Stantec

Memo

To:	Brian Swartz, USACE Heather Allamon, Ohio EPA	From:	Cody Fleece, Hallie Serazin, Michael DeVillers Stantec Consulting, Inc.
File:	174316204	Date:	November 8, 2017

Reference: Sediment Sampling Memo

INTRODUCTION/BACKGROUND

The Maumee Watershed Conservancy District (MWCD) contracted Stantec Consulting Services Inc. (Stantec) to develop potential alternative solutions to reduce the risks of overbank flooding from the Blanchard River and its tributaries in the vicinity of Findlay, Hancock County, Ohio. The outcome of Stantec's efforts thus far includes the recommendations for Hydraulic Improvements along the Blanchard River in downtown Findlay, Ohio (Hancock County Flood Risk Reduction Program Final Report, Stantec - 2017). The MWCD moved to further investigate these hydraulic improvements and the Conservancy Court authorized the projects to move forward in accordance with MWCD's Official Plan. Sediment sampling was conducted in support of the MWCD hydraulic improvements project.

FIELD METHODS

Sediment sampling was conducted on the upstream side of four low-head dams in the Blanchard River by two Stantec field personnel on September 28, 2017 (see Attachment A, Figure 1). Sediment sampling was conducted from an aluminum john-boat and generally followed methodologies outlined in "Sediment Sampling Guide and Methodologies (2nd Edition)" (Ohio EPA, 2001). An attempt was made to collect sediment samples from three distinct locations on the upstream side of four low-head dams along the Blanchard River between approximately River Mile (RM) 57 and RM 58 (Attachment A, Figures 2 through 5).

At each low-head dam location, the following specific procedure was followed:

1. Reconnaissance sediment soundings with steel rod "feeling" the substrates until suitable finer sediments were located. Approximate maximum sediment depth was recorded.
2. Anchored the boat at bow and stern.
3. Photographed river upstream and downstream.
4. Took water quality readings (temperature, pH, dissolved oxygen, turbidity). These measurements were collected only at the first sample site at each of the four low-head dam locations.
5. Aluminum foil was spread out on the boat deck to receive sediment sample.
6. Ponar® grab sampler was used to place sediment sample onto foil. If enough fine sediment was grabbed, a close-up photograph of sediment was taken, then four (4) labeled glass containers were filled using a metal spoon and placed in a cooler with ice.

7. Another sediment sample was collected and placed in a large, labelled zip lock bag and placed in a second cooler without ice.

8. A water depth reading was taken and Global Positioning Satellite (GPS) coordinates were recorded.

9. Equipment that was in contact with the sediment sample was scrubbed/washed with an Alcanox®/distilled water mix and then thoroughly rinsed with distilled water.

10. Anchors were pulled up and the above steps were repeated for the next sediment sample site.

ECOLOGICAL SCREENING METHODS

To characterize sediment conditions at the low-head dams, chemical analysis of the samples was compared to available reference values. Since there is not one definitive set of chemical concentrations in sediment that are considered acceptable, a tiered approach was used to assess the potential for adverse ecological impacts due to sediment contamination. Analytical results for sediment at each of the dams are presented in Attachment C.

For naturally occurring metals, the first point of comparison was Ohio EPA's Sediment Reference Values (SRVs) for the Eastern Corn Belt Plains ecoregion, which includes the site location (Ohio EPA 2008). SRVs are ecoregion-specific concentrations of naturally-occurring metals that can be used in lieu of site-specific background concentrations for determining whether sediments have been impacted by site related activities. If the sediment concentrations are at, or near, background concentrations, then further assessment or remediation is unnecessary.

The next point of comparison was consensus-based Threshold Effect Concentrations (TECs) and Probable Effects Concentrations (PECs). Consensus-based TECs represent sediment concentrations at which adverse effects may begin to be observed. TECs were used as Tier 1 ecological screening levels (ESLs). Consensus-based PECs represent concentrations where adverse effects are likely to be observed. PECs were used as Tier 2 ESLs. It is important to note that TECs and PECs are consensus-based values derived from published literature and, when exceeded, do not necessarily equate to adverse effects.

Using a technique similar to the one used to derive consensus-based TECs and PECs, MacDonald developed threshold effect levels (TELs) and probable effects levels (PELs) for some of the most frequently detected sediment contaminants (MacDonald 1994). Later, Region 5 EPA adopted many of these values as sediment ESLs. Therefore, the Region 5 ESLs were referenced as a second source for Tier 1 ESLs and Tier 2 ESLs.

Finally, Ecological Screening Values (ESVs) for freshwater sediments listed in USEPA Region 4's Ecological Risk Assessment Supplemental Guidance were used a third source for Tier 1 and 2 ESLs for sediment (EPA 2015).

EQUILIBRIUM PARTITIONING FOR PAHS IN SEDIMENT

For nonionic organic contaminants such as polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs), USEPA reported that the adverse biological effects from these constituents are not correlated with bulk sediment concentrations of the contaminants; but are more appropriately correlated with the concentration of the contaminant in interstitial pore water (EPA 2008). Therefore, to assess the bioavailability of PAHs in sediment, Equilibrium Partitioning Sediment Benchmarks (ESBs) were calculated for each sample where PAHs were detected (Karg Dam, Sample 3A, 3B and 3C, Swale Paris Dam, Sample 4A and 4B). The ESB predicts the fraction of a contaminant that is freely dissolved in interstitial pore water and the portion that is bound to organic carbon in the sediment and is, therefore, less bioavailable (EPA 2008). The calculation of ESBs is presented in Table 2.

The first step in developing the ESBs was to convert the concentration of PAHs from mg/kg to µg/g and Total Organic Carbon (TOC) concentration (mg/kg) to a unitless Fraction Organic Carbon (f_{OC}) by dividing percent TOC by 100. The next step is to divide the concentration of each detected PAHs by the f_{OC}. Step three is to determine an ESB Toxic Unit (ESBTU) by taking the normalized concentration for each PAH calculated in step 2 and dividing that by its corresponding Final Chronic Value from U.S. EPA's *Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: PAH Mixtures* (USEPA 2008). Step four is to sum the ESBTUs for each PAH detected to get the ΣESBTU.

The ESB methodology assumes that the sediment analysis includes 34 PAH compounds. When fewer than 34 PAH compounds are reported an uncertainty factor must be applied. Therefore, the ΣESBTU was multiplied by the 95th Percentile Uncertainty Factor for fewer than 13 PAHs to derive the ΣESBTU. If the adjusted ΣESBTU is less than 1, it is likely that the sediment will not be toxic to aquatic life. If the adjusted ΣESBTU is 1 or greater, the sediment may be toxic to aquatic life and more information may be needed to determine appropriate sediment management options. The adjusted ΣESBTU for each location with detected PAHs is presented in Attachment D, Table 2.

RESULTS

Weather during sediment sampling on September 28, 2017 was mostly sunny and breezy with a high of 71 degrees Fahrenheit. Blanchard River flow was normal with a discharge of approximately 24 cubic feet per second. Successful sediment samples were collected from eleven (11) out of twelve (12) potential sites (after approximately 10 failed Ponar® grab attempts at the Dam 2C site, the sample location was abandoned). Water depths among the eleven (11) sediment sampling sites ranged from a low of 2.5 feet, at Dam 3C, Dam 4A, and Dam 4B, to a high of 4.4 feet, at Dam 1B. Overall, the average water depth was approximately 3.3 feet. Sediment depths among the eleven (11) sediment sampling sites ranged from a low of two (2) inches at Dam 2B to a high of nine (9) inches at Dam 1A, Dam 1B, and Dam 1C. Overall, the average sediment depth was approximately 5.2 inches. An overview photograph facing upstream and downstream on the Blanchard River at each of the eleven (11) sediment sampling locations as well as a close-up photograph of each of the sediment samples is provided in Attachment B.

In general, at all the sediment sampling sites it was fairly difficult to find pockets of finer sediment and often it would take multiple (three to five) Ponar® grab attempts to retrieve grab sample with

enough sediment volume to fill four (4) glass sample jars. It was common to have either sticks, large stones, or urban trash (aluminum can, glass) caught in the Ponar "jaws" preventing complete closure of the Ponar, resulting in a failed grab sample. The location of pockets of finer sediment appeared to be randomly scattered on the upstream side of each of the four low-head dams on the Blanchard River with no apparent consistent pattern of finer sediment distribution in any one part of the river (for example, closer to the dam, or along the margins of the river channel).

SEDIMENT SCREENING RESULTS

Comparison of the concentration of naturally-occurring metals to Ohio EPA's SRVs for the Eastern Corn Belt Plains ecoregion shows only two exceedances (Attachment D, Table 1). In sample 3B, collected at Karg Dam, arsenic was detected at 20.1 mg/kg which just exceeds the SRV (18 mg/kg). In sample 4C, collected at Swale Park Dam, lead was detected at 116 mg/kg which exceeds the SRV (47 mg/kg) and the Tier 1 ESL (35.8 mg/kg). The concentrations of arsenic and lead detected at these locations did not exceed their Tier 2 ESLs.

Comparing the concentration of PAHs to Tier 1 and Tier 2 ESL shows more wide-spread exceedance of the ESLs. PAHs are common contaminants in areas with asphalt roofs, roadways, and automobile exhaust so given the urban nature of this stretch of the Blanchard river, this finding is not surprising. Only at sample 3B, collected at Karg Dam, did PAHs exceed Tier 2 ESLs.

To assess the potential bioavailability of the PAHs detected in low-head dam sediments the ΣESBTU was calculated for each sample with detected PAHs. Ohio EPA's guidance on evaluating sediment contaminant results states that when the adjusted ΣESBTU is less than 1, it is likely that the sediment will not be toxic to aquatic life. If the adjusted ΣESBTU is 1 or greater, more information may be needed to determine appropriate sediment management options. The adjusted ΣESBTU is less than 1 for all PAHs detected in low-head dam sediment samples (Attachment D, Table 2).

Analysis for PCBs and pesticides in low-head dam sediments were all below detection limits and most detection limits were below screening levels. However, prior to analysis, pesticide sediment samples underwent a ten-fold dilution. Sample dilution was needed due to the presence of high levels of non-target analytes or other matrix interference. While necessary, this procedures results in elevated detection limits. Since no pesticides or PCBs were detected in sediment, it is concluded that these compounds do not present a significant ecological risk.

DISCUSSION

Comparison of the bulk sediment chemistry results to background levels and ESLs does not indicate widespread sediment contamination. Key findings are as follows:

- The concentration of arsenic detected in sample 3B (20.1 mg/kg) barely exceeds the SRV (18 mg/kg) and mostly likely does not pose undue ecological risk.
- The concentration of lead detected in sample 4C (116 mg/kg) exceeds the SRV and Tier 1 ESL but does not exceed the Tier 2 ESL and mostly likely does not pose undue ecological risk.

Reference: Sediment Sampling Memo

- The concentration of PAHs detected all samples have an adjusted ΣESBTU greater than one which suggests that risks to ecological receptors in direct contact with sediment at this location may be unacceptable.
- At all the sediment sampling sites, fine-grained sediments were difficult to find and appeared to be randomly scattered on the upstream side of each of the four low-head dams with no apparent consistent pattern of finer sediment distribution in any one part of the river.

The concentrations of metals and PAHs detected above the low-head dams appear to be consistent with what one would expect to find in an urban environment like the Blanchard River in Findlay. All PCBs and pesticides were below detection limits. Because contamination does not appear to be widespread and large amounts of fine-grained sediments do not appear to have accumulated, no further action for sediment is recommended.

REFERENCES

Ohio EPA 2010. Guidance on Evaluating Sediment Contaminant Results, Division of Surface Water, Standards and Technical Support Section, January 2010.

Ohio EPA, 2001. Sediment Sampling Guide and Methodologies (2nd Edition), Division of Surface Water, November 2001.Ohio Environmental Protection Agency (Ohio EPA), 2008. Ecological Risk Assessment Guidance Document, Division of Environmental Response and Remediation, February 2003, Revised April 2008.

U.S. Environmental Protection Agency (USEPA). 2008. Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: Compendium of Tier 2 Values for Nonionic Organics. Office of Research and Development. March 2008. EPA/600/R-02/016. http://www.epa.gov/nheerl/publications/files/ESB_Compendium_v14_final.pdf

STANTEC CONSULTING SERVICES INC.

Cody Fleece
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Attachment: A – Site map
B – Site photos
C - Analytical results
D – Sediment screening tables

c. Steve Wilson, Hancock County
Adam Hoff, Stantec

Reference: Sediment Sampling Memo

Bryon Ringley, Stantec

ATTACHMENT A

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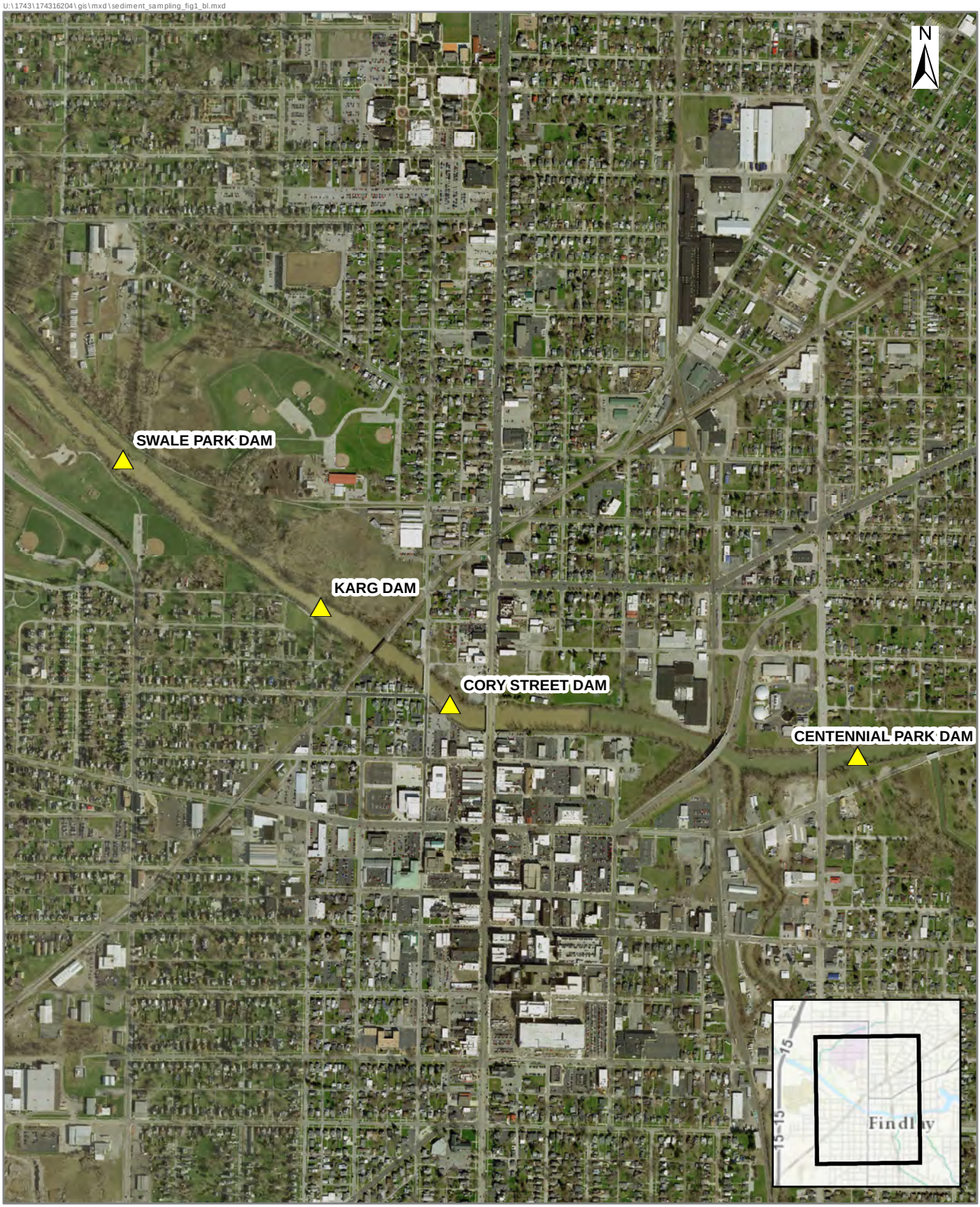


Hancock County GIS 2016

Disclaimer: This map is for illustrative purposes to support this Stantec Project; questions can be directed to the issuing office.

Legend

Low-Head Dams

Sediment Sampling Locations Overview

Stantec

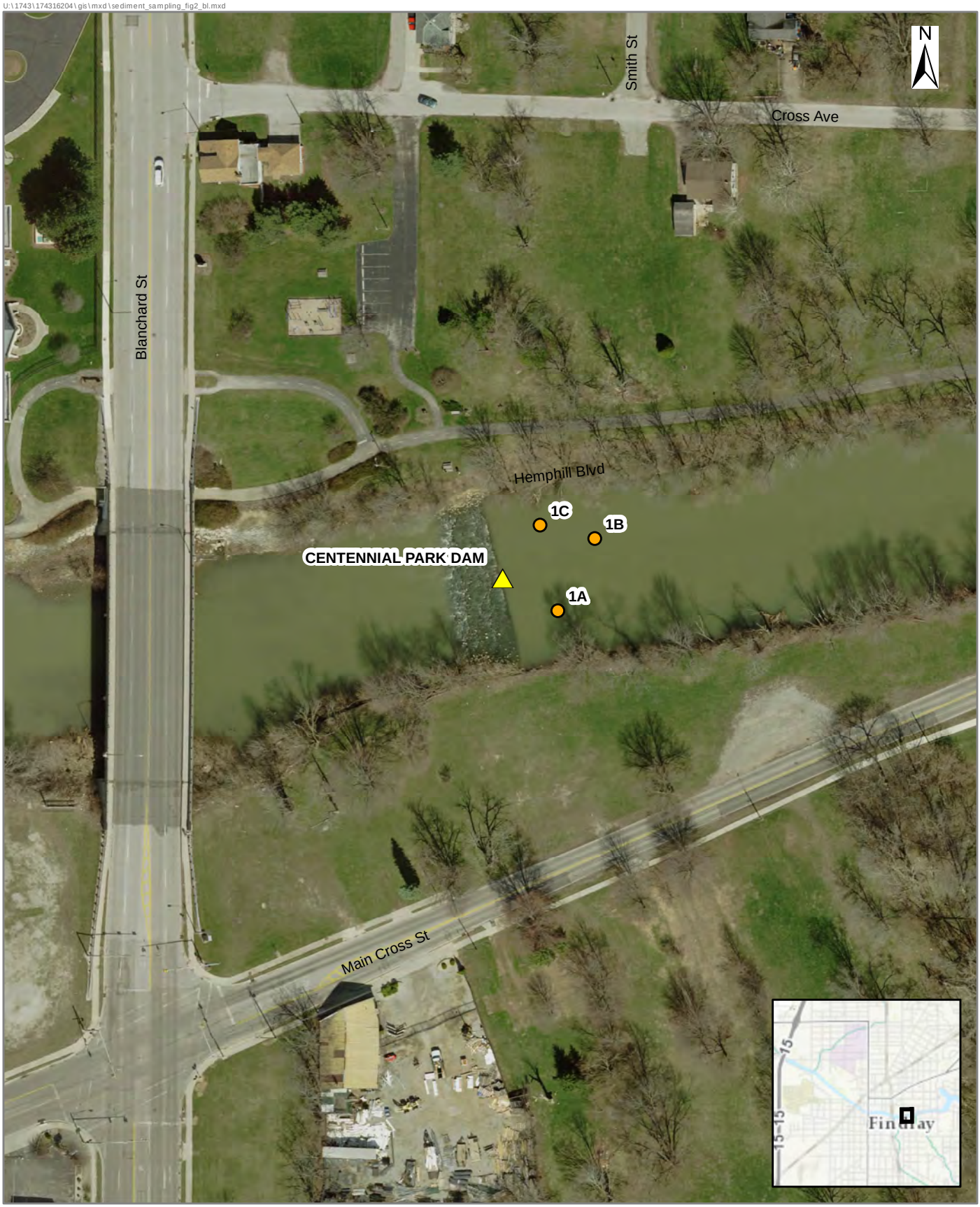
HANCOCK COUNTY FLOOD DIVERSION

0 500 1,000 2,000
Feet
174316204 NAD 1983 StatePlane Ohio North FIPS 3401 Feet

1 inch = 1,000 feet

Figure 1

U:\1743\174316204\gis\mxd\sediment_sampling_fig2_bl.mxd



Hancock County GIS 2016

Disclaimer: This map is for illustrative purposes to support this Stantec Project; questions can be directed to the issuing office.

Legend

- Low-Head Dam
- Approximate Sampling Location

Sediment Sampling Sites
Centennial Park Dam

Stantec

HANCOCK COUNTY FLOOD DIVERSION

0 50 100 200
Feet
174316204 NAD 1983 StatePlane Ohio North FIPS 3401 Feet

1 inch = 100 feet

Figure 2

U:\1743\174316204\gis\mxd\sediment_sampling_fig3_bl.mxd

Hancock County GIS 2016

Disclaimer: This map is for illustrative purposes to support this Stantec Project; questions can be directed to the issuing office.

Legend

Low-Head Dam

Approximate Sampling Location

Note: Site C - Not able to locate fine sediment; no sample acquired

Sediment Sampling Sites
Cory Street Dam

Figure 3

Stantec

HANCOCK COUNTY FLOOD DIVERSION

0 50 100 200
Feet
174316204 NAD 1983 StatePlane Ohio North FIPS 3401 Feet

1 inch = 100 feet

U:\1743\174316204\gis\mxd\sediment_sampling_fig4_bl.mxd

Hancock County GIS 2016

Disclaimer: This map is for illustrative purposes to support this Stantec Project; questions can be directed to the issuing office.

Legend

Low-Head Dam

Approximate Sampling Location

Sediment Sampling Sites
Karg Dam

Stantec

HANCOCK COUNTY FLOOD DIVERSION

0 50 100 200
Feet
174316204 NAD 1983 StatePlane Ohio North FIPS 3401 Feet

1 inch = 100 feet

Figure 4

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Hancock County GIS 2016 and OSIP II 2011

Disclaimer: This map is for illustrative purposes to support this Stantec Project; questions can be directed to the issuing office.

Legend

Low-Head Dam

Approximate Sampling Location

Sediment Sampling Sites
Swale Park Dam

Stantec

HANCOCK COUNTY FLOOD DIVERSION

0 50 100 200
Feet
174316204 NAD 1983 StatePlane Ohio North FIPS 3401 Feet

1 inch = 100 feet

Figure 5

ATTACHMENT B

Attachment B
Blanchard River Sediment Sampling Memo
Hancock County, Ohio

Photograph 1. Centennial Park Dam, Dam 1A Site, Blanchard River upstream.

Photograph 2. Centennial Park Dam, Dam 1A Site, Blanchard River downstream.

Photograph 3. Centennial Park Dam, Dam 1A Site, sediment sample.

Photograph 4. Centennial Park Dam, Dam 1B Site, Blanchard River upstream.

Photograph 5. Centennial Park Dam, Dam 1B Site, Blanchard River downstream.

Photograph 6. Centennial Park Dam, Dam 1B Site, sediment sample.

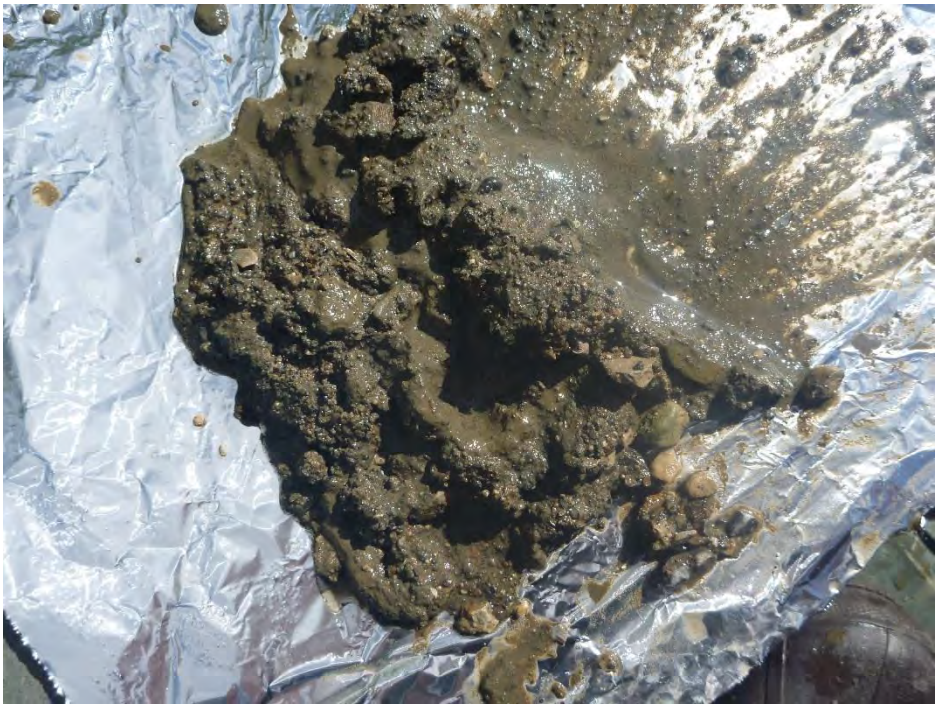
Photograph 7. Centennial Park Dam, Dam 1C Site, Blanchard River upstream.

Photograph 8. Centennial Park Dam, Dam 1C Site, Blanchard River downstream.

Photograph 9. Centennial Park Dam, Dam 1C Site, sediment sample.

Photograph 10. Cory Street Dam, Dam 2A Site, Blanchard River upstream.

Photograph 11. Cory Street Dam, Dam 2A Site, Blanchard River downstream.



Photograph 12. Cory Street Dam, Dam 2A Site, sediment sample.

Photograph 13. Cory Street Dam, Dam 2B Site, Blanchard River upstream.

Photograph 14. Cory Street Dam, Dam 2B Site, Blanchard River downstream.

Photograph 15. Cory Street Dam, Dam 2B Site, sediment sample.

Photograph 16. Karg Dam, Dam 3A Site, Blanchard River upstream.

Photograph 17. Karg Dam, Dam 3A Site, Blanchard River downstream.

Photograph 18. Karg Dam, Dam 3A Site, sediment sample.

Photograph 19. Karg Dam, Dam 3B Site, Blanchard River upstream.

Photograph 20. Karg Dam, Dam 3B Site, Blanchard River downstream.

Photograph 21. Karg Dam, Dam 3B Site, sediment sample.

Photograph 22. Karg Dam, Dam 3C Site, Blanchard River upstream.

Photograph 23. Karg Dam, Dam 3C Site, Blanchard River downstream.

Photograph 24. Karg Dam, Dam 3C Site, sediment sample.

Photograph 25. Swale Park Dam, Dam 4A Site, Blanchard River upstream.

Photograph 26. Swale Park Dam, Dam 4A Site, Blanchard River downstream.

Photograph 27. Swale Park Dam, Dam 4A Site, sediment sample.

Photograph 28. Swale Park Dam, Dam 4B Site, Blanchard River upstream.

Photograph 29. Swale Park Dam, Dam 4B Site, Blanchard River downstream.

Photograph 30. Swale Park Dam, Dam 4B Site, sediment sample.

Photograph 31. Swale Park Dam, Dam 4C Site, Blanchard River upstream.

Photograph 32. Swale Park Dam, Dam 4C Site, Blanchard River downstream.

Photograph 33. Swale Park Dam, Dam 4C Site, sediment sample.

ATTACHMENT C

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

November 01, 2017

Mr. Dillion McNulty
Stantec
11687 Lebanon Road
Cincinnati, OH 45241

RE: Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Dear Mr. McNulty:
Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Revised Report; Cu, Ni, Zn, Pests and PCBs added per client request. dss

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

Sincerely,

Tina Sayer

Tina Sayer
tina.sayer@pacelabs.com
(317)228-3100
Project Manager

Enclosures

cc: Accounts Payable, Stantec Consulting Services, Inc.

Pace Analytical Services, LLC
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Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Montana Certification IDs
150 N. 9th Street, Billings, MT 59101
A2LA Certification #: 3590.01
EPA Region 8 Certification #: 8TMS-L
Idaho Certification #: MT00012
Minnesota Dept of Health Certification #: 030-999-442
Montana Certification #: MT CERT0040
North Dakota Dept. Of Health #: R-209
Washington Department of Ecology #: C993
Nevada Certificate # : MT00012

Green Bay Certification IDs
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

Indiana Certification IDs
7726 Moller Road, Indianapolis, IN 46268
Illinois Certification #: 003971
Indiana Certification #: C-49-06
Kansas/NELAP Certification #:E-10177
Kentucky UST Certification #: 80226
Kentucky WW Certification #:98019
Ohio VAP Certification #: CL-0065
Oklahoma Certification #: 2017-124
Texas Certification #: T104704355-17-11
West Virginia Certification #: 330
Wisconsin Certification #: 999788130
USDA Soil Permit #: P330-16-00257

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SAMPLE SUMMARY

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50181016001	**Dam 1A (Centennial Park Dam)**	Solid	09/28/17 09:10	10/02/17 09:35
50181016002	**Dam 1B (Centennial Park Dam)**	Solid	09/28/17 10:20	10/02/17 09:35
50181016003	**Dam 1C (Centennial Park Dam)**	Solid	09/28/17 10:45	10/02/17 09:35
50181016004	**Dam 2A (Corey Street Dam)**	Solid	09/28/17 12:02	10/02/17 09:35
50181016005	**Dam 2B (Corey Street Dam)**	Solid	09/28/17 12:34	10/02/17 09:35
50181016006	**Dam 3A (Karg Dam)**	Solid	09/28/17 14:25	10/02/17 09:35
50181016007	**Dam 3B (Karg Dam)**	Solid	09/28/17 14:53	10/02/17 09:35
50181016008	**Dam 3C (Karg Dam)**	Solid	09/28/17 15:20	10/02/17 09:35
50181016009	**Dam 4A (Swale Paris Dam)**	Solid	09/28/17 14:23	10/02/17 09:35
50181016010	**Dam 4B (Swale Paris Dam)**	Solid	09/28/17 14:43	10/02/17 09:35
50181016011	**Dam 4C (Swale Paris Dam)**	Solid	09/28/17 17:07	10/02/17 09:35

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SAMPLE ANALYTE COUNT

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
50181016001	**Dam 1A (Centennial Park Dam)**	EPA 8081	CPH	23	PASI-I
		EPA 8082	NPW	8	PASI-I
		EPA 6010	MJC	10	PASI-I
		EPA 7471	JGJ	1	PASI-I
		EPA 8270	TBP	67	PASI-I
		EPA 8260	TMW	73	PASI-I
		ASA 15-5 mod	SA2	4	
		SM 2540G	CRP	1	PASI-I
50181016002	**Dam 1B (Centennial Park Dam)**	EPA 8081	CPH	23	PASI-I
		EPA 8082	NPW	8	PASI-I
		EPA 6010	MJC	10	PASI-I
		EPA 7471	JGJ	1	PASI-I
		EPA 8270	TBP	67	PASI-I
		EPA 8260	TMW	73	PASI-I
		ASA 15-5 mod	SA2	4	
		SM 2540G	CRP	1	PASI-I
50181016003	**Dam 1C (Centennial Park Dam)**	EPA 8081	CPH	23	PASI-I
		EPA 8082	NPW	8	PASI-I
		EPA 6010	MJC	10	PASI-I
		EPA 7471	JGJ	1	PASI-I
		EPA 8270	TBP	67	PASI-I
		EPA 8260	TMW	73	PASI-I
		ASA 15-5 mod	SA2	4	
		SM 2540G	CRP	1	PASI-I
		EPA 9060 Modified	TJJ	4	PASI-G
50181016004	**Dam 2A (Corey Street Dam)**	EPA 8081	CPH	23	PASI-I
		EPA 8082	NPW	8	PASI-I
		EPA 6010	MJC	10	PASI-I
		EPA 7471	JGJ	1	PASI-I
		EPA 8270	TBP	67	PASI-I
		EPA 8260	TMW	73	PASI-I
		ASA 15-5 mod	SA2	4	
		SM 2540G	CRP	1	PASI-I
		EPA 9060 Modified	TJJ	4	PASI-G
50181016005	**Dam 2B (Corey Street Dam)**	EPA 8081	CPH	23	PASI-I
		EPA 8082	NPW	8	PASI-I
		EPA 6010	MJC	10	PASI-I

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Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7471	JGJ	1	PASI-I
		EPA 8270	TBP	67	PASI-I
		EPA 8260	TMW	73	PASI-I
		ASA 15-5 mod	SA2	4	
		SM 2540G	CRP	1	PASI-I
50181016006	**Dam 3A (Karg Dam)**	EPA 8081	CPH	23	PASI-I
		EPA 8082	NPW	8	PASI-I
		EPA 6010	MJC	10	PASI-I
		EPA 7471	ILP	1	PASI-I
		EPA 8270	TBP	67	PASI-I
		EPA 8260	TMW	73	PASI-I
		ASA 15-5 mod	SA2	4	
		SM 2540G	CRP	1	PASI-I
		EPA 9060 Modified	TJJ	4	PASI-G
50181016007	**Dam 3B (Karg Dam)**	EPA 8081	CPH	23	PASI-I
		EPA 8082	NPW	8	PASI-I
		EPA 6010	MJC	10	PASI-I
		EPA 7471	ILP	1	PASI-I
		EPA 8270	TBP	67	PASI-I
		EPA 8260	TMW	73	PASI-I
		ASA 15-5 mod	SA2	4	
		SM 2540G	CRP	1	PASI-I
		EPA 9060 Modified	TJJ	4	PASI-G
50181016008	**Dam 3C (Karg Dam)**	EPA 8081	CPH	23	PASI-I
		EPA 8082	NPW	8	PASI-I
		EPA 6010	MJC	10	PASI-I
		EPA 7471	ILP	1	PASI-I
		EPA 8270	TBP	67	PASI-I
		EPA 8260	TMW	73	PASI-I
		ASA 15-5 mod	SA2	4	
		SM 2540G	CRP	1	PASI-I
		EPA 9060 Modified	TJJ	4	PASI-G
50181016009	**Dam 4A (Swale Paris Dam)**	EPA 8081	CPH	23	PASI-I
		EPA 8082	NPW	8	PASI-I
		EPA 6010	MJC	10	PASI-I
		EPA 7471	ILP	1	PASI-I
		EPA 8270	TBP	67	PASI-I

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Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260	TMW	73	PASI-I
		ASA 15-5 mod	SA2	4	
		SM 2540G	CRP	1	PASI-I
		EPA 9060 Modified	TJJ	4	PASI-G
50181016010	**Dam 4B (Swale Paris Dam)**	EPA 8081	CPH	23	PASI-I
		EPA 8082	NPW	8	PASI-I
		EPA 6010	MJC	10	PASI-I
		EPA 7471	ILP	1	PASI-I
		EPA 8270	TBP	67	PASI-I
		EPA 8260	JLZ, TMW	73	PASI-I
		ASA 15-5 mod	SA2	4	
		SM 2540G	CRP	1	PASI-I
		EPA 9060 Modified	TJJ	4	PASI-G
50181016011	**Dam 4C (Swale Paris Dam)**	EPA 8081	CPH	23	PASI-I
		EPA 8082	NPW	8	PASI-I
		EPA 6010	MJC	10	PASI-I
		EPA 7471	ILP	1	PASI-I
		EPA 8270	TBP	67	PASI-I
		EPA 8260	TMW	73	PASI-I
		ASA 15-5 mod	SA2	4	
		SM 2540G	CRP	1	PASI-I
		EPA 9060 Modified	TJJ	4	PASI-G

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50181016001	**Dam 1A (Centennial Park Dam)**					
EPA 6010	Arsenic	4.3	mg/kg	1.1	10/09/17 12:56	
EPA 6010	Barium	22.7	mg/kg	1.1	10/09/17 12:56	
EPA 6010	Chromium	6.1	mg/kg	1.1	10/09/17 12:56	
EPA 6010	Copper	5.1	mg/kg	1.1	10/09/17 12:56	
EPA 6010	Lead	3.8	mg/kg	1.1	10/09/17 12:56	
EPA 6010	Nickel	6.8	mg/kg	1.1	10/09/17 12:56	
EPA 6010	Zinc	21.8	mg/kg	1.1	10/09/17 12:56	
ASA 15-5 mod	Percent Sand	97.5	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Percent Clay	2.5	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Texture	SAND			10/04/17 13:36	
SM 2540G	Percent Moisture	21.0	%	0.10	10/03/17 15:10	
50181016002	**Dam 1B (Centennial Park Dam)**					
EPA 6010	Arsenic	10.9	mg/kg	1.1	10/09/17 12:58	
EPA 6010	Barium	28.1	mg/kg	1.1	10/09/17 12:58	
EPA 6010	Chromium	5.8	mg/kg	1.1	10/09/17 12:58	
EPA 6010	Copper	7.7	mg/kg	1.1	10/09/17 12:58	
EPA 6010	Lead	5.4	mg/kg	1.1	10/09/17 12:58	
EPA 6010	Nickel	8.1	mg/kg	1.1	10/09/17 12:58	
EPA 6010	Selenium	1.3	mg/kg	1.1	10/09/17 12:58	
EPA 6010	Zinc	25.2	mg/kg	1.1	10/09/17 12:58	
ASA 15-5 mod	Percent Sand	97.5	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Percent Clay	2.5	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Texture	SAND			10/04/17 13:36	
SM 2540G	Percent Moisture	15.6	%	0.10	10/03/17 15:10	
50181016003	**Dam 1C (Centennial Park Dam)**					
EPA 6010	Arsenic	8.8	mg/kg	1.1	10/09/17 13:00	
EPA 6010	Barium	27.6	mg/kg	1.1	10/09/17 13:00	
EPA 6010	Chromium	6.5	mg/kg	1.1	10/09/17 13:00	
EPA 6010	Copper	11.2	mg/kg	1.1	10/09/17 13:00	
EPA 6010	Lead	6.6	mg/kg	1.1	10/09/17 13:00	
EPA 6010	Nickel	10.7	mg/kg	1.1	10/09/17 13:00	
EPA 6010	Selenium	1.6	mg/kg	1.1	10/09/17 13:00	
EPA 6010	Zinc	27.8	mg/kg	1.1	10/09/17 13:00	
ASA 15-5 mod	Percent Sand	97.5	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Percent Clay	2.5	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Texture	SAND			10/04/17 13:36	
SM 2540G	Percent Moisture	17.6	%	0.10	10/03/17 15:11	
EPA 9060 Modified	RPD%	22.0	%	0.10	10/13/17 07:55	
EPA 9060 Modified	Total Organic Carbon	5450	mg/kg	1520	10/13/17 07:55	
EPA 9060 Modified	Total Organic Carbon	4370	mg/kg	1500	10/13/17 08:08	
EPA 9060 Modified	Mean Total Organic Carbon	4910	mg/kg	1510	10/13/17 07:55	C4
50181016004	**Dam 2A (Corey Street Dam)**					
EPA 6010	Arsenic	9.2	mg/kg	1.2	10/09/17 13:02	
EPA 6010	Barium	39.5	mg/kg	1.2	10/09/17 13:02	
EPA 6010	Chromium	9.3	mg/kg	1.2	10/09/17 13:02	
EPA 6010	Copper	12.2	mg/kg	1.2	10/09/17 13:02	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

