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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

07 April 2016

Al Kennedy
ERDC -- Vicksburg (EL)
ERDC, 3909 Halls Ferry Road
Vicksburg, MS 39180
RE: Kennedy-King's Bay

Enclosed are the results of analyses for samples received by the laboratory on 22-Feb-2016. The samples associated with this report will be held for 90 days from the date of this report. The raw data associated with this report will be held for 5 years from the date of this report. If you need us to hold onto the samples or the data longer then these specified times, you will need to notify us in writing at least 30 days before the expiration dates. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Dale Rosado, Ph. D.
Chemist

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

WORK ORDER SUMMARY

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
Nereis E-KB-16-RS-A	6022201-01	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-RS-B	6022201-02	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-RS-C	6022201-03	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-RS-D	6022201-04	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-RS-E	6022201-05	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-1 A	6022201-06	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-1 B	6022201-07	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-1 C	6022201-08	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-1 D	6022201-09	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-1 E	6022201-10	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-4 A	6022201-11	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-4 B	6022201-12	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-4 C	6022201-13	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-4 D	6022201-14	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-4 E	6022201-15	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-5 A	6022201-16	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-5 B	6022201-17	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-5 C	6022201-18	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-5 D	6022201-19	Tissue	19-Feb-2016	22-Feb-2016
Nereis E-KB-16-5 E	6022201-20	Tissue	19-Feb-2016	22-Feb-2016
Nereis Background A	6022201-21	Tissue	22-Jan-2016	22-Feb-2016
Nereis Background B	6022201-22	Tissue	22-Jan-2016	22-Feb-2016
Nereis Background C	6022201-23	Tissue	22-Jan-2016	22-Feb-2016
Nereis Background D	6022201-24	Tissue	22-Jan-2016	22-Feb-2016
Nereis Background E	6022201-25	Tissue	22-Jan-2016	22-Feb-2016
Macoma E-KB-16-RS-A	6022201-26	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-RS-B	6022201-27	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-RS-C	6022201-28	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-RS-D	6022201-29	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-RS-E	6022201-30	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-1 A	6022201-31	Tissue	19-Feb-2016	22-Feb-2016

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

WORK ORDER SUMMARY

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
Macoma E-KB-16-1 B	6022201-32	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-1 C	6022201-33	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-1 D	6022201-34	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-1 E	6022201-35	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-4 A	6022201-36	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-4 B	6022201-37	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-4 C	6022201-38	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-4 D	6022201-39	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-4 E	6022201-40	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-5 A	6022201-41	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-5 B	6022201-42	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-5 C	6022201-43	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-5 D	6022201-44	Tissue	19-Feb-2016	22-Feb-2016
Macoma E-KB-16-5 E	6022201-45	Tissue	19-Feb-2016	22-Feb-2016
Macoma Background A	6022201-46	Tissue	22-Jan-2016	22-Feb-2016
Macoma Background B	6022201-47	Tissue	22-Jan-2016	22-Feb-2016
Macoma Background C	6022201-48	Tissue	22-Jan-2016	22-Feb-2016
Macoma Background D	6022201-49	Tissue	22-Jan-2016	22-Feb-2016
Macoma Background E	6022201-50	Tissue	22-Jan-2016	22-Feb-2016

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Case Narrative

No issues were experienced during the analysis of Work Order 6022201 unless specified below.

All tissue were frozen upon reciept. The samples were thawed prior to extraction.

Review of the results for 6022201-30 and -31 indicated that the PAH values in these two samples were not in agreement with the other replicates in the set. The tissues were re-estracted and reanalyzed. Re-analysis confirmed that both samples were inadvertantly contaminated with spiking solution during extraction. Only the re-extracts (RE1) were reported.

ERDC -- Vicksburg (EL)	Project: Kennedy-King's Bay	
ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Notes and Definitions

U	Analyte included in the analysis, but not detected
RPD-06	RPD exceeds acceptance limit.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
Q	Value is outside of acceptance limits.
MB-01	The method blank contains analyte at a concentration above the MRL; however, concentration is less than 10% of the sample result, which is negligible according to method criteria.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration.
B	Analyte is found in the associated blank as well as in the sample.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

ERDC -- Vicksburg (EL)	Project: Kennedy-King's Bay	
ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Nereis E-KB-16-RS-A

6022201-01 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.905**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.039**	5.E-6	5.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**3.18**	0.210	0.419	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.210	0.419	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.355**	0.210	0.419	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.17**	0.210	0.419	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.210	0.419	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.304**	0.210	0.419	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**0.732**	0.210	0.419	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**11.0**	0.210	0.419	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	**15.3**	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	
Benzo (a) pyrene	ND	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	**4.94**	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Benzo (g,h,i) perylene	ND	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	**13.7**	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Dibenz (a,h) anthracene	ND	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	**9.76**	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Fluorene	ND	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	**8.30**	4.76	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Surrogate: 2-Fluorobiphenyl	**380**		*63.1 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-RS-A

6022201-01 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**630**		*105 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-RS-B

6022201-02 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**1.24**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.029**	5.E-6	5.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.94**	0.179	0.359	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.179	0.359	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	ND	0.179	0.359	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Copper-63 [1]	**1.12**	0.179	0.359	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.179	0.359	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.189**	0.179	0.359	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**0.635**	0.179	0.359	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**9.72**	0.179	0.359	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	**15.2**	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Benzo (a) pyrene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	**15.0**	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Dibenz (a,h) anthracene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**390**		*60.8 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL)	Project: Kennedy-King's Bay	
ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Nereis E-KB-16-RS-B

6022201-02 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**660**		*103 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL)	Project: Kennedy-King's Bay	
ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Nereis E-KB-16-RS-C

6022201-03 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.931**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.027**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**3.37**	0.197	0.395	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.197	0.395	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.256**	0.197	0.395	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.21**	0.197	0.395	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.197	0.395	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.257**	0.197	0.395	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**0.750**	0.197	0.395	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**11.0**	0.197	0.395	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	**11.7**	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Benzo (a) pyrene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	**9.54**	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Dibenz (a,h) anthracene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**330**		*51.8 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-RS-C

6022201-03 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**330**		*52.9 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-RS-D

6022201-04 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.847**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.032**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.67**	0.168	0.335	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.168	0.335	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.187**	0.168	0.335	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.02**	0.168	0.335	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.168	0.335	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.191**	0.168	0.335	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**1.21**	0.168	0.335	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**32.2**	0.168	0.335	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	**9.89**	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Benzo (a) pyrene	ND	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	**7.65**	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Dibenz (a,h) anthracene	ND	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	**5.37**	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Fluorene	ND	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	4.78	14.9	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**350**		*58.9 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL)	Project: Kennedy-King's Bay	
ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Nereis E-KB-16-RS-D

6022201-04 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**330**		*54.5 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

USACE ERDC-EP-C
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Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL)	Project: Kennedy-King's Bay	
ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Nereis E-KB-16-RS-E

6022201-05 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.835**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.028**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.75**	0.165	0.330	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.165	0.330	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.195**	0.165	0.330	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.10**	0.165	0.330	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.165	0.330	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.212**	0.165	0.330	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**0.739**	0.165	0.330	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**10.7**	0.165	0.330	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	**9.84**	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Benzo (a) pyrene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	**8.35**	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Dibenz (a,h) anthracene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	**9.72**	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Fluorene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	**10.8**	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Pyrene	**7.79**	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Surrogate: 2-Fluorobiphenyl	**380**		*59.8 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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6022201-05 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**530**		*83.3 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-1 A

6022201-06 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.951**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.029**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.57**	0.148	0.296	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.148	0.296	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.187**	0.148	0.296	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.19**	0.148	0.296	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.148	0.296	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.223**	0.148	0.296	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**0.762**	0.148	0.296	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**11.8**	0.148	0.296	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	**8.07**	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Benzo (a) pyrene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	**7.82**	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Dibenz (a,h) anthracene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**390**		*59.5 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-1 A

6022201-06 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**500**		*77.1 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

USACE ERDC-EP-C
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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-1 B

6022201-07 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.737**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.030**	5.E-6	5.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.41**	0.123	0.246	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.123	0.246	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.222**	0.123	0.246	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.13**	0.123	0.246	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.123	0.246	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.224**	0.123	0.246	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**1.06**	0.123	0.246	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**40.8**	0.123	0.246	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	**6.82**	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Benzo (a) pyrene	ND	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	**5.81**	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Dibenz (a,h) anthracene	ND	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	4.65	14.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**340**		*59.2 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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Nereis E-KB-16-1 B

6022201-07 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**320**		*55.6 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-1 C

6022201-08 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.864**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.029**	5.E-6	5.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.42**	0.189	0.378	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.189	0.378	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.235**	0.189	0.378	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.16**	0.189	0.378	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.189	0.378	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.220**	0.189	0.378	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**0.883**	0.189	0.378	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**22.1**	0.189	0.378	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	**6.35**	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Benzo (a) pyrene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	**6.08**	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Dibenz (a,h) anthracene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.06	15.8	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**360**		*57.1 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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Nereis E-KB-16-1 C

6022201-08 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**650**		*103 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-1 D

6022201-09 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.925**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.032**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.57**	0.206	0.412	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.206	0.412	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.218**	0.206	0.412	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.15**	0.206	0.412	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.206	0.412	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.223**	0.206	0.412	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**1.42**	0.206	0.412	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**52.6**	0.206	0.412	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	**5.63**	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	J
Benzo (a) pyrene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	4.71	14.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**330**		*56.1 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-1 D

6022201-09 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**340**		*57.7 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-1 E

6022201-10 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.927**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.032**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.54**	0.174	0.349	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.174	0.349	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.223**	0.174	0.349	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**2.58**	0.174	0.349	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.174	0.349	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.217**	0.174	0.349	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**0.986**	0.174	0.349	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**16.6**	0.174	0.349	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	4.97	15.5	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**360**		*58.5 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-1 E

6022201-10 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**380**		*60.9 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-4 A

6022201-11 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**1.36**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.027**	5.E-6	5.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.60**	0.165	0.330	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.165	0.330	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.280**	0.165	0.330	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.24**	0.165	0.330	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.165	0.330	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.242**	0.165	0.330	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**1.01**	0.165	0.330	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**41.0**	0.165	0.330	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.03	15.7	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**360**		*56.5 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL)	Project: Kennedy-King's Bay	
ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Nereis E-KB-16-4 A

6022201-11 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**380**		*60.8 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-4 B

6022201-12 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**1.08**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.028**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.37**	0.179	0.358	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.179	0.358	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.352**	0.179	0.358	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.11**	0.179	0.358	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.179	0.358	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.260**	0.179	0.358	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**0.667**	0.179	0.358	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**10.1**	0.179	0.358	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.23	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**380**		*57.5 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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Nereis E-KB-16-4 B

6022201-12 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**400**		*60.8 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-4 C

6022201-13 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.947**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.028**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.35**	0.203	0.405	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.203	0.405	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	ND	0.203	0.405	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Copper-63 [1]	**1.11**	0.203	0.405	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.287**	0.203	0.405	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Nickel-62 [1]	ND	0.203	0.405	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Selenium-82 [1]	**0.863**	0.203	0.405	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**41.8**	0.203	0.405	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.21	16.3	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**390**		*60.4 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-4 C

6022201-13 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**560**		*85.9 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-4 D

6022201-14 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.848**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.029**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.30**	0.127	0.255	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.127	0.255	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.191**	0.127	0.255	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.10**	0.127	0.255	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.127	0.255	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.183**	0.127	0.255	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**1.27**	0.127	0.255	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**53.6**	0.127	0.255	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**400**		*61.9 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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Nereis E-KB-16-4 D

6022201-14 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**390**		*60.4 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

USACE ERDC-EP-C
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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-4 E

6022201-15 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.815**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.031**	5.E-6	5.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.56**	0.177	0.355	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.177	0.355	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	ND	0.177	0.355	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Copper-63 [1]	**1.02**	0.177	0.355	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.177	0.355	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.179**	0.177	0.355	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**1.01**	0.177	0.355	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**26.7**	0.177	0.355	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**430**		*65.0 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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Nereis E-KB-16-4 E

6022201-15 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**330**		*50.2 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-5 A

6022201-16 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.975**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.028**	3.E-6	3.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**3.30**	0.168	0.336	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.168	0.336	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.171**	0.168	0.336	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.26**	0.168	0.336	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.168	0.336	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.171**	0.168	0.336	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**0.738**	0.168	0.336	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**28.5**	0.168	0.336	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.19	16.2	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**390**		*60.5 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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Nereis E-KB-16-5 A

6022201-16 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**370**		*56.7 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

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6022201-17 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**1.23**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.029**	5.E-6	5.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**3.10**	0.151	0.302	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.151	0.302	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.219**	0.151	0.302	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.28**	0.151	0.302	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.151	0.302	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.199**	0.151	0.302	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**0.615**	0.151	0.302	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**10.5**	0.151	0.302	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	4.94	15.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**340**		*55.7 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-5 B

6022201-17 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**550**		*89.0 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Nereis E-KB-16-5 C

6022201-18 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.888**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.052**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.67**	0.187	0.374	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.187	0.374	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	ND	0.187	0.374	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Copper-63 [1]	**1.05**	0.187	0.374	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.187	0.374	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	ND	0.187	0.374	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Selenium-82 [1]	**0.578**	0.187	0.374	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**11.8**	0.187	0.374	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**420**		*65.3 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-5 C

6022201-18 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**610**		*95.1 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL)	Project: Kennedy-King's Bay	
ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Nereis E-KB-16-5 D

6022201-19 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**1.19**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.029**	3.E-6	3.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.99**	0.195	0.391	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.195	0.391	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.196**	0.195	0.391	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.16**	0.195	0.391	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.195	0.391	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	ND	0.195	0.391	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Selenium-82 [1]	**1.19**	0.195	0.391	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**37.2**	0.195	0.391	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.00	15.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**340**		*53.8 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL)	Project: Kennedy-King's Bay	
ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Nereis E-KB-16-5 D

6022201-19 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**540**		*87.2 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL)	Project: Kennedy-King's Bay	
ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Nereis E-KB-16-5 E

6022201-20 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**1.09**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.023**	3.E-6	3.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**3.01**	0.156	0.312	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.156	0.312	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.177**	0.156	0.312	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.25**	0.156	0.312	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.156	0.312	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.230**	0.156	0.312	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**0.655**	0.156	0.312	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**11.5**	0.156	0.312	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	4.80	15.0	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**360**		*60.4 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis E-KB-16-5 E

6022201-20 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**540**		*90.5 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis Background A

6022201-21 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**1.39**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.026**	3.E-6	3.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.41**	0.205	0.409	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.205	0.409	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	ND	0.205	0.409	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Copper-63 [1]	**1.38**	0.205	0.409	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.205	0.409	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	ND	0.205	0.409	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Selenium-82 [1]	**0.667**	0.205	0.409	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**11.8**	0.205	0.409	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.30	16.6	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**460**		*69.4 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis Background A

6022201-21 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**400**		*59.9 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis Background B

6022201-22 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**1.35**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.031**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**1.89**	0.148	0.297	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.148	0.297	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.205**	0.148	0.297	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.61**	0.148	0.297	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.148	0.297	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.159**	0.148	0.297	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**0.589**	0.148	0.297	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**10.4**	0.148	0.297	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.25	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**390**		*60.0 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis Background B

6022201-22 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**390**		*59.8 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis Background C

6022201-23 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**1.18**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determinatio n	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.025**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.04**	0.132	0.263	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.132	0.263	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.174**	0.132	0.263	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.52**	0.132	0.263	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.132	0.263	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.149**	0.132	0.263	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**0.580**	0.132	0.263	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**10.8**	0.132	0.263	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.14	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**460**		*71.2 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis Background C

6022201-23 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**560**		*86.4 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis Background D

6022201-24 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.995**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.030**	3.E-6	3.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.42**	0.121	0.242	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.121	0.242	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.254**	0.121	0.242	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Copper-63 [1]	**1.57**	0.121	0.242	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.121	0.242	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.204**	0.121	0.242	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**0.612**	0.121	0.242	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**13.0**	0.121	0.242	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.16	16.1	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**360**		*55.1 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis Background D

6022201-24 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**590**		*91.5 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ERDC -- Vicksburg (EL)	Project: Kennedy-King's Bay	
ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Nereis Background E

6022201-25 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**1.07**			% by Weight	25-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.033**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**2.24**	0.156	0.313	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.156	0.313	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.269**	0.156	0.313	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.43**	0.156	0.313	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	ND	0.156	0.313	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Nickel-62 [1]	**0.206**	0.156	0.313	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Selenium-82 [1]	**0.664**	0.156	0.313	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**11.8**	0.156	0.313	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Anthracene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Chrysene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluoranthene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Fluorene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Naphthalene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Phenanthrene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Pyrene	ND	5.26	16.4	ug/kg	29-Feb-2016	10-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**410**		*62.1 %*	*45-105*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Nereis Background E

6022201-25 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**610**		*93.1 %*	*30-125*	*29-Feb-2016*	*10-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-RS-A

6022201-26 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.769**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determinatio n	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.013**	3.E-6	3.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.73**	0.212	0.424	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.212	0.424	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.268**	0.212	0.424	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**2.61**	0.212	0.424	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.262**	0.212	0.424	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Nickel-62 [1]	**0.468**	0.212	0.424	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.555**	0.212	0.424	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**17.0**	0.212	0.424	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	2.95	8.85	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**400**		*67.4 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-RS-A

6022201-26 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**650**		*110 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-RS-B

6022201-27 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.534**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.014**	3.E-6	3.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**5.11**	0.095	0.191	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.095	0.191	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.370**	0.095	0.191	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Copper-63 [1]	**5.15**	0.095	0.191	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.300**	0.095	0.191	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Nickel-62 [1]	**0.502**	0.095	0.191	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.596**	0.095	0.191	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**20.4**	0.095	0.191	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**400**		*60.2 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-RS-B

6022201-27 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**670**		*102 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-RS-C

