#### **CERTIFICATE OF ANALYSIS**

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#### **ANALYTICAL RESULTS**

Workorder: J2108213 Priority Pollutants

Lab ID: J2108213002 Date Received: 06/18/21 12:20 Matrix: Water

Date Collected: 06/17/21 10:00 Sample ID: 2A

Sample Description: Location:

					Adjusted	Adjusted		
Parameters	Results	Qual	Units	DF	PQL	MDL	Analyzed	Lab
Lead	0.010	U	mg/L	20	0.040	0.010	6/25/2021 17:04	J
Nickel	0.057	- 1	mg/L	20	0.10	0.025	6/25/2021 17:04	J
Selenium	0.025	U	mg/L	20	0.10	0.025	7/9/2021 13:34	J
Silver	0.010	U	mg/L	20	0.040	0.010	6/25/2021 17:04	J
Thallium	0.0050	U	mg/L	20	0.020	0.0050	6/25/2021 17:04	J
Zinc	0.12	U	mg/L	20	0.48	0.12	6/25/2021 17:04	J

Analysis Desc: EPA 245.1 Preparation Method: EPA 245.1 Analysis, Water Analytical Method: EPA 245.1 0.000011 mg/L 0.00010 0.000011 6/23/2021 15:54 Mercury U

Date Received: 06/18/21 12:20 J2108213003 Matrix: Water Lab ID:

Date Collected: 06/17/21 10:40 Sample ID: **3A** 

Sample Description: Location:

0.000011

Mercury

					Adjusted	Adjusted					
Parameters	Results	Qual	Units	DF	PQL	MDL	Analyzed	Lab			
METALS											
Analysis Desc: E200.8 Analysis, Waters	Prep	aration I	Method: EF	A 200.8							
	Ana	lytical Me	ethod: EPA	200.8							
Antimony	0.020	U	mg/L	20	0.080	0.020	7/11/2021 00:04	J			
Arsenic	0.0074	ı	mg/L	20	0.020	0.0050	7/3/2021 23:46	J			
Beryllium	0.020	U	mg/L	20	0.080	0.020	6/25/2021 17:09	J			
Cadmium	0.0050	U	mg/L	20	0.020	0.0050	6/25/2021 17:09	J			
Chromium	0.010	U	mg/L	20	0.040	0.010	6/25/2021 17:09	J			
Copper	0.020	U	mg/L	20	0.080	0.020	6/25/2021 17:09	J			
Lead	0.010	U	mg/L	20	0.040	0.010	6/25/2021 17:09	J			
Nickel	0.070	ı	mg/L	20	0.10	0.025	6/25/2021 17:09	J			
Selenium	0.025	U	mg/L	20	0.10	0.025	7/9/2021 13:40	J			
Silver	0.010	U	mg/L	20	0.040	0.010	6/25/2021 17:09	J			
Thallium	0.0050	U	mg/L	20	0.020	0.0050	6/25/2021 17:09	J			
Zinc	0.12	U	mg/L	20	0.48	0.12	6/25/2021 17:09	J			
Analysis Desc: EPA 245.1	Prep	aration I	Method: EF	A 245.1							
Analysis, Water	Analytical Method: EPA 245.1										

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mg/L

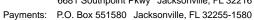
0.00010

0.000011 6/23/2021 15:59

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# **ANALYTICAL RESULTS**

Workorder: J2108213 Priority Pollutants

Lab ID: **J2108213004** Date Received: 06/18/21 12:20 Matrix: Water

Sample ID: 4A Date Collected: 06/17/21 11:45

Sample Description: Location:

					Adjusted	Adjusted		
Parameters	Results	Qual	Units	DF	PQL	MDL	Analyzed	Lab
METALS								
Analysis Desc: E200.8 Analysis, Waters	Prep	aration I	Method: EF	A 200.8				
	Ana	ytical Me	ethod: EPA	200.8				
Antimony	0.020	U	mg/L	20	0.080	0.020	7/10/2021 16:59	J
Arsenic	0.0060	- 1	mg/L	20	0.020	0.0050	7/4/2021 00:26	J
Beryllium	0.020	U	mg/L	20	0.080	0.020	7/4/2021 00:26	J
Cadmium	0.0050	U	mg/L	20	0.020	0.0050	7/4/2021 00:26	J
Chromium	0.010	U	mg/L	20	0.040	0.010	7/4/2021 00:26	J
Copper	0.020	U	mg/L	20	0.080	0.020	7/4/2021 00:26	J
Lead	0.010	U	mg/L	20	0.040	0.010	7/4/2021 00:26	J
Nickel	0.076	1	mg/L	20	0.10	0.025	7/4/2021 00:26	J
Selenium	0.025	U	mg/L	20	0.10	0.025	7/9/2021 14:03	J
Silver	0.010	U	mg/L	20	0.040	0.010	7/4/2021 00:26	J
Thallium	0.0050	U	mg/L	20	0.020	0.0050	7/4/2021 00:26	J
Zinc	0.12	U	mg/L	20	0.48	0.12	7/4/2021 00:26	J
Analysis Desc: EPA 245.1	Prep	aration I	Method: EF	PA 245.1				
Analysis, Water	Ana	ytical Me	ethod: EPA	245.1				
Mercury	0.000011	U	mg/L	1	0.00010	0.000011	6/23/2021 16:03	J