SUMMARY OF DETECTION

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50181016004	**Dam 2A (Corey Street Dam)**					
EPA 6010	Lead	8.9	mg/kg	1.2	10/09/17 13:02	
EPA 6010	Nickel	12.5	mg/kg	1.2	10/09/17 13:02	
EPA 6010	Selenium	2.2	mg/kg	1.2	10/09/17 13:02	
EPA 6010	Zinc	44.3	mg/kg	1.2	10/09/17 13:02	
ASA 15-5 mod	Percent Sand	87.5	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Percent Clay	10.0	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Percent Silt	2.5	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Texture	LOAMY SAND			10/04/17 13:36	
SM 2540G	Percent Moisture	24.1	%	0.10	10/03/17 15:11	
EPA 9060 Modified	RPD%	23.4	%	0.10	10/13/17 09:09	
EPA 9060 Modified	Total Organic Carbon	9130	mg/kg	1790	10/13/17 09:09	
EPA 9060 Modified	Total Organic Carbon	7220	mg/kg	1780	10/13/17 09:15	
EPA 9060 Modified	Mean Total Organic Carbon	8180	mg/kg	1790	10/13/17 09:09	C4
50181016005	**Dam 2B (Corey Street Dam)**					
EPA 6010	Arsenic	6.1	mg/kg	1.1	10/09/17 13:04	
EPA 6010	Barium	20.6	mg/kg	1.1	10/09/17 13:04	
EPA 6010	Chromium	5.4	mg/kg	1.1	10/09/17 13:04	
EPA 6010	Copper	7.1	mg/kg	1.1	10/09/17 13:04	
EPA 6010	Lead	5.8	mg/kg	1.1	10/09/17 13:04	
EPA 6010	Nickel	7.1	mg/kg	1.1	10/09/17 13:04	
EPA 6010	Zinc	26.5	mg/kg	1.1	10/09/17 13:04	
ASA 15-5 mod	Percent Sand	97.5	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Percent Clay	2.5	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Texture	SAND			10/04/17 13:36	
SM 2540G	Percent Moisture	20.7	%	0.10	10/03/17 15:11	
50181016006	**Dam 3A (Karg Dam)**					
EPA 6010	Arsenic	5.2	mg/kg	1.1	10/10/17 10:35	
EPA 6010	Barium	26.0	mg/kg	1.1	10/10/17 10:35	
EPA 6010	Chromium	4.9	mg/kg	1.1	10/10/17 10:35	
EPA 6010	Copper	6.9	mg/kg	1.1	10/10/17 10:35	
EPA 6010	Lead	8.6	mg/kg	1.1	10/10/17 10:35	
EPA 6010	Nickel	7.2	mg/kg	1.1	10/10/17 10:35	
EPA 6010	Selenium	1.3	mg/kg	1.1	10/10/17 10:35	
EPA 6010	Zinc	23.8	mg/kg	1.1	10/10/17 10:35	
EPA 8270	Anthracene	0.59	mg/kg	0.41	10/03/17 18:15	R1
EPA 8270	Benzo(a)anthracene	2.4	mg/kg	0.41	10/03/17 18:15	M1, R1
EPA 8270	Benzo(a)pyrene	2.0	mg/kg	0.41	10/03/17 18:15	M1, R1
EPA 8270	Benzo(b)fluoranthene	2.5	mg/kg	0.41	10/03/17 18:15	M1
EPA 8270	Benzo(g,h,i)perylene	1.2	mg/kg	0.41	10/03/17 18:15	
EPA 8270	Benzo(k)fluoranthene	1.1	mg/kg	0.41	10/03/17 18:15	R1
EPA 8270	Chrysene	2.3	mg/kg	0.41	10/03/17 18:15	M1
EPA 8270	Fluoranthene	4.8	mg/kg	0.41	10/03/17 18:15	M1, R1
EPA 8270	Indeno(1,2,3-cd)pyrene	1.1	mg/kg	0.41	10/03/17 18:15	
EPA 8270	Phenanthrene	2.6	mg/kg	0.41	10/03/17 18:15	M1, R1
EPA 8270	Pyrene	4.1	mg/kg	0.41	10/03/17 18:15	M1, R1

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SUMMARY OF DETECTION

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50181016006	**Dam 3A (Karg Dam)**					
ASA 15-5 mod	Percent Sand	97.5	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Percent Clay	2.5	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Texture	SAND			10/04/17 13:36	
SM 2540G	Percent Moisture	19.4	%	0.10	10/03/17 17:25	
EPA 9060 Modified	RPD%	20.1	%	0.10	10/13/17 12:13	
EPA 9060 Modified	Total Organic Carbon	12500	mg/kg	831	10/13/17 12:13	
EPA 9060 Modified	Total Organic Carbon	10200	mg/kg	830	10/13/17 12:21	
EPA 9060 Modified	Mean Total Organic Carbon	11300	mg/kg	830	10/13/17 12:13	C4
50181016007	**Dam 3B (Karg Dam)**					
EPA 6010	Arsenic	20.1	mg/kg	1.2	10/10/17 10:38	
EPA 6010	Barium	44.7	mg/kg	1.2	10/10/17 10:38	
EPA 6010	Chromium	10.1	mg/kg	1.2	10/10/17 10:38	
EPA 6010	Copper	25.9	mg/kg	1.2	10/10/17 10:38	
EPA 6010	Lead	6.7	mg/kg	1.2	10/10/17 10:38	
EPA 6010	Nickel	16.7	mg/kg	1.2	10/10/17 10:38	
EPA 6010	Selenium	4.0	mg/kg	1.2	10/10/17 10:38	
EPA 6010	Zinc	36.1	mg/kg	1.2	10/10/17 10:38	
EPA 8270	Fluoranthene	0.45	mg/kg	0.40	10/03/17 19:03	
ASA 15-5 mod	Percent Sand	95.0	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Percent Clay	5.0	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Texture	SAND			10/04/17 13:36	
SM 2540G	Percent Moisture	18.1	%	0.10	10/03/17 17:25	
EPA 9060 Modified	RPD%	20.5	%	0.10	10/13/17 09:38	
EPA 9060 Modified	Total Organic Carbon	8460	mg/kg	1380	10/13/17 09:38	
EPA 9060 Modified	Total Organic Carbon	6890	mg/kg	1370	10/13/17 09:44	
EPA 9060 Modified	Mean Total Organic Carbon	7670	mg/kg	1380	10/13/17 09:38	C4
50181016008	**Dam 3C (Karg Dam)**					
EPA 6010	Arsenic	5.4	mg/kg	1.2	10/10/17 10:40	
EPA 6010	Barium	25.5	mg/kg	1.2	10/10/17 10:40	
EPA 6010	Chromium	6.3	mg/kg	1.2	10/10/17 10:40	
EPA 6010	Copper	18.7	mg/kg	1.2	10/10/17 10:40	
EPA 6010	Lead	8.5	mg/kg	1.2	10/10/17 10:40	
EPA 6010	Nickel	7.4	mg/kg	1.2	10/10/17 10:40	
EPA 6010	Selenium	1.4	mg/kg	1.2	10/10/17 10:40	
EPA 6010	Zinc	47.1	mg/kg	1.2	10/10/17 10:40	
EPA 8270	Fluoranthene	1.3	mg/kg	0.42	10/03/17 19:18	
EPA 8270	Phenanthrene	1.0	mg/kg	0.42	10/03/17 19:18	
EPA 8270	Pyrene	0.85	mg/kg	0.42	10/03/17 19:18	
ASA 15-5 mod	Percent Sand	95.0	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Percent Clay	5.0	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Texture	SAND			10/04/17 13:36	
SM 2540G	Percent Moisture	22.1	%	0.10	10/03/17 17:25	
EPA 9060 Modified	RPD%	3.2	%	0.10	10/13/17 09:55	
EPA 9060 Modified	Total Organic Carbon	8080	mg/kg	1590	10/13/17 09:55	
EPA 9060 Modified	Total Organic Carbon	7820	mg/kg	1610	10/13/17 10:01	
EPA 9060 Modified	Mean Total Organic Carbon	7950	mg/kg	1600	10/13/17 09:55	C4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(317)228-3100

SUMMARY OF DETECTION

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50181016009	**Dam 4A (Swale Paris Dam)**					
EPA 6010	Arsenic	5.2	mg/kg	1.2	10/10/17 10:42	
EPA 6010	Barium	18.2	mg/kg	1.2	10/10/17 10:42	
EPA 6010	Chromium	5.1	mg/kg	1.2	10/10/17 10:42	
EPA 6010	Copper	10.1	mg/kg	1.2	10/10/17 10:42	
EPA 6010	Lead	5.1	mg/kg	1.2	10/10/17 10:42	
EPA 6010	Nickel	7.1	mg/kg	1.2	10/10/17 10:42	
EPA 6010	Selenium	1.5	mg/kg	1.2	10/10/17 10:42	
EPA 6010	Zinc	22.8	mg/kg	1.2	10/10/17 10:42	
EPA 8270	Fluoranthene	0.84	mg/kg	0.40	10/03/17 19:34	
EPA 8270	Phenanthrene	0.56	mg/kg	0.40	10/03/17 19:34	
EPA 8270	Pyrene	0.54	mg/kg	0.40	10/03/17 19:34	
ASA 15-5 mod	Percent Sand	95.0	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Percent Clay	5.0	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Texture	SAND			10/04/17 13:36	
SM 2540G	Percent Moisture	17.7	%	0.10	10/03/17 17:25	
EPA 9060 Modified	RPD%	22.1	%	0.10	10/13/17 10:07	
EPA 9060 Modified	Total Organic Carbon	11100	mg/kg	820	10/13/17 10:07	
EPA 9060 Modified	Total Organic Carbon	13800	mg/kg	817	10/13/17 10:19	
EPA 9060 Modified	Mean Total Organic Carbon	12400	mg/kg	818	10/13/17 10:07	C4
50181016010	**Dam 4B (Swale Paris Dam)**					
EPA 6010	Arsenic	7.9	mg/kg	1.2	10/10/17 11:06	
EPA 6010	Barium	38.2	mg/kg	1.2	10/10/17 11:06	
EPA 6010	Chromium	6.8	mg/kg	1.2	10/10/17 11:06	
EPA 6010	Copper	8.8	mg/kg	1.2	10/10/17 11:06	
EPA 6010	Lead	9.7	mg/kg	1.2	10/10/17 11:06	
EPA 6010	Nickel	9.0	mg/kg	1.2	10/10/17 11:06	
EPA 6010	Selenium	2.1	mg/kg	1.2	10/10/17 11:06	
EPA 6010	Zinc	40.9	mg/kg	1.2	10/10/17 11:06	
EPA 8270	Fluoranthene	1.1	mg/kg	0.42	10/03/17 19:50	
EPA 8270	Phenanthrene	0.60	mg/kg	0.42	10/03/17 19:50	
EPA 8270	Pyrene	0.80	mg/kg	0.42	10/03/17 19:50	
ASA 15-5 mod	Percent Sand	92.5	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Percent Clay	7.5	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Texture	SAND			10/04/17 13:36	
SM 2540G	Percent Moisture	21.5	%	0.10	10/03/17 17:25	
EPA 9060 Modified	RPD%	17.0	%	0.10	10/13/17 10:41	
EPA 9060 Modified	Total Organic Carbon	19400	mg/kg	859	10/13/17 10:41	
EPA 9060 Modified	Total Organic Carbon	16300	mg/kg	856	10/13/17 11:05	
EPA 9060 Modified	Mean Total Organic Carbon	17800	mg/kg	858	10/13/17 10:41	C4
50181016011	**Dam 4C (Swale Paris Dam)**					
EPA 6010	Arsenic	5.8	mg/kg	1.2	10/10/17 11:08	
EPA 6010	Barium	24.5	mg/kg	1.2	10/10/17 11:08	
EPA 6010	Chromium	7.8	mg/kg	1.2	10/10/17 11:08	
EPA 6010	Copper	10.8	mg/kg	1.2	10/10/17 11:08	
EPA 6010	Lead	115	mg/kg	1.2	10/10/17 11:08	
EPA 6010	Nickel	7.9	mg/kg	1.2	10/10/17 11:08	