6022201-28 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.662**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.009**	2.E-6	2.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.48**	0.123	0.247	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.123	0.247	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.289**	0.123	0.247	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Copper-63 [1]	**2.78**	0.123	0.247	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.211**	0.123	0.247	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Nickel-62 [1]	**0.405**	0.123	0.247	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.545**	0.123	0.247	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**20.6**	0.123	0.247	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	**6.32**	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	J
Fluorene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	**17.5**	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	
Surrogate: 2-Fluorobiphenyl	**460**		*69.9 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-RS-C

6022201-28 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**410**		*62.3 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL)	Project: Kennedy-King's Bay	
ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Macoma E-KB-16-RS-D

6022201-29 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.658**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.012**	3.E-6	3.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.71**	0.098	0.196	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.098	0.196	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.286**	0.098	0.196	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Copper-63 [1]	**2.60**	0.098	0.196	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.203**	0.098	0.196	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Nickel-62 [1]	**0.384**	0.098	0.196	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.548**	0.098	0.196	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**19.2**	0.098	0.196	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.27	9.80	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**410**		*62.4 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-RS-D

6022201-29 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**670**		*102 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-RS-E

6022201-30 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.725**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.012**	3.E-6	3.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.93**	0.146	0.292	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.146	0.292	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.355**	0.146	0.292	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Copper-63 [1]	**2.58**	0.146	0.292	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.230**	0.146	0.292	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Nickel-62 [1]	**0.502**	0.146	0.292	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.610**	0.146	0.292	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**15.3**	0.146	0.292	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B

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Macoma E-KB-16-RS-E

6022201-30RE1 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Anthracene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Chrysene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Fluorene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Pyrene	ND	3.26	9.77	ug/kg	16-Mar-2016	17-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**490**		*75.6 %*	*45-105*	*16-Mar-2016*	*17-Mar-2016*	*EPA 8270C*	
Surrogate: Terphenyl-dl4	**770**		*118 %*	*30-125*	*16-Mar-2016*	*17-Mar-2016*	*EPA 8270C*	

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Macoma E-KB-16-1 A

6022201-31 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.617**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.011**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.36**	0.144	0.288	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.144	0.288	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.267**	0.144	0.288	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**2.79**	0.144	0.288	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.200**	0.144	0.288	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Nickel-62 [1]	**0.387**	0.144	0.288	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.545**	0.144	0.288	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**20.0**	0.144	0.288	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B

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Macoma E-KB-16-1 A

6022201-31RE1 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	U
2-Methylnaphthalene	ND	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	U
Acenaphthene	ND	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	U
Acenaphthylene	ND	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	U
Anthracene	ND	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	U
Benzo (a) anthracene	**5.30**	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	J
Benzo (a) pyrene	ND	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	U
Chrysene	ND	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	U
Fluoranthene	**5.37**	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	J
Fluorene	ND	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	U
Naphthalene	ND	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	U
Phenanthrene	ND	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	U
Pyrene	**5.70**	5.27	16.5	ug/kg	05-Apr-2016	06-Apr-2016	EPA 8270C	J
Surrogate: 2-Fluorobiphenyl	**530**		*81.1 %*	*45-105*	*05-Apr-2016*	*06-Apr-2016*	*EPA 8270C*	
Surrogate: Terphenyl-dl4	**670**		*102 %*	*30-125*	*05-Apr-2016*	*06-Apr-2016*	*EPA 8270C*	

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Macoma E-KB-16-1 B

6022201-32 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.706**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.014**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**3.61**	0.130	0.259	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.130	0.259	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.229**	0.130	0.259	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**3.34**	0.130	0.259	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.260**	0.130	0.259	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Nickel-62 [1]	**0.334**	0.130	0.259	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.473**	0.130	0.259	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**17.5**	0.130	0.259	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	2.99	8.98	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**350**		*58.8 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-1 B

6022201-32 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**560**		*92.9 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-1 C

6022201-33 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.674**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.011**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.25**	0.104	0.209	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.104	0.209	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.275**	0.104	0.209	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Copper-63 [1]	**3.05**	0.104	0.209	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.226**	0.104	0.209	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Nickel-62 [1]	**0.374**	0.104	0.209	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.587**	0.104	0.209	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**20.4**	0.104	0.209	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	**7.45**	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	J
Fluorene	ND	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	**5.85**	3.18	9.55	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	J
Surrogate: 2-Fluorobiphenyl	**400**		*62.7 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-1 C

6022201-33 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**350**		*55.0 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-1 D

6022201-34 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.653**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.011**	3.E-6	3.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.68**	0.120	0.240	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.120	0.240	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.220**	0.120	0.240	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**2.05**	0.120	0.240	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.170**	0.120	0.240	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Nickel-62 [1]	**0.403**	0.120	0.240	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.501**	0.120	0.240	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**17.6**	0.120	0.240	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.01	9.04	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**330**		*54.1 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL)	Project: Kennedy-King's Bay	
ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Macoma E-KB-16-1 D

6022201-34 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**350**		*58.3 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL)	Project: Kennedy-King's Bay	
ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Macoma E-KB-16-1 E

6022201-35 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.533**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.014**	3.E-6	3.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.58**	0.146	0.293	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.146	0.293	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.228**	0.146	0.293	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**5.11**	0.146	0.293	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.304**	0.146	0.293	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Nickel-62 [1]	**0.856**	0.146	0.293	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.593**	0.146	0.293	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**23.2**	0.146	0.293	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.26	9.77	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**400**		*61.0 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-1 E

6022201-35 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**640**		*98.2 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-4 A

6022201-36 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.656**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.011**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.14**	0.087	0.174	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.087	0.174	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.192**	0.087	0.174	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Copper-63 [1]	**2.46**	0.087	0.174	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.162**	0.087	0.174	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Nickel-62 [1]	**0.346**	0.087	0.174	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.450**	0.087	0.174	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**14.6**	0.087	0.174	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.08	9.23	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**410**		*66.3 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-4 A

6022201-36 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**650**		*106 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-4 B

6022201-37 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.650**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.013**	3.E-6	3.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.68**	0.107	0.214	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.107	0.214	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.265**	0.107	0.214	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Copper-63 [1]	**2.55**	0.107	0.214	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.226**	0.107	0.214	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Nickel-62 [1]	**0.343**	0.107	0.214	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.542**	0.107	0.214	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**17.0**	0.107	0.214	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**380**		*63.1 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-4 B

6022201-37 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**330**		*54.9 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-4 C

6022201-38 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.642**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.012**	3.E-6	3.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.28**	0.100	0.199	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.100	0.199	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.280**	0.100	0.199	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Copper-63 [1]	**2.72**	0.100	0.199	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.175**	0.100	0.199	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Nickel-62 [1]	**0.341**	0.100	0.199	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.560**	0.100	0.199	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**19.2**	0.100	0.199	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.09	9.26	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**380**		*60.9 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ERDC -- Vicksburg (EL)	Project: Kennedy-King's Bay	
ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Macoma E-KB-16-4 C

6022201-38 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**340**		*55.8 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-4 D

6022201-39 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.740**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.012**	2.E-6	2.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.18**	0.128	0.256	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.128	0.256	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.267**	0.128	0.256	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Copper-63 [1]	**2.61**	0.128	0.256	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.197**	0.128	0.256	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Nickel-62 [1]	**0.409**	0.128	0.256	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.525**	0.128	0.256	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**14.6**	0.128	0.256	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.32	9.97	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**440**		*65.9 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-4 D

6022201-39 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**400**		*60.3 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-4 E

6022201-40 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.614**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.015**	3.E-6	3.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.69**	0.105	0.211	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.105	0.211	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.443**	0.105	0.211	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Copper-63 [1]	**3.52**	0.105	0.211	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.267**	0.105	0.211	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Nickel-62 [1]	**0.661**	0.105	0.211	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.548**	0.105	0.211	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**19.4**	0.105	0.211	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.04	9.12	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**390**		*64.5 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-4 E

6022201-40 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**510**		*83.5 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-5 A

6022201-41 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.714**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.018**	5.E-6	5.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.71**	0.099	0.197	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.099	0.197	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.432**	0.099	0.197	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Copper-63 [1]	**4.58**	0.099	0.197	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.273**	0.099	0.197	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Nickel-62 [1]	**0.511**	0.099	0.197	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.633**	0.099	0.197	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**22.6**	0.099	0.197	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**450**		*69.5 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ERDC -- Vicksburg (EL)	Project: Kennedy-King's Bay	
ERDC, 3909 Halls Ferry Road		**Reported:**
Vicksburg MS, 39180	Project Manager: Al Kennedy	07-Apr-2016

Macoma E-KB-16-5 A

6022201-41 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**620**		*95.8 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-5 B

6022201-42 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.558**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.011**	2.E-6	2.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.67**	0.091	0.181	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.091	0.181	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.259**	0.091	0.181	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Copper-63 [1]	**1.92**	0.091	0.181	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.190**	0.091	0.181	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Nickel-62 [1]	**0.370**	0.091	0.181	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.521**	0.091	0.181	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**24.4**	0.091	0.181	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.02	9.06	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**360**		*58.9 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-5 B

6022201-42 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**440**		*73.6 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-5 C

6022201-43 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.611**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determinatio n	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.010**	3.E-6	3.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**3.71**	0.092	0.185	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.092	0.185	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.219**	0.092	0.185	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Copper-63 [1]	**3.64**	0.092	0.185	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.300**	0.092	0.185	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Nickel-62 [1]	**0.315**	0.092	0.185	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.544**	0.092	0.185	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**16.4**	0.092	0.185	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	**8.69**	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	J
Benzo (a) pyrene	ND	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	**20.0**	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	
Fluorene	ND	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	**22.0**	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	
Pyrene	**15.9**	3.12	9.38	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	
Surrogate: 2-Fluorobiphenyl	**420**		*67.2 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-5 C

6022201-43 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**660**		*105 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-5 D

6022201-44 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.621**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.012**	3.E-6	3.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.57**	0.164	0.329	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.164	0.329	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.255**	0.164	0.329	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**2.28**	0.164	0.329	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.202**	0.164	0.329	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Nickel-62 [1]	**0.421**	0.164	0.329	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.584**	0.164	0.329	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**19.8**	0.164	0.329	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.11	9.32	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**390**		*62.2 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-5 D

6022201-44 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**350**		*57.0 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-5 E

6022201-45 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.665**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determinatio n	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.014**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.80**	0.109	0.218	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	**0.113**	0.109	0.218	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Chromium-52 [1]	**0.232**	0.109	0.218	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Copper-63 [1]	**2.51**	0.109	0.218	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.289**	0.109	0.218	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Nickel-62 [1]	**0.400**	0.109	0.218	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.527**	0.109	0.218	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**20.0**	0.109	0.218	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.28	9.84	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**420**		*63.9 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma E-KB-16-5 E

6022201-45 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**470**		*72.3 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma Background A

6022201-46 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.915**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determinatio n	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.012**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.64**	0.068	0.136	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.068	0.136	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.159**	0.068	0.136	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Copper-63 [1]	**2.31**	0.068	0.136	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.171**	0.068	0.136	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Nickel-62 [1]	**0.460**	0.068	0.136	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.631**	0.068	0.136	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**17.8**	0.068	0.136	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.17	9.52	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**420**		*65.4 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma Background A

6022201-46 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**540**		*85.3 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma Background B

6022201-47 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.643**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.013**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.41**	0.132	0.265	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.132	0.265	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.253**	0.132	0.265	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**3.30**	0.132	0.265	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.308**	0.132	0.265	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Nickel-62 [1]	**0.459**	0.132	0.265	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.618**	0.132	0.265	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**18.7**	0.132	0.265	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.24	9.71	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**460**		*70.8 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma Background B

6022201-47 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**440**		*68.2 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma Background C

6022201-48 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.740**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determinatio n	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.013**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.62**	0.128	0.257	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.128	0.257	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.153**	0.128	0.257	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**2.40**	0.128	0.257	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.171**	0.128	0.257	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Nickel-62 [1]	**0.467**	0.128	0.257	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.600**	0.128	0.257	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**18.5**	0.128	0.257	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.30	9.90	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**500**		*75.3 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma Background C

6022201-48 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**510**		*77.4 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma Background D

6022201-49 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.763**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.010**	4.E-6	4.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**3.49**	0.137	0.274	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.137	0.274	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.169**	0.137	0.274	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**1.89**	0.137	0.274	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.141**	0.137	0.274	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Nickel-62 [1]	**0.375**	0.137	0.274	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.540**	0.137	0.274	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**17.4**	0.137	0.274	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.29	9.87	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**450**		*67.8 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma Background D

6022201-49 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**500**		*75.8 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma Background E

6022201-50 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
			ERDC-EL-EP-C					
Classical Chemistry Parameters								
% Lipids	**0.734**			% by Weight	29-Feb-2016	14-Mar-2016	Lipid Content by Gravimetric Determination	
Metals by EPA 6000/7000 Series Methods								
Mercury	**0.009**	2.E-6	2.E-6	mg/kg	02-Mar-2016	09-Mar-2016	EPA 7471A	
Silver	ND	0.100	0.500	mg/kg	21-Mar-2016	22-Mar-2016	EPA 7000	
Arsenic-75 [1]	**4.03**	0.130	0.260	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Cadmium-111 [1]	ND	0.130	0.260	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	U
Chromium-52 [1]	**0.145**	0.130	0.260	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Copper-63 [1]	**2.15**	0.130	0.260	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Lead-206 [1]	**0.147**	0.130	0.260	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	J
Nickel-62 [1]	**0.326**	0.130	0.260	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Selenium-82 [1]	**0.634**	0.130	0.260	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	
Zinc-66 [1]	**17.5**	0.130	0.260	mg/kg	08-Mar-2016	10-Mar-2016	SW 846/6020	B
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
1-Methylnaphthalene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
2-Methylnaphthalene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Acenaphthylene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Anthracene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) anthracene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (a) pyrene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (b) fluoranthene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (g,h,i) perylene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Benzo (k) fluoranthene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Chrysene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Dibenz (a,h) anthracene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluoranthene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Fluorene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Naphthalene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Phenanthrene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Pyrene	ND	3.16	9.49	ug/kg	01-Mar-2016	15-Mar-2016	EPA 8270C	U
Surrogate: 2-Fluorobiphenyl	**410**		*65.0 %*	*45-105*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Macoma Background E

6022201-50 (Tissue)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Surrogate: Terphenyl-dl4	**440**		*68.8 %*	*30-125*	*01-Mar-2016*	*15-Mar-2016*	*EPA 8270C*	

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Metals by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603028 - Default Prep Metals											
Blank (B603028-BLK1)					Prepared: 08-Mar-2016 Analyzed: 10-Mar-2016						
Arsenic-75 [1]	ND	0.200	0.400	mg/kg							U
Cadmium-111 [1]	ND	0.200	0.400	mg/kg							U
Chromium-52 [1]	ND	0.200	0.400	mg/kg							U
Copper-63 [1]	ND	0.200	0.400	mg/kg							U
Lead-206 [1]	ND	0.200	0.400	mg/kg							U
Nickel-62 [1]	ND	0.200	0.400	mg/kg							U
Selenium-82 [1]	ND	0.200	0.400	mg/kg							U
Zinc-66 [1]	0.427	0.200	0.400	mg/kg							MB-01
Blank (B603028-BLK2)					Prepared: 08-Mar-2016 Analyzed: 10-Mar-2016						
Arsenic-75 [1]	ND	0.200	0.400	mg/kg							U
Cadmium-111 [1]	ND	0.200	0.400	mg/kg							U
Chromium-52 [1]	ND	0.200	0.400	mg/kg							U
Copper-63 [1]	ND	0.200	0.400	mg/kg							U
Lead-206 [1]	ND	0.200	0.400	mg/kg							U
Nickel-62 [1]	ND	0.200	0.400	mg/kg							U
Selenium-82 [1]	ND	0.200	0.400	mg/kg							U
Zinc-66 [1]	1.01	0.200	0.400	mg/kg							MB-01
Blank (B603028-BLK3)					Prepared: 08-Mar-2016 Analyzed: 10-Mar-2016						
Arsenic-75 [1]	ND	0.200	0.400	mg/kg							U
Cadmium-111 [1]	ND	0.200	0.400	mg/kg							U
Chromium-52 [1]	ND	0.200	0.400	mg/kg							U
Copper-63 [1]	ND	0.200	0.400	mg/kg							U
Lead-206 [1]	ND	0.200	0.400	mg/kg							U
Nickel-62 [1]	ND	0.200	0.400	mg/kg							U
Selenium-82 [1]	ND	0.200	0.400	mg/kg							U
Zinc-66 [1]	0.548	0.200	0.400	mg/kg							MB-01

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Metals by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603028 - Default Prep Metals											
LCS (B603028-BS1)					Prepared: 08-Mar-2016 Analyzed: 10-Mar-2016						
Arsenic-75 [1]	52.4	1.00	2.00	mg/kg	50.00		105	70-130			
Cadmium-111 [1]	53.0	1.00	2.00	mg/kg	50.00		106	70-130			
Chromium-52 [1]	106	1.00	2.00	mg/kg	100.0		106	70-130			
Copper-63 [1]	99.6	1.00	2.00	mg/kg	100.0		99.6	70-130			
Lead-206 [1]	108	1.00	2.00	mg/kg	100.0		108	70-130			
Nickel-62 [1]	103	1.00	2.00	mg/kg	100.0		103	70-130			
Selenium-82 [1]	50.9	1.00	2.00	mg/kg	50.00		102	70-130			
Zinc-66 [1]	204	1.00	2.00	mg/kg	200.0		102	70-130			B
LCS (B603028-BS2)					Prepared: 08-Mar-2016 Analyzed: 10-Mar-2016						
Arsenic-75 [1]	52.2	1.00	2.00	mg/kg	50.00		104	70-130			
Cadmium-111 [1]	53.7	1.00	2.00	mg/kg	50.00		107	70-130			
Chromium-52 [1]	106	1.00	2.00	mg/kg	100.0		106	70-130			
Copper-63 [1]	99.4	1.00	2.00	mg/kg	100.0		99.4	70-130			
Lead-206 [1]	109	1.00	2.00	mg/kg	100.0		109	70-130			
Nickel-62 [1]	102	1.00	2.00	mg/kg	100.0		102	70-130			
Selenium-82 [1]	51.5	1.00	2.00	mg/kg	50.00		103	70-130			
Zinc-66 [1]	207	1.00	2.00	mg/kg	200.0		104	70-130			B
LCS (B603028-BS3)					Prepared: 08-Mar-2016 Analyzed: 10-Mar-2016						
Arsenic-75 [1]	52.2	1.00	2.00	mg/kg	50.00		104	70-130			
Cadmium-111 [1]	53.2	1.00	2.00	mg/kg	50.00		106	70-130			
Chromium-52 [1]	103	1.00	2.00	mg/kg	100.0		103	70-130			
Copper-63 [1]	99.1	1.00	2.00	mg/kg	100.0		99.1	70-130			
Lead-206 [1]	108	1.00	2.00	mg/kg	100.0		108	70-130			
Nickel-62 [1]	100	1.00	2.00	mg/kg	100.0		100	70-130			
Selenium-82 [1]	51.1	1.00	2.00	mg/kg	50.00		102	70-130			
Zinc-66 [1]	204	1.00	2.00	mg/kg	200.0		102	70-130			B