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# **ANALYTICAL RESULTS QUALIFIERS**

Workorder: J2108213 Priority Pollutants

#### **PARAMETER QUALIFIERS**

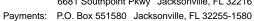
- U The compound was analyzed for but not detected.
- I The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

#### LAB QUALIFIERS

J DOH Certification #E82574(AEL-JAX)(FL NELAC Certification)

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#### **QUALITY CONTROL DATA**

Workorder: J2108213 Priority Pollutants

QC Batch: DGMj/1712 Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8 Prepared: 06/22/2021 10:30

Associated Lab Samples: J2108213001, J2108213002, J2108213003

METHOD BLANK: 3929945

Parameter	Units	Blank Result	Reporting Limit Qualifiers
METALS			
Beryllium	mg/L	0.0010	0.0010 U
Chromium	mg/L	0.00050	0.00050 U
Nickel	mg/L	0.0012	0.0012 U
Copper	mg/L	0.0010	0.0010 U
Zinc	mg/L	0.0060	0.0060 U
Arsenic	mg/L	0.00025	0.00025 U
Selenium	mg/L	0.0012	0.0012 U
Silver	mg/L	0.00050	0.00050 U
Cadmium	mg/L	0.00025	0.00025 U
Antimony	mg/L	0.0010	0.0010 U
Thallium	mg/L	0.00025	0.00025 U
Lead	mg/L	0.00050	0.00050 U

QC Batch: DGMj/1729 Analysis Method: EPA 245.1

QC Batch Method: EPA 245.1 Prepared: 06/23/2021 11:06

Associated Lab Samples: J2108213001, J2108213002, J2108213003, J2108213004

METHOD BLANK: 3932085

Parameter Units Result Limit Qualifiers

METALS Mercury

mg/L 0.000011 0.000011 U

 QC Batch:
 DGMj/1757
 Analysis Method:
 EPA 200.8

 QC Batch Method:
 EPA 200.8
 Prepared:
 06/28/2021 11:00

Associated Lab Samples: J2108213004

METHOD BLANK: 3937248

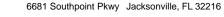
 Parameter
 Units
 Blank Reporting Result
 Reporting Limit Qualifiers

 METALS
 Beryllium
 mg/L
 0.0010
 0.0010
 U

 Chromium
 mg/L
 0.00050
 0.00050
 U

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mg/L

mg/L

mg/L

0.0010

0.00025

0.00050

# **QUALITY CONTROL DATA**

Workorder: J2108213 Priority Pollutants

METHOD BLANK: 3937248

Antimony

Thallium

Lead

Parameter	Units	Blank Result	Reporting Limit Qualifiers
Nickel	mg/L	0.0012	0.0012 U
Copper	mg/L	0.0010	0.0010 U
Zinc	mg/L	0.0060	0.0060 U
Arsenic	mg/L	0.00025	0.00025 U
Selenium	mg/L	0.0012	0.0012 U
Silver	mg/L	0.00050	0.00050 U
Cadmium	mg/L	0.00025	0.00025 U

0.0010 U

0.00025 U

0.00050 U

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# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Workorder: J2108213 Priority Pollutants

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
J2108213001	1A	EPA 200.8	DGMj/1712	EPA 200.8	ICMj/1277
J2108213002	2A	EPA 200.8	DGMj/1712	EPA 200.8	ICMj/1277
J2108213003	3A	EPA 200.8	DGMj/1712	EPA 200.8	ICMj/1277
J2108213001	1A	EPA 245.1	DGMj/1729	EPA 245.1	CVAj/1171
J2108213002	2A	EPA 245.1	DGMj/1729	EPA 245.1	CVAj/1171
J2108213003	3A	EPA 245.1	DGMj/1729	EPA 245.1	CVAj/1171
J2108213004	4A	EPA 245.1	DGMj/1729	EPA 245.1	CVAj/1171
J2108213004	4A	EPA 200.8	DGMj/1757	EPA 200.8	ICMj/1301

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A (4	o N	- To		Form revised 2/8/08	Received on Ice	Matrix							4 <sub>A</sub>	3A	2A	1A	SAMPLE ID	STANDARD	\	SAMPLED BY:	CONTACT:	FAX:	PHONE:		ADDRESS:	CLIENT NAME:	
		Kin't /	Reline	ed 2/8/08	nice ∠DYes	Matrix Code: WW = wastewater		$\perp$	+			-					E ID	DARD	•	5				Atla			U
		Lersen	uished by:		IS No								=	55000	Осе	Jac	SAN		TURN AROUND TIME	Eric Andersen	Troy S	(904)-247-5895	(904) 5	Atlantic Beach, FL 32233	902 Assisi Ln.	City of Atla	Advanced Environmental Laboratories, Inc.
+		12/8/17	Date T		Temp take	SW = surface water GW = ground water DW = drinking water							Huguenot Park	Hanna Park	Ocean 1 (Ahern St.)	Jacksonville Pier	SAMPLE DESCRIPTION	RUSH		dersen	Troy Stephens	17 - 5895	(904) 588-4503	32233	isi Ln.	<b>Atlantic Beach</b>	boratories, Inc.
+		20 /	Time		Temp taken from sample	ground water							ark	~	n St.)	Pier	NOIT	_						PROJEC	P.O. NUI		X 6601 S
		that	, R			DW = drinking v																		PROJECT LOCATION:	P.O. NUMBER/PROJECT NUMBER	PROJECT NAME:	6601 Southpoint Pkwy, • Jacksonville, FL 32216 • 904.363.9350 • Fax 904.363.9354 • E82574 9610 Princess Palm Ave. • Tampa, FL 33619 • 813.630.9616 • Fax 813.630.4327 • E84599 6815 SW Archer Road • Gainesville, FL 32506 • 352.377.2349 • Fax 352.395.6639 • E82001 528 S. North Lake Blvd., Ste. 1016 • Altamonte Springs, FL 32701 • 407.937.1594 • Fax 407.937.1597• E53076
		200	Received by:		emp from								ရ	ര	ရ	ര	Grab	Æ					REMARK		NUMBER:		• Jackso re. • Tam • Gaines
		C	by:		Temp from temp blank	O = oil A = air							6.17.24	6.17.23	6.17,22	6.17.21	SAMPLING DATE TI	AEL Profile: 17627					REMARKS/SPECIAL INSTRUCTIONS	Coas		Priorit	nville, FL 322 pa, FL 33619 ville, FL 3260 )16 • Altamon
				Device u		ir SO = soil							11:45am	10:40am	10:00am	9:40am	TIME	17627					TRUCTIONS:	Coastal Shoreline		Priority Pollutants	216 • 904.363 ) • 813.630.94 ) 8 • 352.377.3
	-	C/18 21	Date,	Device used for measuring Temp by unique identifier (circle IR temp gun used)	Where required, pH checked	I SL = sludge							WS	WS	SW	WS	MATRIX							eline		tants	1.9350 • Fax 616 • Fax 81 2349 • Fax 3
		1220	Time	suring Tem	red, pH ch	ge							_	-	_	_	COUNT										904,363,93 3,630,4327 52,395,663 17,937,159
			_	p by unique	ecked												PRESER- VATION		ALY		33333		IRE	D	SIZI TYI	TLE E & PE	54 • E8257 • E84589 9 • E82001
Site			FO	identifier	Ten	Preser							×	×	×	×	HN03	Cad Arse	enic	. м	erc	urv			Mult	iple	.937.1597
Site-Address:	,	(When PWS Information not otherwise supplied)	FOR DRINKING WATER	(circle IR te	Temperature when received	Preservation Code: $I = ice H=(HCI) S = (H2SO4) N = (HNO3) T = (Sodium Thiosulfale)$		_	+	_								Pm	د م د م	راء	Pel	luh	. 2				- E53076
Supplier of Water	Contact Person:	nformation	ING W	mp gun u	when	e:   = ice			+	-	_												_	$\dashv$	_		
er.	1008	not otherwise	끯	sed) (2:9A)	received	H=(HCI) S				+														+	_	*	
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