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SUMMARY OF DETECTION

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
50181016011	**Dam 4C (Swale Paris Dam)**					
EPA 6010	Selenium	1.6	mg/kg	1.2	10/10/17 11:08	
EPA 6010	Zinc	28.6	mg/kg	1.2	10/10/17 11:08	
ASA 15-5 mod	Percent Sand	90.0	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Percent Clay	5.0	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Percent Silt	5.0	% (w/w)	0.10	10/04/17 13:36	
ASA 15-5 mod	Texture	SAND			10/04/17 13:36	
SM 2540G	Percent Moisture	17.7	%	0.10	10/03/17 17:25	
EPA 9060 Modified	RPD%	7.0	%	0.10	10/13/17 12:29	
EPA 9060 Modified	Total Organic Carbon	5290	mg/kg	818	10/13/17 12:29	
EPA 9060 Modified	Total Organic Carbon	5670	mg/kg	820	10/13/17 12:36	
EPA 9060 Modified	Mean Total Organic Carbon	5480	mg/kg	819	10/13/17 12:29	C4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 1A (Centennial Park Dam) **Lab ID: 50181016001** Collected: 09/28/17 09:10 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticide Solids	Analytical Method: EPA 8081 Preparation Method: EPA 3546							
Aldrin	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 18:56	309-00-2	H2
alpha-BHC	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 18:56	319-84-6	D3,H2
beta-BHC	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 18:56	319-85-7	H2
delta-BHC	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 18:56	319-86-8	H2
gamma-BHC (Lindane)	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 18:56	58-89-9	H2
Chlordane (Technical)	ND	mg/kg	0.62	10	10/28/17 04:10	10/31/17 18:56	57-74-9	H2
alpha-Chlordane	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 18:56	5103-71-9	H2
gamma-Chlordane	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 18:56	5103-74-2	H2
4,4'-DDD	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 18:56	72-54-8	H2
4,4'-DDE	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 18:56	72-55-9	H2
4,4'-DDT	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 18:56	50-29-3	H2
Dieldrin	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 18:56	60-57-1	H2
Endosulfan I	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 18:56	959-98-8	H2
Endosulfan II	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 18:56	33213-65-9	H2
Endosulfan sulfate	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 18:56	1031-07-8	H2
Endrin	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 18:56	72-20-8	H2
Endrin aldehyde	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 18:56	7421-93-4	H2
Endrin ketone	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 18:56	53494-70-5	H2
Heptachlor	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 18:56	76-44-8	H2
Heptachlor epoxide	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 18:56	1024-57-3	H2
Methoxychlor	ND	mg/kg	0.31	10	10/28/17 04:10	10/31/17 18:56	72-43-5	H2
Toxaphene	ND	mg/kg	0.62	10	10/28/17 04:10	10/31/17 18:56	8001-35-2	H2
Surrogates								
Decachlorobiphenyl (S)	72	%.	22-126	10	10/28/17 04:10	10/31/17 18:56	2051-24-3	
8082 GCS PCB Solids	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:09	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:09	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:09	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:09	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:09	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:09	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:09	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	54	%.	28-111	1	10/27/17 13:50	10/30/17 22:09	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**4.3**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 12:56	7440-38-2	
Barium	**22.7**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 12:56	7440-39-3	
Cadmium	ND	mg/kg	0.53	1	10/06/17 12:33	10/09/17 12:56	7440-43-9	
Chromium	**6.1**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 12:56	7440-47-3	
Copper	**5.1**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 12:56	7440-50-8	
Lead	**3.8**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 12:56	7439-92-1	
Nickel	**6.8**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 12:56	7440-02-0	
Selenium	ND	mg/kg	1.1	1	10/06/17 12:33	10/09/17 12:56	7782-49-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 1A (Centennial Park Dam) **Lab ID: 50181016001** Collected: 09/28/17 09:10 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Silver	ND	mg/kg	0.53	1	10/06/17 12:33	10/09/17 12:56	7440-22-4	
Zinc	**21.8**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 12:56	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.26	1	10/11/17 13:52	10/11/17 17:12	7439-97-6	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	83-32-9	
Acenaphthylene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	208-96-8	
Anthracene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	207-08-9	
Benzyl alcohol	ND	mg/kg	0.82	1	10/04/17 13:00	10/06/17 09:20	100-51-6	
4-Bromophenylphenyl ether	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	101-55-3	
Butylbenzylphthalate	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	85-68-7	
4-Chloro-3-methylphenol	ND	mg/kg	0.82	1	10/04/17 13:00	10/06/17 09:20	59-50-7	
4-Chloroaniline	ND	mg/kg	0.82	1	10/04/17 13:00	10/06/17 09:20	106-47-8	
bis(2-Chloroethoxy)methane	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	111-91-1	
bis(2-Chloroethyl) ether	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	111-44-4	
bis(2chloro1methylethyl) ether	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	108-60-1	
2-Chloronaphthalene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	91-58-7	
2-Chlorophenol	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	95-57-8	
4-Chlorophenylphenyl ether	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	7005-72-3	
Chrysene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	53-70-3	
Dibenzofuran	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	132-64-9	
3,3'-Dichlorobenzidine	ND	mg/kg	0.82	1	10/04/17 13:00	10/06/17 09:20	91-94-1	
2,4-Dichlorophenol	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	120-83-2	
Diethylphthalate	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	84-66-2	
2,4-Dimethylphenol	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	105-67-9	
Dimethylphthalate	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	131-11-3	
Di-n-butylphthalate	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	84-74-2	
4,6-Dinitro-2-methylphenol	ND	mg/kg	2.0	1	10/04/17 13:00	10/06/17 09:20	534-52-1	
2,4-Dinitrophenol	ND	mg/kg	2.0	1	10/04/17 13:00	10/06/17 09:20	51-28-5	
2,4-Dinitrotoluene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	121-14-2	
2,6-Dinitrotoluene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	606-20-2	
Di-n-octylphthalate	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	117-81-7	
Fluoranthene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	206-44-0	
Fluorene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	86-73-7	
Hexachloro-1,3-butadiene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	87-68-3	
Hexachlorobenzene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	118-74-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 1A (Centennial Park Dam) **Lab ID: 50181016001** Collected: 09/28/17 09:10 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Hexachlorocyclopentadiene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	77-47-4	
Hexachloroethane	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	193-39-5	
Isophorone	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	78-59-1	
1-Methylnaphthalene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	91-57-6	
2-Methylphenol(o-Cresol)	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.82	1	10/04/17 13:00	10/06/17 09:20		
Naphthalene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	91-20-3	
2-Nitroaniline	ND	mg/kg	2.0	1	10/04/17 13:00	10/06/17 09:20	88-74-4	
3-Nitroaniline	ND	mg/kg	2.0	1	10/04/17 13:00	10/06/17 09:20	99-09-2	
4-Nitroaniline	ND	mg/kg	2.0	1	10/04/17 13:00	10/06/17 09:20	100-01-6	
Nitrobenzene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	98-95-3	
2-Nitrophenol	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	88-75-5	
4-Nitrophenol	ND	mg/kg	2.0	1	10/04/17 13:00	10/06/17 09:20	100-02-7	
N-Nitroso-di-n-propylamine	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	621-64-7	
N-Nitrosodiphenylamine	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	86-30-6	
Pentachlorophenol	ND	mg/kg	2.0	1	10/04/17 13:00	10/06/17 09:20	87-86-5	
Phenanthrene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	85-01-8	
Phenol	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	108-95-2	
Pyrene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	129-00-0	
2,4,5-Trichlorophenol	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	95-95-4	
2,4,6-Trichlorophenol	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 09:20	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	52	%.	21-102	1	10/04/17 13:00	10/06/17 09:20	4165-60-0	
Phenol-d5 (S)	56	%.	17-100	1	10/04/17 13:00	10/06/17 09:20	4165-62-2	
2-Fluorophenol (S)	60	%.	12-108	1	10/04/17 13:00	10/06/17 09:20	367-12-4	
2,4,6-Tribromophenol (S)	74	%.	13-112	1	10/04/17 13:00	10/06/17 09:20	118-79-6	
2-Fluorobiphenyl (S)	59	%.	33-93	1	10/04/17 13:00	10/06/17 09:20	321-60-8	
p-Terphenyl-d14 (S)	71	%.	28-113	1	10/04/17 13:00	10/06/17 09:20	1718-51-0	
8260 MSV 5030 Low Level Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.13	1		10/10/17 08:36	67-64-1	
Acrolein	ND	mg/kg	0.13	1		10/10/17 08:36	107-02-8	
Acrylonitrile	ND	mg/kg	0.13	1		10/10/17 08:36	107-13-1	
Benzene	ND	mg/kg	0.0063	1		10/10/17 08:36	71-43-2	
Bromobenzene	ND	mg/kg	0.0063	1		10/10/17 08:36	108-86-1	
Bromochloromethane	ND	mg/kg	0.0063	1		10/10/17 08:36	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0063	1		10/10/17 08:36	75-27-4	
Bromoform	ND	mg/kg	0.0063	1		10/10/17 08:36	75-25-2	
Bromomethane	ND	mg/kg	0.0063	1		10/10/17 08:36	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.032	1		10/10/17 08:36	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0063	1		10/10/17 08:36	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0063	1		10/10/17 08:36	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0063	1		10/10/17 08:36	98-06-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 1A (Centennial Park Dam) **Lab ID: 50181016001** Collected: 09/28/17 09:10 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon disulfide	ND	mg/kg	0.013	1		10/10/17 08:36	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0063	1		10/10/17 08:36	56-23-5	
Chlorobenzene	ND	mg/kg	0.0063	1		10/10/17 08:36	108-90-7	
Chloroethane	ND	mg/kg	0.0063	1		10/10/17 08:36	75-00-3	
Chloroform	ND	mg/kg	0.0063	1		10/10/17 08:36	67-66-3	
Chloromethane	ND	mg/kg	0.0063	1		10/10/17 08:36	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0063	1		10/10/17 08:36	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0063	1		10/10/17 08:36	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0063	1		10/10/17 08:36	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0063	1		10/10/17 08:36	106-93-4	
Dibromomethane	ND	mg/kg	0.0063	1		10/10/17 08:36	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0063	1		10/10/17 08:36	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0063	1		10/10/17 08:36	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0063	1		10/10/17 08:36	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.13	1		10/10/17 08:36	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0063	1		10/10/17 08:36	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0063	1		10/10/17 08:36	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0063	1		10/10/17 08:36	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0063	1		10/10/17 08:36	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0063	1		10/10/17 08:36	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0063	1		10/10/17 08:36	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0063	1		10/10/17 08:36	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0063	1		10/10/17 08:36	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0063	1		10/10/17 08:36	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0063	1		10/10/17 08:36	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0063	1		10/10/17 08:36	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0063	1		10/10/17 08:36	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0063	1		10/10/17 08:36	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.13	1		10/10/17 08:36	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0063	1		10/10/17 08:36	87-68-3	
n-Hexane	ND	mg/kg	0.0063	1		10/10/17 08:36	110-54-3	
2-Hexanone	ND	mg/kg	0.13	1		10/10/17 08:36	591-78-6	
Iodomethane	ND	mg/kg	0.13	1		10/10/17 08:36	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0063	1		10/10/17 08:36	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0063	1		10/10/17 08:36	99-87-6	
Methylene Chloride	ND	mg/kg	0.025	1		10/10/17 08:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.032	1		10/10/17 08:36	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0063	1		10/10/17 08:36	1634-04-4	
Naphthalene	ND	mg/kg	0.0063	1		10/10/17 08:36	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0063	1		10/10/17 08:36	103-65-1	
Styrene	ND	mg/kg	0.0063	1		10/10/17 08:36	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0063	1		10/10/17 08:36	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0063	1		10/10/17 08:36	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0063	1		10/10/17 08:36	127-18-4	
Toluene	ND	mg/kg	0.0063	1		10/10/17 08:36	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 1A (Centennial Park Dam) **Lab ID: 50181016001** Collected: 09/28/17 09:10 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,3-Trichlorobenzene	ND	mg/kg	0.0063	1		10/10/17 08:36	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0063	1		10/10/17 08:36	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0063	1		10/10/17 08:36	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0063	1		10/10/17 08:36	79-00-5	
Trichloroethene	ND	mg/kg	0.0063	1		10/10/17 08:36	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0063	1		10/10/17 08:36	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0063	1		10/10/17 08:36	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0063	1		10/10/17 08:36	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0063	1		10/10/17 08:36	108-67-8	
Vinyl acetate	ND	mg/kg	0.13	1		10/10/17 08:36	108-05-4	
Vinyl chloride	ND	mg/kg	0.0063	1		10/10/17 08:36	75-01-4	
Xylene (Total)	ND	mg/kg	0.013	1		10/10/17 08:36	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	106	%.	69-136	1		10/10/17 08:36	1868-53-7	
Toluene-d8 (S)	101	%.	64-150	1		10/10/17 08:36	2037-26-5	
4-Bromofluorobenzene (S)	96	%.	51-142	1		10/10/17 08:36	460-00-4	
PSA Percent Sand,Silt,Clay	Analytical Method: ASA 15-5 mod							
Percent Sand	**97.5**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Clay	**2.5**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Silt	ND	% (w/w)	0.10	1		10/04/17 13:36		
Texture	**SAND**			1		10/04/17 13:36		
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**21.0**	%	0.10	1		10/03/17 15:10		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 1B (Centennial Park Dam) **Lab ID: 50181016002** Collected: 09/28/17 10:20 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticide Solids	Analytical Method: EPA 8081 Preparation Method: EPA 3546							
Aldrin	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:34	309-00-2	H2
alpha-BHC	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:34	319-84-6	D3,H2
beta-BHC	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:34	319-85-7	H2
delta-BHC	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:34	319-86-8	H2
gamma-BHC (Lindane)	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:34	58-89-9	H2
Chlordane (Technical)	ND	mg/kg	0.59	10	10/28/17 04:10	10/31/17 19:34	57-74-9	H2
alpha-Chlordane	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:34	5103-71-9	H2
gamma-Chlordane	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:34	5103-74-2	H2
4,4'-DDD	ND	mg/kg	0.059	10	10/28/17 04:10	10/31/17 19:34	72-54-8	H2
4,4'-DDE	ND	mg/kg	0.059	10	10/28/17 04:10	10/31/17 19:34	72-55-9	H2
4,4'-DDT	ND	mg/kg	0.059	10	10/28/17 04:10	10/31/17 19:34	50-29-3	H2
Dieldrin	ND	mg/kg	0.059	10	10/28/17 04:10	10/31/17 19:34	60-57-1	H2
Endosulfan I	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:34	959-98-8	H2
Endosulfan II	ND	mg/kg	0.059	10	10/28/17 04:10	10/31/17 19:34	33213-65-9	H2
Endosulfan sulfate	ND	mg/kg	0.059	10	10/28/17 04:10	10/31/17 19:34	1031-07-8	H2
Endrin	ND	mg/kg	0.059	10	10/28/17 04:10	10/31/17 19:34	72-20-8	H2
Endrin aldehyde	ND	mg/kg	0.059	10	10/28/17 04:10	10/31/17 19:34	7421-93-4	H2
Endrin ketone	ND	mg/kg	0.059	10	10/28/17 04:10	10/31/17 19:34	53494-70-5	H2
Heptachlor	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:34	76-44-8	H2
Heptachlor epoxide	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:34	1024-57-3	H2
Methoxychlor	ND	mg/kg	0.30	10	10/28/17 04:10	10/31/17 19:34	72-43-5	H2
Toxaphene	ND	mg/kg	0.59	10	10/28/17 04:10	10/31/17 19:34	8001-35-2	H2
Surrogates								
Decachlorobiphenyl (S)	75	%.	22-126	10	10/28/17 04:10	10/31/17 19:34	2051-24-3	
8082 GCS PCB Solids	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:17	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:17	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:17	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:17	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:17	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:17	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:17	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	53	%.	28-111	1	10/27/17 13:50	10/30/17 22:17	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**10.9**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 12:58	7440-38-2	
Barium	**28.1**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 12:58	7440-39-3	
Cadmium	ND	mg/kg	0.57	1	10/06/17 12:33	10/09/17 12:58	7440-43-9	
Chromium	**5.8**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 12:58	7440-47-3	
Copper	**7.7**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 12:58	7440-50-8	
Lead	**5.4**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 12:58	7439-92-1	
Nickel	**8.1**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 12:58	7440-02-0	
Selenium	**1.3**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 12:58	7782-49-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 1B (Centennial Park Dam) **Lab ID: 50181016002** Collected: 09/28/17 10:20 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Silver	ND	mg/kg	0.57	1	10/06/17 12:33	10/09/17 12:58	7440-22-4	
Zinc	**25.2**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 12:58	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.25	1	10/11/17 13:52	10/11/17 17:18	7439-97-6	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	83-32-9	
Acenaphthylene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	208-96-8	
Anthracene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	207-08-9	
Benzyl alcohol	ND	mg/kg	0.78	1	10/04/17 13:00	10/06/17 09:36	100-51-6	
4-Bromophenylphenyl ether	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	101-55-3	
Butylbenzylphthalate	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	85-68-7	
4-Chloro-3-methylphenol	ND	mg/kg	0.78	1	10/04/17 13:00	10/06/17 09:36	59-50-7	
4-Chloroaniline	ND	mg/kg	0.78	1	10/04/17 13:00	10/06/17 09:36	106-47-8	
bis(2-Chloroethoxy)methane	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	111-91-1	
bis(2-Chloroethyl) ether	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	111-44-4	
bis(2chloro1methylethyl) ether	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	108-60-1	
2-Chloronaphthalene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	91-58-7	
2-Chlorophenol	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	95-57-8	
4-Chlorophenylphenyl ether	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	7005-72-3	
Chrysene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	53-70-3	
Dibenzofuran	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	132-64-9	
3,3'-Dichlorobenzidine	ND	mg/kg	0.78	1	10/04/17 13:00	10/06/17 09:36	91-94-1	
2,4-Dichlorophenol	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	120-83-2	
Diethylphthalate	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	84-66-2	
2,4-Dimethylphenol	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	105-67-9	
Dimethylphthalate	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	131-11-3	
Di-n-butylphthalate	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	84-74-2	
4,6-Dinitro-2-methylphenol	ND	mg/kg	1.9	1	10/04/17 13:00	10/06/17 09:36	534-52-1	
2,4-Dinitrophenol	ND	mg/kg	1.9	1	10/04/17 13:00	10/06/17 09:36	51-28-5	
2,4-Dinitrotoluene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	121-14-2	
2,6-Dinitrotoluene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	606-20-2	
Di-n-octylphthalate	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	117-81-7	
Fluoranthene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	206-44-0	
Fluorene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	86-73-7	
Hexachloro-1,3-butadiene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	87-68-3	
Hexachlorobenzene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	118-74-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 1B (Centennial Park Dam) **Lab ID: 50181016002** Collected: 09/28/17 10:20 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Hexachlorocyclopentadiene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	77-47-4	
Hexachloroethane	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	193-39-5	
Isophorone	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	78-59-1	
1-Methylnaphthalene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	91-57-6	
2-Methylphenol(o-Cresol)	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.78	1	10/04/17 13:00	10/06/17 09:36		
Naphthalene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	91-20-3	
2-Nitroaniline	ND	mg/kg	1.9	1	10/04/17 13:00	10/06/17 09:36	88-74-4	
3-Nitroaniline	ND	mg/kg	1.9	1	10/04/17 13:00	10/06/17 09:36	99-09-2	
4-Nitroaniline	ND	mg/kg	1.9	1	10/04/17 13:00	10/06/17 09:36	100-01-6	
Nitrobenzene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	98-95-3	
2-Nitrophenol	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	88-75-5	
4-Nitrophenol	ND	mg/kg	1.9	1	10/04/17 13:00	10/06/17 09:36	100-02-7	
N-Nitroso-di-n-propylamine	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	621-64-7	
N-Nitrosodiphenylamine	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	86-30-6	
Pentachlorophenol	ND	mg/kg	1.9	1	10/04/17 13:00	10/06/17 09:36	87-86-5	
Phenanthrene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	85-01-8	
Phenol	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	108-95-2	
Pyrene	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	129-00-0	
2,4,5-Trichlorophenol	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	95-95-4	
2,4,6-Trichlorophenol	ND	mg/kg	0.39	1	10/04/17 13:00	10/06/17 09:36	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	50	%.	21-102	1	10/04/17 13:00	10/06/17 09:36	4165-60-0	
Phenol-d5 (S)	56	%.	17-100	1	10/04/17 13:00	10/06/17 09:36	4165-62-2	
2-Fluorophenol (S)	60	%.	12-108	1	10/04/17 13:00	10/06/17 09:36	367-12-4	
2,4,6-Tribromophenol (S)	66	%.	13-112	1	10/04/17 13:00	10/06/17 09:36	118-79-6	
2-Fluorobiphenyl (S)	52	%.	33-93	1	10/04/17 13:00	10/06/17 09:36	321-60-8	
p-Terphenyl-d14 (S)	56	%.	28-113	1	10/04/17 13:00	10/06/17 09:36	1718-51-0	
8260 MSV 5030 Low Level Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.12	1		10/10/17 09:08	67-64-1	
Acrolein	ND	mg/kg	0.12	1		10/10/17 09:08	107-02-8	
Acrylonitrile	ND	mg/kg	0.12	1		10/10/17 09:08	107-13-1	
Benzene	ND	mg/kg	0.0059	1		10/10/17 09:08	71-43-2	
Bromobenzene	ND	mg/kg	0.0059	1		10/10/17 09:08	108-86-1	
Bromochloromethane	ND	mg/kg	0.0059	1		10/10/17 09:08	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0059	1		10/10/17 09:08	75-27-4	
Bromoform	ND	mg/kg	0.0059	1		10/10/17 09:08	75-25-2	
Bromomethane	ND	mg/kg	0.0059	1		10/10/17 09:08	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.030	1		10/10/17 09:08	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0059	1		10/10/17 09:08	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0059	1		10/10/17 09:08	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0059	1		10/10/17 09:08	98-06-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 1B (Centennial Park Dam) **Lab ID: 50181016002** Collected: 09/28/17 10:20 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon disulfide	ND	mg/kg	0.012	1		10/10/17 09:08	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0059	1		10/10/17 09:08	56-23-5	
Chlorobenzene	ND	mg/kg	0.0059	1		10/10/17 09:08	108-90-7	
Chloroethane	ND	mg/kg	0.0059	1		10/10/17 09:08	75-00-3	
Chloroform	ND	mg/kg	0.0059	1		10/10/17 09:08	67-66-3	
Chloromethane	ND	mg/kg	0.0059	1		10/10/17 09:08	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0059	1		10/10/17 09:08	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0059	1		10/10/17 09:08	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0059	1		10/10/17 09:08	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0059	1		10/10/17 09:08	106-93-4	
Dibromomethane	ND	mg/kg	0.0059	1		10/10/17 09:08	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0059	1		10/10/17 09:08	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0059	1		10/10/17 09:08	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0059	1		10/10/17 09:08	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.12	1		10/10/17 09:08	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0059	1		10/10/17 09:08	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0059	1		10/10/17 09:08	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0059	1		10/10/17 09:08	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0059	1		10/10/17 09:08	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0059	1		10/10/17 09:08	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0059	1		10/10/17 09:08	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0059	1		10/10/17 09:08	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0059	1		10/10/17 09:08	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0059	1		10/10/17 09:08	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0059	1		10/10/17 09:08	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0059	1		10/10/17 09:08	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0059	1		10/10/17 09:08	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0059	1		10/10/17 09:08	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.12	1		10/10/17 09:08	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0059	1		10/10/17 09:08	87-68-3	
n-Hexane	ND	mg/kg	0.0059	1		10/10/17 09:08	110-54-3	
2-Hexanone	ND	mg/kg	0.12	1		10/10/17 09:08	591-78-6	
Iodomethane	ND	mg/kg	0.12	1		10/10/17 09:08	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0059	1		10/10/17 09:08	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0059	1		10/10/17 09:08	99-87-6	
Methylene Chloride	ND	mg/kg	0.024	1		10/10/17 09:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.030	1		10/10/17 09:08	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0059	1		10/10/17 09:08	1634-04-4	
Naphthalene	ND	mg/kg	0.0059	1		10/10/17 09:08	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0059	1		10/10/17 09:08	103-65-1	
Styrene	ND	mg/kg	0.0059	1		10/10/17 09:08	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0059	1		10/10/17 09:08	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0059	1		10/10/17 09:08	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0059	1		10/10/17 09:08	127-18-4	
Toluene	ND	mg/kg	0.0059	1		10/10/17 09:08	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 1B (Centennial Park Dam) **Lab ID: 50181016002** Collected: 09/28/17 10:20 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,3-Trichlorobenzene	ND	mg/kg	0.0059	1		10/10/17 09:08	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0059	1		10/10/17 09:08	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0059	1		10/10/17 09:08	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0059	1		10/10/17 09:08	79-00-5	
Trichloroethene	ND	mg/kg	0.0059	1		10/10/17 09:08	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0059	1		10/10/17 09:08	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0059	1		10/10/17 09:08	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0059	1		10/10/17 09:08	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0059	1		10/10/17 09:08	108-67-8	
Vinyl acetate	ND	mg/kg	0.12	1		10/10/17 09:08	108-05-4	
Vinyl chloride	ND	mg/kg	0.0059	1		10/10/17 09:08	75-01-4	
Xylene (Total)	ND	mg/kg	0.012	1		10/10/17 09:08	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	106	%.	69-136	1		10/10/17 09:08	1868-53-7	
Toluene-d8 (S)	99	%.	64-150	1		10/10/17 09:08	2037-26-5	
4-Bromofluorobenzene (S)	92	%.	51-142	1		10/10/17 09:08	460-00-4	
PSA Percent Sand,Silt,Clay	Analytical Method: ASA 15-5 mod							
Percent Sand	**97.5**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Clay	**2.5**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Silt	ND	% (w/w)	0.10	1		10/04/17 13:36		
Texture	**SAND**			1		10/04/17 13:36		
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**15.6**	%	0.10	1		10/03/17 15:10		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 1C (Centennial Park Dam) **Lab ID: 50181016003** Collected: 09/28/17 10:45 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticide Solids	Analytical Method: EPA 8081 Preparation Method: EPA 3546							
Aldrin	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:46	309-00-2	H2
alpha-BHC	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:46	319-84-6	D3,H2
beta-BHC	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:46	319-85-7	H2
delta-BHC	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:46	319-86-8	H2
gamma-BHC (Lindane)	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:46	58-89-9	H2
Chlordane (Technical)	ND	mg/kg	0.60	10	10/28/17 04:10	10/31/17 19:46	57-74-9	H2
alpha-Chlordane	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:46	5103-71-9	H2
gamma-Chlordane	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:46	5103-74-2	H2
4,4'-DDD	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 19:46	72-54-8	H2
4,4'-DDE	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 19:46	72-55-9	H2
4,4'-DDT	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 19:46	50-29-3	H2
Dieldrin	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 19:46	60-57-1	H2
Endosulfan I	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:46	959-98-8	H2
Endosulfan II	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 19:46	33213-65-9	H2
Endosulfan sulfate	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 19:46	1031-07-8	H2
Endrin	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 19:46	72-20-8	H2
Endrin aldehyde	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 19:46	7421-93-4	H2
Endrin ketone	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 19:46	53494-70-5	H2
Heptachlor	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:46	76-44-8	H2
Heptachlor epoxide	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 19:46	1024-57-3	H2
Methoxychlor	ND	mg/kg	0.30	10	10/28/17 04:10	10/31/17 19:46	72-43-5	H2
Toxaphene	ND	mg/kg	0.60	10	10/28/17 04:10	10/31/17 19:46	8001-35-2	H2
Surrogates								
Decachlorobiphenyl (S)	60	%.	22-126	10	10/28/17 04:10	10/31/17 19:46	2051-24-3	
8082 GCS PCB Solids	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:25	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:25	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:25	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:25	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:25	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:25	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:25	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	57	%.	28-111	1	10/27/17 13:50	10/30/17 22:25	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**8.8**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 13:00	7440-38-2	
Barium	**27.6**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 13:00	7440-39-3	
Cadmium	ND	mg/kg	0.56	1	10/06/17 12:33	10/09/17 13:00	7440-43-9	
Chromium	**6.5**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 13:00	7440-47-3	
Copper	**11.2**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 13:00	7440-50-8	
Lead	**6.6**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 13:00	7439-92-1	
Nickel	**10.7**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 13:00	7440-02-0	
Selenium	**1.6**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 13:00	7782-49-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 1C (Centennial Park Dam) **Lab ID: 50181016003** Collected: 09/28/17 10:45 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Silver	ND	mg/kg	0.56	1	10/06/17 12:33	10/09/17 13:00	7440-22-4	
Zinc	**27.8**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 13:00	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.23	1	10/11/17 13:52	10/11/17 17:20	7439-97-6	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	83-32-9	
Acenaphthylene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	208-96-8	
Anthracene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	207-08-9	
Benzyl alcohol	ND	mg/kg	0.80	1	10/04/17 13:00	10/06/17 09:52	100-51-6	
4-Bromophenylphenyl ether	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	101-55-3	
Butylbenzylphthalate	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	85-68-7	
4-Chloro-3-methylphenol	ND	mg/kg	0.80	1	10/04/17 13:00	10/06/17 09:52	59-50-7	
4-Chloroaniline	ND	mg/kg	0.80	1	10/04/17 13:00	10/06/17 09:52	106-47-8	
bis(2-Chloroethoxy)methane	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	111-91-1	
bis(2-Chloroethyl) ether	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	111-44-4	
bis(2chloro1methylethyl) ether	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	108-60-1	
2-Chloronaphthalene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	91-58-7	
2-Chlorophenol	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	95-57-8	
4-Chlorophenylphenyl ether	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	7005-72-3	
Chrysene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	53-70-3	
Dibenzofuran	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	132-64-9	
3,3'-Dichlorobenzidine	ND	mg/kg	0.80	1	10/04/17 13:00	10/06/17 09:52	91-94-1	
2,4-Dichlorophenol	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	120-83-2	
Diethylphthalate	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	84-66-2	
2,4-Dimethylphenol	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	105-67-9	
Dimethylphthalate	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	131-11-3	
Di-n-butylphthalate	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	84-74-2	
4,6-Dinitro-2-methylphenol	ND	mg/kg	1.9	1	10/04/17 13:00	10/06/17 09:52	534-52-1	
2,4-Dinitrophenol	ND	mg/kg	1.9	1	10/04/17 13:00	10/06/17 09:52	51-28-5	
2,4-Dinitrotoluene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	121-14-2	
2,6-Dinitrotoluene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	606-20-2	
Di-n-octylphthalate	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	117-81-7	
Fluoranthene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	206-44-0	
Fluorene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	86-73-7	
Hexachloro-1,3-butadiene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	87-68-3	
Hexachlorobenzene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	118-74-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 1C (Centennial Park Dam) **Lab ID: 50181016003** Collected: 09/28/17 10:45 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Hexachlorocyclopentadiene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	77-47-4	
Hexachloroethane	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	193-39-5	
Isophorone	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	78-59-1	
1-Methylnaphthalene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	91-57-6	
2-Methylphenol(o-Cresol)	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.80	1	10/04/17 13:00	10/06/17 09:52		
Naphthalene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	91-20-3	
2-Nitroaniline	ND	mg/kg	1.9	1	10/04/17 13:00	10/06/17 09:52	88-74-4	
3-Nitroaniline	ND	mg/kg	1.9	1	10/04/17 13:00	10/06/17 09:52	99-09-2	
4-Nitroaniline	ND	mg/kg	1.9	1	10/04/17 13:00	10/06/17 09:52	100-01-6	
Nitrobenzene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	98-95-3	
2-Nitrophenol	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	88-75-5	
4-Nitrophenol	ND	mg/kg	1.9	1	10/04/17 13:00	10/06/17 09:52	100-02-7	
N-Nitroso-di-n-propylamine	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	621-64-7	
N-Nitrosodiphenylamine	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	86-30-6	
Pentachlorophenol	ND	mg/kg	1.9	1	10/04/17 13:00	10/06/17 09:52	87-86-5	
Phenanthrene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	85-01-8	
Phenol	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	108-95-2	
Pyrene	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	129-00-0	
2,4,5-Trichlorophenol	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	95-95-4	
2,4,6-Trichlorophenol	ND	mg/kg	0.40	1	10/04/17 13:00	10/06/17 09:52	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	55	%.	21-102	1	10/04/17 13:00	10/06/17 09:52	4165-60-0	
Phenol-d5 (S)	63	%.	17-100	1	10/04/17 13:00	10/06/17 09:52	4165-62-2	
2-Fluorophenol (S)	67	%.	12-108	1	10/04/17 13:00	10/06/17 09:52	367-12-4	
2,4,6-Tribromophenol (S)	77	%.	13-112	1	10/04/17 13:00	10/06/17 09:52	118-79-6	
2-Fluorobiphenyl (S)	60	%.	33-93	1	10/04/17 13:00	10/06/17 09:52	321-60-8	
p-Terphenyl-d14 (S)	68	%.	28-113	1	10/04/17 13:00	10/06/17 09:52	1718-51-0	
8260 MSV 5030 Low Level Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.12	1		10/10/17 09:40	67-64-1	
Acrolein	ND	mg/kg	0.12	1		10/10/17 09:40	107-02-8	
Acrylonitrile	ND	mg/kg	0.12	1		10/10/17 09:40	107-13-1	
Benzene	ND	mg/kg	0.0061	1		10/10/17 09:40	71-43-2	
Bromobenzene	ND	mg/kg	0.0061	1		10/10/17 09:40	108-86-1	
Bromochloromethane	ND	mg/kg	0.0061	1		10/10/17 09:40	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0061	1		10/10/17 09:40	75-27-4	
Bromoform	ND	mg/kg	0.0061	1		10/10/17 09:40	75-25-2	
Bromomethane	ND	mg/kg	0.0061	1		10/10/17 09:40	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.030	1		10/10/17 09:40	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0061	1		10/10/17 09:40	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0061	1		10/10/17 09:40	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0061	1		10/10/17 09:40	98-06-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 1C (Centennial Park Dam) **Lab ID: 50181016003** Collected: 09/28/17 10:45 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon disulfide	ND	mg/kg	0.012	1		10/10/17 09:40	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0061	1		10/10/17 09:40	56-23-5	
Chlorobenzene	ND	mg/kg	0.0061	1		10/10/17 09:40	108-90-7	
Chloroethane	ND	mg/kg	0.0061	1		10/10/17 09:40	75-00-3	
Chloroform	ND	mg/kg	0.0061	1		10/10/17 09:40	67-66-3	
Chloromethane	ND	mg/kg	0.0061	1		10/10/17 09:40	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0061	1		10/10/17 09:40	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0061	1		10/10/17 09:40	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0061	1		10/10/17 09:40	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0061	1		10/10/17 09:40	106-93-4	
Dibromomethane	ND	mg/kg	0.0061	1		10/10/17 09:40	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0061	1		10/10/17 09:40	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0061	1		10/10/17 09:40	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0061	1		10/10/17 09:40	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.12	1		10/10/17 09:40	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0061	1		10/10/17 09:40	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0061	1		10/10/17 09:40	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0061	1		10/10/17 09:40	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0061	1		10/10/17 09:40	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0061	1		10/10/17 09:40	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0061	1		10/10/17 09:40	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0061	1		10/10/17 09:40	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0061	1		10/10/17 09:40	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0061	1		10/10/17 09:40	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0061	1		10/10/17 09:40	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0061	1		10/10/17 09:40	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0061	1		10/10/17 09:40	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0061	1		10/10/17 09:40	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.12	1		10/10/17 09:40	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0061	1		10/10/17 09:40	87-68-3	
n-Hexane	ND	mg/kg	0.0061	1		10/10/17 09:40	110-54-3	
2-Hexanone	ND	mg/kg	0.12	1		10/10/17 09:40	591-78-6	
Iodomethane	ND	mg/kg	0.12	1		10/10/17 09:40	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0061	1		10/10/17 09:40	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0061	1		10/10/17 09:40	99-87-6	
Methylene Chloride	ND	mg/kg	0.024	1		10/10/17 09:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.030	1		10/10/17 09:40	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0061	1		10/10/17 09:40	1634-04-4	
Naphthalene	ND	mg/kg	0.0061	1		10/10/17 09:40	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0061	1		10/10/17 09:40	103-65-1	
Styrene	ND	mg/kg	0.0061	1		10/10/17 09:40	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0061	1		10/10/17 09:40	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0061	1		10/10/17 09:40	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0061	1		10/10/17 09:40	127-18-4	
Toluene	ND	mg/kg	0.0061	1		10/10/17 09:40	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 1C (Centennial Park Dam) **Lab ID: 50181016003** Collected: 09/28/17 10:45 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,3-Trichlorobenzene	ND	mg/kg	0.0061	1		10/10/17 09:40	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0061	1		10/10/17 09:40	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0061	1		10/10/17 09:40	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0061	1		10/10/17 09:40	79-00-5	
Trichloroethene	ND	mg/kg	0.0061	1		10/10/17 09:40	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0061	1		10/10/17 09:40	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0061	1		10/10/17 09:40	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0061	1		10/10/17 09:40	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0061	1		10/10/17 09:40	108-67-8	
Vinyl acetate	ND	mg/kg	0.12	1		10/10/17 09:40	108-05-4	
Vinyl chloride	ND	mg/kg	0.0061	1		10/10/17 09:40	75-01-4	
Xylene (Total)	ND	mg/kg	0.012	1		10/10/17 09:40	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	110	%.	69-136	1		10/10/17 09:40	1868-53-7	
Toluene-d8 (S)	96	%.	64-150	1		10/10/17 09:40	2037-26-5	
4-Bromofluorobenzene (S)	92	%.	51-142	1		10/10/17 09:40	460-00-4	
PSA Percent Sand,Silt,Clay	Analytical Method: ASA 15-5 mod							
Percent Sand	**97.5**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Clay	**2.5**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Silt	ND	% (w/w)	0.10	1		10/04/17 13:36		
Texture	**SAND**			1		10/04/17 13:36		
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**17.6**	%	0.10	1		10/03/17 15:11		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Surrogates								
RPD%	**22.0**	%	0.10	1		10/13/17 07:55		
Total Organic Carbon	**5450**	mg/kg	1520	1		10/13/17 07:55	7440-44-0	
Total Organic Carbon	**4370**	mg/kg	1500	1		10/13/17 08:08	7440-44-0	
Mean Total Organic Carbon	**4910**	mg/kg	1510	1		10/13/17 07:55	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 2A (Corey Street Dam) **Lab ID: 50181016004** Collected: 09/28/17 12:02 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticide Solids	Analytical Method: EPA 8081 Preparation Method: EPA 3546							
Aldrin	ND	mg/kg	0.033	10	10/28/17 04:10	10/31/17 19:59	309-00-2	H2
alpha-BHC	ND	mg/kg	0.033	10	10/28/17 04:10	10/31/17 19:59	319-84-6	D3,H2
beta-BHC	ND	mg/kg	0.033	10	10/28/17 04:10	10/31/17 19:59	319-85-7	H2
delta-BHC	ND	mg/kg	0.033	10	10/28/17 04:10	10/31/17 19:59	319-86-8	H2
gamma-BHC (Lindane)	ND	mg/kg	0.033	10	10/28/17 04:10	10/31/17 19:59	58-89-9	H2
Chlordane (Technical)	ND	mg/kg	0.66	10	10/28/17 04:10	10/31/17 19:59	57-74-9	H2
alpha-Chlordane	ND	mg/kg	0.033	10	10/28/17 04:10	10/31/17 19:59	5103-71-9	H2
gamma-Chlordane	ND	mg/kg	0.033	10	10/28/17 04:10	10/31/17 19:59	5103-74-2	H2
4,4'-DDD	ND	mg/kg	0.066	10	10/28/17 04:10	10/31/17 19:59	72-54-8	H2
4,4'-DDE	ND	mg/kg	0.066	10	10/28/17 04:10	10/31/17 19:59	72-55-9	H2
4,4'-DDT	ND	mg/kg	0.066	10	10/28/17 04:10	10/31/17 19:59	50-29-3	H2
Dieldrin	ND	mg/kg	0.066	10	10/28/17 04:10	10/31/17 19:59	60-57-1	H2
Endosulfan I	ND	mg/kg	0.033	10	10/28/17 04:10	10/31/17 19:59	959-98-8	H2
Endosulfan II	ND	mg/kg	0.066	10	10/28/17 04:10	10/31/17 19:59	33213-65-9	H2
Endosulfan sulfate	ND	mg/kg	0.066	10	10/28/17 04:10	10/31/17 19:59	1031-07-8	H2
Endrin	ND	mg/kg	0.066	10	10/28/17 04:10	10/31/17 19:59	72-20-8	H2
Endrin aldehyde	ND	mg/kg	0.066	10	10/28/17 04:10	10/31/17 19:59	7421-93-4	H2
Endrin ketone	ND	mg/kg	0.066	10	10/28/17 04:10	10/31/17 19:59	53494-70-5	H2
Heptachlor	ND	mg/kg	0.033	10	10/28/17 04:10	10/31/17 19:59	76-44-8	H2
Heptachlor epoxide	ND	mg/kg	0.033	10	10/28/17 04:10	10/31/17 19:59	1024-57-3	H2
Methoxychlor	ND	mg/kg	0.33	10	10/28/17 04:10	10/31/17 19:59	72-43-5	H2
Toxaphene	ND	mg/kg	0.66	10	10/28/17 04:10	10/31/17 19:59	8001-35-2	H2
Surrogates								
Decachlorobiphenyl (S)	77	%.	22-126	10	10/28/17 04:10	10/31/17 19:59	2051-24-3	
8082 GCS PCB Solids	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:33	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:33	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:33	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:33	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:33	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:33	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:33	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	80	%.	28-111	1	10/27/17 13:50	10/30/17 22:33	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**9.2**	mg/kg	1.2	1	10/06/17 12:33	10/09/17 13:02	7440-38-2	
Barium	**39.5**	mg/kg	1.2	1	10/06/17 12:33	10/09/17 13:02	7440-39-3	
Cadmium	ND	mg/kg	0.62	1	10/06/17 12:33	10/09/17 13:02	7440-43-9	
Chromium	**9.3**	mg/kg	1.2	1	10/06/17 12:33	10/09/17 13:02	7440-47-3	
Copper	**12.2**	mg/kg	1.2	1	10/06/17 12:33	10/09/17 13:02	7440-50-8	
Lead	**8.9**	mg/kg	1.2	1	10/06/17 12:33	10/09/17 13:02	7439-92-1	
Nickel	**12.5**	mg/kg	1.2	1	10/06/17 12:33	10/09/17 13:02	7440-02-0	
Selenium	**2.2**	mg/kg	1.2	1	10/06/17 12:33	10/09/17 13:02	7782-49-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 2A (Corey Street Dam) **Lab ID: 50181016004** Collected: 09/28/17 12:02 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Silver	ND	mg/kg	0.62	1	10/06/17 12:33	10/09/17 13:02	7440-22-4	
Zinc	**44.3**	mg/kg	1.2	1	10/06/17 12:33	10/09/17 13:02	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.28	1	10/11/17 13:52	10/11/17 17:23	7439-97-6	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	83-32-9	
Acenaphthylene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	208-96-8	
Anthracene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	207-08-9	
Benzyl alcohol	ND	mg/kg	0.87	1	10/04/17 13:00	10/06/17 10:08	100-51-6	
4-Bromophenylphenyl ether	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	101-55-3	
Butylbenzylphthalate	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	85-68-7	
4-Chloro-3-methylphenol	ND	mg/kg	0.87	1	10/04/17 13:00	10/06/17 10:08	59-50-7	
4-Chloroaniline	ND	mg/kg	0.87	1	10/04/17 13:00	10/06/17 10:08	106-47-8	
bis(2-Chloroethoxy)methane	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	111-91-1	
bis(2-Chloroethyl) ether	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	111-44-4	
bis(2chloro1methylethyl) ether	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	108-60-1	
2-Chloronaphthalene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	91-58-7	
2-Chlorophenol	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	95-57-8	
4-Chlorophenylphenyl ether	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	7005-72-3	
Chrysene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	53-70-3	
Dibenzofuran	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	132-64-9	
3,3'-Dichlorobenzidine	ND	mg/kg	0.87	1	10/04/17 13:00	10/06/17 10:08	91-94-1	
2,4-Dichlorophenol	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	120-83-2	
Diethylphthalate	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	84-66-2	
2,4-Dimethylphenol	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	105-67-9	
Dimethylphthalate	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	131-11-3	
Di-n-butylphthalate	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	84-74-2	
4,6-Dinitro-2-methylphenol	ND	mg/kg	2.1	1	10/04/17 13:00	10/06/17 10:08	534-52-1	
2,4-Dinitrophenol	ND	mg/kg	2.1	1	10/04/17 13:00	10/06/17 10:08	51-28-5	
2,4-Dinitrotoluene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	121-14-2	
2,6-Dinitrotoluene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	606-20-2	
Di-n-octylphthalate	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	117-81-7	
Fluoranthene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	206-44-0	
Fluorene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	86-73-7	
Hexachloro-1,3-butadiene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	87-68-3	
Hexachlorobenzene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	118-74-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 2A (Corey Street Dam) **Lab ID: 50181016004** Collected: 09/28/17 12:02 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Hexachlorocyclopentadiene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	77-47-4	
Hexachloroethane	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	193-39-5	
Isophorone	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	78-59-1	
1-Methylnaphthalene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	91-57-6	
2-Methylphenol(o-Cresol)	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.87	1	10/04/17 13:00	10/06/17 10:08		
Naphthalene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	91-20-3	
2-Nitroaniline	ND	mg/kg	2.1	1	10/04/17 13:00	10/06/17 10:08	88-74-4	
3-Nitroaniline	ND	mg/kg	2.1	1	10/04/17 13:00	10/06/17 10:08	99-09-2	
4-Nitroaniline	ND	mg/kg	2.1	1	10/04/17 13:00	10/06/17 10:08	100-01-6	
Nitrobenzene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	98-95-3	
2-Nitrophenol	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	88-75-5	
4-Nitrophenol	ND	mg/kg	2.1	1	10/04/17 13:00	10/06/17 10:08	100-02-7	
N-Nitroso-di-n-propylamine	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	621-64-7	
N-Nitrosodiphenylamine	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	86-30-6	
Pentachlorophenol	ND	mg/kg	2.1	1	10/04/17 13:00	10/06/17 10:08	87-86-5	
Phenanthrene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	85-01-8	
Phenol	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	108-95-2	
Pyrene	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	129-00-0	
2,4,5-Trichlorophenol	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	95-95-4	
2,4,6-Trichlorophenol	ND	mg/kg	0.43	1	10/04/17 13:00	10/06/17 10:08	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	53	%.	21-102	1	10/04/17 13:00	10/06/17 10:08	4165-60-0	
Phenol-d5 (S)	61	%.	17-100	1	10/04/17 13:00	10/06/17 10:08	4165-62-2	
2-Fluorophenol (S)	65	%.	12-108	1	10/04/17 13:00	10/06/17 10:08	367-12-4	
2,4,6-Tribromophenol (S)	73	%.	13-112	1	10/04/17 13:00	10/06/17 10:08	118-79-6	
2-Fluorobiphenyl (S)	59	%.	33-93	1	10/04/17 13:00	10/06/17 10:08	321-60-8	
p-Terphenyl-d14 (S)	80	%.	28-113	1	10/04/17 13:00	10/06/17 10:08	1718-51-0	
8260 MSV 5030 Low Level Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.13	1		10/10/17 15:04	67-64-1	
Acrolein	ND	mg/kg	0.13	1		10/10/17 15:04	107-02-8	
Acrylonitrile	ND	mg/kg	0.13	1		10/10/17 15:04	107-13-1	
Benzene	ND	mg/kg	0.0066	1		10/10/17 15:04	71-43-2	
Bromobenzene	ND	mg/kg	0.0066	1		10/10/17 15:04	108-86-1	
Bromochloromethane	ND	mg/kg	0.0066	1		10/10/17 15:04	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0066	1		10/10/17 15:04	75-27-4	
Bromoform	ND	mg/kg	0.0066	1		10/10/17 15:04	75-25-2	
Bromomethane	ND	mg/kg	0.0066	1		10/10/17 15:04	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.033	1		10/10/17 15:04	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0066	1		10/10/17 15:04	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0066	1		10/10/17 15:04	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0066	1		10/10/17 15:04	98-06-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 2A (Corey Street Dam) **Lab ID: 50181016004** Collected: 09/28/17 12:02 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon disulfide	ND	mg/kg	0.013	1		10/10/17 15:04	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0066	1		10/10/17 15:04	56-23-5	
Chlorobenzene	ND	mg/kg	0.0066	1		10/10/17 15:04	108-90-7	
Chloroethane	ND	mg/kg	0.0066	1		10/10/17 15:04	75-00-3	
Chloroform	ND	mg/kg	0.0066	1		10/10/17 15:04	67-66-3	
Chloromethane	ND	mg/kg	0.0066	1		10/10/17 15:04	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0066	1		10/10/17 15:04	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0066	1		10/10/17 15:04	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0066	1		10/10/17 15:04	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0066	1		10/10/17 15:04	106-93-4	
Dibromomethane	ND	mg/kg	0.0066	1		10/10/17 15:04	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0066	1		10/10/17 15:04	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0066	1		10/10/17 15:04	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0066	1		10/10/17 15:04	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.13	1		10/10/17 15:04	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0066	1		10/10/17 15:04	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0066	1		10/10/17 15:04	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0066	1		10/10/17 15:04	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0066	1		10/10/17 15:04	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0066	1		10/10/17 15:04	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0066	1		10/10/17 15:04	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0066	1		10/10/17 15:04	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0066	1		10/10/17 15:04	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0066	1		10/10/17 15:04	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0066	1		10/10/17 15:04	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0066	1		10/10/17 15:04	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0066	1		10/10/17 15:04	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0066	1		10/10/17 15:04	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.13	1		10/10/17 15:04	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0066	1		10/10/17 15:04	87-68-3	
n-Hexane	ND	mg/kg	0.0066	1		10/10/17 15:04	110-54-3	
2-Hexanone	ND	mg/kg	0.13	1		10/10/17 15:04	591-78-6	
Iodomethane	ND	mg/kg	0.13	1		10/10/17 15:04	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0066	1		10/10/17 15:04	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0066	1		10/10/17 15:04	99-87-6	
Methylene Chloride	ND	mg/kg	0.026	1		10/10/17 15:04	75-09-2	L2
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.033	1		10/10/17 15:04	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0066	1		10/10/17 15:04	1634-04-4	
Naphthalene	ND	mg/kg	0.0066	1		10/10/17 15:04	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0066	1		10/10/17 15:04	103-65-1	
Styrene	ND	mg/kg	0.0066	1		10/10/17 15:04	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0066	1		10/10/17 15:04	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0066	1		10/10/17 15:04	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0066	1		10/10/17 15:04	127-18-4	
Toluene	ND	mg/kg	0.0066	1		10/10/17 15:04	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 2A (Corey Street Dam) **Lab ID: 50181016004** Collected: 09/28/17 12:02 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,3-Trichlorobenzene	ND	mg/kg	0.0066	1		10/10/17 15:04	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0066	1		10/10/17 15:04	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0066	1		10/10/17 15:04	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0066	1		10/10/17 15:04	79-00-5	
Trichloroethene	ND	mg/kg	0.0066	1		10/10/17 15:04	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0066	1		10/10/17 15:04	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0066	1		10/10/17 15:04	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0066	1		10/10/17 15:04	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0066	1		10/10/17 15:04	108-67-8	
Vinyl acetate	ND	mg/kg	0.13	1		10/10/17 15:04	108-05-4	
Vinyl chloride	ND	mg/kg	0.0066	1		10/10/17 15:04	75-01-4	
Xylene (Total)	ND	mg/kg	0.013	1		10/10/17 15:04	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	106	%.	69-136	1		10/10/17 15:04	1868-53-7	
Toluene-d8 (S)	99	%.	64-150	1		10/10/17 15:04	2037-26-5	
4-Bromofluorobenzene (S)	89	%.	51-142	1		10/10/17 15:04	460-00-4	
PSA Percent Sand,Silt,Clay	Analytical Method: ASA 15-5 mod							
Percent Sand	**87.5**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Clay	**10.0**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Silt	**2.5**	% (w/w)	0.10	1		10/04/17 13:36		
Texture	**LOAMY SAND**			1		10/04/17 13:36		
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**24.1**	%	0.10	1		10/03/17 15:11		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Surrogates								
RPD%	**23.4**	%	0.10	1		10/13/17 09:09		
Total Organic Carbon	**9130**	mg/kg	1790	1		10/13/17 09:09	7440-44-0	
Total Organic Carbon	**7220**	mg/kg	1780	1		10/13/17 09:15	7440-44-0	
Mean Total Organic Carbon	**8180**	mg/kg	1790	1		10/13/17 09:09	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 2B (Corey Street Dam) **Lab ID: 50181016005** Collected: 09/28/17 12:34 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticide Solids	Analytical Method: EPA 8081 Preparation Method: EPA 3546							
Aldrin	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:12	309-00-2	H2
alpha-BHC	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:12	319-84-6	D3,H2
beta-BHC	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:12	319-85-7	H2
delta-BHC	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:12	319-86-8	H2
gamma-BHC (Lindane)	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:12	58-89-9	H2
Chlordane (Technical)	ND	mg/kg	0.62	10	10/28/17 04:10	10/31/17 20:12	57-74-9	H2
alpha-Chlordane	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:12	5103-71-9	H2
gamma-Chlordane	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:12	5103-74-2	H2
4,4'-DDD	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:12	72-54-8	H2
4,4'-DDE	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:12	72-55-9	H2
4,4'-DDT	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:12	50-29-3	H2
Dieldrin	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:12	60-57-1	H2
Endosulfan I	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:12	959-98-8	H2
Endosulfan II	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:12	33213-65-9	H2
Endosulfan sulfate	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:12	1031-07-8	H2
Endrin	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:12	72-20-8	H2
Endrin aldehyde	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:12	7421-93-4	H2
Endrin ketone	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:12	53494-70-5	H2
Heptachlor	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:12	76-44-8	H2
Heptachlor epoxide	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:12	1024-57-3	H2
Methoxychlor	ND	mg/kg	0.31	10	10/28/17 04:10	10/31/17 20:12	72-43-5	H2
Toxaphene	ND	mg/kg	0.62	10	10/28/17 04:10	10/31/17 20:12	8001-35-2	H2
Surrogates								
Decachlorobiphenyl (S)	62	%.	22-126	10	10/28/17 04:10	10/31/17 20:12	2051-24-3	
8082 GCS PCB Solids	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:41	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:41	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:41	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:41	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:41	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:41	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 22:41	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	61	%.	28-111	1	10/27/17 13:50	10/30/17 22:41	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**6.1**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 13:04	7440-38-2	
Barium	**20.6**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 13:04	7440-39-3	
Cadmium	ND	mg/kg	0.56	1	10/06/17 12:33	10/09/17 13:04	7440-43-9	
Chromium	**5.4**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 13:04	7440-47-3	
Copper	**7.1**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 13:04	7440-50-8	
Lead	**5.8**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 13:04	7439-92-1	
Nickel	**7.1**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 13:04	7440-02-0	
Selenium	ND	mg/kg	1.1	1	10/06/17 12:33	10/09/17 13:04	7782-49-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 2B (Corey Street Dam) **Lab ID: 50181016005** Collected: 09/28/17 12:34 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Silver	ND	mg/kg	0.56	1	10/06/17 12:33	10/09/17 13:04	7440-22-4	
Zinc	**26.5**	mg/kg	1.1	1	10/06/17 12:33	10/09/17 13:04	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.25	1	10/11/17 13:52	10/11/17 17:25	7439-97-6	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	83-32-9	
Acenaphthylene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	208-96-8	
Anthracene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	207-08-9	
Benzyl alcohol	ND	mg/kg	0.83	1	10/04/17 13:00	10/06/17 10:23	100-51-6	
4-Bromophenylphenyl ether	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	101-55-3	
Butylbenzylphthalate	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	85-68-7	
4-Chloro-3-methylphenol	ND	mg/kg	0.83	1	10/04/17 13:00	10/06/17 10:23	59-50-7	
4-Chloroaniline	ND	mg/kg	0.83	1	10/04/17 13:00	10/06/17 10:23	106-47-8	
bis(2-Chloroethoxy)methane	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	111-91-1	
bis(2-Chloroethyl) ether	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	111-44-4	
bis(2chloro1methylethyl) ether	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	108-60-1	
2-Chloronaphthalene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	91-58-7	
2-Chlorophenol	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	95-57-8	
4-Chlorophenylphenyl ether	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	7005-72-3	
Chrysene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	53-70-3	
Dibenzofuran	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	132-64-9	
3,3'-Dichlorobenzidine	ND	mg/kg	0.83	1	10/04/17 13:00	10/06/17 10:23	91-94-1	
2,4-Dichlorophenol	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	120-83-2	
Diethylphthalate	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	84-66-2	
2,4-Dimethylphenol	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	105-67-9	
Dimethylphthalate	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	131-11-3	
Di-n-butylphthalate	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	84-74-2	
4,6-Dinitro-2-methylphenol	ND	mg/kg	2.0	1	10/04/17 13:00	10/06/17 10:23	534-52-1	
2,4-Dinitrophenol	ND	mg/kg	2.0	1	10/04/17 13:00	10/06/17 10:23	51-28-5	
2,4-Dinitrotoluene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	121-14-2	
2,6-Dinitrotoluene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	606-20-2	
Di-n-octylphthalate	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	117-81-7	
Fluoranthene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	206-44-0	
Fluorene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	86-73-7	
Hexachloro-1,3-butadiene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	87-68-3	
Hexachlorobenzene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	118-74-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 2B (Corey Street Dam) **Lab ID: 50181016005** Collected: 09/28/17 12:34 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Hexachlorocyclopentadiene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	77-47-4	
Hexachloroethane	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	193-39-5	
Isophorone	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	78-59-1	
1-Methylnaphthalene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	91-57-6	
2-Methylphenol(o-Cresol)	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.83	1	10/04/17 13:00	10/06/17 10:23		
Naphthalene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	91-20-3	
2-Nitroaniline	ND	mg/kg	2.0	1	10/04/17 13:00	10/06/17 10:23	88-74-4	
3-Nitroaniline	ND	mg/kg	2.0	1	10/04/17 13:00	10/06/17 10:23	99-09-2	
4-Nitroaniline	ND	mg/kg	2.0	1	10/04/17 13:00	10/06/17 10:23	100-01-6	
Nitrobenzene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	98-95-3	
2-Nitrophenol	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	88-75-5	
4-Nitrophenol	ND	mg/kg	2.0	1	10/04/17 13:00	10/06/17 10:23	100-02-7	
N-Nitroso-di-n-propylamine	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	621-64-7	
N-Nitrosodiphenylamine	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	86-30-6	
Pentachlorophenol	ND	mg/kg	2.0	1	10/04/17 13:00	10/06/17 10:23	87-86-5	
Phenanthrene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	85-01-8	
Phenol	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	108-95-2	
Pyrene	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	129-00-0	
2,4,5-Trichlorophenol	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	95-95-4	
2,4,6-Trichlorophenol	ND	mg/kg	0.41	1	10/04/17 13:00	10/06/17 10:23	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	46	%.	21-102	1	10/04/17 13:00	10/06/17 10:23	4165-60-0	
Phenol-d5 (S)	53	%.	17-100	1	10/04/17 13:00	10/06/17 10:23	4165-62-2	
2-Fluorophenol (S)	55	%.	12-108	1	10/04/17 13:00	10/06/17 10:23	367-12-4	
2,4,6-Tribromophenol (S)	68	%.	13-112	1	10/04/17 13:00	10/06/17 10:23	118-79-6	
2-Fluorobiphenyl (S)	52	%.	33-93	1	10/04/17 13:00	10/06/17 10:23	321-60-8	
p-Terphenyl-d14 (S)	68	%.	28-113	1	10/04/17 13:00	10/06/17 10:23	1718-51-0	
8260 MSV 5030 Low Level Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.13	1		10/10/17 15:36	67-64-1	
Acrolein	ND	mg/kg	0.13	1		10/10/17 15:36	107-02-8	
Acrylonitrile	ND	mg/kg	0.13	1		10/10/17 15:36	107-13-1	
Benzene	ND	mg/kg	0.0063	1		10/10/17 15:36	71-43-2	
Bromobenzene	ND	mg/kg	0.0063	1		10/10/17 15:36	108-86-1	
Bromochloromethane	ND	mg/kg	0.0063	1		10/10/17 15:36	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0063	1		10/10/17 15:36	75-27-4	
Bromoform	ND	mg/kg	0.0063	1		10/10/17 15:36	75-25-2	
Bromomethane	ND	mg/kg	0.0063	1		10/10/17 15:36	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.032	1		10/10/17 15:36	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0063	1		10/10/17 15:36	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0063	1		10/10/17 15:36	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0063	1		10/10/17 15:36	98-06-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 2B (Corey Street Dam) **Lab ID: 50181016005** Collected: 09/28/17 12:34 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Carbon disulfide	ND	mg/kg	0.013	1		10/10/17 15:36	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0063	1		10/10/17 15:36	56-23-5	
Chlorobenzene	ND	mg/kg	0.0063	1		10/10/17 15:36	108-90-7	
Chloroethane	ND	mg/kg	0.0063	1		10/10/17 15:36	75-00-3	
Chloroform	ND	mg/kg	0.0063	1		10/10/17 15:36	67-66-3	
Chloromethane	ND	mg/kg	0.0063	1		10/10/17 15:36	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0063	1		10/10/17 15:36	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0063	1		10/10/17 15:36	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0063	1		10/10/17 15:36	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0063	1		10/10/17 15:36	106-93-4	
Dibromomethane	ND	mg/kg	0.0063	1		10/10/17 15:36	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0063	1		10/10/17 15:36	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0063	1		10/10/17 15:36	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0063	1		10/10/17 15:36	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.13	1		10/10/17 15:36	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0063	1		10/10/17 15:36	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0063	1		10/10/17 15:36	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0063	1		10/10/17 15:36	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0063	1		10/10/17 15:36	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0063	1		10/10/17 15:36	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0063	1		10/10/17 15:36	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0063	1		10/10/17 15:36	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0063	1		10/10/17 15:36	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0063	1		10/10/17 15:36	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0063	1		10/10/17 15:36	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0063	1		10/10/17 15:36	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0063	1		10/10/17 15:36	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0063	1		10/10/17 15:36	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.13	1		10/10/17 15:36	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0063	1		10/10/17 15:36	87-68-3	
n-Hexane	ND	mg/kg	0.0063	1		10/10/17 15:36	110-54-3	
2-Hexanone	ND	mg/kg	0.13	1		10/10/17 15:36	591-78-6	
Iodomethane	ND	mg/kg	0.13	1		10/10/17 15:36	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0063	1		10/10/17 15:36	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0063	1		10/10/17 15:36	99-87-6	
Methylene Chloride	ND	mg/kg	0.025	1		10/10/17 15:36	75-09-2	L2
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.032	1		10/10/17 15:36	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0063	1		10/10/17 15:36	1634-04-4	
Naphthalene	ND	mg/kg	0.0063	1		10/10/17 15:36	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0063	1		10/10/17 15:36	103-65-1	
Styrene	ND	mg/kg	0.0063	1		10/10/17 15:36	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0063	1		10/10/17 15:36	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0063	1		10/10/17 15:36	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0063	1		10/10/17 15:36	127-18-4	
Toluene	ND	mg/kg	0.0063	1		10/10/17 15:36	108-88-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 2B (Corey Street Dam) **Lab ID: 50181016005** Collected: 09/28/17 12:34 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,2,3-Trichlorobenzene	ND	mg/kg	0.0063	1		10/10/17 15:36	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0063	1		10/10/17 15:36	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0063	1		10/10/17 15:36	71-55-6	
1,1,2-Trichloroethane	ND	mg/kg	0.0063	1		10/10/17 15:36	79-00-5	
Trichloroethene	ND	mg/kg	0.0063	1		10/10/17 15:36	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0063	1		10/10/17 15:36	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0063	1		10/10/17 15:36	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0063	1		10/10/17 15:36	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0063	1		10/10/17 15:36	108-67-8	
Vinyl acetate	ND	mg/kg	0.13	1		10/10/17 15:36	108-05-4	
Vinyl chloride	ND	mg/kg	0.0063	1		10/10/17 15:36	75-01-4	
Xylene (Total)	ND	mg/kg	0.013	1		10/10/17 15:36	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102	%.	69-136	1		10/10/17 15:36	1868-53-7	
Toluene-d8 (S)	97	%.	64-150	1		10/10/17 15:36	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	51-142	1		10/10/17 15:36	460-00-4	
PSA Percent Sand,Silt,Clay	Analytical Method: ASA 15-5 mod							
Percent Sand	**97.5**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Clay	**2.5**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Silt	ND	% (w/w)	0.10	1		10/04/17 13:36		
Texture	**SAND**			1		10/04/17 13:36		
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**20.7**	%	0.10	1		10/03/17 15:11		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 3A (Karg Dam) **Lab ID: 50181016006** Collected: 09/28/17 14:25 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticide Solids	Analytical Method: EPA 8081 Preparation Method: EPA 3546							
Aldrin	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:24	309-00-2	H2
alpha-BHC	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:24	319-84-6	D3,H2
beta-BHC	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:24	319-85-7	H2
delta-BHC	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:24	319-86-8	H2
gamma-BHC (Lindane)	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:24	58-89-9	H2
Chlordane (Technical)	ND	mg/kg	0.62	10	10/28/17 04:10	10/31/17 20:24	57-74-9	H2
alpha-Chlordane	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:24	5103-71-9	H2
gamma-Chlordane	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:24	5103-74-2	H2
4,4'-DDD	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:24	72-54-8	H2
4,4'-DDE	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:24	72-55-9	H2
4,4'-DDT	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:24	50-29-3	H2
Dieldrin	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:24	60-57-1	H2
Endosulfan I	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:24	959-98-8	H2
Endosulfan II	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:24	33213-65-9	H2
Endosulfan sulfate	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:24	1031-07-8	H2
Endrin	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:24	72-20-8	H2
Endrin aldehyde	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:24	7421-93-4	H2
Endrin ketone	ND	mg/kg	0.062	10	10/28/17 04:10	10/31/17 20:24	53494-70-5	H2
Heptachlor	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:24	76-44-8	H2
Heptachlor epoxide	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:24	1024-57-3	H2
Methoxychlor	ND	mg/kg	0.31	10	10/28/17 04:10	10/31/17 20:24	72-43-5	H2
Toxaphene	ND	mg/kg	0.62	10	10/28/17 04:10	10/31/17 20:24	8001-35-2	H2
Surrogates								
Decachlorobiphenyl (S)	38	%.	22-126	10	10/28/17 04:10	10/31/17 20:24	2051-24-3	
8082 GCS PCB Solids	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:50	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:50	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:50	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:50	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:50	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:50	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 22:50	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	41	%.	28-111	1	10/27/17 13:50	10/30/17 22:50	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**5.2**	mg/kg	1.1	1	10/05/17 11:17	10/10/17 10:35	7440-38-2	
Barium	**26.0**	mg/kg	1.1	1	10/05/17 11:17	10/10/17 10:35	7440-39-3	
Cadmium	ND	mg/kg	0.56	1	10/05/17 11:17	10/10/17 10:35	7440-43-9	
Chromium	**4.9**	mg/kg	1.1	1	10/05/17 11:17	10/10/17 10:35	7440-47-3	
Copper	**6.9**	mg/kg	1.1	1	10/05/17 11:17	10/10/17 10:35	7440-50-8	
Lead	**8.6**	mg/kg	1.1	1	10/05/17 11:17	10/10/17 10:35	7439-92-1	
Nickel	**7.2**	mg/kg	1.1	1	10/05/17 11:17	10/10/17 10:35	7440-02-0	
Selenium	**1.3**	mg/kg	1.1	1	10/05/17 11:17	10/10/17 10:35	7782-49-2	
Silver	ND	mg/kg	0.56	1	10/05/17 11:17	10/10/17 10:35	7440-22-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 3A (Karg Dam) **Lab ID: 50181016006** Collected: 09/28/17 14:25 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Zinc	**23.8**	mg/kg	1.1	1	10/05/17 11:17	10/10/17 10:35	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.26	1	10/06/17 13:16	10/09/17 09:50	7439-97-6	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	83-32-9	R1
Acenaphthylene	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	208-96-8	R1
Anthracene	**0.59**	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	120-12-7	R1
Benzo(a)anthracene	**2.4**	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	56-55-3	M1,R1
Benzo(a)pyrene	**2.0**	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	50-32-8	M1,R1
Benzo(b)fluoranthene	**2.5**	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	205-99-2	M1
Benzo(g,h,i)perylene	**1.2**	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	191-24-2	
Benzo(k)fluoranthene	**1.1**	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	207-08-9	R1
Benzyl alcohol	ND	mg/kg	0.81	1	10/03/17 11:40	10/03/17 18:15	100-51-6	
4-Bromophenylphenyl ether	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	101-55-3	
Butylbenzylphthalate	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	85-68-7	
4-Chloro-3-methylphenol	ND	mg/kg	0.81	1	10/03/17 11:40	10/03/17 18:15	59-50-7	R1
4-Chloroaniline	ND	mg/kg	0.81	1	10/03/17 11:40	10/03/17 18:15	106-47-8	
bis(2-Chloroethoxy)methane	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	111-91-1	
bis(2-Chloroethyl) ether	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	111-44-4	
bis(2chloro1methylethyl) ether	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	108-60-1	
2-Chloronaphthalene	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	91-58-7	
2-Chlorophenol	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	95-57-8	R1
4-Chlorophenylphenyl ether	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	7005-72-3	
Chrysene	**2.3**	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	218-01-9	M1
Dibenz(a,h)anthracene	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	53-70-3	
Dibenzofuran	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	132-64-9	
3,3'-Dichlorobenzidine	ND	mg/kg	0.81	1	10/03/17 11:40	10/03/17 18:15	91-94-1	
2,4-Dichlorophenol	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	120-83-2	
Diethylphthalate	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	84-66-2	
2,4-Dimethylphenol	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	105-67-9	
Dimethylphthalate	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	131-11-3	
Di-n-butylphthalate	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	84-74-2	
4,6-Dinitro-2-methylphenol	ND	mg/kg	2.0	1	10/03/17 11:40	10/03/17 18:15	534-52-1	
2,4-Dinitrophenol	ND	mg/kg	2.0	1	10/03/17 11:40	10/03/17 18:15	51-28-5	
2,4-Dinitrotoluene	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	121-14-2	R1
2,6-Dinitrotoluene	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	606-20-2	
Di-n-octylphthalate	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	117-81-7	
Fluoranthene	**4.8**	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	206-44-0	M1,R1
Fluorene	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	86-73-7	R1
Hexachloro-1,3-butadiene	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	87-68-3	
Hexachlorobenzene	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	118-74-1	
Hexachlorocyclopentadiene	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	77-47-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 3A (Karg Dam) **Lab ID: 50181016006** Collected: 09/28/17 14:25 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Hexachloroethane	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	67-72-1	
Indeno(1,2,3-cd)pyrene	**1.1**	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	193-39-5	
Isophorone	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	78-59-1	
1-Methylnaphthalene	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	91-57-6	R1
2-Methylphenol(o-Cresol)	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.81	1	10/03/17 11:40	10/03/17 18:15		
Naphthalene	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	91-20-3	R1
2-Nitroaniline	ND	mg/kg	2.0	1	10/03/17 11:40	10/03/17 18:15	88-74-4	