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Metals by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603028 - Default Prep Metals											
Duplicate (B603028-DUP1)		**Source: 6022201-01**			Prepared: 08-Mar-2016 Analyzed: 10-Mar-2016						
Arsenic-75 [1]	3.27	0.185	0.370	mg/kg		3.18			2.85	30	
Cadmium-111 [1]	ND	0.185	0.370	mg/kg		ND				30	U
Chromium-52 [1]	0.295	0.185	0.370	mg/kg		0.355			18.4	30	J
Copper-63 [1]	1.22	0.185	0.370	mg/kg		1.17			4.32	30	
Lead-206 [1]	ND	0.185	0.370	mg/kg		ND				30	U
Nickel-62 [1]	0.263	0.185	0.370	mg/kg		0.304			14.5	30	J
Selenium-82 [1]	0.716	0.185	0.370	mg/kg		0.732			2.13	30	
Zinc-66 [1]	11.1	0.185	0.370	mg/kg		11.0			0.623	30	B
Duplicate (B603028-DUP2)		**Source: 6022201-25**			Prepared: 08-Mar-2016 Analyzed: 10-Mar-2016						
Arsenic-75 [1]	2.20	0.159	0.318	mg/kg		2.24			2.16	30	
Cadmium-111 [1]	ND	0.159	0.318	mg/kg		ND				30	U
Chromium-52 [1]	0.240	0.159	0.318	mg/kg		0.269			11.1	30	J
Copper-63 [1]	1.46	0.159	0.318	mg/kg		1.43			1.80	30	
Lead-206 [1]	ND	0.159	0.318	mg/kg		ND				30	U
Nickel-62 [1]	0.189	0.159	0.318	mg/kg		0.206			8.83	30	J
Selenium-82 [1]	0.667	0.159	0.318	mg/kg		0.664			0.468	30	
Zinc-66 [1]	11.1	0.159	0.318	mg/kg		11.8			6.71	30	B
Duplicate (B603028-DUP3)		**Source: 6022201-50**			Prepared: 08-Mar-2016 Analyzed: 10-Mar-2016						
Arsenic-75 [1]	3.83	0.096	0.193	mg/kg		4.03			5.15	30	
Cadmium-111 [1]	ND	0.096	0.193	mg/kg		ND				30	U
Chromium-52 [1]	0.153	0.096	0.193	mg/kg		0.145			5.84	30	J
Copper-63 [1]	2.06	0.096	0.193	mg/kg		2.15			4.29	30	
Lead-206 [1]	0.154	0.096	0.193	mg/kg		0.147			5.01	30	J
Nickel-62 [1]	0.361	0.096	0.193	mg/kg		0.326			10.3	30	
Selenium-82 [1]	0.555	0.096	0.193	mg/kg		0.634			13.3	30	
Zinc-66 [1]	16.8	0.096	0.193	mg/kg		17.5			3.86	30	B

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Metals by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603028 - Default Prep Metals											
Matrix Spike (B603028-MS1)		**Source: 6022201-01**			Prepared: 08-Mar-2016 Analyzed: 10-Mar-2016						
Arsenic-75 [1]	27.3	0.455	0.911	mg/kg	22.76	3.18	106	70-130			
Cadmium-111 [1]	24.3	0.455	0.911	mg/kg	22.76	ND	107	70-130			
Chromium-52 [1]	47.5	0.455	0.911	mg/kg	45.53	0.355	104	70-130			
Copper-63 [1]	44.8	0.455	0.911	mg/kg	45.53	1.17	95.9	70-130			
Lead-206 [1]	49.7	0.455	0.911	mg/kg	45.53	ND	109	70-130			
Nickel-62 [1]	45.5	0.455	0.911	mg/kg	45.53	0.304	99.9	70-130			
Selenium-82 [1]	27.3	0.455	0.911	mg/kg	22.76	0.732	117	70-130			
Zinc-66 [1]	162	0.455	0.911	mg/kg	91.06	11.0	166	70-130			QM-07, B
Matrix Spike (B603028-MS2)		**Source: 6022201-25**			Prepared: 08-Mar-2016 Analyzed: 10-Mar-2016						
Arsenic-75 [1]	21.3	0.379	0.758	mg/kg	18.94	2.24	100	70-130			
Cadmium-111 [1]	19.2	0.379	0.758	mg/kg	18.94	ND	101	70-130			
Chromium-52 [1]	36.7	0.379	0.758	mg/kg	37.88	0.269	96.9	70-130			
Copper-63 [1]	35.3	0.379	0.758	mg/kg	37.88	1.43	89.4	70-130			
Lead-206 [1]	39.4	0.379	0.758	mg/kg	37.88	ND	104	70-130			
Nickel-62 [1]	35.3	0.379	0.758	mg/kg	37.88	0.206	93.2	70-130			
Selenium-82 [1]	19.5	0.379	0.758	mg/kg	18.94	0.664	99.7	70-130			
Zinc-66 [1]	84.3	0.379	0.758	mg/kg	75.76	11.8	95.7	70-130			B
Matrix Spike (B603028-MS3)		**Source: 6022201-50**			Prepared: 08-Mar-2016 Analyzed: 10-Mar-2016						
Arsenic-75 [1]	18.6	0.269	0.538	mg/kg	13.45	4.03	108	70-130			
Cadmium-111 [1]	14.6	0.269	0.538	mg/kg	13.45	ND	109	70-130			
Chromium-52 [1]	27.5	0.269	0.538	mg/kg	26.89	0.145	102	70-130			
Copper-63 [1]	27.8	0.269	0.538	mg/kg	26.89	2.15	95.2	70-130			
Lead-206 [1]	29.6	0.269	0.538	mg/kg	26.89	0.147	110	70-130			
Nickel-62 [1]	26.6	0.269	0.538	mg/kg	26.89	0.326	97.6	70-130			
Selenium-82 [1]	15.4	0.269	0.538	mg/kg	13.45	0.634	110	70-130			
Zinc-66 [1]	73.6	0.269	0.538	mg/kg	53.79	17.5	104	70-130			B

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Metals by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603033 - Default Prep Metals											
Blank (B603033-BLK1)					Prepared: 02-Mar-2016 Analyzed: 09-Mar-2016						
Mercury	ND	0.00001	0.00001	mg/kg							U
Blank (B603033-BLK2)					Prepared: 02-Mar-2016 Analyzed: 09-Mar-2016						
Mercury	ND	0.00001	0.00001	mg/kg							U
LCS (B603033-BS1)					Prepared: 02-Mar-2016 Analyzed: 09-Mar-2016						
Mercury	0.113	0.00001	0.00001	mg/kg	0.1000		113	75-125			
LCS (B603033-BS2)					Prepared: 02-Mar-2016 Analyzed: 09-Mar-2016						
Mercury	0.100	0.00001	0.00001	mg/kg	0.1000		100	75-125			
Calibration Blank (B603033-CCB1)					Prepared: 02-Mar-2016 Analyzed: 09-Mar-2016						
Mercury	-0.00870	0.00001	0.00001	mg/kg							U
Calibration Blank (B603033-CCB2)					Prepared: 02-Mar-2016 Analyzed: 09-Mar-2016						
Mercury	-0.00610	0.00001	0.00001	mg/kg							U
Calibration Check (B603033-CCV1)					Prepared: 02-Mar-2016 Analyzed: 09-Mar-2016						
Mercury	0.110	0.00001	0.00001	mg/kg	0.1100		100	70-130			
Calibration Check (B603033-CCV2)					Prepared: 02-Mar-2016 Analyzed: 09-Mar-2016						
Mercury	0.114	0.00001	0.00001	mg/kg	0.1100		104	70-130			
Duplicate (B603033-DUP1)		**Source: 6022201-01**			Prepared: 02-Mar-2016 Analyzed: 09-Mar-2016						
Mercury	0.0339	4.E-6	4.E-6	mg/kg		0.0393			14.7	30	
Duplicate (B603033-DUP2)		**Source: 6022201-25**			Prepared: 02-Mar-2016 Analyzed: 09-Mar-2016						
Mercury	0.0318	3.E-6	3.E-6	mg/kg		0.0328			3.02	30	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Metals by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603033 - Default Prep Metals											
Duplicate (B603033-DUP3)		**Source: 6022201-50**			Prepared: 02-Mar-2016 Analyzed: 09-Mar-2016						
Mercury	0.00891	2.E-6	2.E-6	mg/kg		0.00932			4.45	30	
Matrix Spike (B603033-MS1)		**Source: 6022201-01**			Prepared: 02-Mar-2016 Analyzed: 09-Mar-2016						
Mercury	0.0919	4.E-6	4.E-6	mg/kg	0.04343	0.0393	121	75-125			
Matrix Spike (B603033-MS2)		**Source: 6022201-25**			Prepared: 02-Mar-2016 Analyzed: 09-Mar-2016						
Mercury	0.0698	3.E-6	3.E-6	mg/kg	0.03438	0.0328	108	75-125			
Matrix Spike (B603033-MS3)		**Source: 6022201-50**			Prepared: 02-Mar-2016 Analyzed: 09-Mar-2016						
Mercury	0.0241	2.E-6	2.E-6	mg/kg	0.01742	0.00932	85.0	75-125			
Batch B603068 - Default Prep Metals											
Blank (B603068-BLK1)					Prepared: 21-Mar-2016 Analyzed: 22-Mar-2016						
Silver	ND	0.100	0.500	mg/kg							
Blank (B603068-BLK2)					Prepared: 21-Mar-2016 Analyzed: 22-Mar-2016						
Silver	ND	0.100	0.500	mg/kg							
Blank (B603068-BLK3)					Prepared: 21-Mar-2016 Analyzed: 22-Mar-2016						
Silver	ND	0.100	0.500	mg/kg							
LCS (B603068-BS1)					Prepared: 21-Mar-2016 Analyzed: 22-Mar-2016						
Silver	20.8	0.200	1.00	mg/kg	20.00		104	70-130			
LCS (B603068-BS2)					Prepared: 21-Mar-2016 Analyzed: 22-Mar-2016						
Silver	20.4	0.200	1.00	mg/kg	20.00		102	70-130			

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Metals by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603068 - Default Prep Metals											
LCS (B603068-BS3)					Prepared: 21-Mar-2016 Analyzed: 22-Mar-2016						
Silver	20.2	0.200	1.00	mg/kg	20.00		101	70-130			
Duplicate (B603068-DUP1)		**Source: 6022201-01**			Prepared: 21-Mar-2016 Analyzed: 22-Mar-2016						
Silver	ND	0.100	0.500	mg/kg		ND				30	
Duplicate (B603068-DUP2)		**Source: 6022201-25**			Prepared: 21-Mar-2016 Analyzed: 22-Mar-2016						
Silver	ND	0.100	0.500	mg/kg		ND				30	
Duplicate (B603068-DUP3)		**Source: 6022201-50**			Prepared: 21-Mar-2016 Analyzed: 22-Mar-2016						
Silver	ND	0.100	0.500	mg/kg		ND				30	
Matrix Spike (B603068-MS1)		**Source: 6022201-01**			Prepared: 21-Mar-2016 Analyzed: 22-Mar-2016						
Silver	20.0	0.200	1.00	mg/kg	19.18	ND	104	70-130			
Matrix Spike (B603068-MS2)		**Source: 6022201-25**			Prepared: 21-Mar-2016 Analyzed: 22-Mar-2016						
Silver	15.5	0.200	1.00	mg/kg	15.68	ND	98.7	70-130			
Matrix Spike (B603068-MS3)		**Source: 6022201-50**			Prepared: 21-Mar-2016 Analyzed: 22-Mar-2016						
Silver	13.7	0.200	1.00	mg/kg	13.50	ND	101	70-130			

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603015 - Sonication (probe or bath)											
Blank (B603015-BLK1)					Prepared: 29-Feb-2016 Analyzed: 10-Mar-2016						
1-Methylnaphthalene	ND	5.33	16.7	ug/kg							U
2-Methylnaphthalene	ND	5.33	16.7	ug/kg							U
Acenaphthene	ND	5.33	16.7	ug/kg							U
Acenaphthylene	ND	5.33	16.7	ug/kg							U
Anthracene	ND	5.33	16.7	ug/kg							U
Benzo (a) anthracene	14.8	5.33	16.7	ug/kg							J
Benzo (a) pyrene	ND	5.33	16.7	ug/kg							U
Benzo (b) fluoranthene	ND	5.33	16.7	ug/kg							U
Benzo (g,h,i) perylene	ND	5.33	16.7	ug/kg							U
Benzo (k) fluoranthene	ND	5.33	16.7	ug/kg							U
Chrysene	13.9	5.33	16.7	ug/kg							J
Dibenz (a,h) anthracene	ND	5.33	16.7	ug/kg							U
Fluoranthene	ND	5.33	16.7	ug/kg							U
Fluorene	ND	5.33	16.7	ug/kg							U
Indeno (1,2,3-cd) pyrene	ND	5.33	16.7	ug/kg							U
Naphthalene	ND	5.33	16.7	ug/kg							U
Phenanthrene	ND	5.33	16.7	ug/kg							U
Pyrene	7.53	5.33	16.7	ug/kg							J
Surrogate: 2-Fluorobiphenyl	*490*			*ug/kg*	*666.7*		*72.9*	*45-105*			
Surrogate: Terphenyl-dl4	*630*			*ug/kg*	*666.7*		*94.8*	*30-125*			
Blank (B603015-BLK2)					Prepared: 29-Feb-2016 Analyzed: 10-Mar-2016						
1-Methylnaphthalene	ND	5.33	16.7	ug/kg							U
2-Methylnaphthalene	ND	5.33	16.7	ug/kg							U
Acenaphthene	ND	5.33	16.7	ug/kg							U
Acenaphthylene	ND	5.33	16.7	ug/kg							U
Anthracene	ND	5.33	16.7	ug/kg							U
Benzo (a) anthracene	ND	5.33	16.7	ug/kg							U
Benzo (a) pyrene	ND	5.33	16.7	ug/kg							U
Benzo (b) fluoranthene	ND	5.33	16.7	ug/kg							U
Benzo (g,h,i) perylene	ND	5.33	16.7	ug/kg							U
Benzo (k) fluoranthene	ND	5.33	16.7	ug/kg							U
Chrysene	ND	5.33	16.7	ug/kg							U
Dibenz (a,h) anthracene	ND	5.33	16.7	ug/kg							U
Fluoranthene	ND	5.33	16.7	ug/kg							U
Fluorene	ND	5.33	16.7	ug/kg							U
Indeno (1,2,3-cd) pyrene	ND	5.33	16.7	ug/kg							U
Naphthalene	ND	5.33	16.7	ug/kg							U
Phenanthrene	ND	5.33	16.7	ug/kg							U
Pyrene	ND	5.33	16.7	ug/kg							U

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603015 - Sonication (probe or bath)											
Blank (B603015-BLK2)					Prepared: 29-Feb-2016 Analyzed: 10-Mar-2016						
Surrogate: 2-Fluorobiphenyl	*520*			*ug/kg*	*666.7*		*77.7*	*45-105*			
Surrogate: Terphenyl-dl4	*390*			*ug/kg*	*666.7*		*58.3*	*30-125*			
LCS (B603015-BS1)					Prepared: 29-Feb-2016 Analyzed: 10-Mar-2016						
1-Methylnaphthalene	401	5.33	16.7	ug/kg	666.7		60.2	40-105			
2-Methylnaphthalene	429	5.33	16.7	ug/kg	666.7		64.3	40-105			
Acenaphthene	465	5.33	16.7	ug/kg	666.7		69.7	45-110			
Acenaphthylene	454	5.33	16.7	ug/kg	666.7		68.1	45-105			
Anthracene	519	5.33	16.7	ug/kg	666.7		77.9	55-105			
Benzo (a) anthracene	554	5.33	16.7	ug/kg	666.7		83.1	50-120			
Benzo (a) pyrene	531	5.33	16.7	ug/kg	666.7		79.7	50-110			
Benzo (b) fluoranthene	504	5.33	16.7	ug/kg	666.7		75.6	45-115			
Benzo (g,h,i) perylene	551	5.33	16.7	ug/kg	666.7		82.7	40-125			
Benzo (k) fluoranthene	531	5.33	16.7	ug/kg	666.7		79.6	45-125			
Chrysene	555	5.33	16.7	ug/kg	666.7		83.3	55-120			
Dibenz (a,h) anthracene	590	5.33	16.7	ug/kg	666.7		88.5	40-125			
Fluoranthene	603	5.33	16.7	ug/kg	666.7		90.5	55-120			
Fluorene	517	5.33	16.7	ug/kg	666.7		77.5	50-110			
Indeno (1,2,3-cd) pyrene	574	5.33	16.7	ug/kg	666.7		86.1	40-120			
Naphthalene	424	5.33	16.7	ug/kg	666.7		63.6	40-105			
Phenanthrene	421	5.33	16.7	ug/kg	666.7		63.2	50-110			
Pyrene	527	5.33	16.7	ug/kg	666.7		79.1	45-125			
Surrogate: 2-Fluorobiphenyl	*470*			*ug/kg*	*666.7*		*70.2*	*45-105*			
Surrogate: Terphenyl-dl4	*640*			*ug/kg*	*666.7*		*96.7*	*30-125*			
LCS (B603015-BS2)					Prepared: 29-Feb-2016 Analyzed: 10-Mar-2016						
1-Methylnaphthalene	390	5.33	16.7	ug/kg	666.7		58.5	40-105			
2-Methylnaphthalene	419	5.33	16.7	ug/kg	666.7		62.9	40-105			
Acenaphthene	487	5.33	16.7	ug/kg	666.7		73.0	45-110			
Acenaphthylene	449	5.33	16.7	ug/kg	666.7		67.3	45-105			
Anthracene	531	5.33	16.7	ug/kg	666.7		79.6	55-105			
Benzo (a) anthracene	545	5.33	16.7	ug/kg	666.7		81.8	50-120			
Benzo (a) pyrene	535	5.33	16.7	ug/kg	666.7		80.2	50-110			
Benzo (b) fluoranthene	512	5.33	16.7	ug/kg	666.7		76.8	45-115			
Benzo (g,h,i) perylene	517	5.33	16.7	ug/kg	666.7		77.6	40-125			
Benzo (k) fluoranthene	551	5.33	16.7	ug/kg	666.7		82.7	45-125			
Chrysene	553	5.33	16.7	ug/kg	666.7		82.9	55-120			
Dibenz (a,h) anthracene	564	5.33	16.7	ug/kg	666.7		84.6	40-125			
Fluoranthene	599	5.33	16.7	ug/kg	666.7		89.9	55-120			
Fluorene	528	5.33	16.7	ug/kg	666.7		79.2	50-110			
Indeno (1,2,3-cd) pyrene	550	5.33	16.7	ug/kg	666.7		82.5	40-120			