3-Nitroaniline	ND	mg/kg	2.0	1	10/03/17 11:40	10/03/17 18:15	99-09-2	
4-Nitroaniline	ND	mg/kg	2.0	1	10/03/17 11:40	10/03/17 18:15	100-01-6	
Nitrobenzene	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	98-95-3	
2-Nitrophenol	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	88-75-5	
4-Nitrophenol	ND	mg/kg	2.0	1	10/03/17 11:40	10/03/17 18:15	100-02-7	
N-Nitroso-di-n-propylamine	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	621-64-7	R1
N-Nitrosodiphenylamine	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	86-30-6	
Pentachlorophenol	ND	mg/kg	2.0	1	10/03/17 11:40	10/03/17 18:15	87-86-5	
Phenanthrene	**2.6**	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	85-01-8	M1,R1
Phenol	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	108-95-2	R1
Pyrene	**4.1**	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	129-00-0	M1,R1
2,4,5-Trichlorophenol	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	95-95-4	
2,4,6-Trichlorophenol	ND	mg/kg	0.41	1	10/03/17 11:40	10/03/17 18:15	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	47	%.	21-102	1	10/03/17 11:40	10/03/17 18:15	4165-60-0	
Phenol-d5 (S)	51	%.	17-100	1	10/03/17 11:40	10/03/17 18:15	4165-62-2	
2-Fluorophenol (S)	48	%.	12-108	1	10/03/17 11:40	10/03/17 18:15	367-12-4	
2,4,6-Tribromophenol (S)	42	%.	13-112	1	10/03/17 11:40	10/03/17 18:15	118-79-6	
2-Fluorobiphenyl (S)	55	%.	33-93	1	10/03/17 11:40	10/03/17 18:15	321-60-8	
p-Terphenyl-d14 (S)	69	%.	28-113	1	10/03/17 11:40	10/03/17 18:15	1718-51-0	
8260 MSV 5030 Low Level Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.12	1		10/10/17 16:08	67-64-1	
Acrolein	ND	mg/kg	0.12	1		10/10/17 16:08	107-02-8	
Acrylonitrile	ND	mg/kg	0.12	1		10/10/17 16:08	107-13-1	
Benzene	ND	mg/kg	0.0062	1		10/10/17 16:08	71-43-2	
Bromobenzene	ND	mg/kg	0.0062	1		10/10/17 16:08	108-86-1	
Bromochloromethane	ND	mg/kg	0.0062	1		10/10/17 16:08	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0062	1		10/10/17 16:08	75-27-4	
Bromoform	ND	mg/kg	0.0062	1		10/10/17 16:08	75-25-2	
Bromomethane	ND	mg/kg	0.0062	1		10/10/17 16:08	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.031	1		10/10/17 16:08	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0062	1		10/10/17 16:08	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0062	1		10/10/17 16:08	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0062	1		10/10/17 16:08	98-06-6	
Carbon disulfide	ND	mg/kg	0.012	1		10/10/17 16:08	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0062	1		10/10/17 16:08	56-23-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 3A (Karg Dam) **Lab ID: 50181016006** Collected: 09/28/17 14:25 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Chlorobenzene	ND	mg/kg	0.0062	1		10/10/17 16:08	108-90-7	
Chloroethane	ND	mg/kg	0.0062	1		10/10/17 16:08	75-00-3	
Chloroform	ND	mg/kg	0.0062	1		10/10/17 16:08	67-66-3	
Chloromethane	ND	mg/kg	0.0062	1		10/10/17 16:08	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0062	1		10/10/17 16:08	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0062	1		10/10/17 16:08	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0062	1		10/10/17 16:08	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0062	1		10/10/17 16:08	106-93-4	
Dibromomethane	ND	mg/kg	0.0062	1		10/10/17 16:08	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0062	1		10/10/17 16:08	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0062	1		10/10/17 16:08	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0062	1		10/10/17 16:08	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.12	1		10/10/17 16:08	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0062	1		10/10/17 16:08	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0062	1		10/10/17 16:08	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0062	1		10/10/17 16:08	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0062	1		10/10/17 16:08	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0062	1		10/10/17 16:08	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0062	1		10/10/17 16:08	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0062	1		10/10/17 16:08	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0062	1		10/10/17 16:08	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0062	1		10/10/17 16:08	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0062	1		10/10/17 16:08	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0062	1		10/10/17 16:08	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0062	1		10/10/17 16:08	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0062	1		10/10/17 16:08	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.12	1		10/10/17 16:08	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0062	1		10/10/17 16:08	87-68-3	
n-Hexane	ND	mg/kg	0.0062	1		10/10/17 16:08	110-54-3	
2-Hexanone	ND	mg/kg	0.12	1		10/10/17 16:08	591-78-6	
Iodomethane	ND	mg/kg	0.12	1		10/10/17 16:08	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0062	1		10/10/17 16:08	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0062	1		10/10/17 16:08	99-87-6	
Methylene Chloride	ND	mg/kg	0.025	1		10/10/17 16:08	75-09-2	L2
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.031	1		10/10/17 16:08	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0062	1		10/10/17 16:08	1634-04-4	
Naphthalene	ND	mg/kg	0.0062	1		10/10/17 16:08	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0062	1		10/10/17 16:08	103-65-1	
Styrene	ND	mg/kg	0.0062	1		10/10/17 16:08	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0062	1		10/10/17 16:08	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0062	1		10/10/17 16:08	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0062	1		10/10/17 16:08	127-18-4	
Toluene	ND	mg/kg	0.0062	1		10/10/17 16:08	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0062	1		10/10/17 16:08	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0062	1		10/10/17 16:08	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0062	1		10/10/17 16:08	71-55-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 3A (Karg Dam) **Lab ID: 50181016006** Collected: 09/28/17 14:25 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,1,2-Trichloroethane	ND	mg/kg	0.0062	1		10/10/17 16:08	79-00-5	
Trichloroethene	ND	mg/kg	0.0062	1		10/10/17 16:08	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0062	1		10/10/17 16:08	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0062	1		10/10/17 16:08	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0062	1		10/10/17 16:08	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0062	1		10/10/17 16:08	108-67-8	
Vinyl acetate	ND	mg/kg	0.12	1		10/10/17 16:08	108-05-4	
Vinyl chloride	ND	mg/kg	0.0062	1		10/10/17 16:08	75-01-4	
Xylene (Total)	ND	mg/kg	0.012	1		10/10/17 16:08	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	103	%.	69-136	1		10/10/17 16:08	1868-53-7	
Toluene-d8 (S)	98	%.	64-150	1		10/10/17 16:08	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	51-142	1		10/10/17 16:08	460-00-4	
PSA Percent Sand,Silt,Clay	Analytical Method: ASA 15-5 mod							
Percent Sand	**97.5**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Clay	**2.5**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Silt	ND	% (w/w)	0.10	1		10/04/17 13:36		
Texture	**SAND**			1		10/04/17 13:36		
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**19.4**	%	0.10	1		10/03/17 17:25		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Surrogates								
RPD%	**20.1**	%	0.10	1		10/13/17 12:13		
Total Organic Carbon	**12500**	mg/kg	831	1		10/13/17 12:13	7440-44-0	
Total Organic Carbon	**10200**	mg/kg	830	1		10/13/17 12:21	7440-44-0	
Mean Total Organic Carbon	**11300**	mg/kg	830	1		10/13/17 12:13	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 3B (Karg Dam) **Lab ID: 50181016007** Collected: 09/28/17 14:53 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticide Solids	Analytical Method: EPA 8081 Preparation Method: EPA 3546							
Aldrin	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 20:37	309-00-2	H2
alpha-BHC	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 20:37	319-84-6	D3,H2
beta-BHC	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 20:37	319-85-7	H2
delta-BHC	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 20:37	319-86-8	H2
gamma-BHC (Lindane)	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 20:37	58-89-9	H2
Chlordane (Technical)	ND	mg/kg	0.60	10	10/28/17 04:10	10/31/17 20:37	57-74-9	H2
alpha-Chlordane	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 20:37	5103-71-9	H2
gamma-Chlordane	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 20:37	5103-74-2	H2
4,4'-DDD	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 20:37	72-54-8	H2
4,4'-DDE	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 20:37	72-55-9	H2
4,4'-DDT	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 20:37	50-29-3	H2
Dieldrin	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 20:37	60-57-1	H2
Endosulfan I	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 20:37	959-98-8	H2
Endosulfan II	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 20:37	33213-65-9	H2
Endosulfan sulfate	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 20:37	1031-07-8	H2
Endrin	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 20:37	72-20-8	H2
Endrin aldehyde	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 20:37	7421-93-4	H2
Endrin ketone	ND	mg/kg	0.060	10	10/28/17 04:10	10/31/17 20:37	53494-70-5	H2
Heptachlor	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 20:37	76-44-8	H2
Heptachlor epoxide	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 20:37	1024-57-3	H2
Methoxychlor	ND	mg/kg	0.30	10	10/28/17 04:10	10/31/17 20:37	72-43-5	H2
Toxaphene	ND	mg/kg	0.60	10	10/28/17 04:10	10/31/17 20:37	8001-35-2	H2
Surrogates								
Decachlorobiphenyl (S)	70	%.	22-126	10	10/28/17 04:10	10/31/17 20:37	2051-24-3	
8082 GCS PCB Solids	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 23:30	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 23:30	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 23:30	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 23:30	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 23:30	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 23:30	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 23:30	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	58	%.	28-111	1	10/27/17 13:50	10/30/17 23:30	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**20.1**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:38	7440-38-2	
Barium	**44.7**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:38	7440-39-3	
Cadmium	ND	mg/kg	0.60	1	10/05/17 11:17	10/10/17 10:38	7440-43-9	
Chromium	**10.1**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:38	7440-47-3	
Copper	**25.9**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:38	7440-50-8	
Lead	**6.7**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:38	7439-92-1	
Nickel	**16.7**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:38	7440-02-0	
Selenium	**4.0**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:38	7782-49-2	
Silver	ND	mg/kg	0.60	1	10/05/17 11:17	10/10/17 10:38	7440-22-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 3B (Karg Dam) **Lab ID: 50181016007** Collected: 09/28/17 14:53 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010	Preparation Method: EPA 3050						
Zinc	**36.1**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:38	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471	Preparation Method: EPA 7471						
Mercury	ND	mg/kg	0.24	1	10/06/17 13:16	10/09/17 09:53	7439-97-6	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270	Preparation Method: EPA 3546						
Acenaphthene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	83-32-9	
Acenaphthylene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	208-96-8	
Anthracene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	207-08-9	
Benzyl alcohol	ND	mg/kg	0.80	1	10/03/17 11:40	10/03/17 19:03	100-51-6	
4-Bromophenylphenyl ether	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	101-55-3	
Butylbenzylphthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	85-68-7	
4-Chloro-3-methylphenol	ND	mg/kg	0.80	1	10/03/17 11:40	10/03/17 19:03	59-50-7	
4-Chloroaniline	ND	mg/kg	0.80	1	10/03/17 11:40	10/03/17 19:03	106-47-8	
bis(2-Chloroethoxy)methane	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	111-91-1	
bis(2-Chloroethyl) ether	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	111-44-4	
bis(2chloro1methylethyl) ether	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	108-60-1	
2-Chloronaphthalene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	91-58-7	
2-Chlorophenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	95-57-8	
4-Chlorophenylphenyl ether	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	7005-72-3	
Chrysene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	53-70-3	
Dibenzofuran	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	132-64-9	
3,3'-Dichlorobenzidine	ND	mg/kg	0.80	1	10/03/17 11:40	10/03/17 19:03	91-94-1	
2,4-Dichlorophenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	120-83-2	
Diethylphthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	84-66-2	
2,4-Dimethylphenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	105-67-9	
Dimethylphthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	131-11-3	
Di-n-butylphthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	84-74-2	
4,6-Dinitro-2-methylphenol	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 19:03	534-52-1	
2,4-Dinitrophenol	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 19:03	51-28-5	
2,4-Dinitrotoluene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	121-14-2	
2,6-Dinitrotoluene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	606-20-2	
Di-n-octylphthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	117-81-7	
Fluoranthene	**0.45**	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	206-44-0	
Fluorene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	86-73-7	
Hexachloro-1,3-butadiene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	87-68-3	
Hexachlorobenzene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	118-74-1	
Hexachlorocyclopentadiene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	77-47-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 3B (Karg Dam) **Lab ID: 50181016007** Collected: 09/28/17 14:53 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Hexachloroethane	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	193-39-5	
Isophorone	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	78-59-1	
1-Methylnaphthalene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	91-57-6	
2-Methylphenol(o-Cresol)	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.80	1	10/03/17 11:40	10/03/17 19:03		
Naphthalene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	91-20-3	
2-Nitroaniline	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 19:03	88-74-4	
3-Nitroaniline	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 19:03	99-09-2	
4-Nitroaniline	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 19:03	100-01-6	
Nitrobenzene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	98-95-3	
2-Nitrophenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	88-75-5	
4-Nitrophenol	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 19:03	100-02-7	
N-Nitroso-di-n-propylamine	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	621-64-7	
N-Nitrosodiphenylamine	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	86-30-6	
Pentachlorophenol	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 19:03	87-86-5	
Phenanthrene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	85-01-8	
Phenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	108-95-2	
Pyrene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	129-00-0	
2,4,5-Trichlorophenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	95-95-4	
2,4,6-Trichlorophenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:03	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	39	%.	21-102	1	10/03/17 11:40	10/03/17 19:03	4165-60-0	
Phenol-d5 (S)	40	%.	17-100	1	10/03/17 11:40	10/03/17 19:03	4165-62-2	
2-Fluorophenol (S)	41	%.	12-108	1	10/03/17 11:40	10/03/17 19:03	367-12-4	
2,4,6-Tribromophenol (S)	45	%.	13-112	1	10/03/17 11:40	10/03/17 19:03	118-79-6	
2-Fluorobiphenyl (S)	44	%.	33-93	1	10/03/17 11:40	10/03/17 19:03	321-60-8	
p-Terphenyl-d14 (S)	61	%.	28-113	1	10/03/17 11:40	10/03/17 19:03	1718-51-0	
8260 MSV 5030 Low Level Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.12	1		10/10/17 16:40	67-64-1	
Acrolein	ND	mg/kg	0.12	1		10/10/17 16:40	107-02-8	
Acrylonitrile	ND	mg/kg	0.12	1		10/10/17 16:40	107-13-1	
Benzene	ND	mg/kg	0.0061	1		10/10/17 16:40	71-43-2	
Bromobenzene	ND	mg/kg	0.0061	1		10/10/17 16:40	108-86-1	
Bromochloromethane	ND	mg/kg	0.0061	1		10/10/17 16:40	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0061	1		10/10/17 16:40	75-27-4	
Bromoform	ND	mg/kg	0.0061	1		10/10/17 16:40	75-25-2	
Bromomethane	ND	mg/kg	0.0061	1		10/10/17 16:40	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.031	1		10/10/17 16:40	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0061	1		10/10/17 16:40	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0061	1		10/10/17 16:40	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0061	1		10/10/17 16:40	98-06-6	
Carbon disulfide	ND	mg/kg	0.012	1		10/10/17 16:40	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0061	1		10/10/17 16:40	56-23-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 3B (Karg Dam) **Lab ID: 50181016007** Collected: 09/28/17 14:53 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Chlorobenzene	ND	mg/kg	0.0061	1		10/10/17 16:40	108-90-7	
Chloroethane	ND	mg/kg	0.0061	1		10/10/17 16:40	75-00-3	
Chloroform	ND	mg/kg	0.0061	1		10/10/17 16:40	67-66-3	
Chloromethane	ND	mg/kg	0.0061	1		10/10/17 16:40	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0061	1		10/10/17 16:40	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0061	1		10/10/17 16:40	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0061	1		10/10/17 16:40	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0061	1		10/10/17 16:40	106-93-4	
Dibromomethane	ND	mg/kg	0.0061	1		10/10/17 16:40	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0061	1		10/10/17 16:40	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0061	1		10/10/17 16:40	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0061	1		10/10/17 16:40	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.12	1		10/10/17 16:40	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0061	1		10/10/17 16:40	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0061	1		10/10/17 16:40	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0061	1		10/10/17 16:40	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0061	1		10/10/17 16:40	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0061	1		10/10/17 16:40	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0061	1		10/10/17 16:40	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0061	1		10/10/17 16:40	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0061	1		10/10/17 16:40	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0061	1		10/10/17 16:40	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0061	1		10/10/17 16:40	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0061	1		10/10/17 16:40	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0061	1		10/10/17 16:40	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0061	1		10/10/17 16:40	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.12	1		10/10/17 16:40	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0061	1		10/10/17 16:40	87-68-3	
n-Hexane	ND	mg/kg	0.0061	1		10/10/17 16:40	110-54-3	
2-Hexanone	ND	mg/kg	0.12	1		10/10/17 16:40	591-78-6	
Iodomethane	ND	mg/kg	0.12	1		10/10/17 16:40	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0061	1		10/10/17 16:40	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0061	1		10/10/17 16:40	99-87-6	
Methylene Chloride	ND	mg/kg	0.024	1		10/10/17 16:40	75-09-2	L2
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.031	1		10/10/17 16:40	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0061	1		10/10/17 16:40	1634-04-4	
Naphthalene	ND	mg/kg	0.0061	1		10/10/17 16:40	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0061	1		10/10/17 16:40	103-65-1	
Styrene	ND	mg/kg	0.0061	1		10/10/17 16:40	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0061	1		10/10/17 16:40	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0061	1		10/10/17 16:40	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0061	1		10/10/17 16:40	127-18-4	
Toluene	ND	mg/kg	0.0061	1		10/10/17 16:40	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0061	1		10/10/17 16:40	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0061	1		10/10/17 16:40	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0061	1		10/10/17 16:40	71-55-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 3B (Karg Dam) **Lab ID: 50181016007** Collected: 09/28/17 14:53 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,1,2-Trichloroethane	ND	mg/kg	0.0061	1		10/10/17 16:40	79-00-5	
Trichloroethene	ND	mg/kg	0.0061	1		10/10/17 16:40	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0061	1		10/10/17 16:40	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0061	1		10/10/17 16:40	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0061	1		10/10/17 16:40	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0061	1		10/10/17 16:40	108-67-8	
Vinyl acetate	ND	mg/kg	0.12	1		10/10/17 16:40	108-05-4	
Vinyl chloride	ND	mg/kg	0.0061	1		10/10/17 16:40	75-01-4	
Xylene (Total)	ND	mg/kg	0.012	1		10/10/17 16:40	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	106	%.	69-136	1		10/10/17 16:40	1868-53-7	
Toluene-d8 (S)	99	%.	64-150	1		10/10/17 16:40	2037-26-5	
4-Bromofluorobenzene (S)	89	%.	51-142	1		10/10/17 16:40	460-00-4	
PSA Percent Sand,Silt,Clay	Analytical Method: ASA 15-5 mod							
Percent Sand	**95.0**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Clay	**5.0**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Silt	ND	% (w/w)	0.10	1		10/04/17 13:36		
Texture	**SAND**			1		10/04/17 13:36		
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**18.1**	%	0.10	1		10/03/17 17:25		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Surrogates								
RPD%	**20.5**	%	0.10	1		10/13/17 09:38		
Total Organic Carbon	**8460**	mg/kg	1380	1		10/13/17 09:38	7440-44-0	
Total Organic Carbon	**6890**	mg/kg	1370	1		10/13/17 09:44	7440-44-0	
Mean Total Organic Carbon	**7670**	mg/kg	1380	1		10/13/17 09:38	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 3C (Karg Dam) **Lab ID: 50181016008** Collected: 09/28/17 15:20 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticide Solids	Analytical Method: EPA 8081 Preparation Method: EPA 3546							
Aldrin	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:49	309-00-2	H2
alpha-BHC	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:49	319-84-6	D3,H2
beta-BHC	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:49	319-85-7	H2
delta-BHC	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:49	319-86-8	H2
gamma-BHC (Lindane)	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:49	58-89-9	H2
Chlordane (Technical)	ND	mg/kg	0.63	10	10/28/17 04:10	10/31/17 20:49	57-74-9	H2
alpha-Chlordane	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:49	5103-71-9	H2
gamma-Chlordane	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:49	5103-74-2	H2
4,4'-DDD	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 20:49	72-54-8	H2
4,4'-DDE	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 20:49	72-55-9	H2
4,4'-DDT	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 20:49	50-29-3	H2
Dieldrin	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 20:49	60-57-1	H2
Endosulfan I	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:49	959-98-8	H2
Endosulfan II	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 20:49	33213-65-9	H2
Endosulfan sulfate	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 20:49	1031-07-8	H2
Endrin	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 20:49	72-20-8	H2
Endrin aldehyde	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 20:49	7421-93-4	H2
Endrin ketone	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 20:49	53494-70-5	H2
Heptachlor	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:49	76-44-8	H2
Heptachlor epoxide	ND	mg/kg	0.031	10	10/28/17 04:10	10/31/17 20:49	1024-57-3	H2
Methoxychlor	ND	mg/kg	0.31	10	10/28/17 04:10	10/31/17 20:49	72-43-5	H2
Toxaphene	ND	mg/kg	0.63	10	10/28/17 04:10	10/31/17 20:49	8001-35-2	H2
Surrogates								
Decachlorobiphenyl (S)	70	%.	22-126	10	10/28/17 04:10	10/31/17 20:49	2051-24-3	
8082 GCS PCB Solids	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 23:38	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 23:38	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 23:38	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 23:38	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 23:38	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 23:38	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 23:38	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	64	%.	28-111	1	10/27/17 13:50	10/30/17 23:38	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**5.4**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:40	7440-38-2	
Barium	**25.5**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:40	7440-39-3	
Cadmium	ND	mg/kg	0.58	1	10/05/17 11:17	10/10/17 10:40	7440-43-9	
Chromium	**6.3**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:40	7440-47-3	
Copper	**18.7**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:40	7440-50-8	
Lead	**8.5**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:40	7439-92-1	
Nickel	**7.4**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:40	7440-02-0	
Selenium	**1.4**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:40	7782-49-2	
Silver	ND	mg/kg	0.58	1	10/05/17 11:17	10/10/17 10:40	7440-22-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 3C (Karg Dam) **Lab ID: 50181016008** Collected: 09/28/17 15:20 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Zinc	**47.1**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:40	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.25	1	10/06/17 13:16	10/09/17 10:02	7439-97-6	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	83-32-9	
Acenaphthylene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	208-96-8	
Anthracene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	207-08-9	
Benzyl alcohol	ND	mg/kg	0.85	1	10/03/17 11:40	10/03/17 19:18	100-51-6	
4-Bromophenylphenyl ether	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	101-55-3	
Butylbenzylphthalate	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	85-68-7	
4-Chloro-3-methylphenol	ND	mg/kg	0.85	1	10/03/17 11:40	10/03/17 19:18	59-50-7	
4-Chloroaniline	ND	mg/kg	0.85	1	10/03/17 11:40	10/03/17 19:18	106-47-8	
bis(2-Chloroethoxy)methane	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	111-91-1	
bis(2-Chloroethyl) ether	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	111-44-4	
bis(2chloro1methylethyl) ether	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	108-60-1	
2-Chloronaphthalene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	91-58-7	
2-Chlorophenol	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	95-57-8	
4-Chlorophenylphenyl ether	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	7005-72-3	
Chrysene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	53-70-3	
Dibenzofuran	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	132-64-9	
3,3'-Dichlorobenzidine	ND	mg/kg	0.85	1	10/03/17 11:40	10/03/17 19:18	91-94-1	
2,4-Dichlorophenol	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	120-83-2	
Diethylphthalate	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	84-66-2	
2,4-Dimethylphenol	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	105-67-9	
Dimethylphthalate	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	131-11-3	
Di-n-butylphthalate	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	84-74-2	
4,6-Dinitro-2-methylphenol	ND	mg/kg	2.1	1	10/03/17 11:40	10/03/17 19:18	534-52-1	
2,4-Dinitrophenol	ND	mg/kg	2.1	1	10/03/17 11:40	10/03/17 19:18	51-28-5	
2,4-Dinitrotoluene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	121-14-2	
2,6-Dinitrotoluene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	606-20-2	
Di-n-octylphthalate	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	117-81-7	
Fluoranthene	**1.3**	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	206-44-0	
Fluorene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	86-73-7	
Hexachloro-1,3-butadiene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	87-68-3	
Hexachlorobenzene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	118-74-1	
Hexachlorocyclopentadiene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	77-47-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 3C (Karg Dam) **Lab ID: 50181016008** Collected: 09/28/17 15:20 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Hexachloroethane	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	193-39-5	
Isophorone	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	78-59-1	
1-Methylnaphthalene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	91-57-6	
2-Methylphenol(o-Cresol)	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.85	1	10/03/17 11:40	10/03/17 19:18		
Naphthalene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	91-20-3	
2-Nitroaniline	ND	mg/kg	2.1	1	10/03/17 11:40	10/03/17 19:18	88-74-4	
3-Nitroaniline	ND	mg/kg	2.1	1	10/03/17 11:40	10/03/17 19:18	99-09-2	
4-Nitroaniline	ND	mg/kg	2.1	1	10/03/17 11:40	10/03/17 19:18	100-01-6	
Nitrobenzene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	98-95-3	
2-Nitrophenol	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	88-75-5	
4-Nitrophenol	ND	mg/kg	2.1	1	10/03/17 11:40	10/03/17 19:18	100-02-7	
N-Nitroso-di-n-propylamine	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	621-64-7	
N-Nitrosodiphenylamine	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	86-30-6	
Pentachlorophenol	ND	mg/kg	2.1	1	10/03/17 11:40	10/03/17 19:18	87-86-5	
Phenanthrene	**1.0**	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	85-01-8	
Phenol	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	108-95-2	
Pyrene	**0.85**	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	129-00-0	
2,4,5-Trichlorophenol	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	95-95-4	
2,4,6-Trichlorophenol	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:18	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	37	%.	21-102	1	10/03/17 11:40	10/03/17 19:18	4165-60-0	
Phenol-d5 (S)	41	%.	17-100	1	10/03/17 11:40	10/03/17 19:18	4165-62-2	
2-Fluorophenol (S)	41	%.	12-108	1	10/03/17 11:40	10/03/17 19:18	367-12-4	
2,4,6-Tribromophenol (S)	52	%.	13-112	1	10/03/17 11:40	10/03/17 19:18	118-79-6	
2-Fluorobiphenyl (S)	49	%.	33-93	1	10/03/17 11:40	10/03/17 19:18	321-60-8	
p-Terphenyl-d14 (S)	63	%.	28-113	1	10/03/17 11:40	10/03/17 19:18	1718-51-0	
8260 MSV 5030 Low Level Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.13	1		10/10/17 17:12	67-64-1	
Acrolein	ND	mg/kg	0.13	1		10/10/17 17:12	107-02-8	
Acrylonitrile	ND	mg/kg	0.13	1		10/10/17 17:12	107-13-1	
Benzene	ND	mg/kg	0.0064	1		10/10/17 17:12	71-43-2	
Bromobenzene	ND	mg/kg	0.0064	1		10/10/17 17:12	108-86-1	
Bromochloromethane	ND	mg/kg	0.0064	1		10/10/17 17:12	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0064	1		10/10/17 17:12	75-27-4	
Bromoform	ND	mg/kg	0.0064	1		10/10/17 17:12	75-25-2	
Bromomethane	ND	mg/kg	0.0064	1		10/10/17 17:12	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.032	1		10/10/17 17:12	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0064	1		10/10/17 17:12	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0064	1		10/10/17 17:12	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0064	1		10/10/17 17:12	98-06-6	
Carbon disulfide	ND	mg/kg	0.013	1		10/10/17 17:12	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0064	1		10/10/17 17:12	56-23-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 3C (Karg Dam) **Lab ID: 50181016008** Collected: 09/28/17 15:20 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Chlorobenzene	ND	mg/kg	0.0064	1		10/10/17 17:12	108-90-7	
Chloroethane	ND	mg/kg	0.0064	1		10/10/17 17:12	75-00-3	
Chloroform	ND	mg/kg	0.0064	1		10/10/17 17:12	67-66-3	
Chloromethane	ND	mg/kg	0.0064	1		10/10/17 17:12	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0064	1		10/10/17 17:12	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0064	1		10/10/17 17:12	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0064	1		10/10/17 17:12	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0064	1		10/10/17 17:12	106-93-4	
Dibromomethane	ND	mg/kg	0.0064	1		10/10/17 17:12	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0064	1		10/10/17 17:12	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0064	1		10/10/17 17:12	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0064	1		10/10/17 17:12	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.13	1		10/10/17 17:12	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0064	1		10/10/17 17:12	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0064	1		10/10/17 17:12	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0064	1		10/10/17 17:12	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0064	1		10/10/17 17:12	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0064	1		10/10/17 17:12	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0064	1		10/10/17 17:12	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0064	1		10/10/17 17:12	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0064	1		10/10/17 17:12	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0064	1		10/10/17 17:12	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0064	1		10/10/17 17:12	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0064	1		10/10/17 17:12	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0064	1		10/10/17 17:12	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0064	1		10/10/17 17:12	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.13	1		10/10/17 17:12	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0064	1		10/10/17 17:12	87-68-3	
n-Hexane	ND	mg/kg	0.0064	1		10/10/17 17:12	110-54-3	
2-Hexanone	ND	mg/kg	0.13	1		10/10/17 17:12	591-78-6	
Iodomethane	ND	mg/kg	0.13	1		10/10/17 17:12	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0064	1		10/10/17 17:12	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0064	1		10/10/17 17:12	99-87-6	
Methylene Chloride	ND	mg/kg	0.026	1		10/10/17 17:12	75-09-2	L2
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.032	1		10/10/17 17:12	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0064	1		10/10/17 17:12	1634-04-4	
Naphthalene	ND	mg/kg	0.0064	1		10/10/17 17:12	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0064	1		10/10/17 17:12	103-65-1	
Styrene	ND	mg/kg	0.0064	1		10/10/17 17:12	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0064	1		10/10/17 17:12	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0064	1		10/10/17 17:12	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0064	1		10/10/17 17:12	127-18-4	
Toluene	ND	mg/kg	0.0064	1		10/10/17 17:12	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0064	1		10/10/17 17:12	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0064	1		10/10/17 17:12	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0064	1		10/10/17 17:12	71-55-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 3C (Karg Dam) **Lab ID: 50181016008** Collected: 09/28/17 15:20 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,1,2-Trichloroethane	ND	mg/kg	0.0064	1		10/10/17 17:12	79-00-5	
Trichloroethene	ND	mg/kg	0.0064	1		10/10/17 17:12	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0064	1		10/10/17 17:12	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0064	1		10/10/17 17:12	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0064	1		10/10/17 17:12	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0064	1		10/10/17 17:12	108-67-8	
Vinyl acetate	ND	mg/kg	0.13	1		10/10/17 17:12	108-05-4	
Vinyl chloride	ND	mg/kg	0.0064	1		10/10/17 17:12	75-01-4	
Xylene (Total)	ND	mg/kg	0.013	1		10/10/17 17:12	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	107	%.	69-136	1		10/10/17 17:12	1868-53-7	
Toluene-d8 (S)	100	%.	64-150	1		10/10/17 17:12	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	51-142	1		10/10/17 17:12	460-00-4	
PSA Percent Sand,Silt,Clay	Analytical Method: ASA 15-5 mod							
Percent Sand	**95.0**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Clay	**5.0**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Silt	ND	% (w/w)	0.10	1		10/04/17 13:36		
Texture	**SAND**			1		10/04/17 13:36		
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**22.1**	%	0.10	1		10/03/17 17:25		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Surrogates								
RPD%	**3.2**	%	0.10	1		10/13/17 09:55		
Total Organic Carbon	**8080**	mg/kg	1590	1		10/13/17 09:55	7440-44-0	
Total Organic Carbon	**7820**	mg/kg	1610	1		10/13/17 10:01	7440-44-0	
Mean Total Organic Carbon	**7950**	mg/kg	1600	1		10/13/17 09:55	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 4A (Swale Paris Dam) **Lab ID: 50181016009** Collected: 09/28/17 14:23 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticide Solids	Analytical Method: EPA 8081 Preparation Method: EPA 3546							
Aldrin	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:02	309-00-2	H2
alpha-BHC	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:02	319-84-6	D3,H2
beta-BHC	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:02	319-85-7	H2
delta-BHC	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:02	319-86-8	H2
gamma-BHC (Lindane)	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:02	58-89-9	H2
Chlordane (Technical)	ND	mg/kg	0.61	10	10/28/17 04:10	10/31/17 21:02	57-74-9	H2
alpha-Chlordane	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:02	5103-71-9	H2
gamma-Chlordane	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:02	5103-74-2	H2
4,4'-DDD	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:02	72-54-8	H2
4,4'-DDE	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:02	72-55-9	H2
4,4'-DDT	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:02	50-29-3	H2
Dieldrin	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:02	60-57-1	H2
Endosulfan I	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:02	959-98-8	H2
Endosulfan II	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:02	33213-65-9	H2
Endosulfan sulfate	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:02	1031-07-8	H2
Endrin	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:02	72-20-8	H2
Endrin aldehyde	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:02	7421-93-4	H2
Endrin ketone	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:02	53494-70-5	H2
Heptachlor	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:02	76-44-8	H2
Heptachlor epoxide	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:02	1024-57-3	H2
Methoxychlor	ND	mg/kg	0.30	10	10/28/17 04:10	10/31/17 21:02	72-43-5	H2
Toxaphene	ND	mg/kg	0.61	10	10/28/17 04:10	10/31/17 21:02	8001-35-2	H2
Surrogates								
Decachlorobiphenyl (S)	48	%.	22-126	10	10/28/17 04:10	10/31/17 21:02	2051-24-3	
8082 GCS PCB Solids	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 23:47	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 23:47	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 23:47	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 23:47	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 23:47	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 23:47	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.12	1	10/27/17 13:50	10/30/17 23:47	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	63	%.	28-111	1	10/27/17 13:50	10/30/17 23:47	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**5.2**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:42	7440-38-2	
Barium	**18.2**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:42	7440-39-3	
Cadmium	ND	mg/kg	0.59	1	10/05/17 11:17	10/10/17 10:42	7440-43-9	
Chromium	**5.1**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:42	7440-47-3	
Copper	**10.1**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:42	7440-50-8	
Lead	**5.1**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:42	7439-92-1	
Nickel	**7.1**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:42	7440-02-0	
Selenium	**1.5**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:42	7782-49-2	
Silver	ND	mg/kg	0.59	1	10/05/17 11:17	10/10/17 10:42	7440-22-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 4A (Swale Paris Dam) **Lab ID: 50181016009** Collected: 09/28/17 14:23 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Zinc	**22.8**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 10:42	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.24	1	10/06/17 13:16	10/09/17 10:05	7439-97-6	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	83-32-9	
Acenaphthylene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	208-96-8	
Anthracene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	207-08-9	
Benzyl alcohol	ND	mg/kg	0.79	1	10/03/17 11:40	10/03/17 19:34	100-51-6	
4-Bromophenylphenyl ether	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	101-55-3	
Butylbenzylphthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	85-68-7	
4-Chloro-3-methylphenol	ND	mg/kg	0.79	1	10/03/17 11:40	10/03/17 19:34	59-50-7	
4-Chloroaniline	ND	mg/kg	0.79	1	10/03/17 11:40	10/03/17 19:34	106-47-8	
bis(2-Chloroethoxy)methane	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	111-91-1	
bis(2-Chloroethyl) ether	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	111-44-4	
bis(2chloro1methylethyl) ether	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	108-60-1	
2-Chloronaphthalene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	91-58-7	
2-Chlorophenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	95-57-8	
4-Chlorophenylphenyl ether	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	7005-72-3	
Chrysene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	53-70-3	
Dibenzofuran	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	132-64-9	
3,3'-Dichlorobenzidine	ND	mg/kg	0.79	1	10/03/17 11:40	10/03/17 19:34	91-94-1	
2,4-Dichlorophenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	120-83-2	
Diethylphthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	84-66-2	
2,4-Dimethylphenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	105-67-9	
Dimethylphthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	131-11-3	
Di-n-butylphthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	84-74-2	
4,6-Dinitro-2-methylphenol	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 19:34	534-52-1	
2,4-Dinitrophenol	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 19:34	51-28-5	
2,4-Dinitrotoluene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	121-14-2	
2,6-Dinitrotoluene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	606-20-2	
Di-n-octylphthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	117-81-7	
Fluoranthene	**0.84**	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	206-44-0	
Fluorene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	86-73-7	
Hexachloro-1,3-butadiene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	87-68-3	
Hexachlorobenzene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	118-74-1	
Hexachlorocyclopentadiene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	77-47-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 4A (Swale Paris Dam) **Lab ID: 50181016009** Collected: 09/28/17 14:23 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Hexachloroethane	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	193-39-5	
Isophorone	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	78-59-1	
1-Methylnaphthalene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	91-57-6	
2-Methylphenol(o-Cresol)	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.79	1	10/03/17 11:40	10/03/17 19:34		
Naphthalene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	91-20-3	
2-Nitroaniline	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 19:34	88-74-4	
3-Nitroaniline	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 19:34	99-09-2	
4-Nitroaniline	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 19:34	100-01-6	
Nitrobenzene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	98-95-3	
2-Nitrophenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	88-75-5	
4-Nitrophenol	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 19:34	100-02-7	
N-Nitroso-di-n-propylamine	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	621-64-7	
N-Nitrosodiphenylamine	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	86-30-6	
Pentachlorophenol	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 19:34	87-86-5	
Phenanthrene	**0.56**	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	85-01-8	
Phenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	108-95-2	
Pyrene	**0.54**	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	129-00-0	
2,4,5-Trichlorophenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	95-95-4	
2,4,6-Trichlorophenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 19:34	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	43	%.	21-102	1	10/03/17 11:40	10/03/17 19:34	4165-60-0	
Phenol-d5 (S)	44	%.	17-100	1	10/03/17 11:40	10/03/17 19:34	4165-62-2	
2-Fluorophenol (S)	44	%.	12-108	1	10/03/17 11:40	10/03/17 19:34	367-12-4	
2,4,6-Tribromophenol (S)	63	%.	13-112	1	10/03/17 11:40	10/03/17 19:34	118-79-6	
2-Fluorobiphenyl (S)	51	%.	33-93	1	10/03/17 11:40	10/03/17 19:34	321-60-8	
p-Terphenyl-d14 (S)	74	%.	28-113	1	10/03/17 11:40	10/03/17 19:34	1718-51-0	
8260 MSV 5030 Low Level Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.12	1		10/10/17 17:44	67-64-1	
Acrolein	ND	mg/kg	0.12	1		10/10/17 17:44	107-02-8	
Acrylonitrile	ND	mg/kg	0.12	1		10/10/17 17:44	107-13-1	
Benzene	ND	mg/kg	0.0061	1		10/10/17 17:44	71-43-2	
Bromobenzene	ND	mg/kg	0.0061	1		10/10/17 17:44	108-86-1	R1
Bromochloromethane	ND	mg/kg	0.0061	1		10/10/17 17:44	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0061	1		10/10/17 17:44	75-27-4	
Bromoform	ND	mg/kg	0.0061	1		10/10/17 17:44	75-25-2	
Bromomethane	ND	mg/kg	0.0061	1		10/10/17 17:44	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.030	1		10/10/17 17:44	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0061	1		10/10/17 17:44	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0061	1		10/10/17 17:44	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0061	1		10/10/17 17:44	98-06-6	
Carbon disulfide	ND	mg/kg	0.012	1		10/10/17 17:44	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0061	1		10/10/17 17:44	56-23-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 4A (Swale Paris Dam) **Lab ID: 50181016009** Collected: 09/28/17 14:23 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Chlorobenzene	ND	mg/kg	0.0061	1		10/10/17 17:44	108-90-7	
Chloroethane	ND	mg/kg	0.0061	1		10/10/17 17:44	75-00-3	
Chloroform	ND	mg/kg	0.0061	1		10/10/17 17:44	67-66-3	
Chloromethane	ND	mg/kg	0.0061	1		10/10/17 17:44	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0061	1		10/10/17 17:44	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0061	1		10/10/17 17:44	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0061	1		10/10/17 17:44	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0061	1		10/10/17 17:44	106-93-4	
Dibromomethane	ND	mg/kg	0.0061	1		10/10/17 17:44	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0061	1		10/10/17 17:44	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0061	1		10/10/17 17:44	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0061	1		10/10/17 17:44	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.12	1		10/10/17 17:44	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0061	1		10/10/17 17:44	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0061	1		10/10/17 17:44	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0061	1		10/10/17 17:44	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0061	1		10/10/17 17:44	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0061	1		10/10/17 17:44	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0061	1		10/10/17 17:44	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0061	1		10/10/17 17:44	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0061	1		10/10/17 17:44	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0061	1		10/10/17 17:44	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0061	1		10/10/17 17:44	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0061	1		10/10/17 17:44	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0061	1		10/10/17 17:44	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0061	1		10/10/17 17:44	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.12	1		10/10/17 17:44	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0061	1		10/10/17 17:44	87-68-3	
n-Hexane	ND	mg/kg	0.0061	1		10/10/17 17:44	110-54-3	
2-Hexanone	ND	mg/kg	0.12	1		10/10/17 17:44	591-78-6	
Iodomethane	ND	mg/kg	0.12	1		10/10/17 17:44	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0061	1		10/10/17 17:44	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0061	1		10/10/17 17:44	99-87-6	
Methylene Chloride	ND	mg/kg	0.024	1		10/10/17 17:44	75-09-2	L2
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.030	1		10/10/17 17:44	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0061	1		10/10/17 17:44	1634-04-4	
Naphthalene	ND	mg/kg	0.0061	1		10/10/17 17:44	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0061	1		10/10/17 17:44	103-65-1	
Styrene	ND	mg/kg	0.0061	1		10/10/17 17:44	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0061	1		10/10/17 17:44	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0061	1		10/10/17 17:44	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0061	1		10/10/17 17:44	127-18-4	
Toluene	ND	mg/kg	0.0061	1		10/10/17 17:44	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0061	1		10/10/17 17:44	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0061	1		10/10/17 17:44	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0061	1		10/10/17 17:44	71-55-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 4A (Swale Paris Dam) **Lab ID: 50181016009** Collected: 09/28/17 14:23 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,1,2-Trichloroethane	ND	mg/kg	0.0061	1		10/10/17 17:44	79-00-5	
Trichloroethene	ND	mg/kg	0.0061	1		10/10/17 17:44	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0061	1		10/10/17 17:44	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0061	1		10/10/17 17:44	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0061	1		10/10/17 17:44	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0061	1		10/10/17 17:44	108-67-8	
Vinyl acetate	ND	mg/kg	0.12	1		10/10/17 17:44	108-05-4	M1
Vinyl chloride	ND	mg/kg	0.0061	1		10/10/17 17:44	75-01-4	
Xylene (Total)	ND	mg/kg	0.012	1		10/10/17 17:44	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	107	%.	69-136	1		10/10/17 17:44	1868-53-7	
Toluene-d8 (S)	101	%.	64-150	1		10/10/17 17:44	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	51-142	1		10/10/17 17:44	460-00-4	
PSA Percent Sand,Silt,Clay	Analytical Method: ASA 15-5 mod							
Percent Sand	**95.0**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Clay	**5.0**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Silt	ND	% (w/w)	0.10	1		10/04/17 13:36		
Texture	**SAND**			1		10/04/17 13:36		
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**17.7**	%	0.10	1		10/03/17 17:25		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Surrogates								
RPD%	**22.1**	%	0.10	1		10/13/17 10:07		
Total Organic Carbon	**11100**	mg/kg	820	1		10/13/17 10:07	7440-44-0	
Total Organic Carbon	**13800**	mg/kg	817	1		10/13/17 10:19	7440-44-0	
Mean Total Organic Carbon	**12400**	mg/kg	818	1		10/13/17 10:07	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 4B (Swale Paris Dam) **Lab ID: 50181016010** Collected: 09/28/17 14:43 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticide Solids	Analytical Method: EPA 8081 Preparation Method: EPA 3546							
Aldrin	ND	mg/kg	0.032	10	10/28/17 04:10	10/31/17 21:15	309-00-2	H2
alpha-BHC	ND	mg/kg	0.032	10	10/28/17 04:10	10/31/17 21:15	319-84-6	D3,H2
beta-BHC	ND	mg/kg	0.032	10	10/28/17 04:10	10/31/17 21:15	319-85-7	H2
delta-BHC	ND	mg/kg	0.032	10	10/28/17 04:10	10/31/17 21:15	319-86-8	H2
gamma-BHC (Lindane)	ND	mg/kg	0.032	10	10/28/17 04:10	10/31/17 21:15	58-89-9	H2
Chlordane (Technical)	ND	mg/kg	0.63	10	10/28/17 04:10	10/31/17 21:15	57-74-9	H2
alpha-Chlordane	ND	mg/kg	0.032	10	10/28/17 04:10	10/31/17 21:15	5103-71-9	H2
gamma-Chlordane	ND	mg/kg	0.032	10	10/28/17 04:10	10/31/17 21:15	5103-74-2	H2
4,4'-DDD	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 21:15	72-54-8	H2
4,4'-DDE	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 21:15	72-55-9	H2
4,4'-DDT	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 21:15	50-29-3	H2
Dieldrin	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 21:15	60-57-1	H2
Endosulfan I	ND	mg/kg	0.032	10	10/28/17 04:10	10/31/17 21:15	959-98-8	H2
Endosulfan II	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 21:15	33213-65-9	H2
Endosulfan sulfate	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 21:15	1031-07-8	H2
Endrin	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 21:15	72-20-8	H2
Endrin aldehyde	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 21:15	7421-93-4	H2
Endrin ketone	ND	mg/kg	0.063	10	10/28/17 04:10	10/31/17 21:15	53494-70-5	H2
Heptachlor	ND	mg/kg	0.032	10	10/28/17 04:10	10/31/17 21:15	76-44-8	H2
Heptachlor epoxide	ND	mg/kg	0.032	10	10/28/17 04:10	10/31/17 21:15	1024-57-3	H2
Methoxychlor	ND	mg/kg	0.32	10	10/28/17 04:10	10/31/17 21:15	72-43-5	H2
Toxaphene	ND	mg/kg	0.63	10	10/28/17 04:10	10/31/17 21:15	8001-35-2	H2
Surrogates								
Decachlorobiphenyl (S)	49	%.	22-126	10	10/28/17 04:10	10/31/17 21:15	2051-24-3	
8082 GCS PCB Solids	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 23:55	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 23:55	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 23:55	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 23:55	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 23:55	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 23:55	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.13	1	10/27/17 13:50	10/30/17 23:55	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	70	%.	28-111	1	10/27/17 13:50	10/30/17 23:55	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**7.9**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 11:06	7440-38-2	
Barium	**38.2**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 11:06	7440-39-3	
Cadmium	ND	mg/kg	0.61	1	10/05/17 11:17	10/10/17 11:06	7440-43-9	
Chromium	**6.8**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 11:06	7440-47-3	
Copper	**8.8**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 11:06	7440-50-8	
Lead	**9.7**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 11:06	7439-92-1	
Nickel	**9.0**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 11:06	7440-02-0	
Selenium	**2.1**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 11:06	7782-49-2	
Silver	ND	mg/kg	0.61	1	10/05/17 11:17	10/10/17 11:06	7440-22-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 4B (Swale Paris Dam) **Lab ID: 50181016010** Collected: 09/28/17 14:43 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Zinc	**40.9**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 11:06	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.24	1	10/06/17 13:16	10/09/17 10:07	7439-97-6	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	83-32-9	
Acenaphthylene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	208-96-8	
Anthracene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	207-08-9	
Benzyl alcohol	ND	mg/kg	0.84	1	10/03/17 11:40	10/03/17 19:50	100-51-6	
4-Bromophenylphenyl ether	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	101-55-3	
Butylbenzylphthalate	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	85-68-7	
4-Chloro-3-methylphenol	ND	mg/kg	0.84	1	10/03/17 11:40	10/03/17 19:50	59-50-7	
4-Chloroaniline	ND	mg/kg	0.84	1	10/03/17 11:40	10/03/17 19:50	106-47-8	
bis(2-Chloroethoxy)methane	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	111-91-1	
bis(2-Chloroethyl) ether	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	111-44-4	
bis(2chloro1methylethyl) ether	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	108-60-1	
2-Chloronaphthalene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	91-58-7	
2-Chlorophenol	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	95-57-8	
4-Chlorophenylphenyl ether	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	7005-72-3	
Chrysene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	53-70-3	
Dibenzofuran	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	132-64-9	
3,3'-Dichlorobenzidine	ND	mg/kg	0.84	1	10/03/17 11:40	10/03/17 19:50	91-94-1	
2,4-Dichlorophenol	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	120-83-2	
Diethylphthalate	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	84-66-2	
2,4-Dimethylphenol	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	105-67-9	
Dimethylphthalate	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	131-11-3	
Di-n-butylphthalate	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	84-74-2	
4,6-Dinitro-2-methylphenol	ND	mg/kg	2.0	1	10/03/17 11:40	10/03/17 19:50	534-52-1	
2,4-Dinitrophenol	ND	mg/kg	2.0	1	10/03/17 11:40	10/03/17 19:50	51-28-5	
2,4-Dinitrotoluene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	121-14-2	
2,6-Dinitrotoluene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	606-20-2	
Di-n-octylphthalate	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	117-81-7	
Fluoranthene	**1.1**	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	206-44-0	
Fluorene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	86-73-7	
Hexachloro-1,3-butadiene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	87-68-3	
Hexachlorobenzene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	118-74-1	
Hexachlorocyclopentadiene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	77-47-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 4B (Swale Paris Dam) **Lab ID: 50181016010** Collected: 09/28/17 14:43 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Hexachloroethane	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	193-39-5	
Isophorone	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	78-59-1	
1-Methylnaphthalene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	91-57-6	
2-Methylphenol(o-Cresol)	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.84	1	10/03/17 11:40	10/03/17 19:50		
Naphthalene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	91-20-3	
2-Nitroaniline	ND	mg/kg	2.0	1	10/03/17 11:40	10/03/17 19:50	88-74-4	
3-Nitroaniline	ND	mg/kg	2.0	1	10/03/17 11:40	10/03/17 19:50	99-09-2	
4-Nitroaniline	ND	mg/kg	2.0	1	10/03/17 11:40	10/03/17 19:50	100-01-6	
Nitrobenzene	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	98-95-3	
2-Nitrophenol	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	88-75-5	
4-Nitrophenol	ND	mg/kg	2.0	1	10/03/17 11:40	10/03/17 19:50	100-02-7	
N-Nitroso-di-n-propylamine	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	621-64-7	
N-Nitrosodiphenylamine	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	86-30-6	
Pentachlorophenol	ND	mg/kg	2.0	1	10/03/17 11:40	10/03/17 19:50	87-86-5	
Phenanthrene	**0.60**	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	85-01-8	
Phenol	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	108-95-2	
Pyrene	**0.80**	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	129-00-0	
2,4,5-Trichlorophenol	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	95-95-4	
2,4,6-Trichlorophenol	ND	mg/kg	0.42	1	10/03/17 11:40	10/03/17 19:50	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	45	%.	21-102	1	10/03/17 11:40	10/03/17 19:50	4165-60-0	
Phenol-d5 (S)	48	%.	17-100	1	10/03/17 11:40	10/03/17 19:50	4165-62-2	
2-Fluorophenol (S)	50	%.	12-108	1	10/03/17 11:40	10/03/17 19:50	367-12-4	
2,4,6-Tribromophenol (S)	59	%.	13-112	1	10/03/17 11:40	10/03/17 19:50	118-79-6	
2-Fluorobiphenyl (S)	53	%.	33-93	1	10/03/17 11:40	10/03/17 19:50	321-60-8	
p-Terphenyl-d14 (S)	62	%.	28-113	1	10/03/17 11:40	10/03/17 19:50	1718-51-0	
8260 MSV 5030 Low Level Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.13	1		10/10/17 22:35	67-64-1	
Acrolein	ND	mg/kg	0.13	1		10/10/17 22:35	107-02-8	
Acrylonitrile	ND	mg/kg	0.13	1		10/10/17 22:35	107-13-1	
Benzene	ND	mg/kg	0.0064	1		10/10/17 22:35	71-43-2	
Bromobenzene	ND	mg/kg	0.0064	1		10/10/17 22:35	108-86-1	
Bromochloromethane	ND	mg/kg	0.0064	1		10/10/17 22:35	74-97-5	
Bromodichloromethane	ND	mg/kg	0.0064	1		10/10/17 22:35	75-27-4	
Bromoform	ND	mg/kg	0.0064	1		10/10/17 22:35	75-25-2	
Bromomethane	ND	mg/kg	0.0064	1		10/10/17 22:35	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.032	1		10/10/17 22:35	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0064	1		10/10/17 22:35	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0064	1		10/10/17 22:35	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0064	1		10/10/17 22:35	98-06-6	
Carbon disulfide	ND	mg/kg	0.013	1		10/10/17 22:35	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0064	1		10/10/17 22:35	56-23-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 4B (Swale Paris Dam) **Lab ID: 50181016010** Collected: 09/28/17 14:43 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Chlorobenzene	ND	mg/kg	0.0064	1		10/10/17 22:35	108-90-7	
Chloroethane	ND	mg/kg	0.0064	1		10/10/17 22:35	75-00-3	
Chloroform	ND	mg/kg	0.0064	1		10/10/17 22:35	67-66-3	
Chloromethane	ND	mg/kg	0.0064	1		10/10/17 22:35	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0064	1		10/10/17 22:35	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0064	1		10/10/17 22:35	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0064	1		10/10/17 22:35	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0064	1		10/10/17 22:35	106-93-4	
Dibromomethane	ND	mg/kg	0.0064	1		10/10/17 22:35	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0064	1		10/10/17 22:35	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0064	1		10/10/17 22:35	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0064	1		10/10/17 22:35	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.13	1		10/10/17 22:35	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0064	1		10/10/17 22:35	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0064	1		10/10/17 22:35	75-34-3	
1,2-Dichloroethane	ND	mg/kg	0.0064	1		10/10/17 22:35	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0064	1		10/10/17 22:35	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0064	1		10/10/17 22:35	156-59-2	
trans-1,2-Dichloroethene	ND	mg/kg	0.0064	1		10/10/17 22:35	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0064	1		10/10/17 22:35	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0064	1		10/10/17 22:35	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0064	1		10/10/17 22:35	594-20-7	
1,1-Dichloropropene	ND	mg/kg	0.0064	1		10/10/17 22:35	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0064	1		10/10/17 22:35	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0064	1		10/10/17 22:35	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0064	1		10/10/17 22:35	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.13	1		10/10/17 22:35	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0064	1		10/10/17 22:35	87-68-3	
n-Hexane	ND	mg/kg	0.0064	1		10/10/17 22:35	110-54-3	
2-Hexanone	ND	mg/kg	0.13	1		10/10/17 22:35	591-78-6	
Iodomethane	ND	mg/kg	0.13	1		10/10/17 22:35	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0064	1		10/10/17 22:35	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0064	1		10/10/17 22:35	99-87-6	
Methylene Chloride	ND	mg/kg	0.025	1		10/10/17 22:35	75-09-2	L2
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.032	1		10/10/17 22:35	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0064	1		10/10/17 22:35	1634-04-4	
Naphthalene	ND	mg/kg	0.0064	1		10/12/17 17:48	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0064	1		10/10/17 22:35	103-65-1	
Styrene	ND	mg/kg	0.0064	1		10/10/17 22:35	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0064	1		10/10/17 22:35	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0064	1		10/10/17 22:35	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0064	1		10/10/17 22:35	127-18-4	
Toluene	ND	mg/kg	0.0064	1		10/10/17 22:35	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0064	1		10/10/17 22:35	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0064	1		10/10/17 22:35	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0064	1		10/10/17 22:35	71-55-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 4B (Swale Paris Dam) **Lab ID: 50181016010** Collected: 09/28/17 14:43 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,1,2-Trichloroethane	ND	mg/kg	0.0064	1		10/10/17 22:35	79-00-5	
Trichloroethene	ND	mg/kg	0.0064	1		10/10/17 22:35	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0064	1		10/10/17 22:35	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0064	1		10/10/17 22:35	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0064	1		10/10/17 22:35	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0064	1		10/10/17 22:35	108-67-8	
Vinyl acetate	ND	mg/kg	0.13	1		10/10/17 22:35	108-05-4	
Vinyl chloride	ND	mg/kg	0.0064	1		10/10/17 22:35	75-01-4	
Xylene (Total)	ND	mg/kg	0.013	1		10/10/17 22:35	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	104	%.	69-136	1		10/10/17 22:35	1868-53-7	
Toluene-d8 (S)	104	%.	64-150	1		10/10/17 22:35	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	51-142	1		10/10/17 22:35	460-00-4	
PSA Percent Sand,Silt,Clay	Analytical Method: ASA 15-5 mod							
Percent Sand	**92.5**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Clay	**7.5**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Silt	ND	% (w/w)	0.10	1		10/04/17 13:36		
Texture	**SAND**			1		10/04/17 13:36		
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**21.5**	%	0.10	1		10/03/17 17:25		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Surrogates								
RPD%	**17.0**	%	0.10	1		10/13/17 10:41		
Total Organic Carbon	**19400**	mg/kg	859	1		10/13/17 10:41	7440-44-0	
Total Organic Carbon	**16300**	mg/kg	856	1		10/13/17 11:05	7440-44-0	
Mean Total Organic Carbon	**17800**	mg/kg	858	1		10/13/17 10:41	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 4C (Swale Paris Dam) **Lab ID: 50181016011** Collected: 09/28/17 17:07 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticide Solids	Analytical Method: EPA 8081 Preparation Method: EPA 3546							
Aldrin	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:27	309-00-2	H2
alpha-BHC	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:27	319-84-6	D3,H2
beta-BHC	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:27	319-85-7	H2
delta-BHC	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:27	319-86-8	H2
gamma-BHC (Lindane)	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:27	58-89-9	H2
Chlordane (Technical)	ND	mg/kg	0.61	10	10/28/17 04:10	10/31/17 21:27	57-74-9	H2
alpha-Chlordane	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:27	5103-71-9	H2
gamma-Chlordane	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:27	5103-74-2	H2
4,4'-DDD	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:27	72-54-8	H2
4,4'-DDE	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:27	72-55-9	H2
4,4'-DDT	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:27	50-29-3	H2
Dieldrin	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:27	60-57-1	H2
Endosulfan I	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:27	959-98-8	H2
Endosulfan II	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:27	33213-65-9	H2
Endosulfan sulfate	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:27	1031-07-8	H2
Endrin	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:27	72-20-8	H2
Endrin aldehyde	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:27	7421-93-4	H2
Endrin ketone	ND	mg/kg	0.061	10	10/28/17 04:10	10/31/17 21:27	53494-70-5	H2
Heptachlor	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:27	76-44-8	H2
Heptachlor epoxide	ND	mg/kg	0.030	10	10/28/17 04:10	10/31/17 21:27	1024-57-3	H2
Methoxychlor	ND	mg/kg	0.30	10	10/28/17 04:10	10/31/17 21:27	72-43-5	H2
Toxaphene	ND	mg/kg	0.61	10	10/28/17 04:10	10/31/17 21:27	8001-35-2	H2
Surrogates								
Decachlorobiphenyl (S)	74	%.	22-126	10	10/28/17 04:10	10/31/17 21:27	2051-24-3	
8082 GCS PCB Solids	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	mg/kg	0.12	1	10/27/17 13:50	10/31/17 00:03	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	mg/kg	0.12	1	10/27/17 13:50	10/31/17 00:03	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	mg/kg	0.12	1	10/27/17 13:50	10/31/17 00:03	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	mg/kg	0.12	1	10/27/17 13:50	10/31/17 00:03	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	mg/kg	0.12	1	10/27/17 13:50	10/31/17 00:03	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	mg/kg	0.12	1	10/27/17 13:50	10/31/17 00:03	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	mg/kg	0.12	1	10/27/17 13:50	10/31/17 00:03	11096-82-5	
Surrogates								
Tetrachloro-m-xylene (S)	91	%.	28-111	1	10/27/17 13:50	10/31/17 00:03	877-09-8	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Arsenic	**5.8**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 11:08	7440-38-2	
Barium	**24.5**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 11:08	7440-39-3	
Cadmium	ND	mg/kg	0.59	1	10/05/17 11:17	10/10/17 11:08	7440-43-9	
Chromium	**7.8**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 11:08	7440-47-3	
Copper	**10.8**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 11:08	7440-50-8	
Lead	**115**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 11:08	7439-92-1	
Nickel	**7.9**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 11:08	7440-02-0	
Selenium	**1.6**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 11:08	7782-49-2	
Silver	ND	mg/kg	0.59	1	10/05/17 11:17	10/10/17 11:08	7440-22-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 4C (Swale Paris Dam) **Lab ID: 50181016011** Collected: 09/28/17 17:07 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050							
Zinc	**28.6**	mg/kg	1.2	1	10/05/17 11:17	10/10/17 11:08	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471							
Mercury	ND	mg/kg	0.23	1	10/06/17 13:16	10/09/17 10:10	7439-97-6	
8270 MSSV SHORT LIST MICROWAVE	Analytical Method: EPA 8270 Preparation Method: EPA 3546							
Acenaphthene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	83-32-9	
Acenaphthylene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	208-96-8	
Anthracene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	120-12-7	
Benzo(a)anthracene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	56-55-3	
Benzo(a)pyrene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	50-32-8	
Benzo(b)fluoranthene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	205-99-2	
Benzo(g,h,i)perylene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	191-24-2	
Benzo(k)fluoranthene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	207-08-9	
Benzyl alcohol	ND	mg/kg	0.80	1	10/03/17 11:40	10/03/17 20:06	100-51-6	
4-Bromophenylphenyl ether	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	101-55-3	
Butylbenzylphthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	85-68-7	
4-Chloro-3-methylphenol	ND	mg/kg	0.80	1	10/03/17 11:40	10/03/17 20:06	59-50-7	
4-Chloroaniline	ND	mg/kg	0.80	1	10/03/17 11:40	10/03/17 20:06	106-47-8	
bis(2-Chloroethoxy)methane	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	111-91-1	
bis(2-Chloroethyl) ether	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	111-44-4	
bis(2chloro1methylethyl) ether	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	108-60-1	
2-Chloronaphthalene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	91-58-7	
2-Chlorophenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	95-57-8	
4-Chlorophenylphenyl ether	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	7005-72-3	
Chrysene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	218-01-9	
Dibenz(a,h)anthracene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	53-70-3	
Dibenzofuran	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	132-64-9	
3,3'-Dichlorobenzidine	ND	mg/kg	0.80	1	10/03/17 11:40	10/03/17 20:06	91-94-1	
2,4-Dichlorophenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	120-83-2	
Diethylphthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	84-66-2	
2,4-Dimethylphenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	105-67-9	
Dimethylphthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	131-11-3	
Di-n-butylphthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	84-74-2	
4,6-Dinitro-2-methylphenol	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 20:06	534-52-1	
2,4-Dinitrophenol	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 20:06	51-28-5	
2,4-Dinitrotoluene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	121-14-2	
2,6-Dinitrotoluene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	606-20-2	
Di-n-octylphthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	117-81-7	
Fluoranthene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	206-44-0	
Fluorene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	86-73-7	
Hexachloro-1,3-butadiene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	87-68-3	
Hexachlorobenzene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	118-74-1	
Hexachlorocyclopentadiene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	77-47-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 4C (Swale Paris Dam) **Lab ID: 50181016011** Collected: 09/28/17 17:07 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV SHORT LIST MICROWAVE Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Hexachloroethane	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	193-39-5	
Isophorone	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	78-59-1	
1-Methylnaphthalene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	90-12-0	N2
2-Methylnaphthalene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	91-57-6	
2-Methylphenol(o-Cresol)	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	mg/kg	0.80	1	10/03/17 11:40	10/03/17 20:06		
Naphthalene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	91-20-3	
2-Nitroaniline	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 20:06	88-74-4	
3-Nitroaniline	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 20:06	99-09-2	
4-Nitroaniline	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 20:06	100-01-6	
Nitrobenzene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	98-95-3	
2-Nitrophenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	88-75-5	
4-Nitrophenol	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 20:06	100-02-7	
N-Nitroso-di-n-propylamine	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	621-64-7	
N-Nitrosodiphenylamine	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	86-30-6	
Pentachlorophenol	ND	mg/kg	1.9	1	10/03/17 11:40	10/03/17 20:06	87-86-5	
Phenanthrene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	85-01-8	
Phenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	108-95-2	
Pyrene	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	129-00-0	
2,4,5-Trichlorophenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	95-95-4	
2,4,6-Trichlorophenol	ND	mg/kg	0.40	1	10/03/17 11:40	10/03/17 20:06	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	40	%.	21-102	1	10/03/17 11:40	10/03/17 20:06	4165-60-0	
Phenol-d5 (S)	42	%.	17-100	1	10/03/17 11:40	10/03/17 20:06	4165-62-2	
2-Fluorophenol (S)	43	%.	12-108	1	10/03/17 11:40	10/03/17 20:06	367-12-4	
2,4,6-Tribromophenol (S)	52	%.	13-112	1	10/03/17 11:40	10/03/17 20:06	118-79-6	
2-Fluorobiphenyl (S)	48	%.	33-93	1	10/03/17 11:40	10/03/17 20:06	321-60-8	
p-Terphenyl-d14 (S)	62	%.	28-113	1	10/03/17 11:40	10/03/17 20:06	1718-51-0	
8260 MSV 5030 Low Level Analytical Method: EPA 8260								
Acetone	ND	mg/kg	0.12	1		10/11/17 21:03	67-64-1	
Acrolein	ND	mg/kg	0.12	1		10/11/17 21:03	107-02-8	
Acrylonitrile	ND	mg/kg	0.12	1		10/11/17 21:03	107-13-1	
Benzene	ND	mg/kg	0.0061	1		10/11/17 21:03	71-43-2	
Bromobenzene	ND	mg/kg	0.0061	1		10/11/17 21:03	108-86-1	
Bromochloromethane	ND	mg/kg	0.0061	1		10/11/17 21:03	74-97-5	L1
Bromodichloromethane	ND	mg/kg	0.0061	1		10/11/17 21:03	75-27-4	
Bromoform	ND	mg/kg	0.0061	1		10/11/17 21:03	75-25-2	
Bromomethane	ND	mg/kg	0.0061	1		10/11/17 21:03	74-83-9	
2-Butanone (MEK)	ND	mg/kg	0.030	1		10/11/17 21:03	78-93-3	
n-Butylbenzene	ND	mg/kg	0.0061	1		10/11/17 21:03	104-51-8	
sec-Butylbenzene	ND	mg/kg	0.0061	1		10/11/17 21:03	135-98-8	
tert-Butylbenzene	ND	mg/kg	0.0061	1		10/11/17 21:03	98-06-6	
Carbon disulfide	ND	mg/kg	0.012	1		10/11/17 21:03	75-15-0	
Carbon tetrachloride	ND	mg/kg	0.0061	1		10/11/17 21:03	56-23-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 4C (Swale Paris Dam) **Lab ID: 50181016011** Collected: 09/28/17 17:07 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
Chlorobenzene	ND	mg/kg	0.0061	1		10/11/17 21:03	108-90-7	
Chloroethane	ND	mg/kg	0.0061	1		10/11/17 21:03	75-00-3	
Chloroform	ND	mg/kg	0.0061	1		10/11/17 21:03	67-66-3	L1
Chloromethane	ND	mg/kg	0.0061	1		10/11/17 21:03	74-87-3	
2-Chlorotoluene	ND	mg/kg	0.0061	1		10/11/17 21:03	95-49-8	
4-Chlorotoluene	ND	mg/kg	0.0061	1		10/11/17 21:03	106-43-4	
Dibromochloromethane	ND	mg/kg	0.0061	1		10/11/17 21:03	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/kg	0.0061	1		10/11/17 21:03	106-93-4	
Dibromomethane	ND	mg/kg	0.0061	1		10/11/17 21:03	74-95-3	
1,2-Dichlorobenzene	ND	mg/kg	0.0061	1		10/11/17 21:03	95-50-1	
1,3-Dichlorobenzene	ND	mg/kg	0.0061	1		10/11/17 21:03	541-73-1	
1,4-Dichlorobenzene	ND	mg/kg	0.0061	1		10/11/17 21:03	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/kg	0.12	1		10/11/17 21:03	110-57-6	
Dichlorodifluoromethane	ND	mg/kg	0.0061	1		10/11/17 21:03	75-71-8	
1,1-Dichloroethane	ND	mg/kg	0.0061	1		10/11/17 21:03	75-34-3	L1
1,2-Dichloroethane	ND	mg/kg	0.0061	1		10/11/17 21:03	107-06-2	
1,1-Dichloroethene	ND	mg/kg	0.0061	1		10/11/17 21:03	75-35-4	
cis-1,2-Dichloroethene	ND	mg/kg	0.0061	1		10/11/17 21:03	156-59-2	L1
trans-1,2-Dichloroethene	ND	mg/kg	0.0061	1		10/11/17 21:03	156-60-5	
1,2-Dichloropropane	ND	mg/kg	0.0061	1		10/11/17 21:03	78-87-5	
1,3-Dichloropropane	ND	mg/kg	0.0061	1		10/11/17 21:03	142-28-9	
2,2-Dichloropropane	ND	mg/kg	0.0061	1		10/11/17 21:03	594-20-7	L1
1,1-Dichloropropene	ND	mg/kg	0.0061	1		10/11/17 21:03	563-58-6	
cis-1,3-Dichloropropene	ND	mg/kg	0.0061	1		10/11/17 21:03	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/kg	0.0061	1		10/11/17 21:03	10061-02-6	
Ethylbenzene	ND	mg/kg	0.0061	1		10/11/17 21:03	100-41-4	
Ethyl methacrylate	ND	mg/kg	0.12	1		10/11/17 21:03	97-63-2	
Hexachloro-1,3-butadiene	ND	mg/kg	0.0061	1		10/11/17 21:03	87-68-3	
n-Hexane	ND	mg/kg	0.0061	1		10/11/17 21:03	110-54-3	
2-Hexanone	ND	mg/kg	0.12	1		10/11/17 21:03	591-78-6	
Iodomethane	ND	mg/kg	0.12	1		10/11/17 21:03	74-88-4	
Isopropylbenzene (Cumene)	ND	mg/kg	0.0061	1		10/11/17 21:03	98-82-8	
p-Isopropyltoluene	ND	mg/kg	0.0061	1		10/11/17 21:03	99-87-6	
Methylene Chloride	ND	mg/kg	0.024	1		10/11/17 21:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/kg	0.030	1		10/11/17 21:03	108-10-1	
Methyl-tert-butyl ether	ND	mg/kg	0.0061	1		10/11/17 21:03	1634-04-4	
Naphthalene	ND	mg/kg	0.0061	1		10/11/17 21:03	91-20-3	
n-Propylbenzene	ND	mg/kg	0.0061	1		10/11/17 21:03	103-65-1	
Styrene	ND	mg/kg	0.0061	1		10/11/17 21:03	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/kg	0.0061	1		10/11/17 21:03	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0061	1		10/11/17 21:03	79-34-5	
Tetrachloroethene	ND	mg/kg	0.0061	1		10/11/17 21:03	127-18-4	
Toluene	ND	mg/kg	0.0061	1		10/11/17 21:03	108-88-3	
1,2,3-Trichlorobenzene	ND	mg/kg	0.0061	1		10/11/17 21:03	87-61-6	
1,2,4-Trichlorobenzene	ND	mg/kg	0.0061	1		10/11/17 21:03	120-82-1	
1,1,1-Trichloroethane	ND	mg/kg	0.0061	1		10/11/17 21:03	71-55-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