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603015 - Sonication (probe or bath)											
LCS (B603015-BS2)					Prepared: 29-Feb-2016 Analyzed: 10-Mar-2016						
Naphthalene	424	5.33	16.7	ug/kg	666.7		63.6	40-105			
Phenanthrene	450	5.33	16.7	ug/kg	666.7		67.5	50-110			
Pyrene	535	5.33	16.7	ug/kg	666.7		80.2	45-125			
Surrogate: 2-Fluorobiphenyl	*470*			*ug/kg*	*666.7*		*70.2*	*45-105*			
Surrogate: Terphenyl-dl4	*710*			*ug/kg*	*666.7*		*106*	*30-125*			
Matrix Spike (B603015-MS1)		**Source: 6022201-01**			Prepared: 29-Feb-2016 Analyzed: 10-Mar-2016						
1-Methylnaphthalene	807	14.3	44.6	ug/kg	1786	ND	45.2	40-105			
2-Methylnaphthalene	839	14.3	44.6	ug/kg	1786	ND	47.0	40-105			
Acenaphthene	1040	14.3	44.6	ug/kg	1786	ND	58.0	45-110			
Acenaphthylene	968	14.3	44.6	ug/kg	1786	ND	54.2	45-105			
Anthracene	1200	14.3	44.6	ug/kg	1786	ND	67.4	55-105			
Benzo (a) anthracene	1070	14.3	44.6	ug/kg	1786	15.3	58.9	50-120			
Benzo (a) pyrene	1040	14.3	44.6	ug/kg	1786	ND	58.2	50-110			
Benzo (b) fluoranthene	1020	14.3	44.6	ug/kg	1786	4.94	57.0	45-115			
Benzo (g,h,i) perylene	966	14.3	44.6	ug/kg	1786	ND	54.1	40-125			
Benzo (k) fluoranthene	986	14.3	44.6	ug/kg	1786	ND	55.2	45-125			
Chrysene	1070	14.3	44.6	ug/kg	1786	13.7	60.0	55-120			
Dibenz (a,h) anthracene	982	14.3	44.6	ug/kg	1786	ND	55.0	40-125			
Fluoranthene	1450	14.3	44.6	ug/kg	1786	9.76	81.1	55-120			
Fluorene	1400	14.3	44.6	ug/kg	1786	ND	78.5	50-110			
Indeno (1,2,3-cd) pyrene	1010	14.3	44.6	ug/kg	1786	ND	56.7	40-120			
Naphthalene	875	14.3	44.6	ug/kg	1786	ND	49.0	40-105			
Phenanthrene	1210	14.3	44.6	ug/kg	1786	ND	67.6	50-110			
Pyrene	1480	14.3	44.6	ug/kg	1786	8.30	83.0	45-125			
Surrogate: 2-Fluorobiphenyl	*1000*			*ug/kg*	*1786*		*57.0*	*45-105*			
Surrogate: Terphenyl-dl4	*1200*			*ug/kg*	*1786*		*65.5*	*30-125*			

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603015 - Sonication (probe or bath)											
Matrix Spike (B603015-MS2)		**Source: 6022201-21**			Prepared: 29-Feb-2016 Analyzed: 10-Mar-2016						
1-Methylnaphthalene	814	12.5	39.1	ug/kg	1562	ND	52.1	40-105			
2-Methylnaphthalene	869	12.5	39.1	ug/kg	1562	ND	55.6	40-105			
Acenaphthene	1080	12.5	39.1	ug/kg	1562	ND	69.4	45-110			
Acenaphthylene	991	12.5	39.1	ug/kg	1562	ND	63.4	45-105			
Anthracene	1100	12.5	39.1	ug/kg	1562	ND	70.7	55-105			
Benzo (a) anthracene	1160	12.5	39.1	ug/kg	1562	ND	74.3	50-120			
Benzo (a) pyrene	1120	12.5	39.1	ug/kg	1562	ND	71.7	50-110			
Benzo (b) fluoranthene	1210	12.5	39.1	ug/kg	1562	ND	77.5	45-115			
Benzo (g,h,i) perylene	1120	12.5	39.1	ug/kg	1562	ND	71.4	40-125			
Benzo (k) fluoranthene	1120	12.5	39.1	ug/kg	1562	ND	71.7	45-125			
Chrysene	1150	12.5	39.1	ug/kg	1562	ND	73.5	55-120			
Dibenz (a,h) anthracene	1230	12.5	39.1	ug/kg	1562	ND	78.7	40-125			
Fluoranthene	1380	12.5	39.1	ug/kg	1562	ND	88.1	55-120			
Fluorene	1130	12.5	39.1	ug/kg	1562	ND	72.5	50-110			
Indeno (1,2,3-cd) pyrene	1200	12.5	39.1	ug/kg	1562	ND	76.8	40-120			
Naphthalene	867	12.5	39.1	ug/kg	1562	ND	55.5	40-105			
Phenanthrene	1480	12.5	39.1	ug/kg	1562	ND	94.8	50-110			
Pyrene	1120	12.5	39.1	ug/kg	1562	ND	71.8	45-125			
Surrogate: 2-Fluorobiphenyl	*1000*			*ug/kg*	*1562*		*66.0*	*45-105*			
Surrogate: Terphenyl-dl4	*1500*			*ug/kg*	*1562*		*93.5*	*30-125*			
Matrix Spike Dup (B603015-MSD1)		**Source: 6022201-01**			Prepared: 29-Feb-2016 Analyzed: 10-Mar-2016						
1-Methylnaphthalene	909	14.0	43.9	ug/kg	1754	ND	51.8	40-105	11.8	30	
2-Methylnaphthalene	954	14.0	43.9	ug/kg	1754	ND	54.4	40-105	12.8	30	
Acenaphthene	1170	14.0	43.9	ug/kg	1754	ND	66.5	45-110	11.9	30	
Acenaphthylene	1050	14.0	43.9	ug/kg	1754	ND	60.1	45-105	8.56	30	
Anthracene	1090	14.0	43.9	ug/kg	1754	ND	62.1	55-105	9.95	30	
Benzo (a) anthracene	1270	14.0	43.9	ug/kg	1754	15.3	71.5	50-120	17.3	30	
Benzo (a) pyrene	1240	14.0	43.9	ug/kg	1754	ND	70.6	50-110	17.5	30	
Benzo (b) fluoranthene	1260	14.0	43.9	ug/kg	1754	4.94	71.8	45-115	21.2	30	
Benzo (g,h,i) perylene	1180	14.0	43.9	ug/kg	1754	ND	67.4	40-125	20.1	30	
Benzo (k) fluoranthene	1260	14.0	43.9	ug/kg	1754	ND	72.1	45-125	24.8	30	
Chrysene	1290	14.0	43.9	ug/kg	1754	13.7	73.3	55-120	18.2	30	
Dibenz (a,h) anthracene	1320	14.0	43.9	ug/kg	1754	ND	75.1	40-125	29.2	30	
Fluoranthene	1720	14.0	43.9	ug/kg	1754	9.76	98.1	55-120	17.2	30	
Fluorene	1180	14.0	43.9	ug/kg	1754	ND	67.3	50-110	17.1	30	
Indeno (1,2,3-cd) pyrene	1280	14.0	43.9	ug/kg	1754	ND	72.7	40-120	23.0	30	
Naphthalene	963	14.0	43.9	ug/kg	1754	ND	54.9	40-105	9.59	30	
Phenanthrene	1080	14.0	43.9	ug/kg	1754	ND	61.4	50-110	11.4	30	
Pyrene	1150	14.0	43.9	ug/kg	1754	8.30	65.8	45-125	24.9	30	

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603015 - Sonication (probe or bath)											
Matrix Spike Dup (B603015-MSD1)		**Source: 6022201-01**			Prepared: 29-Feb-2016 Analyzed: 10-Mar-2016						
Surrogate: 2-Fluorobiphenyl	*1100*			*ug/kg*	*1754*		*61.8*	*45-105*			
Surrogate: Terphenyl-dl4	*880*			*ug/kg*	*1754*		*50.4*	*30-125*			
Matrix Spike Dup (B603015-MSD2)		**Source: 6022201-21**			Prepared: 29-Feb-2016 Analyzed: 10-Mar-2016						
1-Methylnaphthalene	936	13.2	41.3	ug/kg	1653	ND	56.6	40-105	13.9	30	
2-Methylnaphthalene	831	13.2	41.3	ug/kg	1653	ND	50.3	40-105	4.39	30	
Acenaphthene	1090	13.2	41.3	ug/kg	1653	ND	65.8	45-110	0.297	30	
Acenaphthylene	988	13.2	41.3	ug/kg	1653	ND	59.8	45-105	0.222	30	
Anthracene	957	13.2	41.3	ug/kg	1653	ND	57.9	55-105	14.3	30	
Benzo (a) anthracene	1220	13.2	41.3	ug/kg	1653	ND	74.0	50-120	5.22	30	
Benzo (a) pyrene	1200	13.2	41.3	ug/kg	1653	ND	72.3	50-110	6.45	30	
Benzo (b) fluoranthene	1120	13.2	41.3	ug/kg	1653	ND	68.0	45-115	7.45	30	
Benzo (g,h,i) perylene	1110	13.2	41.3	ug/kg	1653	ND	67.3	40-125	0.290	30	
Benzo (k) fluoranthene	1150	13.2	41.3	ug/kg	1653	ND	69.3	45-125	2.22	30	
Chrysene	1200	13.2	41.3	ug/kg	1653	ND	72.5	55-120	4.25	30	
Dibenz (a,h) anthracene	1240	13.2	41.3	ug/kg	1653	ND	75.1	40-125	0.942	30	
Fluoranthene	1140	13.2	41.3	ug/kg	1653	ND	68.9	55-120	18.9	30	
Fluorene	1080	13.2	41.3	ug/kg	1653	ND	65.4	50-110	4.68	30	
Indeno (1,2,3-cd) pyrene	1200	13.2	41.3	ug/kg	1653	ND	72.5	40-120	0.138	30	
Naphthalene	841	13.2	41.3	ug/kg	1653	ND	50.9	40-105	3.03	30	
Phenanthrene	1470	13.2	41.3	ug/kg	1653	ND	88.7	50-110	1.03	30	
Pyrene	1030	13.2	41.3	ug/kg	1653	ND	62.5	45-125	8.24	30	
Surrogate: 2-Fluorobiphenyl	*1000*			*ug/kg*	*1653*		*60.9*	*45-105*			
Surrogate: Terphenyl-dl4	*1000*			*ug/kg*	*1653*		*62.7*	*30-125*			
Batch B603016 - Sonication (probe or bath)											
Blank (B603016-BLK1)					Prepared: 01-Mar-2016 Analyzed: 15-Mar-2016						
1-Methylnaphthalene	ND	3.33	10.0	ug/kg							U
2-Methylnaphthalene	ND	3.33	10.0	ug/kg							U
Acenaphthene	ND	3.33	10.0	ug/kg							U
Acenaphthylene	ND	3.33	10.0	ug/kg							U
Anthracene	ND	3.33	10.0	ug/kg							U
Benzo (a) anthracene	ND	3.33	10.0	ug/kg							U
Benzo (a) pyrene	ND	3.33	10.0	ug/kg							U
Benzo (b) fluoranthene	ND	3.33	10.0	ug/kg							U
Benzo (g,h,i) perylene	ND	3.33	10.0	ug/kg							U
Benzo (k) fluoranthene	ND	3.33	10.0	ug/kg							U
Chrysene	ND	3.33	10.0	ug/kg							U
Dibenz (a,h) anthracene	ND	3.33	10.0	ug/kg							U
Fluoranthene	ND	3.33	10.0	ug/kg							U

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603016 - Sonication (probe or bath)											
Blank (B603016-BLK1)					Prepared: 01-Mar-2016 Analyzed: 15-Mar-2016						
Fluorene	ND	3.33	10.0	ug/kg							U
Indeno (1,2,3-cd) pyrene	ND	3.33	10.0	ug/kg							U
Naphthalene	ND	3.33	10.0	ug/kg							U
Phenanthrene	ND	3.33	10.0	ug/kg							U
Pyrene	ND	3.33	10.0	ug/kg							U
Surrogate: 2-Fluorobiphenyl	*530*			*ug/kg*	*666.7*		*79.5*	*45-105*			
Surrogate: Terphenyl-dl4	*650*			*ug/kg*	*666.7*		*97.9*	*30-125*			
Blank (B603016-BLK2)					Prepared: 01-Mar-2016 Analyzed: 15-Mar-2016						
1-Methylnaphthalene	ND	3.33	10.0	ug/kg							U
2-Methylnaphthalene	ND	3.33	10.0	ug/kg							U
Acenaphthene	ND	3.33	10.0	ug/kg							U
Acenaphthylene	ND	3.33	10.0	ug/kg							U
Anthracene	ND	3.33	10.0	ug/kg							U
Benzo (a) anthracene	ND	3.33	10.0	ug/kg							U
Benzo (a) pyrene	ND	3.33	10.0	ug/kg							U
Benzo (b) fluoranthene	ND	3.33	10.0	ug/kg							U
Benzo (g,h,i) perylene	ND	3.33	10.0	ug/kg							U
Benzo (k) fluoranthene	ND	3.33	10.0	ug/kg							U
Chrysene	ND	3.33	10.0	ug/kg							U
Dibenz (a,h) anthracene	ND	3.33	10.0	ug/kg							U
Fluoranthene	ND	3.33	10.0	ug/kg							U
Fluorene	ND	3.33	10.0	ug/kg							U
Indeno (1,2,3-cd) pyrene	ND	3.33	10.0	ug/kg							U
Naphthalene	ND	3.33	10.0	ug/kg							U
Phenanthrene	ND	3.33	10.0	ug/kg							U
Pyrene	ND	3.33	10.0	ug/kg							U
Surrogate: 2-Fluorobiphenyl	*490*			*ug/kg*	*666.7*		*73.0*	*45-105*			
Surrogate: Terphenyl-dl4	*610*			*ug/kg*	*666.7*		*91.2*	*30-125*			

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603016 - Sonication (probe or bath)											
LCS (B603016-BS1)					Prepared: 01-Mar-2016 Analyzed: 15-Mar-2016						
1-Methylnaphthalene	403	3.33	10.0	ug/kg	666.7		60.4	40-105			
2-Methylnaphthalene	404	3.33	10.0	ug/kg	666.7		60.6	40-105			
Acenaphthene	453	3.33	10.0	ug/kg	666.7		67.9	45-110			
Acenaphthylene	452	3.33	10.0	ug/kg	666.7		67.8	45-105			
Anthracene	441	3.33	10.0	ug/kg	666.7		66.1	55-105			
Benzo (a) anthracene	607	3.33	10.0	ug/kg	666.7		91.0	50-120			
Benzo (a) pyrene	479	3.33	10.0	ug/kg	666.7		71.8	50-110			
Benzo (b) fluoranthene	539	3.33	10.0	ug/kg	666.7		80.8	45-115			
Benzo (g,h,i) perylene	554	3.33	10.0	ug/kg	666.7		83.1	40-125			
Benzo (k) fluoranthene	500	3.33	10.0	ug/kg	666.7		75.0	45-125			
Chrysene	537	3.33	10.0	ug/kg	666.7		80.6	55-120			
Dibenz (a,h) anthracene	611	3.33	10.0	ug/kg	666.7		91.6	40-125			
Fluoranthene	531	3.33	10.0	ug/kg	666.7		79.6	55-120			
Fluorene	434	3.33	10.0	ug/kg	666.7		65.1	50-110			
Indeno (1,2,3-cd) pyrene	561	3.33	10.0	ug/kg	666.7		84.1	40-120			
Naphthalene	431	3.33	10.0	ug/kg	666.7		64.7	40-105			
Phenanthrene	447	3.33	10.0	ug/kg	666.7		67.1	50-110			
Pyrene	575	3.33	10.0	ug/kg	666.7		86.3	45-125			
Surrogate: 2-Fluorobiphenyl	*500*			*ug/kg*	*666.7*		*75.4*	*45-105*			
Surrogate: Terphenyl-dl4	*450*			*ug/kg*	*666.7*		*66.9*	*30-125*			
LCS (B603016-BS2)					Prepared: 01-Mar-2016 Analyzed: 15-Mar-2016						
1-Methylnaphthalene	455	3.33	10.0	ug/kg	666.7		68.2	40-105			
2-Methylnaphthalene	483	3.33	10.0	ug/kg	666.7		72.5	40-105			
Acenaphthene	527	3.33	10.0	ug/kg	666.7		79.1	45-110			
Acenaphthylene	515	3.33	10.0	ug/kg	666.7		77.3	45-105			
Anthracene	647	3.33	10.0	ug/kg	666.7		97.0	55-105			
Benzo (a) anthracene	685	3.33	10.0	ug/kg	666.7		103	50-120			
Benzo (a) pyrene	605	3.33	10.0	ug/kg	666.7		90.8	50-110			
Benzo (b) fluoranthene	633	3.33	10.0	ug/kg	666.7		95.0	45-115			
Benzo (g,h,i) perylene	638	3.33	10.0	ug/kg	666.7		95.7	40-125			
Benzo (k) fluoranthene	577	3.33	10.0	ug/kg	666.7		86.5	45-125			
Chrysene	601	3.33	10.0	ug/kg	666.7		90.1	55-120			
Dibenz (a,h) anthracene	704	3.33	10.0	ug/kg	666.7		106	40-125			
Fluoranthene	755	3.33	10.0	ug/kg	666.7		113	55-120			
Fluorene	463	3.33	10.0	ug/kg	666.7		69.5	50-110			
Indeno (1,2,3-cd) pyrene	661	3.33	10.0	ug/kg	666.7		99.1	40-120			
Naphthalene	489	3.33	10.0	ug/kg	666.7		73.4	40-105			
Phenanthrene	510	3.33	10.0	ug/kg	666.7		76.5	50-110			
Pyrene	701	3.33	10.0	ug/kg	666.7		105	45-125			