ANALYTICAL RESULTS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Sample: Dam 4C (Swale Paris Dam) **Lab ID: 50181016011** Collected: 09/28/17 17:07 Received: 10/02/17 09:35 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260							
1,1,2-Trichloroethane	ND	mg/kg	0.0061	1		10/11/17 21:03	79-00-5	
Trichloroethene	ND	mg/kg	0.0061	1		10/11/17 21:03	79-01-6	
Trichlorofluoromethane	ND	mg/kg	0.0061	1		10/11/17 21:03	75-69-4	
1,2,3-Trichloropropane	ND	mg/kg	0.0061	1		10/11/17 21:03	96-18-4	
1,2,4-Trimethylbenzene	ND	mg/kg	0.0061	1		10/11/17 21:03	95-63-6	
1,3,5-Trimethylbenzene	ND	mg/kg	0.0061	1		10/11/17 21:03	108-67-8	
Vinyl acetate	ND	mg/kg	0.12	1		10/11/17 21:03	108-05-4	L1
Vinyl chloride	ND	mg/kg	0.0061	1		10/11/17 21:03	75-01-4	
Xylene (Total)	ND	mg/kg	0.012	1		10/11/17 21:03	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	110	%.	69-136	1		10/11/17 21:03	1868-53-7	
Toluene-d8 (S)	99	%.	64-150	1		10/11/17 21:03	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	51-142	1		10/11/17 21:03	460-00-4	
PSA Percent Sand,Silt,Clay	Analytical Method: ASA 15-5 mod							
Percent Sand	**90.0**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Clay	**5.0**	% (w/w)	0.10	1		10/04/17 13:36		
Percent Silt	**5.0**	% (w/w)	0.10	1		10/04/17 13:36		
Texture	**SAND**			1		10/04/17 13:36		
Percent Moisture	Analytical Method: SM 2540G							
Percent Moisture	**17.7**	%	0.10	1		10/03/17 17:25		
Total Organic Carbon	Analytical Method: EPA 9060 Modified							
Surrogates								
RPD%	**7.0**	%	0.10	1		10/13/17 12:29		
Total Organic Carbon	**5290**	mg/kg	818	1		10/13/17 12:29	7440-44-0	
Total Organic Carbon	**5670**	mg/kg	820	1		10/13/17 12:36	7440-44-0	
Mean Total Organic Carbon	**5480**	mg/kg	819	1		10/13/17 12:29	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