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603016 - Sonication (probe or bath)											
LCS (B603016-BS2)					Prepared: 01-Mar-2016 Analyzed: 15-Mar-2016						
Surrogate: 2-Fluorobiphenyl	*550*			*ug/kg*	*666.7*		*81.8*	*45-105*			
Surrogate: Terphenyl-dl4	*590*			*ug/kg*	*666.7*		*88.9*	*30-125*			
Matrix Spike (B603016-MS1)		**Source: 6022201-26**			Prepared: 01-Mar-2016 Analyzed: 15-Mar-2016						
1-Methylnaphthalene	1230	8.40	25.2	ug/kg	1681	ND	73.4	40-105			
2-Methylnaphthalene	1300	8.40	25.2	ug/kg	1681	ND	77.6	40-105			
Acenaphthene	1280	8.40	25.2	ug/kg	1681	ND	76.2	45-110			
Acenaphthylene	1330	8.40	25.2	ug/kg	1681	ND	79.0	45-105			
Anthracene	1150	8.40	25.2	ug/kg	1681	ND	68.5	55-105			
Benzo (a) anthracene	1950	8.40	25.2	ug/kg	1681	ND	116	50-120			
Benzo (a) pyrene	1480	8.40	25.2	ug/kg	1681	ND	87.8	50-110			
Benzo (b) fluoranthene	1430	8.40	25.2	ug/kg	1681	ND	85.1	45-115			
Benzo (g,h,i) perylene	1530	8.40	25.2	ug/kg	1681	ND	90.8	40-125			
Benzo (k) fluoranthene	1380	8.40	25.2	ug/kg	1681	ND	81.9	45-125			
Chrysene	1480	8.40	25.2	ug/kg	1681	ND	88.1	55-120			
Dibenz (a,h) anthracene	1750	8.40	25.2	ug/kg	1681	ND	104	40-125			
Fluoranthene	1370	8.40	25.2	ug/kg	1681	ND	81.4	55-120			
Fluorene	1240	8.40	25.2	ug/kg	1681	ND	73.7	50-110			
Indeno (1,2,3-cd) pyrene	1650	8.40	25.2	ug/kg	1681	ND	97.9	40-120			
Naphthalene	1110	8.40	25.2	ug/kg	1681	ND	66.1	40-105			
Phenanthrene	1160	8.40	25.2	ug/kg	1681	ND	68.9	50-110			
Pyrene	1730	8.40	25.2	ug/kg	1681	ND	103	45-125			
Surrogate: 2-Fluorobiphenyl	*1200*			*ug/kg*	*1681*		*74.2*	*45-105*			
Surrogate: Terphenyl-dl4	*1200*			*ug/kg*	*1681*		*73.2*	*30-125*			
Matrix Spike (B603016-MS2)		**Source: 6022201-46**			Prepared: 01-Mar-2016 Analyzed: 15-Mar-2016						
1-Methylnaphthalene	1210	8.40	25.2	ug/kg	1681	ND	72.1	40-105			
2-Methylnaphthalene	1280	8.40	25.2	ug/kg	1681	ND	75.9	40-105			
Acenaphthene	1290	8.40	25.2	ug/kg	1681	ND	76.6	45-110			
Acenaphthylene	1310	8.40	25.2	ug/kg	1681	ND	78.1	45-105			
Anthracene	1550	8.40	25.2	ug/kg	1681	ND	92.0	55-105			
Benzo (a) anthracene	1870	8.40	25.2	ug/kg	1681	ND	111	50-120			
Benzo (a) pyrene	1480	8.40	25.2	ug/kg	1681	ND	88.0	50-110			
Benzo (b) fluoranthene	1450	8.40	25.2	ug/kg	1681	ND	86.3	45-115			
Benzo (g,h,i) perylene	1660	8.40	25.2	ug/kg	1681	ND	98.7	40-125			
Benzo (k) fluoranthene	1480	8.40	25.2	ug/kg	1681	ND	88.2	45-125			
Chrysene	1570	8.40	25.2	ug/kg	1681	ND	93.2	55-120			
Dibenz (a,h) anthracene	1760	8.40	25.2	ug/kg	1681	ND	105	40-125			
Fluoranthene	2100	8.40	25.2	ug/kg	1681	ND	125	55-120			Q
Fluorene	1300	8.40	25.2	ug/kg	1681	ND	77.6	50-110			
Indeno (1,2,3-cd) pyrene	1590	8.40	25.2	ug/kg	1681	ND	94.8	40-120			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603016 - Sonication (probe or bath)											
Matrix Spike (B603016-MS2)		**Source: 6022201-46**			Prepared: 01-Mar-2016 Analyzed: 15-Mar-2016						
Naphthalene	1090	8.40	25.2	ug/kg	1681	ND	64.8	40-105			
Phenanthrene	1190	8.40	25.2	ug/kg	1681	ND	71.0	50-110			
Pyrene	1860	8.40	25.2	ug/kg	1681	ND	111	45-125			
Surrogate: 2-Fluorobiphenyl	*1300*			*ug/kg*	*1681*		*75.8*	*45-105*			
Surrogate: Terphenyl-dl4	*1300*			*ug/kg*	*1681*		*77.4*	*30-125*			
Matrix Spike Dup (B603016-MSD1)		**Source: 6022201-26**			Prepared: 01-Mar-2016 Analyzed: 15-Mar-2016						
1-Methylnaphthalene	1310	9.09	27.3	ug/kg	1818	ND	72.0	40-105	5.94	30	
2-Methylnaphthalene	1340	9.09	27.3	ug/kg	1818	ND	73.8	40-105	2.84	30	
Acenaphthene	1350	9.09	27.3	ug/kg	1818	ND	74.4	45-110	5.47	30	
Acenaphthylene	1390	9.09	27.3	ug/kg	1818	ND	76.7	45-105	4.91	30	
Anthracene	1460	9.09	27.3	ug/kg	1818	ND	80.5	55-105	23.9	30	
Benzo (a) anthracene	1990	9.09	27.3	ug/kg	1818	ND	109	50-120	1.66	30	
Benzo (a) pyrene	1600	9.09	27.3	ug/kg	1818	ND	88.1	50-110	8.20	30	
Benzo (b) fluoranthene	1490	9.09	27.3	ug/kg	1818	ND	81.9	45-115	4.03	30	
Benzo (g,h,i) perylene	1650	9.09	27.3	ug/kg	1818	ND	90.9	40-125	7.97	30	
Benzo (k) fluoranthene	1550	9.09	27.3	ug/kg	1818	ND	85.1	45-125	11.7	30	
Chrysene	1600	9.09	27.3	ug/kg	1818	ND	88.0	55-120	7.75	30	
Dibenz (a,h) anthracene	1870	9.09	27.3	ug/kg	1818	ND	103	40-125	6.41	30	
Fluoranthene	1350	9.09	27.3	ug/kg	1818	ND	74.5	55-120	0.993	30	
Fluorene	1540	9.09	27.3	ug/kg	1818	ND	84.8	50-110	21.8	30	
Indeno (1,2,3-cd) pyrene	1730	9.09	27.3	ug/kg	1818	ND	95.1	40-120	4.96	30	
Naphthalene	1170	9.09	27.3	ug/kg	1818	ND	64.6	40-105	5.57	30	
Phenanthrene	1250	9.09	27.3	ug/kg	1818	ND	68.6	50-110	7.42	30	
Pyrene	1410	9.09	27.3	ug/kg	1818	ND	77.8	45-125	19.9	30	
Surrogate: 2-Fluorobiphenyl	*1300*			*ug/kg*	*1818*		*73.7*	*45-105*			
Surrogate: Terphenyl-dl4	*1200*			*ug/kg*	*1818*		*67.8*	*30-125*			

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603016 - Sonication (probe or bath)											
Matrix Spike Dup (B603016-MSD2)		**Source: 6022201-46**			Prepared: 01-Mar-2016 Analyzed: 15-Mar-2016						
1-Methylnaphthalene	1210	8.26	24.8	ug/kg	1653	ND	73.5	40-105	0.256	30	
2-Methylnaphthalene	1360	8.26	24.8	ug/kg	1653	ND	82.3	40-105	6.43	30	
Acenaphthene	1100	8.26	24.8	ug/kg	1653	ND	66.3	45-110	16.1	30	
Acenaphthylene	1190	8.26	24.8	ug/kg	1653	ND	72.2	45-105	9.51	30	
Anthracene	1630	8.26	24.8	ug/kg	1653	ND	98.9	55-105	5.56	30	
Benzo (a) anthracene	1630	8.26	24.8	ug/kg	1653	ND	98.5	50-120	14.0	30	
Benzo (a) pyrene	1370	8.26	24.8	ug/kg	1653	ND	83.1	50-110	7.39	30	
Benzo (b) fluoranthene	1430	8.26	24.8	ug/kg	1653	ND	86.3	45-115	1.67	30	
Benzo (g,h,i) perylene	1520	8.26	24.8	ug/kg	1653	ND	91.9	40-125	8.80	30	
Benzo (k) fluoranthene	1510	8.26	24.8	ug/kg	1653	ND	91.2	45-125	1.68	30	
Chrysene	1360	8.26	24.8	ug/kg	1653	ND	82.3	55-120	14.1	30	
Dibenz (a,h) anthracene	1620	8.26	24.8	ug/kg	1653	ND	98.2	40-125	8.17	30	
Fluoranthene	1850	8.26	24.8	ug/kg	1653	ND	112	55-120	12.7	30	
Fluorene	1470	8.26	24.8	ug/kg	1653	ND	89.1	50-110	12.1	30	
Indeno (1,2,3-cd) pyrene	1390	8.26	24.8	ug/kg	1653	ND	84.3	40-120	13.4	30	
Naphthalene	1060	8.26	24.8	ug/kg	1653	ND	64.1	40-105	2.75	30	
Phenanthrene	1520	8.26	24.8	ug/kg	1653	ND	92.1	50-110	24.2	30	
Pyrene	1180	8.26	24.8	ug/kg	1653	ND	71.6	45-125	44.4	30	RPD-06
Surrogate: 2-Fluorobiphenyl	*1100*			*ug/kg*	*1653*		*67.8*	*45-105*			
Surrogate: Terphenyl-dl4	*1700*			*ug/kg*	*1653*		*102*	*30-125*			
Batch B603055 - Sonication (probe or bath)											
Blank (B603055-BLK1)					Prepared: 16-Mar-2016 Analyzed: 17-Mar-2016						
1-Methylnaphthalene	ND	3.33	10.0	ug/kg							U
2-Methylnaphthalene	ND	3.33	10.0	ug/kg							U
Acenaphthene	ND	3.33	10.0	ug/kg							U
Acenaphthylene	ND	3.33	10.0	ug/kg							U
Anthracene	ND	3.33	10.0	ug/kg							U
Benzo (a) anthracene	ND	3.33	10.0	ug/kg							U
Benzo (a) pyrene	ND	3.33	10.0	ug/kg							U
Benzo (b) fluoranthene	ND	3.33	10.0	ug/kg							U
Benzo (g,h,i) perylene	ND	3.33	10.0	ug/kg							U
Benzo (k) fluoranthene	ND	3.33	10.0	ug/kg							U
Chrysene	ND	3.33	10.0	ug/kg							U
Dibenz (a,h) anthracene	ND	3.33	10.0	ug/kg							U
Fluoranthene	ND	3.33	10.0	ug/kg							U
Fluorene	ND	3.33	10.0	ug/kg							U
Indeno (1,2,3-cd) pyrene	ND	3.33	10.0	ug/kg							U
Naphthalene	ND	3.33	10.0	ug/kg							U
Phenanthrene	ND	3.33	10.0	ug/kg							U

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B603055 - Sonication (probe or bath)											
Blank (B603055-BLK1)					Prepared: 16-Mar-2016 Analyzed: 17-Mar-2016						
Pyrene	ND	3.33	10.0	ug/kg							U
Surrogate: 2-Fluorobiphenyl	*470*			*ug/kg*	*666.7*		*70.9*	*45-105*			
Surrogate: Terphenyl-dl4	*530*			*ug/kg*	*666.7*		*79.0*	*30-125*			
LCS (B603055-BS1)					Prepared: 16-Mar-2016 Analyzed: 17-Mar-2016						
1-Methylnaphthalene	525	3.33	10.0	ug/kg	666.7		78.8	40-105			
2-Methylnaphthalene	564	3.33	10.0	ug/kg	666.7		84.6	40-105			
Acenaphthene	449	3.33	10.0	ug/kg	666.7		67.3	45-110			
Acenaphthylene	507	3.33	10.0	ug/kg	666.7		76.0	45-105			
Anthracene	655	3.33	10.0	ug/kg	666.7		98.2	55-105			
Benzo (a) anthracene	601	3.33	10.0	ug/kg	666.7		90.1	50-120			
Benzo (a) pyrene	549	3.33	10.0	ug/kg	666.7		82.3	50-110			
Benzo (b) fluoranthene	535	3.33	10.0	ug/kg	666.7		80.2	45-115			
Benzo (g,h,i) perylene	595	3.33	10.0	ug/kg	666.7		89.3	40-125			
Benzo (k) fluoranthene	621	3.33	10.0	ug/kg	666.7		93.2	45-125			
Chrysene	532	3.33	10.0	ug/kg	666.7		79.8	55-120			
Dibenz (a,h) anthracene	655	3.33	10.0	ug/kg	666.7		98.3	40-125			
Fluoranthene	791	3.33	10.0	ug/kg	666.7		119	55-120			
Fluorene	480	3.33	10.0	ug/kg	666.7		72.0	50-110			
Indeno (1,2,3-cd) pyrene	535	3.33	10.0	ug/kg	666.7		80.2	40-120			
Naphthalene	467	3.33	10.0	ug/kg	666.7		70.1	40-105			
Phenanthrene	486	3.33	10.0	ug/kg	666.7		72.9	50-110			
Pyrene	660	3.33	10.0	ug/kg	666.7		99.0	45-125			
Surrogate: 2-Fluorobiphenyl	*490*			*ug/kg*	*666.7*		*73.2*	*45-105*			
Surrogate: Terphenyl-dl4	*630*			*ug/kg*	*666.7*		*95.2*	*30-125*			
Batch B604010 - Sonication (probe or bath)											
Blank (B604010-BLK1)					Prepared: 05-Apr-2016 Analyzed: 06-Apr-2016						
1-Methylnaphthalene	ND	5.33	16.7	ug/kg							U
2-Methylnaphthalene	ND	5.33	16.7	ug/kg							U
Acenaphthene	ND	5.33	16.7	ug/kg							U
Acenaphthylene	ND	5.33	16.7	ug/kg							U
Anthracene	ND	5.33	16.7	ug/kg							U
Benzo (a) anthracene	ND	5.33	16.7	ug/kg							U
Benzo (a) pyrene	ND	5.33	16.7	ug/kg							U
Benzo (b) fluoranthene	ND	5.33	16.7	ug/kg							U
Benzo (g,h,i) perylene	ND	5.33	16.7	ug/kg							U
Benzo (k) fluoranthene	ND	5.33	16.7	ug/kg							U
Chrysene	ND	5.33	16.7	ug/kg							U
Dibenz (a,h) anthracene	ND	5.33	16.7	ug/kg							U