QC Batch: 408761 Analysis Method: EPA 7471
QC Batch Method: EPA 7471 Analysis Description: 7471 Mercury
Associated Lab Samples: 50181016006, 50181016007, 50181016008, 50181016009, 50181016010, 50181016011

METHOD BLANK: 1880672 Matrix: Solid
Associated Lab Samples: 50181016006, 50181016007, 50181016008, 50181016009, 50181016010, 50181016011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	ND	0.19	10/09/17 09:01	

LABORATORY CONTROL SAMPLE: 1880673

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.51	0.50	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1880674 1880675

Parameter	Units	50180976003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	ND	.58	.56	0.61	0.59	98	99	75-125	4	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

QC Batch: 409829 Analysis Method: EPA 7471
QC Batch Method: EPA 7471 Analysis Description: 7471 Mercury
Associated Lab Samples: 50181016001, 50181016002, 50181016003, 50181016004, 50181016005

METHOD BLANK: 1885534 Matrix: Solid
Associated Lab Samples: 50181016001, 50181016002, 50181016003, 50181016004, 50181016005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	ND	0.19	10/11/17 17:06	

LABORATORY CONTROL SAMPLE: 1885535

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.47	0.50	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1885536 1885537

Parameter	Units	50181016001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	ND	.59	.65	0.61	0.65	101	102	75-125	8	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

QC Batch: 408650 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET
Associated Lab Samples: 50181016006, 50181016007, 50181016008, 50181016009, 50181016010, 50181016011

METHOD BLANK: 1880243 Matrix: Solid
Associated Lab Samples: 50181016006, 50181016007, 50181016008, 50181016009, 50181016010, 50181016011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	1.0	10/10/17 10:33	
Barium	mg/kg	ND	1.0	10/10/17 10:33	
Cadmium	mg/kg	ND	0.50	10/10/17 10:33	
Chromium	mg/kg	ND	1.0	10/10/17 10:33	
Copper	mg/kg	ND	1.0	10/10/17 10:33	
Lead	mg/kg	ND	1.0	10/10/17 10:33	
Nickel	mg/kg	ND	1.0	10/10/17 10:33	
Selenium	mg/kg	ND	1.0	10/10/17 10:33	
Silver	mg/kg	ND	0.50	10/10/17 10:33	
Zinc	mg/kg	ND	1.0	10/10/17 10:33	

LABORATORY CONTROL SAMPLE: 1880244

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	50	50.8	102	80-120	
Barium	mg/kg	50	52.9	106	80-120	
Cadmium	mg/kg	50	49.8	100	80-120	
Chromium	mg/kg	50	51.2	102	80-120	
Copper	mg/kg	50	51.2	102	80-120	
Lead	mg/kg	50	48.8	98	80-120	
Nickel	mg/kg	50	50.8	102	80-120	
Selenium	mg/kg	50	51.0	102	80-120	
Silver	mg/kg	25	24.5	98	80-120	
Zinc	mg/kg	50	50.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1880245 1880246

Parameter	Units	50181120001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	18.3	55.6	59.5	74.9	72.9	102	92	75-125	3	20	
Barium	mg/kg	45.8	55.6	59.5	106	119	109	124	75-125	12	20	2d
Cadmium	mg/kg	ND	55.6	59.5	50.9	55.2	92	93	75-125	8	20	
Chromium	mg/kg	27.2	55.6	59.5	112	86.9	153	100	75-125	25	20	1d,M0
Copper	mg/kg	25.7	55.6	59.5	82.2	83.4	102	97	75-125	2	20	
Lead	mg/kg	19.4	55.6	59.5	68.3	64.6	88	76	75-125	6	20	
Nickel	mg/kg	18.0	55.6	59.5	66.8	72.1	88	91	75-125	8	20	
Selenium	mg/kg	4.0	55.6	59.5	54.2	56.0	90	87	75-125	3	20	
Silver	mg/kg	ND	27.8	29.8	25.1	27.1	90	91	75-125	8	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1880245 1880246

Parameter	Units	50181120001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Zinc	mg/kg	63.5	55.6	59.5	119	118	99	92	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

QC Batch: 408891 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET
Associated Lab Samples: 50181016001, 50181016002, 50181016003, 50181016004, 50181016005

METHOD BLANK: 1881369 Matrix: Solid
Associated Lab Samples: 50181016001, 50181016002, 50181016003, 50181016004, 50181016005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	1.0	10/09/17 12:45	
Barium	mg/kg	ND	1.0	10/09/17 12:45	
Cadmium	mg/kg	ND	0.50	10/09/17 12:45	
Chromium	mg/kg	ND	1.0	10/09/17 12:45	
Copper	mg/kg	ND	1.0	10/09/17 12:45	
Lead	mg/kg	ND	1.0	10/09/17 12:45	
Nickel	mg/kg	ND	1.0	10/09/17 12:45	
Selenium	mg/kg	ND	1.0	10/09/17 12:45	
Silver	mg/kg	ND	0.50	10/09/17 12:45	
Zinc	mg/kg	ND	1.0	10/09/17 12:45	

LABORATORY CONTROL SAMPLE: 1881370

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	50	53.2	106	80-120	
Barium	mg/kg	50	51.5	103	80-120	
Cadmium	mg/kg	50	49.0	98	80-120	
Chromium	mg/kg	50	52.0	104	80-120	
Copper	mg/kg	50	51.8	104	80-120	
Lead	mg/kg	50	50.4	101	80-120	
Nickel	mg/kg	50	49.0	98	80-120	
Selenium	mg/kg	50	49.5	99	80-120	
Silver	mg/kg	25	25.3	101	80-120	
Zinc	mg/kg	50	50.3	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1881371 1881372

Parameter	Units	50181249005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	4.5	48.2	47.4	59.2	54.3	113	105	75-125	9	20	
Barium	mg/kg	11.4	48.2	47.4	57.9	55.7	96	93	75-125	4	20	
Cadmium	mg/kg	ND	48.2	47.4	47.1	45.7	97	96	75-125	3	20	
Chromium	mg/kg	5.8	48.2	47.4	52.0	49.3	96	92	75-125	5	20	
Lead	mg/kg	4.4	48.2	47.4	45.1	43.0	84	81	75-125	5	20	
Selenium	mg/kg	ND	48.2	47.4	46.9	45.2	96	94	75-125	4	20	
Silver	mg/kg	ND	24.1	23.7	25.3	24.4	105	103	75-125	4	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

QC Batch: 409522 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5030 Low
Associated Lab Samples: 50181016001, 50181016002, 50181016003

METHOD BLANK: 1884319 Matrix: Solid
Associated Lab Samples: 50181016001, 50181016002, 50181016003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	ND	0.0050	10/09/17 23:29	
1,1,1-Trichloroethane	mg/kg	ND	0.0050	10/09/17 23:29	
1,1,2,2-Tetrachloroethane	mg/kg	ND	0.0050	10/09/17 23:29	
1,1,2-Trichloroethane	mg/kg	ND	0.0050	10/09/17 23:29	
1,1-Dichloroethane	mg/kg	ND	0.0050	10/09/17 23:29	
1,1-Dichloroethene	mg/kg	ND	0.0050	10/09/17 23:29	
1,1-Dichloropropene	mg/kg	ND	0.0050	10/09/17 23:29	
1,2,3-Trichlorobenzene	mg/kg	ND	0.0050	10/09/17 23:29	
1,2,3-Trichloropropane	mg/kg	ND	0.0050	10/09/17 23:29	
1,2,4-Trichlorobenzene	mg/kg	ND	0.0050	10/09/17 23:29	
1,2,4-Trimethylbenzene	mg/kg	ND	0.0050	10/09/17 23:29	
1,2-Dibromoethane (EDB)	mg/kg	ND	0.0050	10/09/17 23:29	
1,2-Dichlorobenzene	mg/kg	ND	0.0050	10/09/17 23:29	
1,2-Dichloroethane	mg/kg	ND	0.0050	10/09/17 23:29	
1,2-Dichloropropane	mg/kg	ND	0.0050	10/09/17 23:29	
1,3,5-Trimethylbenzene	mg/kg	ND	0.0050	10/09/17 23:29	
1,3-Dichlorobenzene	mg/kg	ND	0.0050	10/09/17 23:29	
1,3-Dichloropropane	mg/kg	ND	0.0050	10/09/17 23:29	
1,4-Dichlorobenzene	mg/kg	ND	0.0050	10/09/17 23:29	
2,2-Dichloropropane	mg/kg	ND	0.0050	10/09/17 23:29	
2-Butanone (MEK)	mg/kg	ND	0.025	10/09/17 23:29	
2-Chlorotoluene	mg/kg	ND	0.0050	10/09/17 23:29	
2-Hexanone	mg/kg	ND	0.10	10/09/17 23:29	
4-Chlorotoluene	mg/kg	ND	0.0050	10/09/17 23:29	
4-Methyl-2-pentanone (MIBK)	mg/kg	ND	0.025	10/09/17 23:29	
Acetone	mg/kg	ND	0.10	10/09/17 23:29	
Acrolein	mg/kg	ND	0.10	10/09/17 23:29	
Acrylonitrile	mg/kg	ND	0.10	10/09/17 23:29	
Benzene	mg/kg	ND	0.0050	10/09/17 23:29	
Bromobenzene	mg/kg	ND	0.0050	10/09/17 23:29	
Bromochloromethane	mg/kg	ND	0.0050	10/09/17 23:29	
Bromodichloromethane	mg/kg	ND	0.0050	10/09/17 23:29	
Bromoform	mg/kg	ND	0.0050	10/09/17 23:29	
Bromomethane	mg/kg	ND	0.0050	10/09/17 23:29	
Carbon disulfide	mg/kg	ND	0.010	10/09/17 23:29	
Carbon tetrachloride	mg/kg	ND	0.0050	10/09/17 23:29	
Chlorobenzene	mg/kg	ND	0.0050	10/09/17 23:29	
Chloroethane	mg/kg	ND	0.0050	10/09/17 23:29	
Chloroform	mg/kg	ND	0.0050	10/09/17 23:29	
Chloromethane	mg/kg	ND	0.0050	10/09/17 23:29	
cis-1,2-Dichloroethene	mg/kg	ND	0.0050	10/09/17 23:29	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

METHOD BLANK: 1884319 Matrix: Solid
Associated Lab Samples: 50181016001, 50181016002, 50181016003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	mg/kg	ND	0.0050	10/09/17 23:29	
Dibromochloromethane	mg/kg	ND	0.0050	10/09/17 23:29	
Dibromomethane	mg/kg	ND	0.0050	10/09/17 23:29	
Dichlorodifluoromethane	mg/kg	ND	0.0050	10/09/17 23:29	
Ethyl methacrylate	mg/kg	ND	0.10	10/09/17 23:29	
Ethylbenzene	mg/kg	ND	0.0050	10/09/17 23:29	
Hexachloro-1,3-butadiene	mg/kg	ND	0.0050	10/09/17 23:29	
Iodomethane	mg/kg	ND	0.10	10/09/17 23:29	
Isopropylbenzene (Cumene)	mg/kg	ND	0.0050	10/09/17 23:29	
Methyl-tert-butyl ether	mg/kg	ND	0.0050	10/09/17 23:29	
Methylene Chloride	mg/kg	ND	0.020	10/09/17 23:29	
n-Butylbenzene	mg/kg	ND	0.0050	10/09/17 23:29	
n-Hexane	mg/kg	ND	0.0050	10/09/17 23:29	
n-Propylbenzene	mg/kg	ND	0.0050	10/09/17 23:29	
Naphthalene	mg/kg	ND	0.0050	10/09/17 23:29	
p-Isopropyltoluene	mg/kg	ND	0.0050	10/09/17 23:29	
sec-Butylbenzene	mg/kg	ND	0.0050	10/09/17 23:29	
Styrene	mg/kg	ND	0.0050	10/09/17 23:29	
tert-Butylbenzene	mg/kg	ND	0.0050	10/09/17 23:29	
Tetrachloroethene	mg/kg	ND	0.0050	10/09/17 23:29	
Toluene	mg/kg	ND	0.0050	10/09/17 23:29	
trans-1,2-Dichloroethene	mg/kg	ND	0.0050	10/09/17 23:29	
trans-1,3-Dichloropropene	mg/kg	ND	0.0050	10/09/17 23:29	
trans-1,4-Dichloro-2-butene	mg/kg	ND	0.10	10/09/17 23:29	
Trichloroethene	mg/kg	ND	0.0050	10/09/17 23:29	
Trichlorofluoromethane	mg/kg	ND	0.0050	10/09/17 23:29	
Vinyl acetate	mg/kg	ND	0.10	10/09/17 23:29	
Vinyl chloride	mg/kg	ND	0.0050	10/09/17 23:29	
Xylene (Total)	mg/kg	ND	0.010	10/09/17 23:29	
4-Bromofluorobenzene (S)	%.	100	51-142	10/09/17 23:29	
Dibromofluoromethane (S)	%.	106	69-136	10/09/17 23:29	
Toluene-d8 (S)	%.	98	64-150	10/09/17 23:29	

LABORATORY CONTROL SAMPLE: 1884320

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	.05	0.046	93	76-126	
1,1,1-Trichloroethane	mg/kg	.05	0.049	97	72-126	
1,1,2,2-Tetrachloroethane	mg/kg	.05	0.045	89	68-125	
1,1,2-Trichloroethane	mg/kg	.05	0.044	88	72-124	
1,1-Dichloroethane	mg/kg	.05	0.044	88	78-117	
1,1-Dichloroethene	mg/kg	.05	0.045	90	70-132	
1,1-Dichloropropene	mg/kg	.05	0.048	97	79-121	
1,2,3-Trichlorobenzene	mg/kg	.05	0.047	93	65-117	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

LABORATORY CONTROL SAMPLE: 1884320

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,3-Trichloropropane	mg/kg	.05	0.047	95	78-128	
1,2,4-Trichlorobenzene	mg/kg	.05	0.046	93	58-121	
1,2,4-Trimethylbenzene	mg/kg	.05	0.042	84	70-118	
1,2-Dibromoethane (EDB)	mg/kg	.05	0.046	93	76-127	
1,2-Dichlorobenzene	mg/kg	.05	0.046	92	72-114	
1,2-Dichloroethane	mg/kg	.05	0.044	89	70-119	
1,2-Dichloropropane	mg/kg	.05	0.045	91	76-122	
1,3,5-Trimethylbenzene	mg/kg	.05	0.042	84	71-122	
1,3-Dichlorobenzene	mg/kg	.05	0.045	90	70-115	
1,3-Dichloropropane	mg/kg	.05	0.047	94	76-130	
1,4-Dichlorobenzene	mg/kg	.05	0.044	88	68-113	
2,2-Dichloropropane	mg/kg	.05	0.047	94	66-125	
2-Butanone (MEK)	mg/kg	.25	0.27	106	56-161	
2-Chlorotoluene	mg/kg	.05	0.043	85	69-122	
2-Hexanone	mg/kg	.25	0.24	95	67-141	
4-Chlorotoluene	mg/kg	.05	0.043	86	70-118	
4-Methyl-2-pentanone (MIBK)	mg/kg	.25	0.25	98	72-125	
Acetone	mg/kg	.25	0.22	87	24-194	
Acrolein	mg/kg	1	1.4	144	23-200	
Acrylonitrile	mg/kg	.2	0.19	93	70-122	
Benzene	mg/kg	.05	0.048	96	75-119	
Bromobenzene	mg/kg	.05	0.046	91	73-119	
Bromochloromethane	mg/kg	.05	0.047	94	73-117	
Bromodichloromethane	mg/kg	.05	0.046	91	73-120	
Bromoform	mg/kg	.05	0.044	87	65-121	
Bromomethane	mg/kg	.05	0.051	101	28-161	
Carbon disulfide	mg/kg	.05	0.042	84	64-115	
Carbon tetrachloride	mg/kg	.05	0.048	96	74-130	
Chlorobenzene	mg/kg	.05	0.045	90	75-114	
Chloroethane	mg/kg	.05	0.056	112	46-129	
Chloroform	mg/kg	.05	0.044	87	71-114	
Chloromethane	mg/kg	.05	0.039	78	39-121	
cis-1,2-Dichloroethene	mg/kg	.05	0.047	94	79-121	
cis-1,3-Dichloropropene	mg/kg	.05	0.046	91	73-132	
Dibromochloromethane	mg/kg	.05	0.047	95	73-123	
Dibromomethane	mg/kg	.05	0.046	92	79-119	
Dichlorodifluoromethane	mg/kg	.05	0.050	99	44-155	
Ethyl methacrylate	mg/kg	.2	0.19	93	74-136	
Ethylbenzene	mg/kg	.05	0.047	94	73-121	
Hexachloro-1,3-butadiene	mg/kg	.05	0.046	92	65-131	
Iodomethane	mg/kg	.1	.096J	96	44-168	
Isopropylbenzene (Cumene)	mg/kg	.05	0.046	92	72-122	
Methyl-tert-butyl ether	mg/kg	.05	0.044	87	74-121	
Methylene Chloride	mg/kg	.05	0.039	78	61-140	
n-Butylbenzene	mg/kg	.05	0.041	83	64-125	
n-Hexane	mg/kg	.05	0.040	80	69-116	
n-Propylbenzene	mg/kg	.05	0.042	84	70-127	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

LABORATORY CONTROL SAMPLE: 1884320

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	mg/kg	.05	0.044	87	65-122	
p-Isopropyltoluene	mg/kg	.05	0.042	84	71-123	
sec-Butylbenzene	mg/kg	.05	0.044	88	72-129	
Styrene	mg/kg	.05	0.043	87	72-127	
tert-Butylbenzene	mg/kg	.05	0.045	91	57-108	
Tetrachloroethene	mg/kg	.05	0.044	88	68-120	
Toluene	mg/kg	.05	0.048	95	71-114	
trans-1,2-Dichloroethene	mg/kg	.05	0.044	88	76-125	
trans-1,3-Dichloropropene	mg/kg	.05	0.044	87	69-133	
trans-1,4-Dichloro-2-butene	mg/kg	.2	0.16	82	58-132	
Trichloroethene	mg/kg	.05	0.045	90	77-115	
Trichlorofluoromethane	mg/kg	.05	0.062	124	61-142	
Vinyl acetate	mg/kg	.2	0.21	104	64-139	
Vinyl chloride	mg/kg	.05	0.049	99	66-139	
Xylene (Total)	mg/kg	.15	0.14	91	71-119	
4-Bromofluorobenzene (S)	%.			98	51-142	
Dibromofluoromethane (S)	%.			101	69-136	
Toluene-d8 (S)	%.			97	64-150	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

QC Batch: 409680 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5030 Low
Associated Lab Samples: 50181016004, 50181016005, 50181016006, 50181016007, 50181016008, 50181016009, 50181016010

METHOD BLANK: 1884957 Matrix: Solid
Associated Lab Samples: 50181016004, 50181016005, 50181016006, 50181016007, 50181016008, 50181016009, 50181016010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	ND	0.0050	10/10/17 12:55	
1,1,1-Trichloroethane	mg/kg	ND	0.0050	10/10/17 12:55	
1,1,2,2-Tetrachloroethane	mg/kg	ND	0.0050	10/10/17 12:55	
1,1,2-Trichloroethane	mg/kg	ND	0.0050	10/10/17 12:55	
1,1-Dichloroethane	mg/kg	ND	0.0050	10/10/17 12:55	
1,1-Dichloroethene	mg/kg	ND	0.0050	10/10/17 12:55	
1,1-Dichloropropene	mg/kg	ND	0.0050	10/10/17 12:55	
1,2,3-Trichlorobenzene	mg/kg	ND	0.0050	10/10/17 12:55	
1,2,3-Trichloropropane	mg/kg	ND	0.0050	10/10/17 12:55	
1,2,4-Trichlorobenzene	mg/kg	ND	0.0050	10/10/17 12:55	
1,2,4-Trimethylbenzene	mg/kg	ND	0.0050	10/10/17 12:55	
1,2-Dibromoethane (EDB)	mg/kg	ND	0.0050	10/10/17 12:55	
1,2-Dichlorobenzene	mg/kg	ND	0.0050	10/10/17 12:55	
1,2-Dichloroethane	mg/kg	ND	0.0050	10/10/17 12:55	
1,2-Dichloropropane	mg/kg	ND	0.0050	10/10/17 12:55	
1,3,5-Trimethylbenzene	mg/kg	ND	0.0050	10/10/17 12:55	
1,3-Dichlorobenzene	mg/kg	ND	0.0050	10/10/17 12:55	
1,3-Dichloropropane	mg/kg	ND	0.0050	10/10/17 12:55	
1,4-Dichlorobenzene	mg/kg	ND	0.0050	10/10/17 12:55	
2,2-Dichloropropane	mg/kg	ND	0.0050	10/10/17 12:55	
2-Butanone (MEK)	mg/kg	ND	0.025	10/10/17 12:55	
2-Chlorotoluene	mg/kg	ND	0.0050	10/10/17 12:55	
2-Hexanone	mg/kg	ND	0.10	10/10/17 12:55	
4-Chlorotoluene	mg/kg	ND	0.0050	10/10/17 12:55	
4-Methyl-2-pentanone (MIBK)	mg/kg	ND	0.025	10/10/17 12:55	
Acetone	mg/kg	ND	0.10	10/10/17 12:55	
Acrolein	mg/kg	ND	0.10	10/10/17 12:55	
Acrylonitrile	mg/kg	ND	0.10	10/10/17 12:55	
Benzene	mg/kg	ND	0.0050	10/10/17 12:55	
Bromobenzene	mg/kg	ND	0.0050	10/10/17 12:55	
Bromochloromethane	mg/kg	ND	0.0050	10/10/17 12:55	
Bromodichloromethane	mg/kg	ND	0.0050	10/10/17 12:55	
Bromoform	mg/kg	ND	0.0050	10/10/17 12:55	
Bromomethane	mg/kg	ND	0.0050	10/10/17 12:55	
Carbon disulfide	mg/kg	ND	0.010	10/10/17 12:55	
Carbon tetrachloride	mg/kg	ND	0.0050	10/10/17 12:55	
Chlorobenzene	mg/kg	ND	0.0050	10/10/17 12:55	
Chloroethane	mg/kg	ND	0.0050	10/10/17 12:55	
Chloroform	mg/kg	ND	0.0050	10/10/17 12:55	
Chloromethane	mg/kg	ND	0.0050	10/10/17 12:55	
cis-1,2-Dichloroethene	mg/kg	ND	0.0050	10/10/17 12:55	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

METHOD BLANK: 1884957 Matrix: Solid
Associated Lab Samples: 50181016004, 50181016005, 50181016006, 50181016007, 50181016008, 50181016009, 50181016010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	mg/kg	ND	0.0050	10/10/17 12:55	
Dibromochloromethane	mg/kg	ND	0.0050	10/10/17 12:55	
Dibromomethane	mg/kg	ND	0.0050	10/10/17 12:55	
Dichlorodifluoromethane	mg/kg	ND	0.0050	10/10/17 12:55	
Ethyl methacrylate	mg/kg	ND	0.10	10/10/17 12:55	
Ethylbenzene	mg/kg	ND	0.0050	10/10/17 12:55	
Hexachloro-1,3-butadiene	mg/kg	ND	0.0050	10/10/17 12:55	
Iodomethane	mg/kg	ND	0.10	10/10/17 12:55	
Isopropylbenzene (Cumene)	mg/kg	ND	0.0050	10/10/17 12:55	
Methyl-tert-butyl ether	mg/kg	ND	0.0050	10/10/17 12:55	
Methylene Chloride	mg/kg	ND	0.020	10/10/17 12:55	
n-Butylbenzene	mg/kg	ND	0.0050	10/10/17 12:55	
n-Hexane	mg/kg	ND	0.0050	10/10/17 12:55	
n-Propylbenzene	mg/kg	ND	0.0050	10/10/17 12:55	
Naphthalene	mg/kg	ND	0.0050	10/10/17 12:55	
p-Isopropyltoluene	mg/kg	ND	0.0050	10/10/17 12:55	
sec-Butylbenzene	mg/kg	ND	0.0050	10/10/17 12:55	
Styrene	mg/kg	ND	0.0050	10/10/17 12:55	
tert-Butylbenzene	mg/kg	ND	0.0050	10/10/17 12:55	
Tetrachloroethene	mg/kg	ND	0.0050	10/10/17 12:55	
Toluene	mg/kg	ND	0.0050	10/10/17 12:55	
trans-1,2-Dichloroethene	mg/kg	ND	0.0050	10/10/17 12:55	
trans-1,3-Dichloropropene	mg/kg	ND	0.0050	10/10/17 12:55	
trans-1,4-Dichloro-2-butene	mg/kg	ND	0.10	10/10/17 12:55	
Trichloroethene	mg/kg	ND	0.0050	10/10/17 12:55	
Trichlorofluoromethane	mg/kg	ND	0.0050	10/10/17 12:55	
Vinyl acetate	mg/kg	ND	0.10	10/10/17 12:55	
Vinyl chloride	mg/kg	ND	0.0050	10/10/17 12:55	
Xylene (Total)	mg/kg	ND	0.010	10/10/17 12:55	
4-Bromofluorobenzene (S)	%.	95	51-142	10/10/17 12:55	
Dibromofluoromethane (S)	%.	101	69-136	10/10/17 12:55	
Toluene-d8 (S)	%.	92	64-150	10/10/17 12:55	

LABORATORY CONTROL SAMPLE: 1884958

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	.05	0.045	89	76-126	
1,1,1-Trichloroethane	mg/kg	.05	0.043	86	72-126	
1,1,2,2-Tetrachloroethane	mg/kg	.05	0.045	90	68-125	
1,1,2-Trichloroethane	mg/kg	.05	0.043	85	72-124	
1,1-Dichloroethane	mg/kg	.05	0.041	83	78-117	
1,1-Dichloroethene	mg/kg	.05	0.038	75	70-132	
1,1-Dichloropropene	mg/kg	.05	0.041	83	79-121	
1,2,3-Trichlorobenzene	mg/kg	.05	0.047	93	65-117	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

LABORATORY CONTROL SAMPLE: 1884958

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,3-Trichloropropane	mg/kg	.05	0.045	90	78-128	
1,2,4-Trichlorobenzene	mg/kg	.05	0.044	88	58-121	
1,2,4-Trimethylbenzene	mg/kg	.05	0.042	84	70-118	
1,2-Dibromoethane (EDB)	mg/kg	.05	0.041	82	76-127	
1,2-Dichlorobenzene	mg/kg	.05	0.045	89	72-114	
1,2-Dichloroethane	mg/kg	.05	0.039	79	70-119	
1,2-Dichloropropane	mg/kg	.05	0.040	79	76-122	
1,3,5-Trimethylbenzene	mg/kg	.05	0.040	81	71-122	
1,3-Dichlorobenzene	mg/kg	.05	0.041	83	70-115	
1,3-Dichloropropane	mg/kg	.05	0.043	85	76-130	
1,4-Dichlorobenzene	mg/kg	.05	0.042	84	68-113	
2,2-Dichloropropane	mg/kg	.05	0.044	89	66-125	
2-Butanone (MEK)	mg/kg	.25	0.26	102	56-161	
2-Chlorotoluene	mg/kg	.05	0.041	83	69-122	
2-Hexanone	mg/kg	.25	0.23	91	67-141	
4-Chlorotoluene	mg/kg	.05	0.042	85	70-118	
4-Methyl-2-pentanone (MIBK)	mg/kg	.25	0.22	86	72-125	
Acetone	mg/kg	.25	0.22	89	24-194	
Acrolein	mg/kg	1	1.4	140	23-200	
Acrylonitrile	mg/kg	.2	0.15	76	70-122	
Benzene	mg/kg	.05	0.040	80	75-119	
Bromobenzene	mg/kg	.05	0.040	81	73-119	
Bromochloromethane	mg/kg	.05	0.041	83	73-117	
Bromodichloromethane	mg/kg	.05	0.041	81	73-120	
Bromoform	mg/kg	.05	0.042	85	65-121	
Bromomethane	mg/kg	.05	0.046	91	28-161	
Carbon disulfide	mg/kg	.05	0.035	70	64-115	
Carbon tetrachloride	mg/kg	.05	0.043	86	74-130	
Chlorobenzene	mg/kg	.05	0.040	79	75-114	
Chloroethane	mg/kg	.05	0.047	93	46-129	
Chloroform	mg/kg	.05	0.042	84	71-114	
Chloromethane	mg/kg	.05	0.041	81	39-121	
cis-1,2-Dichloroethene	mg/kg	.05	0.041	82	79-121	
cis-1,3-Dichloropropene	mg/kg	.05	0.044	88	73-132	
Dibromochloromethane	mg/kg	.05	0.044	87	73-123	
Dibromomethane	mg/kg	.05	0.043	86	79-119	
Dichlorodifluoromethane	mg/kg	.05	0.040	79	44-155	
Ethyl methacrylate	mg/kg	.2	0.16	82	74-136	
Ethylbenzene	mg/kg	.05	0.041	83	73-121	
Hexachloro-1,3-butadiene	mg/kg	.05	0.046	92	65-131	
Iodomethane	mg/kg	.1	.087J	87	44-168	
Isopropylbenzene (Cumene)	mg/kg	.05	0.042	84	72-122	
Methyl-tert-butyl ether	mg/kg	.05	0.038	75	74-121	
Methylene Chloride	mg/kg	.05	0.028	56	61-140	L2
n-Butylbenzene	mg/kg	.05	0.042	85	64-125	
n-Hexane	mg/kg	.05	0.038	76	69-116	
n-Propylbenzene	mg/kg	.05	0.043	87	70-127	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

LABORATORY CONTROL SAMPLE: 1884958

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	mg/kg	.05	0.042	85	65-122	
p-Isopropyltoluene	mg/kg	.05	0.040	79	71-123	
sec-Butylbenzene	mg/kg	.05	0.043	86	72-129	
Styrene	mg/kg	.05	0.040	80	72-127	
tert-Butylbenzene	mg/kg	.05	0.043	85	57-108	
Tetrachloroethene	mg/kg	.05	0.041	83	68-120	
Toluene	mg/kg	.05	0.041	83	71-114	
trans-1,2-Dichloroethene	mg/kg	.05	0.039	79	76-125	
trans-1,3-Dichloropropene	mg/kg	.05	0.043	87	69-133	
trans-1,4-Dichloro-2-butene	mg/kg	.2	0.18	92	58-132	
Trichloroethene	mg/kg	.05	0.041	82	77-115	
Trichlorofluoromethane	mg/kg	.05	0.054	108	61-142	
Vinyl acetate	mg/kg	.2	0.19	97	64-139	
Vinyl chloride	mg/kg	.05	0.048	95	66-139	
Xylene (Total)	mg/kg	.15	0.12	77	71-119	
4-Bromofluorobenzene (S)	%.			94	51-142	
Dibromofluoromethane (S)	%.			98	69-136	
Toluene-d8 (S)	%.			94	64-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1884959 1884960

Parameter	Units	50181016009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	mg/kg	ND	.061	.061	0.045	0.047	74	77	27-152	3	20	
1,1,1-Trichloroethane	mg/kg	ND	.061	.061	0.044	0.044	73	72	31-146	1	20	
1,1,2,2-Tetrachloroethane	mg/kg	ND	.061	.061	0.044	0.047	72	77	22-171	6	20	
1,1,2-Trichloroethane	mg/kg	ND	.061	.061	0.042	0.042	69	69	33-156	0	20	
1,1-Dichloroethane	mg/kg	ND	.061	.061	0.041	0.042	68	69	54-142	1	20	
1,1-Dichloroethene	mg/kg	ND	.061	.061	0.036	0.036	58	59	53-154	0	20	
1,1-Dichloropropene	mg/kg	ND	.061	.061	0.040	0.039	65	65	40-146	1	20	
1,2,3-Trichlorobenzene	mg/kg	ND	.061	.061	0.031	0.032	50	53	10-124	6	20	
1,2,3-Trichloropropane	mg/kg	ND	.061	.061	0.047	0.053	78	87	39-177	12	20	
1,2,4-Trichlorobenzene	mg/kg	ND	.061	.061	0.031	0.031	52	51	10-126	1	20	
1,2,4-Trimethylbenzene	mg/kg	ND	.061	.061	0.042	0.041	70	67	10-162	4	20	
1,2-Dibromoethane (EDB)	mg/kg	ND	.061	.061	0.039	0.041	65	67	28-155	4	20	
1,2-Dichlorobenzene	mg/kg	ND	.061	.061	0.039	0.039	64	65	10-142	1	20	
1,2-Dichloroethane	mg/kg	ND	.061	.061	0.039	0.042	64	70	45-133	9	20	
1,2-Dichloropropane	mg/kg	ND	.061	.061	0.042	0.043	69	70	49-140	3	20	
1,3,5-Trimethylbenzene	mg/kg	ND	.061	.061	0.044	0.042	72	69	10-151	5	20	
1,3-Dichlorobenzene	mg/kg	ND	.061	.061	0.037	0.038	61	62	10-138	1	20	
1,3-Dichloropropane	mg/kg	ND	.061	.061	0.042	0.043	69	71	37-158	3	20	
1,4-Dichlorobenzene	mg/kg	ND	.061	.061	0.038	0.037	63	60	10-137	3	20	
2,2-Dichloropropane	mg/kg	ND	.061	.061	0.045	0.044	74	72	43-146	3	20	
2-Butanone (MEK)	mg/kg	ND	.3	.3	0.28	0.31	93	104	25-197	10	20	
2-Chlorotoluene	mg/kg	ND	.061	.061	0.043	0.043	70	70	10-171	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1884959 1884960

Parameter	Units	50181016009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Hexanone	mg/kg	ND	.3	.3	0.24	0.25	80	83	21-184	3	20	
4-Chlorotoluene	mg/kg	ND	.061	.061	0.043	0.042	71	69	10-152	3	20	
4-Methyl-2-pentanone (MIBK)	mg/kg	ND	.3	.3	0.22	0.23	71	76	31-169	7	20	
Acetone	mg/kg	ND	.3	.3	0.41	0.43	135	143	22-200	6	20	
Acrolein	mg/kg	ND	1.2	1.2	1.4	1.5	116	124	10-200	6	20	
Acrylonitrile	mg/kg	ND	.24	.24	0.14	0.14	58	58	20-165	1	20	
Benzene	mg/kg	ND	.061	.061	0.041	0.040	67	67	43-141	1	20	
Bromobenzene	mg/kg	ND	.061	.061	0.048	0.037	79	61	10-143	24	20	R1
Bromochloromethane	mg/kg	ND	.061	.061	0.042	0.045	69	75	52-135	7	20	
Bromodichloromethane	mg/kg	ND	.061	.061	0.041	0.041	67	67	27-145	1	20	
Bromoform	mg/kg	ND	.061	.061	0.040	0.042	67	69	19-154	3	20	
Bromomethane	mg/kg	ND	.061	.061	0.038	0.037	63	61	14-170	3	20	
Carbon disulfide	mg/kg	ND	.061	.061	0.025	0.024	42	39	28-137	6	20	
Carbon tetrachloride	mg/kg	ND	.061	.061	0.043	0.042	70	69	41-150	2	20	
Chlorobenzene	mg/kg	ND	.061	.061	0.039	0.040	64	65	20-141	1	20	
Chloroethane	mg/kg	ND	.061	.061	0.043	0.040	70	65	34-147	7	20	
Chloroform	mg/kg	ND	.061	.061	0.043	0.044	70	72	49-134	3	20	
Chloromethane	mg/kg	ND	.061	.061	0.031	0.031	51	51	27-136	0	20	
cis-1,2-Dichloroethene	mg/kg	ND	.061	.061	0.041	0.041	67	67	50-144	0	20	
cis-1,3-Dichloropropene	mg/kg	ND	.061	.061	0.042	0.042	68	69	22-161	0	20	
Dibromochloromethane	mg/kg	ND	.061	.061	0.042	0.042	69	70	25-146	1	20	
Dibromomethane	mg/kg	ND	.061	.061	0.041	0.044	67	72	39-142	7	20	
Dichlorodifluoromethane	mg/kg	ND	.061	.061	0.019	0.018	30	29	20-186	5	20	
Ethyl methacrylate	mg/kg	ND	.24	.24	ND	ND	25	22	10-170		20	
Ethylbenzene	mg/kg	ND	.061	.061	0.040	0.041	66	68	21-149	3	20	
Hexachloro-1,3-butadiene	mg/kg	ND	.061	.061	0.038	0.035	62	57	10-152	9	20	
Iodomethane	mg/kg	ND	.12	.12	.07J	.072J	58	59	10-189		20	
Isopropylbenzene (Cumene)	mg/kg	ND	.061	.061	0.042	0.042	68	69	15-152	0	20	
Methyl-tert-butyl ether	mg/kg	ND	.061	.061	0.043	0.043	70	71	60-141	2	20	
Methylene Chloride	mg/kg	ND	.061	.061	0.036	0.035	59	58	41-145	2	20	
n-Butylbenzene	mg/kg	ND	.061	.061	0.038	0.038	63	62	10-154	1	20	
n-Hexane	mg/kg	ND	.061	.061	0.029	0.029	48	47	23-146	2	20	
n-Propylbenzene	mg/kg	ND	.061	.061	0.044	0.044	73	73	10-183	0	20	
Naphthalene	mg/kg	ND	.061	.061	0.031	0.033	51	54	10-134	6	20	
p-Isopropyltoluene	mg/kg	ND	.061	.061	0.040	0.039	66	64	10-183	3	20	
sec-Butylbenzene	mg/kg	ND	.061	.061	0.045	0.043	74	70	10-184	5	20	
Styrene	mg/kg	ND	.061	.061	0.039	0.037	65	61	10-154	5	20	
tert-Butylbenzene	mg/kg	ND	.061	.061	0.046	0.044	76	72	10-173	6	20	
Tetrachloroethene	mg/kg	ND	.061	.061	0.043	0.040	71	66	21-155	7	20	
Toluene	mg/kg	ND	.061	.061	0.041	0.040	67	65	30-146	3	20	
trans-1,2-Dichloroethene	mg/kg	ND	.061	.061	0.039	0.038	64	62	50-146	3	20	
trans-1,3-Dichloropropene	mg/kg	ND	.061	.061	0.040	0.042	66	68	15-157	3	20	
trans-1,4-Dichloro-2-butene	mg/kg	ND	.24	.24	0.14	0.16	60	65	10-155	8	20	
Trichloroethene	mg/kg	ND	.061	.061	0.040	0.041	66	68	25-162	2	20	
Trichlorofluoromethane	mg/kg	ND	.061	.061	0.045	0.045	74	73	42-164	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1884959 1884960