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ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B604010 - Sonication (probe or bath)											
Blank (B604010-BLK1)					Prepared: 05-Apr-2016 Analyzed: 06-Apr-2016						
Fluoranthene	ND	5.33	16.7	ug/kg							U
Fluorene	ND	5.33	16.7	ug/kg							U
Indeno (1,2,3-cd) pyrene	ND	5.33	16.7	ug/kg							U
Naphthalene	ND	5.33	16.7	ug/kg							U
Pentachlorophenol	ND	10.0	16.7	ug/kg							U
Phenanthrene	ND	5.33	16.7	ug/kg							U
Pyrene	ND	5.33	16.7	ug/kg							U
Surrogate: 2-Fluorobiphenyl	*570*			*ug/kg*	*666.7*		*86.2*	*45-105*			
Surrogate: Terphenyl-dl4	*460*			*ug/kg*	*666.7*		*69.0*	*30-125*			
LCS (B604010-BS1)					Prepared: 05-Apr-2016 Analyzed: 06-Apr-2016						
1-Methylnaphthalene	486	5.33	16.7	ug/kg	666.7		72.9	40-105			
2-Methylnaphthalene	532	5.33	16.7	ug/kg	666.7		79.8	40-105			
Acenaphthene	491	5.33	16.7	ug/kg	666.7		73.7	45-110			
Acenaphthylene	495	5.33	16.7	ug/kg	666.7		74.2	45-105			
Anthracene	449	5.33	16.7	ug/kg	666.7		67.4	55-105			
Benzo (a) anthracene	549	5.33	16.7	ug/kg	666.7		82.3	50-120			
Benzo (a) pyrene	594	5.33	16.7	ug/kg	666.7		89.1	50-110			
Benzo (b) fluoranthene	570	5.33	16.7	ug/kg	666.7		85.5	45-115			
Benzo (g,h,i) perylene	597	5.33	16.7	ug/kg	666.7		89.5	40-125			
Benzo (k) fluoranthene	571	5.33	16.7	ug/kg	666.7		85.6	45-125			
Chrysene	577	5.33	16.7	ug/kg	666.7		86.6	55-120			
Dibenz (a,h) anthracene	603	5.33	16.7	ug/kg	666.7		90.4	40-125			
Fluoranthene	561	5.33	16.7	ug/kg	666.7		84.1	55-120			
Fluorene	431	5.33	16.7	ug/kg	666.7		64.7	50-110			
Indeno (1,2,3-cd) pyrene	609	5.33	16.7	ug/kg	666.7		91.4	40-120			
Naphthalene	473	5.33	16.7	ug/kg	666.7		71.0	40-105			
Phenanthrene	650	5.33	16.7	ug/kg	666.7		97.5	50-110			
Pyrene	747	5.33	16.7	ug/kg	666.7		112	45-125			
Surrogate: 2-Fluorobiphenyl	*540*			*ug/kg*	*666.7*		*80.8*	*45-105*			
Surrogate: Terphenyl-dl4	*430*			*ug/kg*	*666.7*		*63.9*	*30-125*			

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

ERDC -- Vicksburg (EL) ERDC, 3909 Halls Ferry Road Vicksburg MS, 39180	Project: Kennedy-King's Bay Project Manager: Al Kennedy	**Reported:** 07-Apr-2016

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B604010 - Sonication (probe or bath)											
LCS Dup (B604010-BSD1)					Prepared: 05-Apr-2016 Analyzed: 06-Apr-2016						
1-Methylnaphthalene	523	5.33	16.7	ug/kg	666.7		78.5	40-105	7.40	30	
2-Methylnaphthalene	542	5.33	16.7	ug/kg	666.7		81.3	40-105	1.86	30	
Acenaphthene	511	5.33	16.7	ug/kg	666.7		76.6	45-110	3.86	30	
Acenaphthylene	509	5.33	16.7	ug/kg	666.7		76.4	45-105	2.92	30	
Anthracene	551	5.33	16.7	ug/kg	666.7		82.7	55-105	20.4	30	
Benzo (a) anthracene	574	5.33	16.7	ug/kg	666.7		86.1	50-120	4.51	30	
Benzo (a) pyrene	615	5.33	16.7	ug/kg	666.7		92.3	50-110	3.53	30	
Benzo (b) fluoranthene	661	5.33	16.7	ug/kg	666.7		99.2	45-115	14.8	30	
Benzo (g,h,i) perylene	598	5.33	16.7	ug/kg	666.7		89.7	40-125	0.223	30	
Benzo (k) fluoranthene	663	5.33	16.7	ug/kg	666.7		99.5	45-125	15.0	30	
Chrysene	596	5.33	16.7	ug/kg	666.7		89.4	55-120	3.18	30	
Dibenz (a,h) anthracene	624	5.33	16.7	ug/kg	666.7		93.6	40-125	3.48	30	
Fluoranthene	783	5.33	16.7	ug/kg	666.7		118	55-120	33.1	30	RPD-06
Fluorene	572	5.33	16.7	ug/kg	666.7		85.8	50-110	28.0	30	
Indeno (1,2,3-cd) pyrene	613	5.33	16.7	ug/kg	666.7		92.0	40-120	0.654	30	
Naphthalene	493	5.33	16.7	ug/kg	666.7		74.0	40-105	4.14	30	
Phenanthrene	561	5.33	16.7	ug/kg	666.7		84.1	50-110	14.8	30	
Pyrene	793	5.33	16.7	ug/kg	666.7		119	45-125	6.06	30	
Surrogate: 2-Fluorobiphenyl	*550*			*ug/kg*	*666.7*		*82.7*	*45-105*			
Surrogate: Terphenyl-dl4	*760*			*ug/kg*	*666.7*		*114*	*30-125*			

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6022201

USAE WATERWAYS EXPERIMENT STATION

CHAIN OF CUSTODY RECORD

PROJECT NAME: SAJ King's Bay

SAMPLERS: (Signature) Lauren Rubalis

DATE	TIME	SAMPLE ID	NO. OF CONTAINERS	Analysis as per QAPP	% Lipids	Hg & Metals 6020	PAH SIM 2			REMARKS
2/19/16	NA	E-KB-16-RS Nereis A-E	5							Tissues
2/19/16	NA	E-KB-16-1 Nereis A-E	5							
2/19/16	NA	E-KB-16-4 Nereis A-E	5							
2/19/16	NA	E-KB-16-5 Nereis A-E	5							
1/22/16	NA	initial Nereis A-E (Background)	5							

Relinquished by: (Signature)	Date /Time	Received by: (Signature)	Relinquished by: (Signature)	Date /Time	Received by: (Signature)
Lauren Rubalis	2/22/16 0940	[signature]	2/22/16 0941		
Relinquished by: (Signature)	Date /Time	Received by: (Signature)	Relinquished by: (Signature)	Date /Time	Received by: (Signature)
Relinquished by: (Signature)	Date /Time	Received by: (Signature)	Date /Time	Remarks	

WES FORM 2196 R Nov 89

PREVIOUS EDITIONS OBSOLETE

USAE WATERWAYS EXPERIMENT STATION

CHAIN OF CUSTODY RECORD

6022201

PROJECT NAME: SAJ King's Bay

SAMPLERS: (Signature) Lauren Rubalcs

DATE	TIME	SAMPLE ID	NO. OF CONTAINERS	Analysis as per QAPP	% Lipid,	6020 + Hg	PAH SIM2			REMARKS
2/19/16	NA	E-KB-16-RS Macoma A-E	5							Tissues
2/19/16	NA	E-KB-16-1 Macoma A-E	5							
2/19/16	NA	E-KB-16-4 Macoma A-E	5							
2/19/16	NA	E-KB-16-5 Macoma A-E	5							
1/22/16	NA	Initial Macoma A-E (Back-ground)	5							

Relinquished by: (Signature)	Date /Time	Received by: (Signature)	Relinquished by: (Signature)	Date /Time	Received by: (Signature)
Lauren Rubalcs	2/22/16 0940	[signature] 2/22/16 0941			
Relinquished by: (Signature)	Date /Time	Received by: (Signature)	Relinquished by: (Signature)	Date /Time	Received by: (Signature)
Relinquished by: (Signature)	Date /Time	Received by: (Signature)	Date /Time	Remarks	

WES FORM R Nov 89 2196

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ECB Sample Submission Form

Form to be completed and returned to Patty Tuminello
Bldg. 3299, Rm. 113, Ext. 4826

ERDC

Analysis will not begin until this form is received. A valid SOW is required in advance.

Person submitting samples: Lauren Rabalais
P.I. name: Dan Farrar Extension to be reached at: x2118
Project Name: SAJ King's Bay
People to receive report: ☑ P.I. ☐ Submitter ☐ Other:

Special considerations (High concentrations, non-standard matrix, e.g.):

#	Sample ID	Sample Date	Sample Matrix	Preservative	Analysis Requested
1	Nereis E-KB-16-RS A	2/19/16		None	Analysis as per QAPP
2	Nereis E-KB-16-RS B	2/19/16		None	Analysis as per QAPP
3	Nereis E-KB-16-RS C	2/19/16		None	Analysis as per QAPP
4	Nereis E-KB-16-RS D	2/19/16		None	Analysis as per QAPP
5	Nereis E-KB-16-RS E	2/19/16		None	Analysis as per QAPP
6	Nereis E-KB-16-1 A	2/19/16		None	Analysis as per QAPP
7	Nereis E-KB-16-1 B	2/19/16		None	Analysis as per QAPP
8	Nereis E-KB-16-1 C	2/19/16		None	Analysis as per QAPP
9	Nereis E-KB-16-1 D	2/19/16		None	Analysis as per QAPP
10	Nereis E-KB-16-1 E	2/19/16		None	Analysis as per QAPP
11	Nereis E-KB-16-4 A	2/19/16		None	Analysis as per QAPP
12	Nereis E-KB-16-4 B	2/19/16		None	Analysis as per QAPP
13	Nereis E-KB-16-4 C	2/19/16		None	Analysis as per QAPP
14	Nereis E-KB-16-4 D	2/19/16		None	Analysis as per QAPP
15	Nereis E-KB-16-4 E	2/19/16		None	Analysis as per QAPP
16	Nereis E-KB-16-5 A	2/19/16		None	Analysis as per QAPP
17	Nereis E-KB-16-5 B	2/19/16		None	Analysis as per QAPP
18	Nereis E-KB-16-5 C	2/19/16		None	Analysis as per QAPP
19	Nereis E-KB-16-5 D	2/19/16		None	Analysis as per QAPP
20	Nereis E-KB-16-5 E	2/19/16		None	Analysis as per QAPP
21	Nereis Background A	1/22/16		None	Analysis as per QAPP
22	Nereis Background B	1/22/16		None	Analysis as per QAPP
23	Nereis Background C	1/22/16		None	Analysis as per QAPP
24	Nereis Background D	1/22/16		None	Analysis as per QAPP
25	Nereis Background E	1/22/16		None	Analysis as per QAPP
26					

To be completed by ECB: *Feel free to attach any additional instructions*

Date Received: 2 / 22 / 16 Receiving Person:

#	Sample ID	Sample Date	Sample Matrix	Preservative	Analysis Requested	
26	Macoma E-KB-16-RS A	2/19/16		None	Analysis as per QAPP	
27	Macoma E-KB-16-RS B	2/19/16		None	Analysis as per QAPP	
28	Macoma E-KB-16-RS C	2/19/16		None	Analysis as per QAPP	
29	Macoma E-KB-16-RS D	2/19/16		None	Analysis as per QAPP	
30	Macoma E-KB-16-RS E	2/19/16		None	Analysis as per QAPP	
31	Macoma E-KB-16-1 A	2/19/16		None	Analysis as per QAPP	
32	Macoma E-KB-16-1 B	2/19/16		None	Analysis as per QAPP	
33	Macoma E-KB-16-1 C	2/19/16		None	Analysis as per QAPP	
34	Macoma E-KB-16-1 D	2/19/16		None	Analysis as per QAPP	
35	Macoma E-KB-16-1 E	2/19/16		None	Analysis as per QAPP	
36	Macoma E-KB-16-4 A	2/19/16		None	Analysis as per QAPP	
37	Macoma E-KB-16-4 B	2/19/16		None	Analysis as per QAPP	
38	Macoma E-KB-16-4 C	2/19/16		None	Analysis as per QAPP	
39	Macoma E-KB-16-4 D	2/19/16		None	Analysis as per QAPP	
40	Macoma E-KB-16-4 E	2/19/16		None	Analysis as per QAPP	
41	Macoma E-KB-16-5 A	2/19/16		None	Analysis as per QAPP	
42	Macoma E-KB-16-5 B	2/19/16		None	Analysis as per QAPP	
43	Macoma E-KB-16-5 C	2/19/16		None	Analysis as per QAPP	
44	Macoma E-KB-16-5 D	2/19/16		None	Analysis as per QAPP	
45	Macoma E-KB-16-5 E	2/19/16		None	Analysis as per QAPP	
46	Macoma Background A	1/22/16		None	Analysis as per QAPP	
47	Macoma Background B	1/22/16		None	Analysis as per QAPP	
48	Macoma Background C	1/22/16		None	Analysis as per QAPP	
49	Macoma Background D	1/22/16		None	Analysis as per QAPP	
50	Macoma Background E	1/22/16		None	Analysis as per QAPP	

To be completed by ECB:

Feel free to attach any additional instructions

Date Received: ___ /___ /___ Receiving Person: _____

Summary of tissue analysis

King's Bay 602201

Table 2. Recommended list of CoCs for tissue analysis.

CoC Class	Analyte	E-KB16-RS	E-KB16-1	E-KB16-4	E-KB16-5
Metal-6020	Arsenic	Y	Y	Y	Y
Metal-6020	Cadmium	Y	Y	Y	Y
Metal-6020	Chromium	Y	Y	Y	Y
Metal-6020	Copper	Y	Y	Y	Y
Metal-6020	Lead	Y	Y	Y	Y
Metal-6020	Nickel	Y	Y	Y	Y
Metal-6020	Selenium	Y	Y	Y	Y
Metal-6020	Zinc	Y	Y	Y	Y
Metal	Silver	Y	Y	Y	Y
Metal	Mercury	Y	Y	Y	Y
Organotins		N	N	N	N
Pesticides		N	N	N	N
PAH	Acenaphthene	Y	Y	Y	Y
PAH	Acenaphthylene	Y	Y	Y	Y
PAH	Anthracene	Y	Y	Y	Y
PAH	Benzo (a) anthracene	Y	Y	Y	Y
PAH	Benzo (a) pyrene	Y	Y	Y	Y
PAH	Benzo (b) fluoranthene	Y	Y	Y	Y
PAH	Benzo (g,h,i) perylene	Y	Y	Y	Y
PAH	Benzo (k) fluoranthene	Y	Y	Y	Y
PAH	Chrysene	Y	Y	Y	Y
PAH	Dibenz (a,h) anthracene	Y	Y	Y	Y
PAH	Fluoranthene	Y	Y	Y	Y
PAH	Fluorene	Y	Y	Y	Y
PAH	Indeno (1,2,3-cd) pyrene	Y	Y	Y	Y
PAH	Methylnaphthalene	Y	Y	Y	Y
PAH	Naphthalene	Y	Y	Y	Y
PAH	Phenanthrene	Y	Y	Y	Y
PAH	Pyrene	Y	Y	Y	Y
PCBs	Congeners	N	N	N	N
Pentachlorophenol		N	N	N	N

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception

Pearce, Jennifer

From: Weiss, Lena
Sent: Thursday, October 06, 2016 3:18 PM
To: Pearce, Jennifer
Subject: FOIA Req EPA R4 2016 010483
Attachments: Kings Bay SAP Signature Page.pdf

-----Original Message-----
From: Weiss, Lena
Sent: Monday, January 04, 2016 8:20 AM
To: Lassiter, James SAJ <James.A.Lassiter@usace.army.mil>
Cc: Collins, Gary <Collins.Garyw@epa.gov>
Subject: RE: Kings Bay SAP/QAPP 103 Sampling Maps (UNCLASSIFIED)

Good morning Aaron,
Attached is the signed signature page.
Happy new year!

Lena

-----Original Message-----
From: Lassiter, James SAJ [mailto:James.A.Lassiter@usace.army.mil]
Sent: Monday, December 28, 2015 10:53 AM
To: Weiss, Lena <Weiss.Lena@epa.gov>
Cc: Collins, Gary <Collins.Garyw@epa.gov>
Subject: RE: Kings Bay SAP/QAPP 103 Sampling Maps (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good morning Lena,

Attached is the signature page for the KB SAP/QAPP. Let me know if you have any questions, I'll be in the office at least Tuesday and Wednesday of this week as well.

Thank you,

Aaron Lassiter
Planning and Policy Division
904.232.3642

-----Original Message-----
From: Weiss, Lena [mailto:Weiss.Lena@epa.gov]
Sent: Tuesday, December 22, 2015 3:03 PM
To: Lassiter, James SAJ <James.A.Lassiter@usace.army.mil>
Subject: [EXTERNAL] RE: Kings Bay SAP/QAPP 103 Sampling Maps (UNCLASSIFIED)

Thanks Aaron!
Lena

-----Original Message-----
From: Lassiter, James SAJ [mailto:James.A.Lassiter@usace.army.mil]
Sent: Tuesday, December 22, 2015 3:02 PM
To: Weiss, Lena <Weiss.Lena@epa.gov>
Subject: RE: Kings Bay SAP/QAPP 103 Sampling Maps (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good afternoon Lena,

I've also sent you and Gary the updated surveys for the Inner and Entrance Channel via the ftp site for your records

Thank you,

Aaron Lassiter
Planning and Policy Division
904.232.3642

-----Original Message-----
From: Weiss, Lena [mailto:Weiss.Lena@epa.gov]
Sent: Tuesday, December 22, 2015 8:06 AM
To: Lassiter, James SAJ <James.A.Lassiter@usace.army.mil>
Subject: [EXTERNAL] RE: Kings Bay SAP/QAPP 103 Sampling Maps (UNCLASSIFIED)

Good morning Aaron -

Thank you for sending us the maps. Can you please go ahead and begin a signature page for the SAP and then send it over? You and someone from ERDC should sign before we do. Additionally, I think you might have to change it from the way it is currently formatted to have me as the EPA PM and Gary as the QA Manager.

Thanks so much,
Lena

-----Original Message-----
From: Lassiter, James SAJ [mailto:James.A.Lassiter@usace.army.mil]
Sent: Monday, December 21, 2015 4:53 PM
To: Weiss, Lena <Weiss.Lena@epa.gov>; Collins, Gary <Collins.Garyw@epa.gov>
Subject: Kings Bay SAP/QAPP 103 Sampling Maps (UNCLASSIFIED)
Importance: High

CLASSIFICATION: UNCLASSIFIED

Good afternoon Lena,

I have posted the sampling location maps to our Army FTP site for your access. I had to make them largely myself, so they are not quite as aesthetically pleasing as some of our contractor productions. They are formatted to print 11x17 as well, so the font won't get too small. You'll get an email with the instructions to retrieve them shortly. Let me know if you have any question about them. Also, the latest schedule for the 103 sampling is now either the first or second week of January.