Parameter	Units	50181016009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Vinyl acetate	mg/kg	ND	.24	.24	ND	ND	2	2	10-173		20	M1
Vinyl chloride	mg/kg	ND	.061	.061	0.036	0.035	59	57	51-160	3	20	
Xylene (Total)	mg/kg	ND	.18	.18	0.12	0.12	65	63	15-151	4	20	
4-Bromofluorobenzene (S)	%.						89	90	51-142			
Dibromofluoromethane (S)	%.						96	98	69-136			
Toluene-d8 (S)	%.						98	95	64-150			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

QC Batch: 409862 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5030 Low
Associated Lab Samples: 50181016011

METHOD BLANK: 1885694 Matrix: Solid
Associated Lab Samples: 50181016011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	ND	0.0050	10/11/17 20:31	
1,1,1-Trichloroethane	mg/kg	ND	0.0050	10/11/17 20:31	
1,1,2,2-Tetrachloroethane	mg/kg	ND	0.0050	10/11/17 20:31	
1,1,2-Trichloroethane	mg/kg	ND	0.0050	10/11/17 20:31	
1,1-Dichloroethane	mg/kg	ND	0.0050	10/11/17 20:31	
1,1-Dichloroethene	mg/kg	ND	0.0050	10/11/17 20:31	
1,1-Dichloropropene	mg/kg	ND	0.0050	10/11/17 20:31	
1,2,3-Trichlorobenzene	mg/kg	ND	0.0050	10/11/17 20:31	
1,2,3-Trichloropropane	mg/kg	ND	0.0050	10/11/17 20:31	
1,2,4-Trichlorobenzene	mg/kg	ND	0.0050	10/11/17 20:31	
1,2,4-Trimethylbenzene	mg/kg	ND	0.0050	10/11/17 20:31	
1,2-Dibromoethane (EDB)	mg/kg	ND	0.0050	10/11/17 20:31	
1,2-Dichlorobenzene	mg/kg	ND	0.0050	10/11/17 20:31	
1,2-Dichloroethane	mg/kg	ND	0.0050	10/11/17 20:31	
1,2-Dichloropropane	mg/kg	ND	0.0050	10/11/17 20:31	
1,3,5-Trimethylbenzene	mg/kg	ND	0.0050	10/11/17 20:31	
1,3-Dichlorobenzene	mg/kg	ND	0.0050	10/11/17 20:31	
1,3-Dichloropropane	mg/kg	ND	0.0050	10/11/17 20:31	
1,4-Dichlorobenzene	mg/kg	ND	0.0050	10/11/17 20:31	
2,2-Dichloropropane	mg/kg	ND	0.0050	10/11/17 20:31	
2-Butanone (MEK)	mg/kg	ND	0.025	10/11/17 20:31	
2-Chlorotoluene	mg/kg	ND	0.0050	10/11/17 20:31	
2-Hexanone	mg/kg	ND	0.10	10/11/17 20:31	
4-Chlorotoluene	mg/kg	ND	0.0050	10/11/17 20:31	
4-Methyl-2-pentanone (MIBK)	mg/kg	ND	0.025	10/11/17 20:31	
Acetone	mg/kg	ND	0.10	10/11/17 20:31	
Acrolein	mg/kg	ND	0.10	10/11/17 20:31	
Acrylonitrile	mg/kg	ND	0.10	10/11/17 20:31	
Benzene	mg/kg	ND	0.0050	10/11/17 20:31	
Bromobenzene	mg/kg	ND	0.0050	10/11/17 20:31	
Bromochloromethane	mg/kg	ND	0.0050	10/11/17 20:31	
Bromodichloromethane	mg/kg	ND	0.0050	10/11/17 20:31	
Bromoform	mg/kg	ND	0.0050	10/11/17 20:31	
Bromomethane	mg/kg	ND	0.0050	10/11/17 20:31	
Carbon disulfide	mg/kg	ND	0.010	10/11/17 20:31	
Carbon tetrachloride	mg/kg	ND	0.0050	10/11/17 20:31	
Chlorobenzene	mg/kg	ND	0.0050	10/11/17 20:31	
Chloroethane	mg/kg	ND	0.0050	10/11/17 20:31	
Chloroform	mg/kg	ND	0.0050	10/11/17 20:31	
Chloromethane	mg/kg	ND	0.0050	10/11/17 20:31	
cis-1,2-Dichloroethene	mg/kg	ND	0.0050	10/11/17 20:31	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

METHOD BLANK: 1885694 Matrix: Solid
Associated Lab Samples: 50181016011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,3-Dichloropropene	mg/kg	ND	0.0050	10/11/17 20:31	
Dibromochloromethane	mg/kg	ND	0.0050	10/11/17 20:31	
Dibromomethane	mg/kg	ND	0.0050	10/11/17 20:31	
Dichlorodifluoromethane	mg/kg	ND	0.0050	10/11/17 20:31	
Ethyl methacrylate	mg/kg	ND	0.10	10/11/17 20:31	
Ethylbenzene	mg/kg	ND	0.0050	10/11/17 20:31	
Hexachloro-1,3-butadiene	mg/kg	ND	0.0050	10/11/17 20:31	
Iodomethane	mg/kg	ND	0.10	10/11/17 20:31	
Isopropylbenzene (Cumene)	mg/kg	ND	0.0050	10/11/17 20:31	
Methyl-tert-butyl ether	mg/kg	ND	0.0050	10/11/17 20:31	
Methylene Chloride	mg/kg	ND	0.020	10/11/17 20:31	
n-Butylbenzene	mg/kg	ND	0.0050	10/11/17 20:31	
n-Hexane	mg/kg	ND	0.0050	10/11/17 20:31	
n-Propylbenzene	mg/kg	ND	0.0050	10/11/17 20:31	
Naphthalene	mg/kg	ND	0.0050	10/11/17 20:31	
p-Isopropyltoluene	mg/kg	ND	0.0050	10/11/17 20:31	
sec-Butylbenzene	mg/kg	ND	0.0050	10/11/17 20:31	
Styrene	mg/kg	ND	0.0050	10/11/17 20:31	
tert-Butylbenzene	mg/kg	ND	0.0050	10/11/17 20:31	
Tetrachloroethene	mg/kg	ND	0.0050	10/11/17 20:31	
Toluene	mg/kg	ND	0.0050	10/11/17 20:31	
trans-1,2-Dichloroethene	mg/kg	ND	0.0050	10/11/17 20:31	
trans-1,3-Dichloropropene	mg/kg	ND	0.0050	10/11/17 20:31	
trans-1,4-Dichloro-2-butene	mg/kg	ND	0.10	10/11/17 20:31	
Trichloroethene	mg/kg	ND	0.0050	10/11/17 20:31	
Trichlorofluoromethane	mg/kg	ND	0.0050	10/11/17 20:31	
Vinyl acetate	mg/kg	ND	0.10	10/11/17 20:31	
Vinyl chloride	mg/kg	ND	0.0050	10/11/17 20:31	
Xylene (Total)	mg/kg	ND	0.010	10/11/17 20:31	
4-Bromofluorobenzene (S)	%.	99	51-142	10/11/17 20:31	
Dibromofluoromethane (S)	%.	106	69-136	10/11/17 20:31	
Toluene-d8 (S)	%.	97	64-150	10/11/17 20:31	

LABORATORY CONTROL SAMPLE: 1885695

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	mg/kg	.05	0.052	104	76-126	
1,1,1-Trichloroethane	mg/kg	.05	0.059	119	72-126	
1,1,2,2-Tetrachloroethane	mg/kg	.05	0.050	100	68-125	
1,1,2-Trichloroethane	mg/kg	.05	0.050	100	72-124	
1,1-Dichloroethane	mg/kg	.05	0.067	134	78-117	L1
1,1-Dichloroethene	mg/kg	.05	0.050	101	70-132	
1,1-Dichloropropene	mg/kg	.05	0.052	104	79-121	
1,2,3-Trichlorobenzene	mg/kg	.05	0.045	91	65-117	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

LABORATORY CONTROL SAMPLE: 1885695

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,3-Trichloropropane	mg/kg	.05	0.051	103	78-128	
1,2,4-Trichlorobenzene	mg/kg	.05	0.044	89	58-121	
1,2,4-Trimethylbenzene	mg/kg	.05	0.046	92	70-118	
1,2-Dibromoethane (EDB)	mg/kg	.05	0.051	101	76-127	
1,2-Dichlorobenzene	mg/kg	.05	0.048	96	72-114	
1,2-Dichloroethane	mg/kg	.05	0.053	106	70-119	
1,2-Dichloropropane	mg/kg	.05	0.053	106	76-122	
1,3,5-Trimethylbenzene	mg/kg	.05	0.048	96	71-122	
1,3-Dichlorobenzene	mg/kg	.05	0.047	93	70-115	
1,3-Dichloropropane	mg/kg	.05	0.055	111	76-130	
1,4-Dichlorobenzene	mg/kg	.05	0.047	94	68-113	
2,2-Dichloropropane	mg/kg	.05	0.065	130	66-125	L1
2-Butanone (MEK)	mg/kg	.25	0.39	155	56-161	
2-Chlorotoluene	mg/kg	.05	0.050	100	69-122	
2-Hexanone	mg/kg	.25	0.27	107	67-141	
4-Chlorotoluene	mg/kg	.05	0.051	103	70-118	
4-Methyl-2-pentanone (MIBK)	mg/kg	.25	0.26	105	72-125	
Acetone	mg/kg	.25	0.27	109	24-194	
Acrolein	mg/kg	1	1.4	139	23-200	
Acrylonitrile	mg/kg	.2	0.21	106	70-122	
Benzene	mg/kg	.05	0.048	97	75-119	
Bromobenzene	mg/kg	.05	0.046	93	73-119	
Bromochloromethane	mg/kg	.05	0.070	140	73-117	L1
Bromodichloromethane	mg/kg	.05	0.049	99	73-120	
Bromoform	mg/kg	.05	0.051	102	65-121	
Bromomethane	mg/kg	.05	0.044	88	28-161	
Carbon disulfide	mg/kg	.05	0.051	102	64-115	
Carbon tetrachloride	mg/kg	.05	0.051	103	74-130	
Chlorobenzene	mg/kg	.05	0.048	96	75-114	
Chloroethane	mg/kg	.05	0.046	92	46-129	
Chloroform	mg/kg	.05	0.062	124	71-114	L1
Chloromethane	mg/kg	.05	0.042	85	39-121	
cis-1,2-Dichloroethene	mg/kg	.05	0.063	126	79-121	L1
cis-1,3-Dichloropropene	mg/kg	.05	0.053	107	73-132	
Dibromochloromethane	mg/kg	.05	0.051	102	73-123	
Dibromomethane	mg/kg	.05	0.049	98	79-119	
Dichlorodifluoromethane	mg/kg	.05	0.041	82	44-155	
Ethyl methacrylate	mg/kg	.2	0.21	106	74-136	
Ethylbenzene	mg/kg	.05	0.047	94	73-121	
Hexachloro-1,3-butadiene	mg/kg	.05	0.045	90	65-131	
Iodomethane	mg/kg	.1	.088J	88	44-168	
Isopropylbenzene (Cumene)	mg/kg	.05	0.049	98	72-122	
Methyl-tert-butyl ether	mg/kg	.05	0.052	104	74-121	
Methylene Chloride	mg/kg	.05	0.049	98	61-140	
n-Butylbenzene	mg/kg	.05	0.048	95	64-125	
n-Hexane	mg/kg	.05	0.055	111	69-116	
n-Propylbenzene	mg/kg	.05	0.049	98	70-127	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

LABORATORY CONTROL SAMPLE: 1885695

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	mg/kg	.05	0.046	93	65-122	
p-Isopropyltoluene	mg/kg	.05	0.047	93	71-123	
sec-Butylbenzene	mg/kg	.05	0.049	98	72-129	
Styrene	mg/kg	.05	0.048	95	72-127	
tert-Butylbenzene	mg/kg	.05	0.050	100	57-108	
Tetrachloroethene	mg/kg	.05	0.048	95	68-120	
Toluene	mg/kg	.05	0.049	98	71-114	
trans-1,2-Dichloroethene	mg/kg	.05	0.055	109	76-125	
trans-1,3-Dichloropropene	mg/kg	.05	0.052	104	69-133	
trans-1,4-Dichloro-2-butene	mg/kg	.2	0.18	89	58-132	
Trichloroethene	mg/kg	.05	0.050	99	77-115	
Trichlorofluoromethane	mg/kg	.05	0.047	94	61-142	
Vinyl acetate	mg/kg	.2	0.32	160	64-139	L1
Vinyl chloride	mg/kg	.05	0.047	93	66-139	
Xylene (Total)	mg/kg	.15	0.14	93	71-119	
4-Bromofluorobenzene (S)	%.			102	51-142	
Dibromofluoromethane (S)	%.			114	69-136	
Toluene-d8 (S)	%.			103	64-150	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

QC Batch: 500212 Analysis Method: ASA 15-5 mod
QC Batch Method: ASA 15-5 mod Analysis Description: PSA Percent Soil,Silt,Clay
Associated Lab Samples: 50181016001, 50181016002, 50181016003, 50181016004, 50181016005, 50181016006, 50181016007, 50181016008, 50181016009, 50181016010, 50181016011

LABORATORY CONTROL SAMPLE: 2719413

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Percent Clay	% (w/w)	18	15.0	83	50-150	
Percent Sand	% (w/w)	24.6	25.1	102	46-154	
Percent Silt	% (w/w)	56.9	59.9	105	84-116	

SAMPLE DUPLICATE: 2719414

Parameter	Units	10404649001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Clay	% (w/w)	25.0	25.0	0	20	
Percent Sand	% (w/w)	40.0	37.6	6	20	
Percent Silt	% (w/w)	35.0	37.4	7	20	
Texture		LOAM	LOAM			

SAMPLE DUPLICATE: 2721400

Parameter	Units	50181016009 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Clay	% (w/w)	5.0	5.0	0	20	
Percent Sand	% (w/w)	95.0	97.5	3	20	
Percent Silt	% (w/w)	ND	ND		20	
Texture		SAND	SAND			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

QC Batch: 412323 Analysis Method: EPA 8081
QC Batch Method: EPA 3546 Analysis Description: 8081 GCS Pesticides
Associated Lab Samples: 50181016001, 50181016002, 50181016003, 50181016004, 50181016005, 50181016006, 50181016007, 50181016008, 50181016009, 50181016010, 50181016011

METHOD BLANK: 1897847 Matrix: Solid
Associated Lab Samples: 50181016001, 50181016002, 50181016003, 50181016004, 50181016005, 50181016006, 50181016007, 50181016008, 50181016009, 50181016010, 50181016011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4,4'-DDD	mg/kg	ND	0.0049	10/30/17 12:12	
4,4'-DDE	mg/kg	ND	0.0049	10/30/17 12:12	
4,4'-DDT	mg/kg	ND	0.0049	10/30/17 12:12	
Aldrin	mg/kg	ND	0.0025	10/30/17 12:12	
alpha-BHC	mg/kg	ND	0.0025	10/30/17 12:12	
alpha-Chlordane	mg/kg	ND	0.0025	10/30/17 12:12	
beta-BHC	mg/kg	ND	0.0025	10/30/17 12:12	
Chlordane (Technical)	mg/kg	ND	0.049	10/30/17 12:12	
delta-BHC	mg/kg	ND	0.0025	10/30/17 12:12	
Dieldrin	mg/kg	ND	0.0049	10/30/17 12:12	
Endosulfan I	mg/kg	ND	0.0025	10/30/17 12:12	
Endosulfan II	mg/kg	ND	0.0049	10/30/17 12:12	
Endosulfan sulfate	mg/kg	ND	0.0049	10/30/17 12:12	
Endrin	mg/kg	ND	0.0049	10/30/17 12:12	
Endrin aldehyde	mg/kg	ND	0.0049	10/30/17 12:12	
Endrin ketone	mg/kg	ND	0.0049	10/30/17 12:12	
gamma-BHC (Lindane)	mg/kg	ND	0.0025	10/30/17 12:12	
gamma-Chlordane	mg/kg	ND	0.0025	10/30/17 12:12	
Heptachlor	mg/kg	ND	0.0025	10/30/17 12:12	
Heptachlor epoxide	mg/kg	ND	0.0025	10/30/17 12:12	
Methoxychlor	mg/kg	ND	0.025	10/30/17 12:12	
Toxaphene	mg/kg	ND	0.049	10/30/17 12:12	
Decachlorobiphenyl (S)	%.	60	22-126	10/30/17 12:12	

LABORATORY CONTROL SAMPLE: 1897848

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4,4'-DDD	mg/kg	.02	0.013	67	46-153	
4,4'-DDE	mg/kg	.02	0.013	66	46-153	
4,4'-DDT	mg/kg	.02	0.013	67	31-159	
Aldrin	mg/kg	.01	0.0063	63	41-139	
alpha-BHC	mg/kg	.01	0.0063	63	42-140	
alpha-Chlordane	mg/kg	.01	0.0065	66	47-144	
beta-BHC	mg/kg	.01	0.0064	65	48-145	
delta-BHC	mg/kg	.01	0.0059	59	17-138	
Dieldrin	mg/kg	.02	0.013	66	45-151	
Endosulfan I	mg/kg	.01	0.0066	67	47-145	
Endosulfan II	mg/kg	.02	0.013	66	48-146	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

LABORATORY CONTROL SAMPLE: 1897848

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Endosulfan sulfate	mg/kg	.02	0.013	64	46-136	
Endrin	mg/kg	.02	0.013	66	47-145	
Endrin aldehyde	mg/kg	.02	0.013	63	44-140	
Endrin ketone	mg/kg	.02	0.013	67	41-148	
gamma-BHC (Lindane)	mg/kg	.01	0.0064	64	44-141	
gamma-Chlordane	mg/kg	.01	0.0067	67	45-146	
Heptachlor	mg/kg	.01	0.0065	65	44-141	
Heptachlor epoxide	mg/kg	.01	0.0065	66	46-148	
Methoxychlor	mg/kg	.1	0.068	68	38-148	
Decachlorobiphenyl (S)	%.			62	22-126	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1897849 1897850

Parameter	Units	50181016001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
4,4'-DDD	mg/kg	ND	.025	.025	.019J	.021J	77	84	14-161		20	
4,4'-DDE	mg/kg	ND	.025	.025	.021J	.024J	84	93	22-162		20	
4,4'-DDT	mg/kg	ND	.025	.025	ND	.021J	77	84	10-196		20	
Aldrin	mg/kg	ND	.012	.013	.0098J	.011J	79	87	17-155		20	
alpha-BHC	mg/kg	ND	.012	.013	.0093J	.01J	75	80	17-159		20	
alpha-Chlordane	mg/kg	ND	.012	.013	ND	ND	88	95	13-159		20	
beta-BHC	mg/kg	ND	.012	.013	ND	.013J	81	99	15-176		20	
delta-BHC	mg/kg	ND	.012	.013	ND	.0097J	68	77	10-151		20	
Dieldrin	mg/kg	ND	.025	.025	.02J	.023J	82	89	20-159		20	
Endosulfan I	mg/kg	ND	.012	.013	.012J	.012J	93	98	10-164		20	
Endosulfan II	mg/kg	ND	.025	.025	.021J	.022J	83	89	10-162		20	
Endosulfan sulfate	mg/kg	ND	.025	.025	.021J	.023J	86	90	10-164		20	
Endrin	mg/kg	ND	.025	.025	.02J	.022J	81	88	15-153		20	
Endrin aldehyde	mg/kg	ND	.025	.025	ND	ND	79	77	10-155		20	
Endrin ketone	mg/kg	ND	.025	.025	.019J	.021J	78	84	10-170		20	
gamma-BHC (Lindane)	mg/kg	ND	.012	.013	.0099J	.011J	79	89	10-174		20	
gamma-Chlordane	mg/kg	ND	.012	.013	.01J	.011J	83	88	19-157		20	
Heptachlor	mg/kg	ND	.012	.013	ND	ND	82	89	16-167		20	
Heptachlor epoxide	mg/kg	ND	.012	.013	.011J	.012J	85	93	18-160		20	
Methoxychlor	mg/kg	ND	.12	.13	.11J	.12J	88	94	10-164		20	
Decachlorobiphenyl (S)	%.						80	86	22-126			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

QC Batch: 412155 Analysis Method: EPA 8082
QC Batch Method: EPA 3546 Analysis Description: 8082 GCS PCB
Associated Lab Samples: 50181016001, 50181016002, 50181016003, 50181016004, 50181016005, 50181016006, 50181016007, 50181016008, 50181016009, 50181016010, 50181016011

METHOD BLANK: 1896540 Matrix: Solid
Associated Lab Samples: 50181016001, 50181016002, 50181016003, 50181016004, 50181016005, 50181016006, 50181016007, 50181016008, 50181016009, 50181016010, 50181016011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	ND	0.10	10/30/17 21:53	
PCB-1221 (Aroclor 1221)	mg/kg	ND	0.10	10/30/17 21:53	
PCB-1232 (Aroclor 1232)	mg/kg	ND	0.10	10/30/17 21:53	
PCB-1242 (Aroclor 1242)	mg/kg	ND	0.10	10/30/17 21:53	
PCB-1248 (Aroclor 1248)	mg/kg	ND	0.10	10/30/17 21:53	
PCB-1254 (Aroclor 1254)	mg/kg	ND	0.10	10/30/17 21:53	
PCB-1260 (Aroclor 1260)	mg/kg	ND	0.10	10/30/17 21:53	
Tetrachloro-m-xylene (S)	%.	96	28-111	10/30/17 21:53	

LABORATORY CONTROL SAMPLE: 1896541

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	.17	0.17	102	37-112	
PCB-1260 (Aroclor 1260)	mg/kg	.17	0.18	107	35-119	
Tetrachloro-m-xylene (S)	%.			95	28-111	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1896542 1896543

Parameter	Units	50181016006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	mg/kg	ND	.21	.21	0.13	0.14	61	65	10-132	6	20	
PCB-1260 (Aroclor 1260)	mg/kg	ND	.21	.21	ND	0.13	60	61	10-146		20	
Tetrachloro-m-xylene (S)	%.						68	75	28-111			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

QC Batch: 408517 Analysis Method: EPA 8270
QC Batch Method: EPA 3546 Analysis Description: 8270 Solid MSSV Microwave Short Spike
Associated Lab Samples: 50181016006, 50181016007, 50181016008, 50181016009, 50181016010, 50181016011

METHOD BLANK: 1879820 Matrix: Solid
Associated Lab Samples: 50181016006, 50181016007, 50181016008, 50181016009, 50181016010, 50181016011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	mg/kg	ND	0.33	10/03/17 17:11	N2
2,4,5-Trichlorophenol	mg/kg	ND	0.33	10/03/17 17:11	
2,4,6-Trichlorophenol	mg/kg	ND	0.33	10/03/17 17:11	
2,4-Dichlorophenol	mg/kg	ND	0.33	10/03/17 17:11	
2,4-Dimethylphenol	mg/kg	ND	0.33	10/03/17 17:11	
2,4-Dinitrophenol	mg/kg	ND	1.6	10/03/17 17:11	
2,4-Dinitrotoluene	mg/kg	ND	0.33	10/03/17 17:11	
2,6-Dinitrotoluene	mg/kg	ND	0.33	10/03/17 17:11	
2-Chloronaphthalene	mg/kg	ND	0.33	10/03/17 17:11	
2-Chlorophenol	mg/kg	ND	0.33	10/03/17 17:11	
2-Methylnaphthalene	mg/kg	ND	0.33	10/03/17 17:11	
2-Methylphenol(o-Cresol)	mg/kg	ND	0.33	10/03/17 17:11	
2-Nitroaniline	mg/kg	ND	1.6	10/03/17 17:11	
2-Nitrophenol	mg/kg	ND	0.33	10/03/17 17:11	
3&4-Methylphenol(m&p Cresol)	mg/kg	ND	0.66	10/03/17 17:11	
3,3'-Dichlorobenzidine	mg/kg	ND	0.66	10/03/17 17:11	
3-Nitroaniline	mg/kg	ND	1.6	10/03/17 17:11	
4,6-Dinitro-2-methylphenol	mg/kg	ND	1.6	10/03/17 17:11	
4-Bromophenylphenyl ether	mg/kg	ND	0.33	10/03/17 17:11	
4-Chloro-3-methylphenol	mg/kg	ND	0.66	10/03/17 17:11	
4-Chloroaniline	mg/kg	ND	0.66	10/03/17 17:11	
4-Chlorophenylphenyl ether	mg/kg	ND	0.33	10/03/17 17:11	
4-Nitroaniline	mg/kg	ND	1.6	10/03/17 17:11	
4-Nitrophenol	mg/kg	ND	1.6	10/03/17 17:11	
Acenaphthene	mg/kg	ND	0.33	10/03/17 17:11	
Acenaphthylene	mg/kg	ND	0.33	10/03/17 17:11	
Anthracene	mg/kg	ND	0.33	10/03/17 17:11	
Benzo(a)anthracene	mg/kg	ND	0.33	10/03/17 17:11	
Benzo(a)pyrene	mg/kg	ND	0.33	10/03/17 17:11	
Benzo(b)fluoranthene	mg/kg	ND	0.33	10/03/17 17:11	
Benzo(g,h,i)perylene	mg/kg	ND	0.33	10/03/17 17:11	
Benzo(k)fluoranthene	mg/kg	ND	0.33	10/03/17 17:11	
Benzyl alcohol	mg/kg	ND	0.66	10/03/17 17:11	
bis(2-Chloroethoxy)methane	mg/kg	ND	0.33	10/03/17 17:11	
bis(2-Chloroethyl) ether	mg/kg	ND	0.33	10/03/17 17:11	
bis(2-Ethylhexyl)phthalate	mg/kg	ND	0.33	10/03/17 17:11	
bis(2chloro1methylethyl) ether	mg/kg	ND	0.33	10/03/17 17:11	
Butylbenzylphthalate	mg/kg	ND	0.33	10/03/17 17:11	
Chrysene	mg/kg	ND	0.33	10/03/17 17:11	
Di-n-butylphthalate	mg/kg	ND	0.33	10/03/17 17:11	
Di-n-octylphthalate	mg/kg	ND	0.33	10/03/17 17:11	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

METHOD BLANK: 1879820 Matrix: Solid
Associated Lab Samples: 50181016006, 50181016007, 50181016008, 50181016009, 50181016010, 50181016011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibenz(a,h)anthracene	mg/kg	ND	0.33	10/03/17 17:11	
Dibenzofuran	mg/kg	ND	0.33	10/03/17 17:11	
Diethylphthalate	mg/kg	ND	0.33	10/03/17 17:11	
Dimethylphthalate	mg/kg	ND	0.33	10/03/17 17:11	
Fluoranthene	mg/kg	ND	0.33	10/03/17 17:11	
Fluorene	mg/kg	ND	0.33	10/03/17 17:11	
Hexachloro-1,3-butadiene	mg/kg	ND	0.33	10/03/17 17:11	
Hexachlorobenzene	mg/kg	ND	0.33	10/03/17 17:11	
Hexachlorocyclopentadiene	mg/kg	ND	0.33	10/03/17 17:11	
Hexachloroethane	mg/kg	ND	0.33	10/03/17 17:11	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.33	10/03/17 17:11	
Isophorone	mg/kg	ND	0.33	10/03/17 17:11	
N-Nitroso-di-n-propylamine	mg/kg	ND	0.33	10/03/17 17:11	
N-Nitrosodiphenylamine	mg/kg	ND	0.33	10/03/17 17:11	
Naphthalene	mg/kg	ND	0.33	10/03/17 17:11	
Nitrobenzene	mg/kg	ND	0.33	10/03/17 17:11	
Pentachlorophenol	mg/kg	ND	1.6	10/03/17 17:11	
Phenanthrene	mg/kg	ND	0.33	10/03/17 17:11	
Phenol	mg/kg	ND	0.33	10/03/17 17:11	
Pyrene	mg/kg	ND	0.33	10/03/17 17:11	
2,4,6-Tribromophenol (S)	%.	74	13-112	10/03/17 17:11	
2-Fluorobiphenyl (S)	%.	72	33-93	10/03/17 17:11	
2-Fluorophenol (S)	%.	66	12-108	10/03/17 17:11	
Nitrobenzene-d5 (S)	%.	64	21-102	10/03/17 17:11	
p-Terphenyl-d14 (S)	%.	105	28-113	10/03/17 17:11	
Phenol-d5 (S)	%.	61	17-100	10/03/17 17:11	

LABORATORY CONTROL SAMPLE: 1879821

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-Dinitrotoluene	mg/kg	3.3	3.0	90	39-111	
2-Chlorophenol	mg/kg	3.3	2.1	62	40-97	
2-Methylnaphthalene	mg/kg	3.3	2.3	70	34-122	
4-Chloro-3-methylphenol	mg/kg	3.3	2.2	66	40-117	
4-Nitrophenol	mg/kg	3.3	2.2	67	30-120	
Acenaphthene	mg/kg	3.3	2.5	75	44-99	
Acenaphthylene	mg/kg	3.3	2.6	79	43-105	
Anthracene	mg/kg	3.3	2.5	74	45-113	
Benzo(a)anthracene	mg/kg	3.3	2.4	72	47-113	
Benzo(a)pyrene	mg/kg	3.3	2.2	68	33-108	
Benzo(b)fluoranthene	mg/kg	3.3	2.2	66	30-108	
Benzo(g,h,i)perylene	mg/kg	3.3	2.3	69	28-105	
Benzo(k)fluoranthene	mg/kg	3.3	2.3	71	35-103	
Chrysene	mg/kg	3.3	2.4	72	46-112	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

LABORATORY CONTROL SAMPLE: 1879821

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibenz(a,h)anthracene	mg/kg	3.3	2.3	69	30-105	
Fluoranthene	mg/kg	3.3	2.7	83	45-114	
Fluorene	mg/kg	3.3	2.6	79	45-109	
Indeno(1,2,3-cd)pyrene	mg/kg	3.3	2.3	70	30-105	
N-Nitroso-di-n-propylamine	mg/kg	3.3	1.8	54	34-91	
Naphthalene	mg/kg	3.3	2.2	67	36-104	
Pentachlorophenol	mg/kg	3.3	1.7	52	25-117	
Phenanthrene	mg/kg	3.3	2.6	80	45-112	
Phenol	mg/kg	3.3	1.9	57	39-97	
Pyrene	mg/kg	3.3	2.3	68	47-109	
2,4,6-Tribromophenol (S)	%.			57	13-112	
2-Fluorobiphenyl (S)	%.			59	33-93	
2-Fluorophenol (S)	%.			55	12-108	
Nitrobenzene-d5 (S)	%.			51	21-102	
p-Terphenyl-d14 (S)	%.			90	28-113	
Phenol-d5 (S)	%.			51	17-100	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1879822 1879823

Parameter	Units	50181016006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4-Dinitrotoluene	mg/kg	ND	4.1	4.1	2.9	2.3	70	56	10-112	22	20	R1
2-Chlorophenol	mg/kg	ND	4.1	4.1	2.5	1.7	62	42	12-105	38	20	R1
2-Methylnaphthalene	mg/kg	ND	4.1	4.1	2.7	2.0	66	48	25-119	31	20	R1
4-Chloro-3-methylphenol	mg/kg	ND	4.1	4.1	2.7	1.9	65	47	16-117	33	20	R1
4-Nitrophenol	mg/kg	ND	4.1	4.1	2.5	ND	61	48	10-121		20	
Acenaphthene	mg/kg	ND	4.1	4.1	2.9	2.2	70	53	32-98	27	20	R1
Acenaphthylene	mg/kg	ND	4.1	4.1	3.0	2.3	73	56	25-108	27	20	R1
Anthracene	mg/kg	0.59	4.1	4.1	2.7	2.1	52	36	20-118	27	20	R1
Benzo(a)anthracene	mg/kg	2.4	4.1	4.1	2.6	2.0	7	-8	16-121	25	20	M1,R1
Benzo(a)pyrene	mg/kg	2.0	4.1	4.1	2.3	1.8	5	-6	14-105	22	20	M1,R1
Benzo(b)fluoranthene	mg/kg	2.5	4.1	4.1	2.3	1.9	-4	-13	12-108	18	20	M1
Benzo(g,h,i)perylene	mg/kg	1.2	4.1	4.1	2.2	1.8	25	15	13-99	20	20	
Benzo(k)fluoranthene	mg/kg	1.1	4.1	4.1	2.2	1.8	28	17	13-105	22	20	R1
Chrysene	mg/kg	2.3	4.1	4.1	2.6	2.2	8	-2	10-123	18	20	M1
Dibenz(a,h)anthracene	mg/kg	ND	4.1	4.1	2.2	1.8	45	36	14-101	17	20	
Fluoranthene	mg/kg	4.8	4.1	4.1	3.5	2.5	-33	-57	10-131	34	20	M1,R1
Fluorene	mg/kg	ND	4.1	4.1	3.1	2.3	75	56	27-111	28	20	R1
Indeno(1,2,3-cd)pyrene	mg/kg	1.1	4.1	4.1	2.2	1.8	27	17	14-99	20	20	
N-Nitroso-di-n-propylamine	mg/kg	ND	4.1	4.1	2.2	1.5	54	36	25-88	38	20	R1
Naphthalene	mg/kg	ND	4.1	4.1	2.5	1.8	55	37	25-105	32	20	R1
Pentachlorophenol	mg/kg	ND	4.1	4.1	2.1	1.4J	50	35	10-108		20	
Phenanthrene	mg/kg	2.6	4.1	4.1	3.3	2.6	18	0	20-122	25	20	M1,R1
Phenol	mg/kg	ND	4.1	4.1	2.3	1.6	57	38	14-102	40	20	R1
Pyrene	mg/kg	4.1	4.1	4.1	2.9	2.3	-29	-44	15-127	23	20	M1,R1

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1879822 1879823

Parameter	Units	50181016006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,6-Tribromophenol (S)	%.						60	46	13-112			
2-Fluorobiphenyl (S)	%.						55	40	33-93			
2-Fluorophenol (S)	%.						52	34	12-108			
Nitrobenzene-d5 (S)	%.						47	32	21-102			
p-Terphenyl-d14 (S)	%.						77	58	28-113			
Phenol-d5 (S)	%.						50	33	17-100			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

QC Batch: 408744 Analysis Method: EPA 8270
QC Batch Method: EPA 3546 Analysis Description: 8270 Solid MSSV Microwave Short Spike
Associated Lab Samples: 50181016001, 50181016002, 50181016003, 50181016004, 50181016005

METHOD BLANK: 1880617 Matrix: Solid
Associated Lab Samples: 50181016001, 50181016002, 50181016003, 50181016004, 50181016005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	mg/kg	ND	0.33	10/06/17 07:44	N2
2,4,5-Trichlorophenol	mg/kg	ND	0.33	10/06/17 07:44	
2,4,6-Trichlorophenol	mg/kg	ND	0.33	10/06/17 07:44	
2,4-Dichlorophenol	mg/kg	ND	0.33	10/06/17 07:44	
2,4-Dimethylphenol	mg/kg	ND	0.33	10/06/17 07:44	
2,4-Dinitrophenol	mg/kg	ND	1.6	10/06/17 07:44	
2,4-Dinitrotoluene	mg/kg	ND	0.33	10/06/17 07:44	
2,6-Dinitrotoluene	mg/kg	ND	0.33	10/06/17 07:44	
2-Chloronaphthalene	mg/kg	ND	0.33	10/06/17 07:44	
2-Chlorophenol	mg/kg	ND	0.33	10/06/17 07:44	
2-Methylnaphthalene	mg/kg	ND	0.33	10/06/17 07:44	
2-Methylphenol(o-Cresol)	mg/kg	ND	0.33	10/06/17 07:44	
2-Nitroaniline	mg/kg	ND	1.6	10/06/17 07:44	
2-Nitrophenol	mg/kg	ND	0.33	10/06/17 07:44	
3&4-Methylphenol(m&p Cresol)	mg/kg	ND	0.65	10/06/17 07:44	
3,3'-Dichlorobenzidine	mg/kg	ND	0.65	10/06/17 07:44	
3-Nitroaniline	mg/kg	ND	1.6	10/06/17 07:44	
4,6-Dinitro-2-methylphenol	mg/kg	ND	1.6	10/06/17 07:44	
4-Bromophenylphenyl ether	mg/kg	ND	0.33	10/06/17 07:44	
4-Chloro-3-methylphenol	mg/kg	ND	0.65	10/06/17 07:44	
4-Chloroaniline	mg/kg	ND	0.65	10/06/17 07:44	
4-Chlorophenylphenyl ether	mg/kg	ND	0.33	10/06/17 07:44	
4-Nitroaniline	mg/kg	ND	1.6	10/06/17 07:44	
4-Nitrophenol	mg/kg	ND	1.6	10/06/17 07:44	
Acenaphthene	mg/kg	ND	0.33	10/06/17 07:44	
Acenaphthylene	mg/kg	ND	0.33	10/06/17 07:44	
Anthracene	mg/kg	ND	0.33	10/06/17 07:44	
Benzo(a)anthracene	mg/kg	ND	0.33	10/06/17 07:44	
Benzo(a)pyrene	mg/kg	ND	0.33	10/06/17 07:44	
Benzo(b)fluoranthene	mg/kg	ND	0.33	10/06/17 07:44	
Benzo(g,h,i)perylene	mg/kg	ND	0.33	10/06/17 07:44	
Benzo(k)fluoranthene	mg/kg	ND	0.33	10/06/17 07:44	
Benzyl alcohol	mg/kg	ND	0.65	10/06/17 07:44	
bis(2-Chloroethoxy)methane	mg/kg	ND	0.33	10/06/17 07:44	
bis(2-Chloroethyl) ether	mg/kg	ND	0.33	10/06/17 07:44	
bis(2-Ethylhexyl)phthalate	mg/kg	ND	0.33	10/06/17 07:44	
bis(2chloro1methylethyl) ether	mg/kg	ND	0.33	10/06/17 07:44	
Butylbenzylphthalate	mg/kg	ND	0.33	10/06/17 07:44	
Chrysene	mg/kg	ND	0.33	10/06/17 07:44	
Di-n-butylphthalate	mg/kg	ND	0.33	10/06/17 07:44	
Di-n-octylphthalate	mg/kg	ND	0.33	10/06/17 07:44	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