Best,

Aaron Lassiter
Physical Scientist
US Army Corps of Engineers
Jacksonville, FL
904.232.3642

CLASSIFICATION: UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

GROUP A. PROJECT MANAGEMENT

1.0 ELEMENT A1 - TITLE AND APPROVAL SHEET

Organization/Applicant: USACE Jacksonville District
Project Manager/Technical POC: J. Aaron Lassiter

Signature: Aaron Lassiter Date: 12/22/2015

Regulatory: Beverlee Lawrence

Signature: Kelly Clunger Date: 12/22/2015

Regulatory Agency: USEPA Region 4
Project Manager: Lena Weiss

Signature: Lena W Date: 1/4/2016

QA Manager or Designated Approving Official: Gary Collins

Signature: Gary W Collins Date: 12/28/2015

Testing: USACE ERDC-Vicksburg
Project Manager: Alan Kennedy

Signature: KENNEDY.ALAN.JAMES.1267776462 Digitally signed by KENNEDY.ALAN.JAMES.1267776462 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=KENNEDY.ALAN.JAMES.1267776462 Date: 2015.12.24 22:41:20 -06'00' Date:

QA Officer: Dale Rosado, US Army Engineer Research and Development Center

Signature: ROSADO.DALE.ANTHONY.JR.1502867829 Digitally signed by ROSADO.DALE.ANTHONY.JR.1502867829 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=ROSADO.DALE.ANTHONY.JR.1502867829 Date: 2015.12.28 08:26:13 -06'00' Date:

Pearce, Jennifer

From: Weiss, Lena
Sent: Thursday, October 06, 2016 3:19 PM
To: Pearce, Jennifer
Subject: FOIA Req EPA R4 2016 010483
Attachments: Memorandum Analysis of Kings Bay Bioaccumulation Tests_draft_25Feb2016.docx

-----Original Message-----
From: Lassiter, James SAJ [mailto:James.A.Lassiter@usace.army.mil]
Sent: Thursday, February 25, 2016 4:52 PM
To: Weiss, Lena <Weiss.Lena@epa.gov>
Cc: Collins, Gary <Collins.Garyw@epa.gov>
Subject: Kings Bay Tissue Chemistry Recommendations (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good afternoon Lena,

Please find attached our tissue chemistry analysis proposal for the Kings Bay Project for your review. Please let me know if you have any questions or comments.

Best,

Aaron Lassiter
Physical Scientist
US Army Corps of Engineers
Jacksonville, FL
904.232.3642

CLASSIFICATION: UNCLASSIFIED

Memorandum

TO: Lena Weiss, EPA Region 4

FROM: J. Aaron Lassiter, Jacksonville District, USACE

25 February 2016

Analysis of Kings Bay Bioaccumulation Tests

In accordance with SERIM 3.2.2 and 6.2.2, the need for analysis of *Nereis virens* and *Macoma nasuta* tissues from 28 day bioaccumulation tests may be determined by the physical and chemical attributes of the sediment. Analytical chemistry data are now available for the whole sediment composites for the following zones: E-KB16-RS, E-KB16-1, E-KB16-4, and E-KB16-5.

Contents

Background....3

3.2.2 Benthic Evaluation (SERIM excerpt)....3

6.2.2 Whole sediment bioaccumulation tests (SERIM excerpt)....3

Physical analysis of sediments....4

Metals....4

Recommendation: Tissues will be analyzed for metals (TAL-Metals-6020), Ag, Hg....4

Organotins....4

Recommendation: Tissues will not be analyzed for organotins....4

Pesticides....4

Recommendation: Tissues will not be analyzed for pesticides....5

PAHs....5

Recommendation: Tissues will be analyzed for PAHs....5

PCBs....5

Recommendation: Tissues will not be analyzed for PCB congeners....5

Pentachlorophenol....5

Recommendation: Tissues will not be analyzed for pentachlorophenol....5

Summary of tissue analysis....6

Background

3.2.2 Benthic Evaluation (SERIM excerpt)

"Tier II tests for benthic-impact evaluation should be used only to screen out sediments that are not likely to meet the LPC or to assist in selecting a compositing or testing scheme under Tier III. Tier II tests cannot be used to pass the benthic evaluation. The only Tier II benthic-impact evaluation is the bioaccumulation analysis for non-polar organic compounds. The analysis uses a calculation for determining the theoretical bioaccumulation potential (TBP) in test organisms. The TBP calculation factors the concentration of the non-polar organic contaminant in the sediment, the total organic carbon (TOC) in the sediment, and the percent lipid concentration (%L) in the organism. The calculation is run for both the proposed dredged material and the reference material. Guidance for calculating the TBP of nonpolar organic chemicals is provided in Section 10.2 of the 1991 Green Book and Section 10.2 of Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S.--Testing Manual [Inland Testing Manual (ITM)] (EPA, 1998). When the results indicate high levels of contamination of non-polar organics in the dredged material, the applicant may choose not to continue on to Tier III but rather to seek other disposal options. In addition, dredging units with similar TBP can be composited for evaluation under Tier III, or dredging units with high TBP can be used as worst-case surrogates for the entire project in Tier III.

Unlike Tier II determination of compliance with WQC, the Tier II TBP calculation does not have to be performed in order to determine suitability for ocean dumping. Tier III bioassays are the decisive tests for making this determination."

6.2.2 Whole sediment bioaccumulation tests (SERIM excerpt)

"When sediment chemistry is used to determine COCs, those contaminants listed in 40 CFR 227.6 shall be included when present. Contaminants in concentrations above the LRL in sediments will be considered present and should be tested for in tissues. The final decision on which project-specific contaminants are required to be tested for in the tissue is made by the USACE SAD district in consultation with EPA Region 4 after the physical and sediment chemistry data (if available) are reviewed. The applicant (USACE SAD district for federal projects) must ensure that the contracted laboratory can reasonably achieve the required TDLs listed in Tables 6-4 to 6-8. A discussion of LRLs and TDLs can be found in Section 5.2 of this document. Dioxins, phenols, and phthalate esters tests are to be conducted on a project-specific basis (refer to Appendix M, QA/QC Manual, ITM, or 1991 Green Book for methods and TDLs)."

Physical analysis of sediments.

The physical properties and total organic carbon (TOC) of the sediment composites are summarized in Table 1.

Table 1. Physical analysis of project sediments.

Sample	Gravel (%)	Sand (%)	Silt (%)	Clay (%)	USCS Description	USDA Classification	TOC (mg/kg)
E-KB16-RS	0.0	63.2	24.8	12.0	Clayey Sand	Sandy loam	6930
E-KB16-1	0.0	92.0	2.7	5.3	Poorly graded sand with silt	Sand	1400
E-KB16-4	0.0	77.9	10.7	11.4	Silty Sand	Sandy loam	4700
E-KB16-5	0.0	62.1	23.2	14.6	Clayey Sand	Sandy loam	7920

Metals

TAL-Metals-6020 (As, Cd, Cr, Cu, Pb, Ni, Se, Zn), Ag and Hg were detected in the project sediment composites (Table 4). TAL-Metals-6020 were detected in all project sediments, except Cd which was only detected in E-KB16-RS and E-KB16-1.

Recommendation: Tissues will be analyzed for metals (TAL-Metals-6020), Ag, Hg.

Organotins

Organotins were not detected in any of the project sediment composites (Table 5). The MDL and MRLs were 0.0029 and 4.1 – 6.5 µg/kg, respectively. This met the QAPP reporting limit requirement of 10 µg/kg.

Recommendation: Tissues will not be analyzed for organotins.

Pesticides

Pesticides were not detected in any of the project sediment composites (Table 6). The MDL and MRL were 0.43 – 0.7 and 0.57 – 1.71 µg/kg, respectively. This met the QAPP reporting limit requirement of 10 µg/kg.

Recommendation: Tissues will not be analyzed for pesticides

PAHs

Some PAH analytes were detected in some of project sediment composites (Table 7). No PAHs were detected in E-KB16-1. The QAPP reporting limit requirement of 20 µg/kg was met. The most detects (8 PAHs) were in the reference sediment E-KB16-RS. Three (3) PAHs were detected in E-KB16-4 (Fluoranthene, Phenanthrene, Pyrene). Finally, 2 PAHs were detected in E-KB16-5 (Fluoranthene, Pyrene). The Theoretical Bioaccumulation Potential (TBP) for the PAHs detected in E-KB16-4 and E-KB16-5 were compared to the reference; a slight elevation was calculated in Phenanthrene in E-KB16-4 relative to the reference (Table 2).

Recommendation: Tissues will be analyzed for PAHs.

Table 2. Theoretical bioaccumulation potential for detected PAHs (µg/kg lipid). Boldface font indicates the highest concentration for each PAH.

PAH	E-KB16-RS	E-KB16-RS	E-KB16-4	E-KB16-5
Fluoranthene	**1688**	ND	1538	1389
Phenanthrene	977	ND	**1134**	ND
Pyrene	**2035**	ND	1515	1376

PCBs

PCB congeners were not detected in any of the project sediment composites (Table 8). The MDL and MRL were 0.2 – 0.3 and 0.5 – 0.8 µg/kg, respectively. This met the QAPP reporting limit requirement of 1 µg/kg.

Recommendation: Tissues will not be analyzed for PCB congeners.

Pentachlorophenol

Pentachlorophenol was not detected in any of the project sediment composites (Table 9). The MDL and MRL were 13.8 – 18.0 and 39.4 – 63.2 µg/kg. This met the QAPP reporting limit requirement of 100 µg/kg.

Recommendation: Tissues will not be analyzed for pentachlorophenol.

Summary of tissue analysis

Table 3. Recommended list of CoCs for tissue analysis.

CoC Class	Analyte	E-KB16-RS	E-KB16-1	E-KB16-4	E-KB16-5
Metal-6020	Arsenic	Y	Y	Y	Y
Metal-6020	Cadmium	Y	Y	Y	Y
Metal-6020	Chromium	Y	Y	Y	Y
Metal-6020	Copper	Y	Y	Y	Y
Metal-6020	Lead	Y	Y	Y	Y
Metal-6020	Nickel	Y	Y	Y	Y
Metal-6020	Selenium	Y	Y	Y	Y
Metal-6020	Zinc	Y	Y	Y	Y
Metal	Silver	Y	Y	Y	Y
Metal	Mercury	Y	Y	Y	Y
Organotins		N	N	N	N
Pesticides		N	N	N	N
PAH	Acenaphthene	Y	Y	Y	Y
PAH	Acenaphthylene	Y	Y	Y	Y
PAH	Anthracene	Y	Y	Y	Y
PAH	Benzo (a) anthracene	Y	Y	Y	Y
PAH	Benzo (a) pyrene	Y	Y	Y	Y
PAH	Benzo (b) fluoranthene	Y	Y	Y	Y
PAH	Benzo (g,h,i) perylene	Y	Y	Y	Y
PAH	Benzo (k) fluoranthene	Y	Y	Y	Y
PAH	Chrysene	Y	Y	Y	Y
PAH	Dibenz (a,h) anthracene	Y	Y	Y	Y
PAH	Fluoranthene	Y	Y	Y	Y
PAH	Fluorene	Y	Y	Y	Y
PAH	Indeno (1,2,3-cd) pyrene	Y	Y	Y	Y
PAH	Methylnaphthalene	Y	Y	Y	Y
PAH	Naphthalene	Y	Y	Y	Y
PAH	Phenanthrene	Y	Y	Y	Y
PAH	Pyrene	Y	Y	Y	Y
PCBs	Congeners	N	N	N	N
Pentachlorophenol		N	N	N	N

Table 4. Analysis of metals in sediment composites (mg/kg).

	E-KB-16-RS			E-KB-16-1			E-KB-16-4			E-KB-16-5		
	Result	MDL	MRL	Result	MDL	MRL	Result	MDL	MRL	Result	MDL	MRL
Arsenic	6.49	0.0249	0.125	1.32	0.0216	0.108	3.42	0.0244	0.122	7.05	0.0249	0.124
Cadmium	0.102	0.0249	0.125	0.0237	0.0216	0.108	ND	0.0244	0.122	0.0776	0.0249	0.124
Chromium	16.6	0.0249	0.125	3.26	0.0216	0.108	9.19	0.0244	0.122	16.6	0.0249	0.124
Copper	3.1	0.0249	0.125	0.74	0.0216	0.108	1.78	0.0244	0.122	3.03	0.0249	0.124
Lead	8.28	0.0249	0.125	2.52	0.0216	0.108	9.35	0.0244	0.122	7.49	0.0249	0.124
Mercury	0.0277	0.00185	0.00185	0.00597	0.00174	0.00174	0.0182	0.00181	0.00181	0.0232	0.00199	0.00199
Nickel	5.18	0.0249	0.125	1.2	0.0216	0.108	3.03	0.0244	0.122	5.06	0.0249	0.124
Selenium	1.24	0.0249	0.125	0.312	0.0216	0.108	0.739	0.0244	0.122	1.36	0.0249	0.124
Silver	0.0223	0.0062	0.0125	ND	0.0062	0.0125	0.0184	0.0062	0.0125	0.0312	0.0062	0.0125
Zinc	16.9	0.0249	0.125	3.86	0.0216	0.108	9.52	0.0244	0.122	16.7	0.0249	0.124

Table 5. Analysis of organotins in sediment composites (µg/kg).

	E-KB-16-RS			E-KB-16-1			E-KB-16-4			E-KB-16-5		
	Result	MDL	MRL	Result	MDL	MRL	Result	MDL	MRL	Result	MDL	MRL
Tributyltin	ND	0.0029	5.2	ND	0.0029	4.1	ND	0.0029	5.3	ND	0.0029	6.5
Dibutyltin	ND	0.0029	5.2	ND	0.0029	4.1	ND	0.0029	5.3	ND	0.0029	6.5
Monobutylin	ND	0.0029	5.2	ND	0.0029	4.1	ND	0.0029	5.3	ND	0.0029	6.5
Tetrabutyltin	ND	0.0029	5.2	ND	0.0029	4.1	ND	0.0029	5.3	ND	0.0029	6.5

Table 6. Analysis of pesticides in sediment composites (µg/kg).

	E-KB-16-RS			E-KB-16-1			E-KB-16-4			E-KB-16-5		
	Result	MDL	MRL	Result	MDL	MRL	Result	MDL	MRL	Result	MDL	MRL
Toxaphene	ND	12	34.2	ND	9.2	26.3	ND	12	34.2	ND	14.7	42.1
4,4´-DDD	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
4,4´-DDE	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
4,4´-DDT	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
Aldrin	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
alpha-BHC	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
alpha-Chlordane	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
beta-BHC	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
cis-Nonachlor	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
delta-BHC	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
Dieldrin	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
Endosulfan I	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
Endosulfan II	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
Endosulfan sulfate	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
Endrin	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
Endrin aldehyde	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
Endrin ketone	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
gamma-BHC (Lindane)	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
gamma-Chlordane	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
Heptachlor	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
Heptachlor epoxide	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
hexachlorobenzene	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
Methoxychlor	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
Oxychlordane	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11
trans-Nonachlor	ND	0.57	1.71	ND	0.43	1.31	ND	0.56	1.71	ND	0.7	2.11

Table 7. Analysis of PAHs in sediment composites (µg/kg).

	E-KB-16-RS			E-KB-16-1			E-KB-16-4			E-KB-16-5		
	Result	MDL	MRL	Result	MDL	MRL	Result	MDL	MRL	Result	MDL	MRL
2-Methylnaphthalene	ND	5.14	15.4	ND	3.94	11.8	ND	5.12	15.4	ND	6.32	19
Acenaphthene	ND	5.14	15.4	ND	3.94	11.8	ND	5.12	15.4	ND	6.32	19
Acenaphthylene	ND	5.14	15.4	ND	3.94	11.8	ND	5.12	15.4	ND	6.32	19
Anthracene	ND	5.14	15.4	ND	3.94	11.8	ND	5.12	15.4	ND	6.32	19
Benzo (a) anthracene	5.63	5.14	15.4	ND	3.94	11.8	ND	5.12	15.4	ND	6.32	19
Benzo (a) pyrene	ND	5.14	15.4	ND	3.94	11.8	ND	5.12	15.4	ND	6.32	19
Benzo (b) fluoranthene	7.12	5.14	15.4	ND	3.94	11.8	ND	5.12	15.4	ND	6.32	19
Benzo (g,h,i) perylene	5.81	5.14	15.4	ND	3.94	11.8	ND	5.12	15.4	ND	6.32	19
Benzo (k) fluoranthene	5.72	5.14	15.4	ND	3.94	11.8	ND	5.12	15.4	ND	6.32	19
Chrysene	6.18	5.14	15.4	ND	3.94	11.8	ND	5.12	15.4	ND	6.32	19
Dibenz (a,h) anthracene	ND	5.14	15.4	ND	3.94	11.8	ND	5.12	15.4	ND	6.32	19
Fluoranthene	11.7	5.14	15.4	ND	3.94	11.8	ND	5.12	15.4	ND	6.32	19
Fluorene	ND	5.14	15.4	ND	3.94	11.8	7.23	5.12	15.4	11	6.32	19
Indeno (1,2,3-cd) pyrene	ND	5.14	15.4	ND	3.94	11.8	ND	5.12	15.4	ND	6.32	19
Methylnaphthalene	ND	5.14	15.4	ND	3.94	11.8	ND	5.12	15.4	ND	6.32	19
Naphthalene	ND	5.14	15.4	ND	3.94	11.8	ND	5.12	15.4	ND	6.32	19
Phenanthrene	6.77	5.14	15.4	ND	3.94	11.8	5.33	5.12	15.4	ND	6.32	19
Pyrene	14.1	5.14	15.4	ND	3.94	11.8	7.12	5.12	15.4	10.9	6.32	19

Table 8. Analysis of PCBs in sediment composites (µg/kg).