METHOD BLANK: 1880617 Matrix: Solid
Associated Lab Samples: 50181016001, 50181016002, 50181016003, 50181016004, 50181016005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibenz(a,h)anthracene	mg/kg	ND	0.33	10/06/17 07:44	
Dibenzofuran	mg/kg	ND	0.33	10/06/17 07:44	
Diethylphthalate	mg/kg	ND	0.33	10/06/17 07:44	
Dimethylphthalate	mg/kg	ND	0.33	10/06/17 07:44	
Fluoranthene	mg/kg	ND	0.33	10/06/17 07:44	
Fluorene	mg/kg	ND	0.33	10/06/17 07:44	
Hexachloro-1,3-butadiene	mg/kg	ND	0.33	10/06/17 07:44	
Hexachlorobenzene	mg/kg	ND	0.33	10/06/17 07:44	
Hexachlorocyclopentadiene	mg/kg	ND	0.33	10/06/17 07:44	
Hexachloroethane	mg/kg	ND	0.33	10/06/17 07:44	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	0.33	10/06/17 07:44	
Isophorone	mg/kg	ND	0.33	10/06/17 07:44	
N-Nitroso-di-n-propylamine	mg/kg	ND	0.33	10/06/17 07:44	
N-Nitrosodiphenylamine	mg/kg	ND	0.33	10/06/17 07:44	
Naphthalene	mg/kg	ND	0.33	10/06/17 07:44	
Nitrobenzene	mg/kg	ND	0.33	10/06/17 07:44	
Pentachlorophenol	mg/kg	ND	1.6	10/06/17 07:44	
Phenanthrene	mg/kg	ND	0.33	10/06/17 07:44	
Phenol	mg/kg	ND	0.33	10/06/17 07:44	
Pyrene	mg/kg	ND	0.33	10/06/17 07:44	
2,4,6-Tribromophenol (S)	%.	80	13-112	10/06/17 07:44	
2-Fluorobiphenyl (S)	%.	71	33-93	10/06/17 07:44	
2-Fluorophenol (S)	%.	71	12-108	10/06/17 07:44	
Nitrobenzene-d5 (S)	%.	61	21-102	10/06/17 07:44	
p-Terphenyl-d14 (S)	%.	103	28-113	10/06/17 07:44	
Phenol-d5 (S)	%.	64	17-100	10/06/17 07:44	

LABORATORY CONTROL SAMPLE: 1880618

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-Dinitrotoluene	mg/kg	3.3	3.1	94	39-111	
2-Chlorophenol	mg/kg	3.3	2.5	76	40-97	
2-Methylnaphthalene	mg/kg	3.3	2.6	78	34-122	
4-Chloro-3-methylphenol	mg/kg	3.3	2.6	77	40-117	
4-Nitrophenol	mg/kg	3.3	2.3	68	30-120	
Acenaphthene	mg/kg	3.3	2.8	84	44-99	
Acenaphthylene	mg/kg	3.3	3.0	90	43-105	
Anthracene	mg/kg	3.3	2.8	85	45-113	
Benzo(a)anthracene	mg/kg	3.3	2.9	86	47-113	
Benzo(a)pyrene	mg/kg	3.3	2.5	76	33-108	
Benzo(b)fluoranthene	mg/kg	3.3	2.6	78	30-108	
Benzo(g,h,i)perylene	mg/kg	3.3	2.5	75	28-105	
Benzo(k)fluoranthene	mg/kg	3.3	2.4	72	35-103	
Chrysene	mg/kg	3.3	2.8	83	46-112	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

LABORATORY CONTROL SAMPLE: 1880618

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibenz(a,h)anthracene	mg/kg	3.3	2.5	74	30-105	
Fluoranthene	mg/kg	3.3	2.8	85	45-114	
Fluorene	mg/kg	3.3	2.9	86	45-109	
Indeno(1,2,3-cd)pyrene	mg/kg	3.3	2.5	76	30-105	
N-Nitroso-di-n-propylamine	mg/kg	3.3	2.1	62	34-91	
Naphthalene	mg/kg	3.3	2.5	76	36-104	
Pentachlorophenol	mg/kg	3.3	2.4	71	25-117	
Phenanthrene	mg/kg	3.3	3.0	91	45-112	
Phenol	mg/kg	3.3	2.3	68	39-97	
Pyrene	mg/kg	3.3	2.8	84	47-109	
2,4,6-Tribromophenol (S)	%.			78	13-112	
2-Fluorobiphenyl (S)	%.			68	33-93	
2-Fluorophenol (S)	%.			69	12-108	
Nitrobenzene-d5 (S)	%.			59	21-102	
p-Terphenyl-d14 (S)	%.			96	28-113	
Phenol-d5 (S)	%.			62	17-100	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1880619 1880620

Parameter	Units	50181103001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4-Dinitrotoluene	mg/kg	ND	29.4	29.4	26.9	27.1	91	92	10-112	1	20	
2-Chlorophenol	mg/kg	ND	29.4	29.4	22.5	22.4	77	76	12-105	1	20	
2-Methylnaphthalene	mg/kg	ND	29.4	29.4	24.3	24.4	77	77	25-119	0	20	
4-Chloro-3-methylphenol	mg/kg	ND	29.4	29.4	23.5	23.9	80	81	16-117	2	20	
4-Nitrophenol	mg/kg	ND	29.4	29.4	24.5	21.5	83	73	10-121	13	20	
Acenaphthene	mg/kg	ND	29.4	29.4	25.2	25.5	86	87	32-98	1	20	
Acenaphthylene	mg/kg	ND	29.4	29.4	26.2	27.1	89	92	25-108	3	20	
Anthracene	mg/kg	ND	29.4	29.4	24.6	24.9	84	85	20-118	1	20	
Benzo(a)anthracene	mg/kg	ND	29.4	29.4	25.2	26.0	86	88	16-121	3	20	
Benzo(a)pyrene	mg/kg	ND	29.4	29.4	21.2	21.4	72	73	14-105	1	20	
Benzo(b)fluoranthene	mg/kg	ND	29.4	29.4	22.3	22.2	76	75	12-108	1	20	
Benzo(g,h,i)perylene	mg/kg	ND	29.4	29.4	19.4	19.2	66	65	13-99	1	20	
Benzo(k)fluoranthene	mg/kg	ND	29.4	29.4	20.8	20.6	71	70	13-105	1	20	
Chrysene	mg/kg	ND	29.4	29.4	23.9	24.6	81	84	10-123	3	20	
Dibenz(a,h)anthracene	mg/kg	ND	29.4	29.4	20.4	20.1	69	68	14-101	2	20	
Fluoranthene	mg/kg	ND	29.4	29.4	24.9	24.8	85	84	10-131	0	20	
Fluorene	mg/kg	ND	29.4	29.4	25.6	26.0	87	88	27-111	1	20	
Indeno(1,2,3-cd)pyrene	mg/kg	ND	29.4	29.4	20.0	19.7	68	67	14-99	1	20	
N-Nitroso-di-n-propylamine	mg/kg	ND	29.4	29.4	18.3	18.3	62	62	25-88	0	20	
Naphthalene	mg/kg	4.0	29.4	29.4	25.4	25.5	73	73	25-105	0	20	
Pentachlorophenol	mg/kg	ND	29.4	29.4	12J	11J	41	37	10-108		20	
Phenanthrene	mg/kg	ND	29.4	29.4	27.1	27.3	92	93	20-122	1	20	
Phenol	mg/kg	7.4	29.4	29.4	26.8	27.3	66	68	14-102	2	20	
Pyrene	mg/kg	ND	29.4	29.4	25.5	26.7	87	91	15-127	4	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1880619 1880620

Parameter	Units	50181103001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,6-Tribromophenol (S)	%.						78	77	13-112			
2-Fluorobiphenyl (S)	%.						66	67	33-93			
2-Fluorophenol (S)	%.						67	67	12-108			
Nitrobenzene-d5 (S)	%.						58	57	21-102			
p-Terphenyl-d14 (S)	%.						95	93	28-113			
Phenol-d5 (S)	%.						63	62	17-100			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

QC Batch: 408632 Analysis Method: SM 2540G
QC Batch Method: SM 2540G Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 50181016001, 50181016002, 50181016003, 50181016004, 50181016005

SAMPLE DUPLICATE: 1880203

Parameter	Units	50180813007 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	15.4	17.3	11	5	R1

SAMPLE DUPLICATE: 1880204

Parameter	Units	50180990017 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	24.3	24.6	1	5	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

QC Batch: 408679 Analysis Method: SM 2540G
QC Batch Method: SM 2540G Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 50181016006, 50181016007, 50181016008, 50181016009, 50181016010, 50181016011

SAMPLE DUPLICATE: 1880395

Parameter	Units	50181120001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	16.1	16.9	5	5	

SAMPLE DUPLICATE: 1880403

Parameter	Units	50181143001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	3.6	4.0	10	5	R1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALITY CONTROL DATA

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

QC Batch: 270341 Analysis Method: EPA 9060 Modified
QC Batch Method: EPA 9060 Modified Analysis Description: 9060 TOC Average
Associated Lab Samples: 50181016003, 50181016004, 50181016006, 50181016007, 50181016008, 50181016009, 50181016010, 50181016011

METHOD BLANK: 1588842 Matrix: Solid
Associated Lab Samples: 50181016003, 50181016004, 50181016006, 50181016007, 50181016008, 50181016009, 50181016010, 50181016011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	ND	668	10/13/17 06:58	

LABORATORY CONTROL SAMPLE: 1588843

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	106000	88	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1588844 1588845

Parameter	Units	50181016003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	4910	13700	13700	18900	16100	102	82	50-150	16	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

QUALIFIERS

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay
PASI-I	Pace Analytical Services - Indianapolis

ANALYTE QUALIFIERS

1d	RPD is outside control limit due to sample non-homogeneity. MJC 10-10-17
2d	The continuing calibration %RSD for this analyte is outside of Pace Analytical acceptance limits. The result is estimated. MJC 10-10-17
C4	Sample container did not meet EPA or method requirements.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H2	Extraction or preparation conducted outside EPA method holding time.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold NELAC/TNI accreditation for this parameter.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50181016001	**Dam 1A (Centennial Park Dam)**	EPA 3546	412323	EPA 8081	412444
50181016002	**Dam 1B (Centennial Park Dam)**	EPA 3546	412323	EPA 8081	412444
50181016003	**Dam 1C (Centennial Park Dam)**	EPA 3546	412323	EPA 8081	412444
50181016004	**Dam 2A (Corey Street Dam)**	EPA 3546	412323	EPA 8081	412444
50181016005	**Dam 2B (Corey Street Dam)**	EPA 3546	412323	EPA 8081	412444
50181016006	**Dam 3A (Karg Dam)**	EPA 3546	412323	EPA 8081	412444
50181016007	**Dam 3B (Karg Dam)**	EPA 3546	412323	EPA 8081	412444
50181016008	**Dam 3C (Karg Dam)**	EPA 3546	412323	EPA 8081	412444
50181016009	**Dam 4A (Swale Paris Dam)**	EPA 3546	412323	EPA 8081	412444
50181016010	**Dam 4B (Swale Paris Dam)**	EPA 3546	412323	EPA 8081	412444
50181016011	**Dam 4C (Swale Paris Dam)**	EPA 3546	412323	EPA 8081	412444
50181016001	**Dam 1A (Centennial Park Dam)**	EPA 3546	412155	EPA 8082	412440
50181016002	**Dam 1B (Centennial Park Dam)**	EPA 3546	412155	EPA 8082	412440
50181016003	**Dam 1C (Centennial Park Dam)**	EPA 3546	412155	EPA 8082	412440
50181016004	**Dam 2A (Corey Street Dam)**	EPA 3546	412155	EPA 8082	412440
50181016005	**Dam 2B (Corey Street Dam)**	EPA 3546	412155	EPA 8082	412440
50181016006	**Dam 3A (Karg Dam)**	EPA 3546	412155	EPA 8082	412440
50181016007	**Dam 3B (Karg Dam)**	EPA 3546	412155	EPA 8082	412440
50181016008	**Dam 3C (Karg Dam)**	EPA 3546	412155	EPA 8082	412440
50181016009	**Dam 4A (Swale Paris Dam)**	EPA 3546	412155	EPA 8082	412440
50181016010	**Dam 4B (Swale Paris Dam)**	EPA 3546	412155	EPA 8082	412440
50181016011	**Dam 4C (Swale Paris Dam)**	EPA 3546	412155	EPA 8082	412440
50181016001	**Dam 1A (Centennial Park Dam)**	EPA 3050	408891	EPA 6010	409434
50181016002	**Dam 1B (Centennial Park Dam)**	EPA 3050	408891	EPA 6010	409434
50181016003	**Dam 1C (Centennial Park Dam)**	EPA 3050	408891	EPA 6010	409434
50181016004	**Dam 2A (Corey Street Dam)**	EPA 3050	408891	EPA 6010	409434
50181016005	**Dam 2B (Corey Street Dam)**	EPA 3050	408891	EPA 6010	409434
50181016006	**Dam 3A (Karg Dam)**	EPA 3050	408650	EPA 6010	409584
50181016007	**Dam 3B (Karg Dam)**	EPA 3050	408650	EPA 6010	409584
50181016008	**Dam 3C (Karg Dam)**	EPA 3050	408650	EPA 6010	409584
50181016009	**Dam 4A (Swale Paris Dam)**	EPA 3050	408650	EPA 6010	409584
50181016010	**Dam 4B (Swale Paris Dam)**	EPA 3050	408650	EPA 6010	409584
50181016011	**Dam 4C (Swale Paris Dam)**	EPA 3050	408650	EPA 6010	409584
50181016001	**Dam 1A (Centennial Park Dam)**	EPA 7471	409829	EPA 7471	409897
50181016002	**Dam 1B (Centennial Park Dam)**	EPA 7471	409829	EPA 7471	409897
50181016003	**Dam 1C (Centennial Park Dam)**	EPA 7471	409829	EPA 7471	409897
50181016004	**Dam 2A (Corey Street Dam)**	EPA 7471	409829	EPA 7471	409897
50181016005	**Dam 2B (Corey Street Dam)**	EPA 7471	409829	EPA 7471	409897
50181016006	**Dam 3A (Karg Dam)**	EPA 7471	408761	EPA 7471	409406
50181016007	**Dam 3B (Karg Dam)**	EPA 7471	408761	EPA 7471	409406
50181016008	**Dam 3C (Karg Dam)**	EPA 7471	408761	EPA 7471	409406
50181016009	**Dam 4A (Swale Paris Dam)**	EPA 7471	408761	EPA 7471	409406
50181016010	**Dam 4B (Swale Paris Dam)**	EPA 7471	408761	EPA 7471	409406
50181016011	**Dam 4C (Swale Paris Dam)**	EPA 7471	408761	EPA 7471	409406
50181016001	**Dam 1A (Centennial Park Dam)**	EPA 3546	408744	EPA 8270	408977
50181016002	**Dam 1B (Centennial Park Dam)**	EPA 3546	408744	EPA 8270	408977

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50181016003	**Dam 1C (Centennial Park Dam)**	EPA 3546	408744	EPA 8270	408977
50181016004	**Dam 2A (Corey Street Dam)**	EPA 3546	408744	EPA 8270	408977
50181016005	**Dam 2B (Corey Street Dam)**	EPA 3546	408744	EPA 8270	408977
50181016006	**Dam 3A (Karg Dam)**	EPA 3546	408517	EPA 8270	408642
50181016007	**Dam 3B (Karg Dam)**	EPA 3546	408517	EPA 8270	408642
50181016008	**Dam 3C (Karg Dam)**	EPA 3546	408517	EPA 8270	408642
50181016009	**Dam 4A (Swale Paris Dam)**	EPA 3546	408517	EPA 8270	408642
50181016010	**Dam 4B (Swale Paris Dam)**	EPA 3546	408517	EPA 8270	408642
50181016011	**Dam 4C (Swale Paris Dam)**	EPA 3546	408517	EPA 8270	408642
50181016001	**Dam 1A (Centennial Park Dam)**	EPA 8260	409522		
50181016002	**Dam 1B (Centennial Park Dam)**	EPA 8260	409522		
50181016003	**Dam 1C (Centennial Park Dam)**	EPA 8260	409522		
50181016004	**Dam 2A (Corey Street Dam)**	EPA 8260	409680		
50181016005	**Dam 2B (Corey Street Dam)**	EPA 8260	409680		
50181016006	**Dam 3A (Karg Dam)**	EPA 8260	409680		
50181016007	**Dam 3B (Karg Dam)**	EPA 8260	409680		
50181016008	**Dam 3C (Karg Dam)**	EPA 8260	409680		
50181016009	**Dam 4A (Swale Paris Dam)**	EPA 8260	409680		
50181016010	**Dam 4B (Swale Paris Dam)**	EPA 8260	409680		
50181016011	**Dam 4C (Swale Paris Dam)**	EPA 8260	409862		
50181016001	**Dam 1A (Centennial Park Dam)**	ASA 15-5 mod	500212		
50181016002	**Dam 1B (Centennial Park Dam)**	ASA 15-5 mod	500212		
50181016003	**Dam 1C (Centennial Park Dam)**	ASA 15-5 mod	500212		
50181016004	**Dam 2A (Corey Street Dam)**	ASA 15-5 mod	500212		
50181016005	**Dam 2B (Corey Street Dam)**	ASA 15-5 mod	500212		
50181016006	**Dam 3A (Karg Dam)**	ASA 15-5 mod	500212		
50181016007	**Dam 3B (Karg Dam)**	ASA 15-5 mod	500212		
50181016008	**Dam 3C (Karg Dam)**	ASA 15-5 mod	500212		
50181016009	**Dam 4A (Swale Paris Dam)**	ASA 15-5 mod	500212		
50181016010	**Dam 4B (Swale Paris Dam)**	ASA 15-5 mod	500212		
50181016011	**Dam 4C (Swale Paris Dam)**	ASA 15-5 mod	500212		
50181016001	**Dam 1A (Centennial Park Dam)**	SM 2540G	408632		
50181016002	**Dam 1B (Centennial Park Dam)**	SM 2540G	408632		
50181016003	**Dam 1C (Centennial Park Dam)**	SM 2540G	408632		
50181016004	**Dam 2A (Corey Street Dam)**	SM 2540G	408632		
50181016005	**Dam 2B (Corey Street Dam)**	SM 2540G	408632		
50181016006	**Dam 3A (Karg Dam)**	SM 2540G	408679		
50181016007	**Dam 3B (Karg Dam)**	SM 2540G	408679		
50181016008	**Dam 3C (Karg Dam)**	SM 2540G	408679		
50181016009	**Dam 4A (Swale Paris Dam)**	SM 2540G	408679		
50181016010	**Dam 4B (Swale Paris Dam)**	SM 2540G	408679		
50181016011	**Dam 4C (Swale Paris Dam)**	SM 2540G	408679		
50181016003	**Dam 1C (Centennial Park Dam)**	EPA 9060 Modified	270341		
50181016003	**Dam 1C (Centennial Park Dam)**	EPA 9060 Modified	270343		

Pace Analytical Services, LLC
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(317)228-3100

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Hannock County Flood Diversion
Pace Project No.: 50181016

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50181016004	**Dam 2A (Corey Street Dam)**	EPA 9060 Modified	270341		
50181016004	**Dam 2A (Corey Street Dam)**	EPA 9060 Modified	270343		
50181016006	**Dam 3A (Karg Dam)**	EPA 9060 Modified	270341		
50181016006	**Dam 3A (Karg Dam)**	EPA 9060 Modified	270343		
50181016007	**Dam 3B (Karg Dam)**	EPA 9060 Modified	270341		
50181016007	**Dam 3B (Karg Dam)**	EPA 9060 Modified	270343		
50181016008	**Dam 3C (Karg Dam)**	EPA 9060 Modified	270341		
50181016008	**Dam 3C (Karg Dam)**	EPA 9060 Modified	270343		
50181016009	**Dam 4A (Swale Paris Dam)**	EPA 9060 Modified	270341		
50181016009	**Dam 4A (Swale Paris Dam)**	EPA 9060 Modified	270343		
50181016010	**Dam 4B (Swale Paris Dam)**	EPA 9060 Modified	270341		
50181016010	**Dam 4B (Swale Paris Dam)**	EPA 9060 Modified	270343		
50181016011	**Dam 4C (Swale Paris Dam)**	EPA 9060 Modified	270341		
50181016011	**Dam 4C (Swale Paris Dam)**	EPA 9060 Modified	270343		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

2197454

Section A
Required Client Information:

Company: STANTEC CONSULTING SERVICES
Address: 11687 LEBANON RD CINCINNATI, OH 45241
Email To: DILLON.McNULTY@STANTEC.COM
Phone: (513) 842-8200 Fax:
Requested Due Date/TAT:

Section B
Required Project Information:

Report To: DILLON McNAULTY
Copy To:
Purchase Order No.: 280639
Project Name: HANCOCK COUNTY FLOOD DIVERSION
Project Number: 174316204

Section C
Invoice Information:

Attention: DILLON McNULTY
Company Name: STANTEC CONSULTING SERVICES
Address: 11687 LEBANON RD CINCINNATI, OH 45241
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

- [ ] NPDES
- [ ] GROUND WATER
- [ ] DRINKING WATER
- [ ] UST
- [ ] RCRA
- [ ] OTHER

Site Location STATE: FINDLAY OHIO

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes	MATRIX / CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

Pace Project No./ Lab I.D.: 50181016

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	VOC	SVOC	RCRA metals	TOC 9060	PSA	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	Dam 1A (CENTENNIAL PARK DAM)	SL	G			9/28/17	9:10AM		5									✓	✓	✓		✓		001
2	Dam 1B (CENTENNIAL PARK DAM)	SL	G			9/28/17	10:20AM		5									✓	✓	✓		✓		002
3	Dam 1C (CENTENNIAL PARK DAM)	SL	G			9/28/17	10:46AM		6									✓	✓	✓	✓	✓		003
4	Dam 2A (COREY STREET DAM)	SL	G			9/28/17	12:02PM		5									✓	✓	✓	✓	✓		004
5	Dam 2B (COREY STREET DAM)	SL	G			9/28/17	12:34PM		5									✓	✓	✓		✓		005
6	Dam 2C (COREY STREET DAM)	SL	G			9/28/17	1:48PM		0													✓		10/9/17 mo
7	Dam 3A (KARG DAM)	SL	G			9/28/17	2:26PM		5									✓	✓	✓	✓	✓		006
8	DAM 3B (KARG DAM)	SL	G			9/28/17	2:53PM		5									✓	✓	✓	✓	✓		007
9	Dam 3C (KARG DAM)	SL	G			9/28/17	3:20PM		5									✓	✓	✓	✓	✓		008
10	Dam 4A (SWALE PARK DAM)	SL	G			9/28/17	4:23PM		5									✓	✓	✓	✓	✓		009
11	Dam 4B (SWALE PARK DAM)	SL	G			9/28/17	4:43PM		5									✓	✓	✓	✓	✓		010
12	Dam 4C (SWALE PARK DAM)	SL	G			9/28/17	5:07PM		5									✓	✓	✓	✓	✓		011

10/2/17 TMS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SAMPLE Dam2C HAS NO SAMPLES	MATTHEW FORRAI / STANTEC	9/29/17	3:15	J Budd FedEx 3 coolers	9/29	1518				
				[signature]	10-1	0935	6.6 10.3 19.5		See Scr	
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: MATTHEW FORRAI

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 09/29/17

Sample Condition Upon Receipt

Pace Analytical

Project # 50181016

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 7403 0163 8328, 8309, 8317

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer 1 2 3 4 5 6 A B C D E F **Type of Ice:** (Wet) Blue None Samples on ice, cooling process has begun

Cooler Temperature 0.6/0.6, 10.3/10.3, 19.5/19.5 **Ice Visible in Sample Containers:** ☐ Yes ☑ No

(Initial/Corrected) Temp should be above freezing to 6°C **If Over 6°C, Was PM Notified?** ☑ Yes ☐ No ☐ N/A

Date/Time and Initials of person examining contents: PH 10/2/17@1011			**Comments**
Are samples from West Virginia? Document any containers out of temp.	☐Yes	☑No	1.
USDA Regulated Soils? (ID, NY, WA, OR, CA, NM, TX, OK, AR, LA, TN, AL, MS, NC, SC, GA, FL, and Puerto Rico)	☐Yes	☑No	
Chain of Custody Present:	☑Yes	☐No	2.
Chain of Custody Filled Out:	☐Yes	☑No	3. NO tests listed
Short Hold Time Analysis (<72hr):	☐Yes	☑No	4. **Date/Time 5035A T/C placed in Freezer:** _____ **Short Holds Taken to Lab:** _____
Rush Turn Around Time Requested:	☐Yes	☑No	5.
Containers Intact:	☑Yes	☐No	6.
Sample Labels match COC: -Includes date/time/ID/Analysis - Except for TerreCores, which may only be on the bag or block.	☐Yes	☑No ☐N/A	7. 10 jars recd w no labels on DS
All containers needing acid/base pres. have been checked? **exceptions: VOA, coliform, LLHg, O&G, and any container with a septum cap or preserved with HCl.** All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted.	☐Yes	☐No ☑N/A	8. (Circle) HNO3 H2SO4 NaOH NaOH/ZnAc
Residual Chlorine Check (SVOC 625 Pest/PCB 608)			9. Present Absent
Residual Chlorine Check (Total/Amenable/Free Cyanide)			10. Present Absent
Headspace in VOA Vials (>6mm):	☐Yes	☐No ☑N/A	11
Headspace Wisconsin Sulfide	☐Yes	☐No ☑N/A	12
Trip Blank Present: ☐Yes ☐No Custody Seals	☐Yes	☑No	13

102717 Dan - Add Cu, Ni, Zn and PCBs to all samples. dss
102717 Dan - add pest, run out of hold. dss

Client Notification/ Resolution: 10/4/17@0925 via phone

Person Contacted: D. McNulty Date/Time:

Comments/ Resolution: Dam 1A, 1B, 1C, 2A + 2B recd in out of temp cooler. Jars were recd in water (not in bubble bags).

Tests = VOC, SVOC, RCRA metals, TOC 9060 + PSA

Unable to do TOC 9060 on DAM (1A) (1B) & 2A (2B) 10/9/17 TMS due to lack of volume. TOC to proceed out of temp for DAM 1A, 1B, 1C, 2A, 2B 10/3/17 TMS 10/4/17 TMS

Sample Container Count

CLIENT: Stanford

COC PAGE 1 of 1
COC ID# 2142464

Project # SO181016

Sample Line Item	DG9H VG9H	AG0U	AG1H	AG1U	AG2U	AG3S	WGFU	SP5T	BP1U	BP2N	BP2S	BP2U	BP3B	BP3N	BP3S	BP3U	SBS DI Bulk Kit R	ZpLC			Matrix Sl/Wt/NAL (Soil/Water/Non-Aqueous Liquid)	pH <2	pH >9	pH>12
1							1											1			SL			
2							1											1						
3							3											1						
4							3											1						
5							2											1						
6							0											0						
7							4											1						
8							4											1						
9							4											1						
10							4											1						
11							4											1						
12							4											1						

Container Codes

Glass

DG9B	40mL Na Bisulfate amber vial	AG0U	100mL unpreserved amber glass
DG9H	40mL HCL amber voa vial	AG1H	1 liter HCL amber glass
DG9M	40mL MeOH clear vial	AG1S	1 liter H2SO4 amber glass
DG9P	40mL TSP amber vial	AG1T	1 liter Na Thiosulfate amber glass
DG9S	40mL H2SO4 amber vial	AG1U	1liter unpreserved amber glass
DG9T	40mL Na Thio amber vial	AG2N	500mL HNO3 amber glass
DG9U	40mL unpreserved amber vial	AG2S	500mL H2SO4 amber glass
VG9H	40mL HCL clear vial	AG2U	500mL unpreserved amber glass
VG9T	40mL Na Thio. clear vial	AG3S	250mL H2SO4 glass amber
VG9U	40mL unpreserved clear vial	AG3U	250mL unpreserved amber glass
VGFX	40mL w/hexane wipe vial	BG1H	1 liter HCL clear glass
VSG	Headspace septa vial & HCL	BG1S	1 liter H2SO4 clear glass
WGFU	4oz clear soil jar	BG1T	1 liter Na Thiosulfate clear glass
JGFU	4oz unpreserved amber wide	BG1U	1 liter unpreserved glass

Plastic / Misc.

BP1A	1 liter NaOH, Asc Acid plastic	BP3U	250mL unpreserved plastic
BP1N	1 liter HNO3 plastic	BP3Z	250mL NaOH, Zn Ac plastic
BP1S	1 liter H2SO4 plastic		
BP1U	1 liter unpreserved plastic	AF	Air Filter
BP1Z	1 liter NaOH, Zn, Ac	C	Air Cassettes
BP2A	500mL NaOH, Asc Acid plastic	R	Terra core kit
BP2N	500mL HNO3 plastic	SP5T	120mL Coliform Na Thiosulfate
BP2O	500mL NaOH plastic	U	Summa Can
BP2S	500mL H2SO4 plastic	ZPLC	Ziploc Bag
BP2U	500mL unpreserved plastic		
BP2Z	500mL NaOH, Zn Ac		
BP3B	250mL NaOH plastic		
BP3N	250mL HNO3 plastic		
BP3S	250mL H2SO4 plastic		

ATTACHMENT D

Table 1. Low-Head Dam Sediment Screening, Hancock County Flood Risk Reduction Program, Hancock County, Ohio.

Analyte	Units	ECBP[1] Sediment Reference Value (SRV)	Ref.	Tier 1 Sediment Ecological Screening Level	Ref.	Tier 2 Sediment Ecological Screening Level	Ref.	Dam 1A (Centennial Park)	Dam 1B (Centennial Park)	Dam 1C (Centennial Park)	Dam 2A (Corey Street Dam)	Dam 2B (Corey Street Dam)	Dam 3A (Karg Dam)	Dam 3B (Karg Dam)	Dam 3C (Karg Dam)	Dam 4A (Swale Paris Dam)	Dam 4B (Swale Paris Dam)	Dam 4C (Swale Paris Dam)
Metals																		
Arsenic	mg/kg	18	a	9.79	b,c	33.00	b	4.3	10.9	8.8	9.2	6.1	5.2	20.1	5.4	5.2	7.9	5.8
Barium	mg/kg	240	a	20.00	d,e	60.00	d,e	22.7	28.1	27.6	39.5	20.6	26	44.7	25.5	18.2	38.2	24.5
Cadmium	mg/kg	0.9	a	0.99	b,c	4.98	b	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53
Chromium	mg/kg	40	a	43.40	b,c	111.00	b	6.1	5.8	6.5	9.3	5.4	4.9	10.1	6.3	5.1	6.8	7.8
Copper	mg/kg	34	a	31.60	b,c	149.00	b	5.1	7.7	11.2	12.2	7.1	6.9	25.9	18.7	10.1	8.8	10.8
Lead	mg/kg	47	a	35.80	b,c	128.00	b	3. 8	5.4	6.6	8.9	5.8	8.6	6.7	8.5	5.1	9.7	115
Nickel	mg/kg							6.8	8.1	10.7	12.5	7.1	7.2	16.7	7.4	7.1	9	7.9
Selenium	mg/kg	2.3	a	11.00	e	20.00	e	<1.1	1.3	1.6	2.2	<1.1	1.3	4.0	1.4	1.5	2.1	1.6
Silver	mg/kg	0.43	a	0.50	c	2.20	d	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53
Zinc	mg/kg	160	a	121.00	b,c	459.00	b	21.8	25.2	27.8	44.3	26.5	23.8	36.1	47.1	22.8	40.9	28.6
Mercury	mg/kg	0.12	a	0.18	b	1.06	b	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
PAHs																		
Anthracene	mg/kg	NA	--	0.0572	b,c	0.845	b	<0.41	<0.41	<0.41	<0.41	<0.41	0.590	<0.41	<0.41	<0.41	<0.41	<0.41
Benzo(a)anthracene	mg/kg	NA	--	0.108	b,c	1.05	b	<0.41	<0.41	<0.41	<0.41	<0.41	2.4	<0.41	<0.41	<0.41	<0.41	<0.41
Benzo(a)pyrene	mg/kg	NA	--	0.15	b,c	1.450	b	<0.41	<0.41	<0.41	<0.41	<0.41	2.0	<0.41	<0.41	<0.41	<0.41	<0.41
Chrysene	mg/kg	NA	--	0.166	b,c	1.290	b	<0.41	<0.41	<0.41	<0.41	<0.41	2.3	<0.41	<0.41	<0.41	<0.41	<0.41
Dibenz(a,h)anthracene	mg/kg	NA	--	0.033	b,c	0.135	f[5]	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
Fluoranthene	mg/kg	NA	--	0.423	b,c	2.230	b	<0.41	<0.41	<0.41	<0.41	<0.41	4.8	0.45	1.3	0.84	1.1	<0.41
Fluorene	mg/kg	NA	--	0.0774	b,c	0.536	b	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
Naphthalene	mg/kg	NA	--	0.176	b,c	0.560	b	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
Phenanthrene	mg/kg	NA	--	0.204	b,c	1.170	b	<0.41	<0.41	<0.41	<0.41	<0.41	2.6	<0.41	1.0	0.56	0.6	<0.41
Pyrene	mg/kg	NA	--	0.195	b,c	1.520	b	<0.41	<0.41	<0.41	<0.41	<0.41	4.1	<0.41	0.85	0.54	0.8	<0.41
Pesticides																		
Aldrin	mg/kg	NA	--	0.002	h	0.029	e	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031
alpha-BHC	mg/kg	NA	--	NA	--	0.0016	e	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031
beta-BHC	mg/kg	NA	--	NA	--	6.67	e	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031
delta-BHC	mg/kg	NA	--	NA	--	NA	--	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031
gamma-BHC (Lindane)	mg/kg	NA	--	0.00237	e	0.00499	e	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031
Chlordane (Technical)	mg/kg	NA	--	0.00324	e	0.0176	e	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62
alpha-Chlordane	mg/kg	NA	--	NA	--	NA	--	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031
gamma-Chlordane	mg/kg	NA	--	NA	--	NA	--	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031
4,4'-DDD (total)	mg/kg	NA	--	0.00488	e	0.028	e	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062
4,4'-DDE (total)	mg/kg	NA	--	0.00316	e	0.0313	e	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062
4,4'-DDT (total)	mg/kg	NA	--	0.00416	e	0.0629	e	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062
Dieldrin	mg/kg	NA	--	0.0019	e	0.0093	e	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062
Endosulfan I	mg/kg	NA	--	0.00046	e	NA	--	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031
Endosulfan II	mg/kg	NA	--	0.00046	e	NA	--	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062
Endosulfan sulfate	mg/kg	NA	--	0.001	e	NA	--	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062
Endrin	mg/kg	NA	--	0.00222	e	0.207	e	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062
Endrin aldehyde	mg/kg	NA	--	NA	--	NA	--	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062
Endrin ketone	mg/kg	NA	--	NA	--	NA	--	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062	<0.062
Heptachlor	mg/kg	NA	--	0.0019	e	NA	--	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031
Heptachlor epoxide	mg/kg	NA	--	0.00247	e	0.016	e	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031
Methoxychlor	mg/kg	NA	--	0.0024	e	NA	--	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31
Toxaphene	mg/kg	NA	--	0.00045	e	NA	--	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62
PCBs																		
PCB-1016 (Aroclor 1016)	mg/kg	NA	--	ΣPCBs 0.0598	d,e	ΣPCBs 0.676	e	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
PCB-1221 (Aroclor 1221)	mg/kg	NA	--	ΣPCBs 0.0598	d,e	ΣPCBs 0.676	e	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
PCB-1232 (Aroclor 1232)	mg/kg	NA	--	ΣPCBs 0.0598	d,e	ΣPCBs 0.676	e	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
PCB-1242 (Aroclor 1242)	mg/kg	NA	--	ΣPCBs 0.0598	d,e	ΣPCBs 0.676	e	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
PCB-1248 (Aroclor 1248)	mg/kg	NA	--	ΣPCBs 0.0598	d,e	ΣPCBs 0.676	e	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
PCB-1254 (Aroclor 1254)	mg/kg	NA	--	ΣPCBs 0.0598	d,e	ΣPCBs 0.676	e	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
PCB-1260 (Aroclor 1260)	mg/kg	NA	--	ΣPCBs 0.0598	d,e	ΣPCBs 0.676	e	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
Percent Moisture	(%)	NA	--	NA	--	NA	--	21.0	15.6	17.6	24.1	20.7	19.4	18.1	22.1	17.7	21.5	17.7
Total Organic Carbon (TOC)	mg/kg	NA	--	NA	--	NA	--	NT	NT	4,910	8,180	NT	11,300	7,670	7,950	12,400	17,800	5,480
Total Organic Carbon (TOC)	(%)	NA	--	NA	--	NA	--	NT	NT	0.49	0.82	NT	1.13	0.77	0.79	1.24	1.78	0.55
Fraction Organic Carbon (f_{OC})		NA	--	NA	--	NA	--	NT	NT	0.0049	0.0082	NT	0.0113	0.0077	0.0079	0.0124	0.0178	0.0055

Notes:
ECBP = Eastern Corn Belt Plains
NA - Not applicable
NT- Not tested

Shaded values exceed SRV and TEC criteria
Shaded values exceed SRV, TEC and PEC criteria

References

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h. EPA 2003. Region 5, Ecological Screening Levels for RCRA

Table 2. , Equilibrium Partitioning Sediment Benchmarks for PAHs Detected in Low-Head Dam Sediment Samples, Hancock County Flood Risk Reduction Program, Hancock County, Ohio.

Analyte	Units	Final Chronic Value[a]	Dam 3A (Karg Dam)	Normalized Conc. (µg/gOC)	ESB Toxic Unit	Dam 3B (Karg Dam)	Normalized Conc. (µg/gOC)	ESB Toxic Unit	Dam 3C (Karg Dam)	Normalized Conc. (µg/gOC)	ESB Toxic Unit	Dam 4A (Swale Paris Dam)	Normalized Conc. (µg/gOC)	ESB Toxic Unit	Dam 4B (Swale Paris Dam)	Normalized Conc. (µg/gOC)	ESB Toxic Unit
PAHs																	
Anthracene	µg/g	594	0.59	0.007	1.1E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	µg/g	841	2.40	0.027	3.2E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	µg/g	965	2.00	0.023	2.3E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	µg/g	844	2.30	0.026	3.1E-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	µg/g	--	<0.41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	µg/g	707	4.80	0.054	7.7E-05	0.45	0.0034515	4.88E-06	1.3	0.010	1.46E-05	0.84	0.010	1.5E-05	1.1	0.020	2.8E-05
Fluorene	µg/g	--	<0.41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	µg/g	--	<0.41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	µg/g	596	2.60	0.029	4.9E-05	ND	ND	ND	1.00	0.008	1.33E-05	0.56	0.007	1.2E-05	0.6	33.708	5.7E-02
Pyrene	µg/g	697	4.10	0.046	6.6E-05	ND	ND	ND	0.85	0.007	9.7E-06	0.54	0.007	9.6E-06	0.8	44.944	6.4E-02
Total Organic Carbon (TOC)	mg/kg	--	11,300			7,670			7,950			12,400			17,800		
Total Organic Carbon (TOC)	(%)	--	1.13			0.767			0.795			1.24			1.78		
Fraction Organic Carbon (f_{OC})	unitless	--	0.0113			0.0077			0.0080			0.0124			0.0178		
ΣESBTU[a]	unitless	--	2.9E-04			4.9E-06			3.8E-05			3.6E-05			1.2E-01		
95th Percentile Uncertainty Factor	unitless	--	11.5			11.5			11.5			11.5			11.5		
Adjusted	unitless	--	3.3E-03			5.6E-05			4.3E-04			4.1E-04			1.4E+00		

Notes:

U.S. EPA's Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: PAH Mixtures, Office of Research and Development, November 2003, EPA/600/R-02/013.http://www.epa.gov/nheerl/publications/files/PAHESB.pdf