	E-KB-16-RS			E-KB-16-1			E-KB-16-4			E-KB-16-5		
	Result	MDL	MRL	Result	MDL	MRL	Result	MDL	MRL	Result	MDL	MRL
PCB 101	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 105	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 118	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 126	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 128	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 138	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 153	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 156	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 169	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 170	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 18	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 180	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 183	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 184	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 187	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 195	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 206	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 209	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 28	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 44	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 49	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 52	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 66	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 77	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 8	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8
PCB 87	ND	0.3	0.7	ND	0.2	0.5	ND	0.3	0.7	ND	0.3	0.8

Table 9. Analysis of pentachlorophenol in sediment composites (µg/kg).

	E-KB-16-RS			E-KB-16-1			E-KB-16-4			E-KB-16-5		
	Result	MDL	MRL	Result	MDL	MRL	Result	MDL	MRL	Result	MDL	MRL
Pentachlorophenol	ND	18	51.4	ND	13.8	39.4	ND	17.9	51.2	ND	22.1	63.2

Pearce, Jennifer

From: Weiss, Lena
Sent: Thursday, October 06, 2016 3:19 PM
To: Pearce, Jennifer
Subject: FOIA Req EPA R4 2016 010483

-----Original Message-----
From: Weiss, Lena
Sent: Friday, February 26, 2016 9:47 AM
To: Lassiter, James SAJ <James.A.Lassiter@usace.army.mil>
Cc: Gary Collins (Collins.Garyw@epa.gov) <Collins.Garyw@epa.gov>
Subject: RE: Kings Bay Tissue Chemistry Recommendations (UNCLASSIFIED)

Good morning Aaron!
In reference to your Feb. 25 memo regarding the analysis of Kings Bay bioaccumulation tests, I concur that for the 28-day Macoma nasuta and Nereis virens tests, zones E-KB16-RS, E-KB16-1, E-KB16-4, and E-KB16-5 will undergo tissue analysis for TAL-Metals-6020 (As,Cd, Cr, Cu, Pb, Ni, Se, Zn), Ag, Hg, and PAHs as indicated in Table 3 of the memo (recommended list of CoCs for tissue analysis). Analysis of tissues for organotins, pesticides, PCBs, and pentachlorophenol is not necessary.

Best,
Lena

-----Original Message-----
From: Lassiter, James SAJ [mailto:James.A.Lassiter@usace.army.mil]
Sent: Thursday, February 25, 2016 4:52 PM
To: Weiss, Lena <Weiss.Lena@epa.gov>
Cc: Collins, Gary <Collins.Garyw@epa.gov>
Subject: Kings Bay Tissue Chemistry Recommendations (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good afternoon Lena,

Please find attached our tissue chemistry analysis proposal for the Kings Bay Project for your review. Please let me know if you have any questions or comments.

Best,

Aaron Lassiter
Physical Scientist
US Army Corps of Engineers
Jacksonville, FL
904.232.3642

CLASSIFICATION: UNCLASSIFIED

Pearce, Jennifer

From: Weiss, Lena
Sent: Thursday, October 06, 2016 3:21 PM
To: Pearce, Jennifer
Subject: FOIA Req EPA R4 2016 010483

-----Original Message-----
From: Weiss, Lena
Sent: Monday, May 16, 2016 2:55 PM
To: Lassiter, James SAJ <James.A.Lassiter@usace.army.mil>
Cc: Collins, Gary <Collins.Garyw@epa.gov>
Subject: RE: Kings Bay 103 Tier III Main Report (UNCLASSIFIED)

Good afternoon Aaron -
I have received the Tier III report and appendices. Just to confirm, this is a draft copy?

Thanks so much!
Lena

-----Original Message-----
From: Lassiter, James SAJ [mailto:James.A.Lassiter@usace.army.mil]
Sent: Monday, May 16, 2016 1:53 PM
To: Weiss, Lena <Weiss.Lena@epa.gov>
Cc: Collins, Gary <Collins.Garyw@epa.gov>
Subject: Kings Bay 103 Tier III Main Report (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good afternoon Lena,

As discussed last week, here is the main report for our recent Tier III sampling event. I'll post all of the appendices and other documentation on our ftp site. Directions and access password will follow shortly.

Thank you,

Aaron Lassiter
Physical Scientist
US Army Corps of Engineers
Jacksonville, FL
904.232.3642

CLASSIFICATION: UNCLASSIFIED

Pearce, Jennifer

From: Weiss, Lena
Sent: Thursday, October 06, 2016 3:21 PM
To: Pearce, Jennifer
Subject: FOIA Req EPA R4 2016 010483

-----Original Message-----
From: Lassiter, James SAJ [mailto:James.A.Lassiter@usace.army.mil]
Sent: Monday, May 16, 2016 2:57 PM
To: Weiss, Lena <Weiss.Lena@epa.gov>
Subject: RE: Kings Bay 103 Tier III Main Report (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Very good. Yeah, ERDC wanted to keep the draft demarcation until you had a chance to look it over. Let me know if you have any questions.

Thank you,

Aaron Lassiter
Planning and Policy Division
904.232.3642

-----Original Message-----
From: Weiss, Lena [mailto:Weiss.Lena@epa.gov]
Sent: Monday, May 16, 2016 2:55 PM
To: Lassiter, James SAJ <James.A.Lassiter@usace.army.mil>
Cc: Collins, Gary <Collins.Garyw@epa.gov>
Subject: [EXTERNAL] RE: Kings Bay 103 Tier III Main Report (UNCLASSIFIED)

Good afternoon Aaron -
I have received the Tier III report and appendices. Just to confirm, this is a draft copy?

Thanks so much!
Lena

-----Original Message-----
From: Lassiter, James SAJ [mailto:James.A.Lassiter@usace.army.mil]
Sent: Monday, May 16, 2016 1:53 PM
To: Weiss, Lena <Weiss.Lena@epa.gov>
Cc: Collins, Gary <Collins.Garyw@epa.gov>
Subject: Kings Bay 103 Tier III Main Report (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

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As discussed last week, here is the main report for our recent Tier III sampling event. I'll post all of the appendices and other documentation on our ftp site. Directions and access password will follow shortly.

Thank you,

Aaron Lassiter
Physical Scientist
US Army Corps of Engineers
Jacksonville, FL
904.232.3642

CLASSIFICATION: UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

Pearce, Jennifer

From: Weiss, Lena
Sent: Thursday, October 06, 2016 3:22 PM
To: Pearce, Jennifer
Subject: FOIA Req EPA R4 2016 010483

From: Weiss, Lena
Sent: Tuesday, May 31, 2016 10:20 AM
To: Lassiter, James SAJ <James.A.Lassiter@usace.army.mil>
Subject: Kings Bay Draft Tier III

Good morning Aaron!
I hope you had a good long weekend!
Below are my comments on the Kings Bay Draft Tier III analysis.
Please don't hesitate to contact me if you have any questions or comments.
Thanks!
Lena

EPA Comments on Draft King's Bay Entrance and Inner Channel Section 103 Report

Project Description

- Depiction of disposal site in relation to dredging project is missing

Sampling Information

- Sample depth is not described relative to project depth in Table 8. Could insert in separate column

Reference Locations

- Reference site used is never identified by name in report (e.g. A/B/C/D)

Materials and Methods

- Detection limits are listed in appendices but not in report – consider including DLs and RLs in chemistry/bioaccumulation tables as a column

Final Results/ Summary Tables of Results

- Please add typed versions of raw data tables for survival in elutriate bioassays, sediment bioassays, and bioaccumulation tests (hand-written versions are in Appendix G) – tables can be added as a separate appendix or at end of report. Need survival numbers for each rep, and mean number for each composite.
    - In that vein, it appears as if in the *Leptocheirus* test, the RS and DMMU 1 both had one possible outlier replicate, which results in high standard deviations for those treatments. The report would benefit from a brief mention of this, and if they were treated as outliers.

Discussion and Analysis

- Consider adding a brief general discussion of results in comparison to historic results in area
- STFATE results/discussion
    - Please provide more detailed information about modeling inputs/results in separate appendix.
    - The way the discussion on pg. 90 is worded, it is unclear if an application factor of 0.01 or 0.1 was used. Please clarify.
    - Pg. 93 references Table 61 – no Table 61 in report.
    - Please provide calculation spreadsheet

    - What bulking factor was used?
- Consider moving Section 8 before Section 7 (discussion of results) – makes more sense if after methods

QA/QC

- Raw survival data for bioassays and bioaccumulation not presented completely in typed format.
- Data review/validation (Appendix K) not signed
- During the bioaccumulation testing, one of the tanks developed a leak and water drained - consider noting in the QA/QC discussion of problems encountered in general report
- The lab used different numbers of organisms in each treatment for the bioaccumulation tests, and different numbers of individuals for each organism in the 10-day test (20 each for Lepto, 10 each for Neries) – is this typical?

Pearce, Jennifer

From: Weiss, Lena
Sent: Thursday, October 06, 2016 3:22 PM
To: Pearce, Jennifer
Subject: FOIA Req EPA R4 2016 010483

From: Lassiter, James SAJ [mailto:James.A.Lassiter@usace.army.mil]
Sent: Tuesday, May 31, 2016 10:26 AM
To: Weiss, Lena <Weiss.Lena@epa.gov>
Subject: RE: Kings Bay Draft Tier III (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Thanks.
Very nice, hope you did as well. I took off Friday too, so now it's only difficult to get back to speed.

I'll forward the comments on to ERDC as well to get working on and let you know if we have any questions.

Aaron Lassiter
Planning and Policy Division
904.232.3642

From: Weiss, Lena [mailto:Weiss.Lena@epa.gov]
Sent: Tuesday, May 31, 2016 10:20 AM
To: Lassiter, James SAJ <James.A.Lassiter@usace.army.mil>
Subject: [EXTERNAL] Kings Bay Draft Tier III

Good morning Aaron!
I hope you had a good long weekend!
Below are my comments on the Kings Bay Draft Tier III analysis.
Please don't hesitate to contact me if you have any questions or comments.
Thanks!
Lena

EPA Comments on Draft King's Bay Entrance and Inner Channel Section 103 Report

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CLASSIFICATION: UNCLASSIFIED

Pearce, Jennifer

From: Weiss, Lena
Sent: Thursday, October 06, 2016 3:22 PM
To: Pearce, Jennifer
Subject: FOIA Req EPA R4 2016 010483

-----Original Message-----
From: Lassiter, James SAJ [mailto:James.A.Lassiter@usace.army.mil]
Sent: Tuesday, May 31, 2016 1:11 PM
To: Weiss, Lena <Weiss.Lena@epa.gov>
Subject: FW: EPA Comments on Kings Bay Draft Tier III (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Hi Lena,

Can you please provide some clarity for the following question from ERDC below.

Thank you,

Aaron Lassiter
Planning and Policy Division
904.232.3642

-----Original Message-----
From: Kennedy, Alan ERD
Sent: Tuesday, May 31, 2016 12:26 PM
To: Lassiter, James SAJ <James.A.Lassiter@usace.army.mil>
Subject: RE: EPA Comments on Kings Bay Draft Tier III (UNCLASSIFIED)

Thanks, Aaron. We will look into these. Appears to be relatively minor.

I could use some input on the following:

* Depiction of disposal site in relation to dredging project is missing

-----Original Message-----
From: Lassiter, James SAJ
Sent: Tuesday, May 31, 2016 9:30 AM
To: Kennedy, Alan ERD <Alan.J.Kennedy@usace.army.mil>
Subject: EPA Comments on Kings Bay Draft Tier III (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good morning Al,
Hope you had a great weekend!

Attached below are EPA's comments on the KB Tier III. Let me know if I can assist with anything as well.

Thank you,

Aaron Lassiter
Planning and Policy Division
904.232.3642

-----Original Message-----
From: Weiss, Lena [mailto:Weiss.Lena@epa.gov]
Sent: Tuesday, May 31, 2016 10:20 AM
To: Lassiter, James SAJ <James.A.Lassiter@usace.army.mil>
Subject: [EXTERNAL] Kings Bay Draft Tier III

Good morning Aaron!

I hope you had a good long weekend!

Below are my comments on the Kings Bay Draft Tier III analysis.

Please don't hesitate to contact me if you have any questions or comments.

Thanks!

Lena

EPA Comments on Draft King's Bay Entrance and Inner Channel Section 103 Report

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- During the bioaccumulation testing, one of the tanks developed a leak and water drained - consider noting in the QA/QC discussion of problems encountered in general report

- The lab used different numbers of organisms in each treatment for the bioaccumulation tests, and different numbers of individuals for each organism in the 10-day test (20 each for Lepto, 10 each for Neries) - is this typical?

CLASSIFICATION: UNCLASSIFIED

Pearce, Jennifer

From: Weiss, Lena
Sent: Thursday, October 06, 2016 3:22 PM
To: Pearce, Jennifer
Subject: FOIA Req EPA R4 2016 010483

-----Original Message-----
From: Weiss, Lena
Sent: Tuesday, May 31, 2016 1:17 PM
To: Lassiter, James SAJ <James.A.Lassiter@usace.army.mil>
Subject: RE: EPA Comments on Kings Bay Draft Tier III (UNCLASSIFIED)

Hi Aaron -
I'd like to rescind that comment. I just took another look at the map on p. 10 and realized that the ODMDS is on there. Sorry about that!

Lena

-----Original Message-----
From: Lassiter, James SAJ [mailto:James.A.Lassiter@usace.army.mil]
Sent: Tuesday, May 31, 2016 1:11 PM
To: Weiss, Lena <Weiss.Lena@epa.gov>
Subject: FW: EPA Comments on Kings Bay Draft Tier III (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Hi Lena,

Can you please provide some clarity for the following question from ERDC below.

Thank you,

Aaron Lassiter
Planning and Policy Division
904.232.3642

-----Original Message-----
From: Kennedy, Alan ERD
Sent: Tuesday, May 31, 2016 12:26 PM
To: Lassiter, James SAJ <James.A.Lassiter@usace.army.mil>
Subject: RE: EPA Comments on Kings Bay Draft Tier III (UNCLASSIFIED)

Thanks, Aaron. We will look into these. Appears to be relatively minor.

I could use some input on the following:

* Depiction of disposal site in relation to dredging project is missing

-----Original Message-----
From: Lassiter, James SAJ
Sent: Tuesday, May 31, 2016 9:30 AM
To: Kennedy, Alan ERD <Alan.J.Kennedy@usace.army.mil>
Subject: EPA Comments on Kings Bay Draft Tier III (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Good morning Al,
Hope you had a great weekend!

Attached below are EPA's comments on the KB Tier III. Let me know if I can assist with anything as well.

Thank you,

Aaron Lassiter
Planning and Policy Division
904.232.3642

-----Original Message-----
From: Weiss, Lena [mailto:Weiss.Lena@epa.gov]
Sent: Tuesday, May 31, 2016 10:20 AM
To: Lassiter, James SAJ <James.A.Lassiter@usace.army.mil>
Subject: [EXTERNAL] Kings Bay Draft Tier III

Good morning Aaron!

I hope you had a good long weekend!

Below are my comments on the Kings Bay Draft Tier III analysis.

Please don't hesitate to contact me if you have any questions or comments.

Thanks!

Lena

EPA Comments on Draft King's Bay Entrance and Inner Channel Section 103 Report

Project Description

- Depiction of disposal site in relation to dredging project is missing

Sampling Information

- Sample depth is not described relative to project depth in Table 8. Could insert in separate column

Reference Locations

- Reference site used is never identified by name in report (e.g. A/B/C/D)

Materials and Methods

- Detection limits are listed in appendices but not in report - consider including DLs and RLs in chemistry/bioaccumulation tables as a column

Final Results/ Summary Tables of Results

- Please add typed versions of raw data tables for survival in elutriate bioassays, sediment bioassays, and bioaccumulation tests (hand-written versions are in Appendix G) - tables can be added as a separate appendix or at end of report. Need survival numbers for each rep, and mean number for each composite.

o In that vein, it appears as if in the Leptocheirus test, the RS and DMMU 1 both had one possible outlier replicate, which results in high standard deviations for those treatments. The report would benefit from a brief mention of this, and if they were treated as outliers.

Discussion and Analysis

- Consider adding a brief general discussion of results in comparison to historic results in area

- STFATE results/discussion

o Please provide more detailed information about modeling inputs/results in separate appendix.

o The way the discussion on pg. 90 is worded, it is unclear if an application factor of 0.01 or 0.1 was used. Please clarify.

o Pg. 93 references Table 61 - no Table 61 in report.

o Please provide calculation spreadsheet

o What bulking factor was used?

- Consider moving Section 8 before Section 7 (discussion of results) - makes more sense if after methods

QA/QC

- Raw survival data for bioassays and bioaccumulation not presented completely in typed format.

- Data review/validation (Appendix K) not signed

- During the bioaccumulation testing, one of the tanks developed a leak and water drained - consider noting in the QA/QC discussion of problems encountered in general report

- The lab used different numbers of organisms in each treatment for the bioaccumulation tests, and different numbers of individuals for each organism in the 10-day test (20 each for Lepto, 10 each for Neries) - is this typical?

CLASSIFICATION: UNCLASSIFIED
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Pearce, Jennifer

From: Weiss, Lena
Sent: Thursday, October 06, 2016 3:23 PM
To: Pearce, Jennifer
Subject: FOIA Req EPA R4 2016 010483

-----Original Message-----
From: White, Shannon C SAJ [mailto:Shannon.C.White@usace.army.mil]
Sent: Thursday, July 21, 2016 2:05 PM
To: Weiss, Lena <Weiss.Lena@epa.gov>
Subject: SAJ-1992-01854 / Kings Bay Section 103

Lena,
I hope you are doing well. I have a few questions regarding the sampling data and was wondering if you have any availability to discuss this week.
Thank you,

Shannon C. White

Project Manager
U.S. Army Corps of Engineers
Jacksonville Permits Section
701 San Marco Boulevard
Jacksonville, FL 32207

office: 904-232-1681

Let us know how we're doing! Complete this brief survey:
http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey