

December 7, 2017

Tim Noack, P.E.  
Principal  
Alan Plummer Associates, Inc.  
1320 W. University Drive, Suite 300  
Fort Worth, Texas 76107

**RE: Limited Subsurface Investigation Letter Report**  
**16795, Ltd. Property**  
**Bexar County, Texas**

Dear Mr. Noack:

Adams Environmental, Inc. (AEI) appreciates the opportunity to provide you with the findings from our Limited Subsurface Investigation (LSI) of the San Antonio Water System (SAWS) Mitchell Lake Wetlands Pilot Wetland Plot and Wetland Area E (potential final wetland project area) in Bexar County, Texas.

**Background**

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This LSI was conducted on November 14, 2017, in response to the need for initial evaluation of common environmental (RCRA 8 metals), chlorinated pesticide, chlorinated herbicide, and agricultural constituents at the above referenced sites and for project planning purposes. This letter report summarizes the methodology and results derived from this LSI.

This LSI report was prepared by AEI for the exclusive use and benefit of Alan Plummer Associates, Inc., its successors and assigns, and SAWS. Any use or application of this report by a third party is prohibited. This report should not be shared with any third party, and there are no third-party beneficiaries to this report. AEI does not assume responsibility for third party use of or reliance upon this report.

**Limitations**

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This LSI was conducted with the standard of care as is normally provided by professionals involved in environmental investigations of similar size and type, within the allocated time and project budget, and within the same geographic region. AEI makes no warranties, express or implied, regarding the findings, conclusions or recommendations. Please note that laboratory analyses are prepared by accredited providers; however, AEI does not warrant the work of these third parties. The methodology and findings presented in this document were performed in accordance with the agreed upon scope between Alan Plummer Associates, Inc. and AEI and are not intended to be in full compliance with the provisions of ASTM E1903-11, Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process.

The subsurface investigation detailed in this letter report was topical in nature and extended only to surface soils to a depth of 6 inches below ground surface. Findings in this report were derived based upon information collected during the on-site sampling activities, and only to the depth referenced in

the agreed upon scope. Certain indicators of the presence of hazardous constituents may be latent, inaccessible, unstable, unobservable, or nondetectable or not present at the time of services. Composite sampling locations were generated randomly and may not represent full site conditions. Our findings are based solely upon data generated from the agreed scope and at the time of the investigation.

## **Methodology**

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On November 14, 2017, AEI collected one (1) agricultural and one (1) environmental sample from the proposed Pilot Wetland and three (3) agricultural and two (2) environmental samples from Area E, a proposed permanent project location. Each sample was composited from seven (7) discreet samples collected at depth of 0-6 inches. Sampling locations are shown in **Figure 1** (Pilot Wetland) and **Figure 2** (Area E). The agricultural samples at the Pilot Wetland are identified as PA while the environmental samples at the Pilot Wetland are identified as PE in the legend. Additionally, in Area E, the agricultural samples are identified as EA and the environmental samples as EE. Each composite location was sampled using a sharpshooter shovel, with no portion of the sample collected directly from the shovel blade. Composites were blended in a one-gallon bag before being transferred to laboratory-provided sample jars. Sampling equipment was cleaned with an Alconox solution and rinsed with distilled water at the start of sampling as well as between sample collection. New latex gloves were used to collect each sample to prevent cross-contamination. Surface and groundwater sampling was not included in this sampling protocol.

Samples were transported on ice to San Antonio Testing Laboratory, Inc. (SATL) where they were analyzed for RCRA 8 metals, chlorinated pesticides, chlorinated herbicides, total nitrogen, total phosphorus, and nitrates. Testing methods used to analyze collected samples included the Standard Methods for the Examination of Water and Wastewater, 22<sup>nd</sup> Edition 2012, Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, Rev. March 1983, and EPA SW Test Methods for the Examination of Solid Waste, SW-846 Update IV, February 2007.



Figure 1. Locations of Pilot Wetland composite sampling points

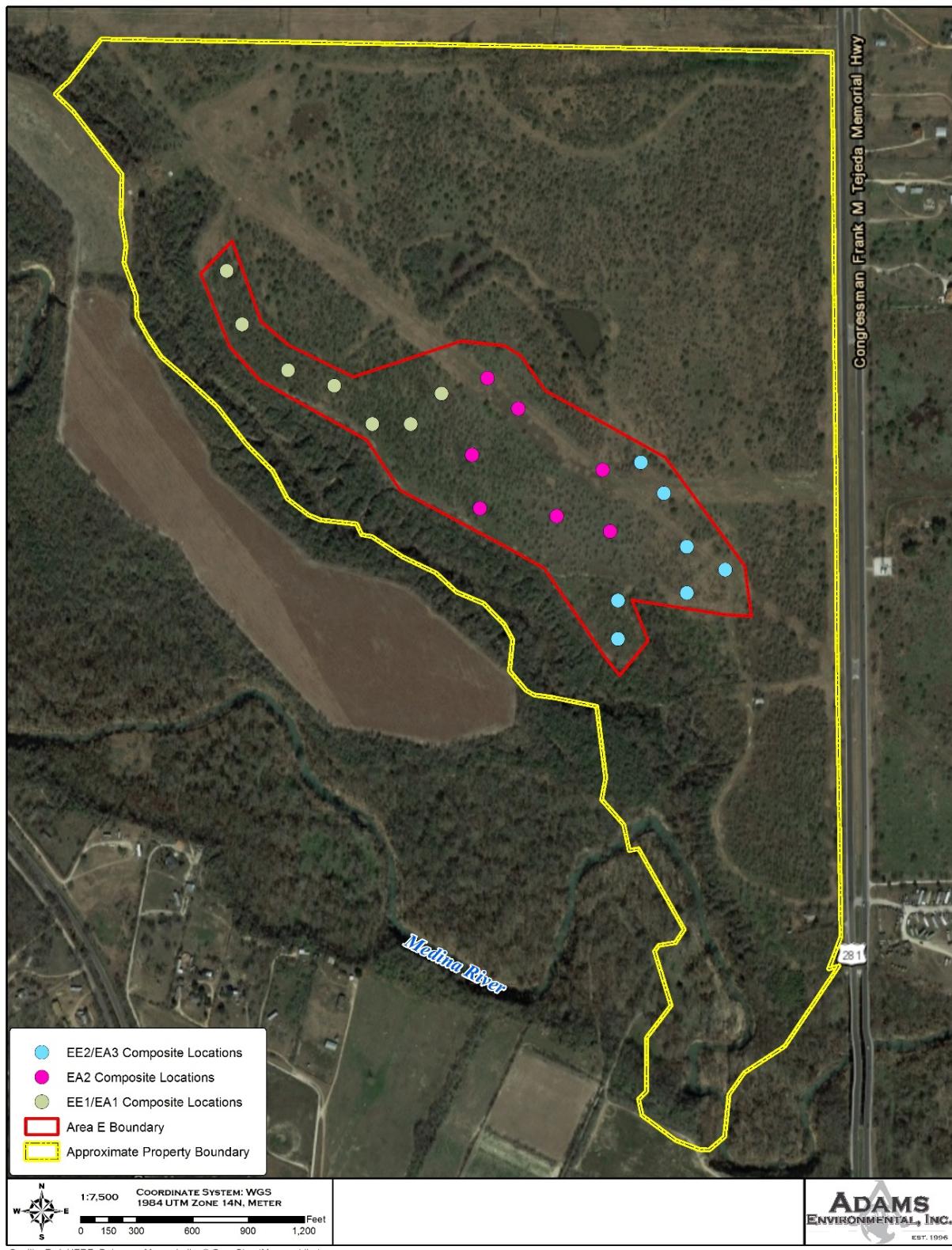


Figure 2. Locations of Area E composite sampling points

## Results – Agricultural Constituents (Nitrates, Nitrogen, and Phosphorous)

The following tables summarize the results of the analytical analysis for soil samples collected to characterize select agricultural constituents on the Pilot Wetland and Area E project locations. For a full review of the laboratory analysis of the samples, please see the attached SATL *Laboratory Report*.

**Table 1:** Agricultural constituents analyzed in soils samples collected at the Pilot Wetland on November 14, 2017.  
 Results presented below correspond to the Pilot Agricultural (PA) Sample ID.

Constituent	Analysis Method (Prep/Analysis)	PQL <sup>1</sup> (mg/kg)	Result (mg/kg)	TotSoilComb (mg/kg) <sup>2</sup>
Nitrate	EPA 300.0/EPA 300.0	0.10	3.97	130,000
Nitrogen	EPA 3540C/EPA 351.3	1.0	997	--
Phosphorus	EPA 3050B/EPA 6010B	1.0	228	--

1. PQL = Practical Quantitation Limit of laboratory test method

2. TRRP Tier 1 Total Soil Combined Protective Concentration Level – 30 Acre Source Area (March 31, 2017)

**Table 2:** Agricultural constituents analyzed in soils samples collected at the Area E on November 14, 2017. Results presented below correspond to the Area E Agricultural 1 (EA1) Sample ID.

Constituent	Analysis Method (Prep/Analysis)	PQL <sup>1</sup> (mg/kg)	Result (mg/kg)	TotSoilComb (mg/kg) <sup>2</sup>
Nitrate	EPA 300.0/EPA 300.0	0.10	2.71	130,000
Nitrogen	EPA 3540C/EPA 351.3	1.0	919	--
Phosphorus	EPA 3050B/EPA 6010B	1.0	627	--

1. PQL = Practical Quantitation Limit of laboratory test method

2. TRRP Tier 1 Total Soil Combined Protective Concentration Level – 30 Acre Source Area (March 31, 2017)

**Table 3:** Agricultural constituents analyzed in soils samples collected at Area E on November 14, 2017. Results presented below correspond to the Area E Agricultural 2 (EA2) Sample ID.

Constituent	Analysis Method (Prep/Analysis)	PQL <sup>1</sup> (mg/kg)	Result (mg/kg)	TotSoilComb (mg/kg) <sup>2</sup>
Nitrate	EPA 300.0/EPA 300.0	0.10	5.04	130,000
Nitrogen	EPA 3540C/EPA 351.3	1.0	779	--
Phosphorus	EPA 3050B/EPA 6010B	1.0	805	--

1. PQL = Practical Quantitation Limit of laboratory test method

2. TRRP Tier 1 Total Soil Combined Protective Concentration Level – 30 Acre Source Area (March 31, 2017)

**Table 4:** Agricultural constituents analyzed in soils samples collected at the Area E on November 14, 2017. Results presented below correspond to the Area E Agricultural 3 (EA3) Sample ID.

Constituent	Analysis Method (Prep/Analysis)	PQL <sup>1</sup> (mg/kg)	Result (mg/kg)	TotSoilComb (mg/kg) <sup>2</sup>
Nitrate	EPA 300.0/EPA 300.0	0.10	5.60	130,000
Nitrogen	EPA 3540C/EPA 351.3	1.0	829	--
Phosphorus	EPA 3050B/EPA 6010B	1.0	543	--

1. PQL = Practical Quantitation Limit of laboratory test method

2. TRRP Tier 1 Total Soil Combined Protective Concentration Level – 30 Acre Source Area (March 31, 2017)

## Results – RCRA 8 Metals, Chlorinated Pesticide, and Chlorinated Herbicide Constituents

The following tables summarize the results of the analytical analysis for soil samples collected to characterize select environmental (RCRA 8 metals), chlorinated pesticides, and chlorinated herbicide constituents on the Pilot Wetland and Area E project locations. **Due to the large suite of constituents analyzed, only detections are presented in the tables below.** For a full review of the laboratory analysis of the samples, please see the attached SATL *Laboratory Report*.

**Table 5:** Environmental (RCRA 8 metals), Chlorinated Pesticide, and Chlorinated Herbicide constituents analyzed in soils samples collected at the Pilot Wetland on November 14, 2017. Results presented below correspond to the Pilot Environmental (PE) Sample ID.

Constituent	Analysis Method (Prep/Analysis)	PQL <sup>1</sup> (mg/kg)	Result (mg/kg)	Median Background (mg/kg) <sup>2</sup>	TotSoil <sub>Comb</sub> <sup>3</sup> (mg/kg)
Arsenic	EPA 3050B/ EPA 6010B	1.0	3.46	5.9	330
Barium	EPA 3050B/ EPA 6010B	1.0	18.9	300	120,000
Chromium	EPA 3050B/ EPA 6010B	1.0	6.73	30	75,000
Lead	EPA 3050B/ EPA 6010B	1.0	8.21	15	--

1. PQL = Practical Quantitation Limit of laboratory test method

2. Texas Specific Soil Background Concentrations (30 TAC 350.51 (m))

3. TRRP Tier 1 Total Soil Combined Protective Concentration Level – 30 Acre Source Area (March 31, 2017)

**Table 6:** Environmental (RCRA 8 metals), Chlorinated Pesticide, and Chlorinated Herbicide constituents analyzed in soils samples collected at Area E on November 14, 2017. Results presented below correspond to the Area E Environmental 1 (EE1) Sample ID.

Constituent	Analysis Method (Prep/Analysis)	PQL <sup>1</sup> (mg/kg)	Result (mg/kg)	Median Background (mg/kg) <sup>2</sup>	TotSoil <sub>Comb</sub> <sup>3</sup> (mg/kg)
Arsenic	EPA 3050B/ EPA 6010B	1.0	3.12	5.9	330
Barium	EPA 3050B/ EPA 6010B	1.0	26.8	300	120,000
Chromium	EPA 3050B/ EPA 6010B	1.0	7.96	30	75,000
Mercury	EPA 7471B/ EPA 7471A	0.04	0.043	0.04	--
Lead	EPA 3050B/ EPA 6010B	1.0	10.2	15	--

1. PQL = Practical Quantitation Limit of laboratory test method

2. Texas Specific Soil Background Concentrations (30 TAC 350.51 (m))

3. TRRP Tier 1 Total Soil Combined Protective Concentration Level – 30 Acre Source Area (March 31, 2017)

**Table 7:** Agricultural constituents analyzed in soils samples collected at the Area E on November 14, 2017. Results presented below correspond to the Area E Environmental 2 (EE2) Sample ID.

Constituent	Analysis Method (Prep/Analysis)	PQL <sup>1</sup> (mg/kg)	Result (mg/kg)	Median Background (mg/kg) <sup>2</sup>	TotSoilComb (mg/kg) <sup>3</sup>
Arsenic	EPA 3050B/ EPA 6010B	1.0	3.58	5.9	330
Barium	EPA 3050B/ EPA 6010B	1.0	35.1	300	120,000
Chromium	EPA 3050B/ EPA 6010B	1.0	7.83	30	75,000
Lead	EPA 3050B/ EPA 6010B	1.0	10.1	15	--

1. PQL = Practical Quantitation Limit of laboratory test method

2. Texas Specific Soil Background Concentrations (30 TAC 350.51 (m))

3. TRRP Tier 1 Total Soil Combined Protective Concentration Level – 30 Acre Source Area (March 31, 2017)

No chlorinated pesticide or herbicide constituents were detected in any of the submitted samples.

### **Discussion and Recommendations**

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The Texas Risk Reduction Program (TRRP) rule (30 TAC Chapter 350), which was adopted in September 1999, established requirements for corrective actions at sites where a release of a chemical of concern (COC) has impacted the environment. The TRRP rules address the investigation of contaminated sites, provide guidance for reporting release of COCs to the Texas Commission on Environmental Quality (TCEQ), and establish appropriate standards for response actions initiated by the discovery of contamination or a COC release. The primary purpose of the TRRP rules is to determine which releases of COCs threaten water resources (either ground or surface water) and which releases require a response action or institutional remedy. In doing so, however, the TRRP rules specifically exclude release determinations for those COCs where materials were applied or used as intended such as the lawful application of agricultural chemicals or pesticides.

Although the historical agricultural uses of the Pilot Wetland and Area E appear exempt from the TRRP release determination standards, the guidance established by the rule is useful in quantifying the threat to human health and safety exhibited by potential use of agricultural chemicals at the sites. To this end, the TRRP rules outline specific protective concentration levels (PCLs) for a wide range of COCs. There are three tiers of human health based PCLs, which are based on receptor and exposure pathways in consideration of the land use classification, groundwater classification, distribution of COCs in impacted media, and presence of potential ecological receptors. Tier 1 PCLs represent the most commonly used PCLs in determining whether or not a cleanup response is warranted. Essentially, the lowest of a number of applicable human health-based PCLs (i.e. ingestion, dermal contact, inhalation, etc.) are compared to the quantity of a given COC detected during laboratory analysis of a media sample (i.e. soil, surface water, groundwater, etc.). If the COC concentration in the media sample exceeds the lowest of the applicable PCLs, a response action in the form of a remediation event or institutional control is generally warranted.

The TRRP PCLs selected for comparison of sample results for the Pilot Wetland and Area E are the  $\text{TotSoil}_{\text{Comb}}$  (Total Soil Combined) for 30-acre commercial/industrial source areas (*2017 PCL Tables – Table 5 Tier 1 Commercial/Industrial Total Soil Combined PCLs, Last Revised March 31, 2017*). These PCLs represent the surface soil protective concentration level for the combined soil pathways of ingestion, dermal contact, inhalation of volatiles and particulates, and ingestion of aboveground or below ground vegetables. These PCLs were selected based on: 1) the property uses as commercial, non-residential properties, 2) the >0.5-acre source areas of the potential release zones, 3) the absence of any groundwater encountered during the investigation, and 4) the consideration of multiple exposure pathways from COCs in the soil (dermal contact, ingestion, particulates, etc.).

Based on a review of the TRRP Tier 1 PCL tables for 30-acre commercial source areas, none of the detected constituents exceeded the selected PCLs. Furthermore, all detected constituents were below the Texas-Specific Background Concentrations found at 30 TAC 350.51 (m).

If you have any questions or require any additional information, please don't hesitate to contact AEI at (210) 858-6873. We sincerely appreciate the opportunity to work with you on this project and look forward to working with you in the future.

Sincerely,



Brian A. Gottschalk  
Senior Environmental Scientist



Lynn M. Kitchen, Ph.D.  
Principal Scientist

Attachments



December 04, 2017

**Brian Gottschalk**

Adams Environmental, Inc  
12018 Las Nubes Street  
San Antonio, TX 78233

**SATL Report No.: 1711205**

**RE: Mitchell Lake Wetlands**

Dear Brian Gottschalk

SATL received 7 Sample(s) on 11/14/2017 for analyses identified on the chain of custody. The analyses were performed using methods indicated on the laboratory report. Any deviations observed at sample receiving are noted on the Sample Receipt Checklist and/or Chain of Custody documents attached as part of this analytical report.

There were no problems in the sample analyses unless otherwise noted. Sample data and associated QC are presented in the attached laboratory report. QC sample data were within laboratory acceptance limits except where noted on the report.

Sincerely,

For San Antonio Testing Laboratory, Inc.

Richard Hawk,  
General Manager

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



# LABORATORY REPORT



NELAC Cert. No.: **T104704360-17-17**

Adams Environmental, Inc  
12018 Las Nubes Street  
San Antonio TX, 78233

Project: Mitchell Lake Wetlands  
Project Number: [none]  
Project Manager: Brian Gottschalk

**Reported:**  
12/04/17 15:51  
**Received:**  
11/14/17 15:54

Additional Notes:

Client requested TKN on samples 2, 5, 6, and 7. 12/1/17

**Report No.** **1711205**

## SAMPLE SUMMARY

Total Samples received in this work order: **7**

The following samples were requested for analysis as per the CoC. Any re-runs or re-analyses requested are identified as such.

Sample ID	Laboratory ID	Matrix	Sampling Method	Date Sampled	Date Received
PE, Pilot Environmental	1711205-01	Solid	Composite	11/14/17 10:15	11/14/17 15:54
PA, Pilot Agricultural	1711205-02	Solid	Composite	11/14/17 10:15	11/14/17 15:54
EE1, Area E Environmental 1	1711205-03	Solid	Composite	11/14/17 13:55	11/14/17 15:54
EE2, Area E Environmental 2	1711205-04	Solid	Composite	11/14/17 15:05	11/14/17 15:54
EA1, Area E Agricultural 1	1711205-05	Solid	Composite	11/14/17 13:55	11/14/17 15:54
EA2, Area E Agricultural 2	1711205-06	Solid	Composite	11/14/17 14:35	11/14/17 15:54
EA3, Area E Agricultural 3	1711205-07	Solid	Composite	11/14/17 15:05	11/14/17 15:54

## Notes

All quality control samples and checks are within acceptance limits unless otherwise indicated.

Test results pertain only to those items tested.

All samples were in good condition when received by the laboratory unless otherwise noted.



# LABORATORY REPORT



NELAC Cert. No.: T104704360-17-17

Adams Environmental, Inc  
12018 Las Nubes Street  
San Antonio TX, 78233

Project: Mitchell Lake Wetlands  
Project Number: [none]  
Project Manager: Brian Gottschalk

Reported:  
12/04/17 15:51  
Received:  
11/14/17 15:54

Additional Notes:  
Client requested TKN on samples 2, 5, 6, and 7. 12/1/17

Report No. 1711205

Sample ID #: PE, Pilot Environmental

Sampling Method: Composite

Lab Sample ID #: 1711205-01

Sample Matrix: Solid

Date/Time Collected: 11/14/17 10:15

Analyte	Result	Units	PQL	RMCCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
<b>General Chemistry</b>										
% Solids	92.9	% by Wt.	1.00		EPA 3540C	B746088	11/16/17 00:00	EPA 3540C	XE	
<b>Total Metals</b>										
Arsenic *	3.46	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:09	EPA 6010B	XE	
Barium *	18.9	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:09	EPA 6010B	XE	
Cadmium *	<0.500	mg/kg dry	0.500		EPA 3050B	B746085	11/20/17 22:09	EPA 6010B	XE	
Chromium *	6.73	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:09	EPA 6010B	XE	
Mercury *	<0.040	mg/kg dry	0.040		EPA 7471B	B746086	11/16/17 15:02	EPA 7471A	XE	
Lead *	8.21	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:09	EPA 6010B	XE	
Selenium *	<1.00	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:09	EPA 6010B	XE	
Silver *	<0.450	mg/kg dry	0.450		EPA 3050B	B746085	11/20/17 22:09	EPA 6010B	XE	
<b>Chlorinated Pesticides by GC/ECD</b>										
alpha-BHC *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
gamma-BHC (Lindane) *	<0.002	mg/kg	0.002	8	EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
beta-BHC *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
delta-BHC *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
Heptachlor *	<0.002	mg/kg	0.002	0.16	EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
Aldrin *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
Heptachlor Epoxide *	<0.002	mg/kg	0.002	0.16	EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
gamma-Chlordane *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
alpha-Chlordane *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
Endosulfan I *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
4,4'-DDE *	<0.005	mg/kg	0.005		EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
Dieldrin *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
Endrin *	<0.002	mg/kg	0.002	0.4	EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
4,4'-DDD *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
Endosulfan II *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
4,4'-DDT *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
Endrin Aldehyde *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
Endosulfan Sulfate *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
Methoxychlor *	<0.002	mg/kg	0.002	200	EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
Endrin Ketone *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
Toxaphene *	<0.05	mg/kg	0.05	10	EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	
Chlordane *	<0.05	mg/kg	0.05	0.6	EPA 3550B	B746092	11/21/17 14:49	EPA 8081A	REB	

Surrogate: Decachlorobiphenyl

72 % 14.8-141

EPA 3550B

B746092

11/21/17 14:49

EPA 8081A

REB



## LABORATORY REPORT



NELAC Cert. No.: T104704360-17-17

Adams Environmental, Inc  
12018 Las Nubes Street  
San Antonio TX, 78233

Project: Mitchell Lake Wetlands  
Project Number: [none]  
Project Manager: Brian Gottschalk

**Reported:**  
12/04/17 15:51  
**Received:**  
11/14/17 15:54

Additional Notes:

Client requested TKN on samples 2, 5, 6, and 7. 12/1/17

**Report No.** 1711205

**Sample ID #:** PA, Pilot Agricultural

**Sampling Method:** Composite

**Lab Sample ID #:** 1711205-02

**Sample Matrix:** Solid

**Date/Time Collected:** 11/14/17 10:15

Analyte	Result	Units	PQL	RMCCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
<b>General Chemistry</b>										
% Solids	88.5	% by Wt.	1.00		EPA 3540C	B746088	11/16/17 00:00	EPA 3540C	XE	
Total Kjeldahl Nitrogen	997	mg/kg	1.00			B749006	12/04/17 13:25	EPA 351.3	PLP	
<b>Anions by Ion Chromatography</b>										
Nitrate as N *	3.97	mg/kg	0.10		EPA 300.0	B746124	11/17/17 13:24	EPA 300.0	JL	
<b>Total Metals</b>										
Phosphorus *	228	mg/kg dry	1.00		EPA 3050B	B746085	11/16/17 15:03	EPA 6010B	XE	



# LABORATORY REPORT



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12018 Las Nubes Street  
San Antonio TX, 78233

Project: Mitchell Lake Wetlands  
Project Number: [none]  
Project Manager: Brian Gottschalk

Reported:  
12/04/17 15:51  
Received:  
11/14/17 15:54

Additional Notes:  
Client requested TKN on samples 2, 5, 6, and 7. 12/1/17

Report No. 1711205

Sample ID #: EE1, Area E Environmental 1			Sampling Method: Composite			Lab Sample ID #: 1711205-03				
Sample Matrix: Solid			Date/Time Collected: 11/14/17 13:55							
Analyte	Result	Units	PQL	RMCCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
<b>General Chemistry</b>										
% Solids	90.6	% by Wt.	1.00		EPA 3540C	B746088	11/16/17 00:00	EPA 3540C	XE	
<b>Total Metals</b>										
Arsenic *	3.12	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:14	EPA 6010B	XE	
Barium *	26.8	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:14	EPA 6010B	XE	
Cadmium *	<0.500	mg/kg dry	0.500		EPA 3050B	B746085	11/20/17 22:14	EPA 6010B	XE	
Chromium *	7.96	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:14	EPA 6010B	XE	
Mercury *	0.043	mg/kg dry	0.040		EPA 7471B	B746086	11/16/17 15:08	EPA 7471A	XE	
Lead *	10.2	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:14	EPA 6010B	XE	
Selenium *	<1.00	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:14	EPA 6010B	XE	
Silver *	<0.450	mg/kg dry	0.450		EPA 3050B	B746085	11/20/17 22:14	EPA 6010B	XE	
<b>Chlorinated Pesticides by GC/ECD</b>										
alpha-BHC *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
gamma-BHC (Lindane) *	<0.002	mg/kg	0.002	8	EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
beta-BHC *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
delta-BHC *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
Heptachlor *	<0.002	mg/kg	0.002	0.16	EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
Aldrin *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
Heptachlor Epoxide *	<0.002	mg/kg	0.002	0.16	EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
gamma-Chlordane *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
alpha-Chlordane *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
Endosulfan I *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
4,4'-DDE *	<0.005	mg/kg	0.005		EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
Dieldrin *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
Endrin *	<0.002	mg/kg	0.002	0.4	EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
4,4'-DDD *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
Endosulfan II *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
4,4'-DDT *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
Endrin Aldehyde *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
Endosulfan Sulfate *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
Methoxychlor *	<0.002	mg/kg	0.002	200	EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
Endrin Ketone *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
Toxaphene *	<0.05	mg/kg	0.05	10	EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
Chlordane *	<0.05	mg/kg	0.05	0.6	EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	
Surrogate: Decachlorobiphenyl	89 %	14.8-141			EPA 3550B	B746092	11/21/17 15:04	EPA 8081A	REB	



# LABORATORY REPORT



NELAC Cert. No.: T104704360-17-17

Adams Environmental, Inc  
12018 Las Nubes Street  
San Antonio TX, 78233

Project: Mitchell Lake Wetlands  
Project Number: [none]  
Project Manager: Brian Gottschalk

Reported:  
12/04/17 15:51  
Received:  
11/14/17 15:54

Additional Notes:  
Client requested TKN on samples 2, 5, 6, and 7. 12/1/17

Report No. 1711205

Sample ID #: EE2, Area E Environmental 2		Sampling Method: Composite				Lab Sample ID #: 1711205-04				
Sample Matrix: Solid		Date/Time Collected: 11/14/17 15:05								
Analyte	Result	Units	PQL	RMCCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
<b>General Chemistry</b>										
% Solids	90.2	% by Wt.	1.00		EPA 3540C	B746088	11/16/17 00:00	EPA 3540C	XE	
<b>Total Metals</b>										
Arsenic *	3.58	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:20	EPA 6010B	XE	
Barium *	35.1	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:20	EPA 6010B	XE	
Cadmium *	<0.500	mg/kg dry	0.500		EPA 3050B	B746085	11/20/17 22:20	EPA 6010B	XE	
Chromium *	7.83	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:20	EPA 6010B	XE	
Mercury *	<0.040	mg/kg dry	0.040		EPA 7471B	B746086	11/16/17 15:10	EPA 7471A	XE	
Lead *	10.1	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:20	EPA 6010B	XE	
Selenium *	<1.00	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:20	EPA 6010B	XE	
Silver *	<0.450	mg/kg dry	0.450		EPA 3050B	B746085	11/20/17 22:20	EPA 6010B	XE	
<b>Chlorinated Pesticides by GC/ECD</b>										
alpha-BHC *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
gamma-BHC (Lindane) *	<0.002	mg/kg	0.002	8	EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
beta-BHC *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
delta-BHC *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
Heptachlor *	<0.002	mg/kg	0.002	0.16	EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
Aldrin *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
Heptachlor Epoxide *	<0.002	mg/kg	0.002	0.16	EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
gamma-Chlordane *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
alpha-Chlordane *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
Endosulfan I *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
4,4'-DDE *	<0.005	mg/kg	0.005		EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
Dieldrin *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
Endrin *	<0.002	mg/kg	0.002	0.4	EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
4,4'-DDD *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
Endosulfan II *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
4,4'-DDT *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
Endrin Aldehyde *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
Endosulfan Sulfate *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
Methoxychlor *	<0.002	mg/kg	0.002	200	EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
Endrin Ketone *	<0.002	mg/kg	0.002		EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
Toxaphene *	<0.05	mg/kg	0.05	10	EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
Chlordane *	<0.05	mg/kg	0.05	0.6	EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	
Surrogate: Decachlorobiphenyl	97 %	14.8-141			EPA 3550B	B746092	11/21/17 15:19	EPA 8081A	REB	



## LABORATORY REPORT



NELAC Cert. No.: T104704360-17-17

Adams Environmental, Inc  
12018 Las Nubes Street  
San Antonio TX, 78233

Project: Mitchell Lake Wetlands  
Project Number: [none]  
Project Manager: Brian Gottschalk

**Reported:**  
12/04/17 15:51  
**Received:**  
11/14/17 15:54

Additional Notes:

Client requested TKN on samples 2, 5, 6, and 7. 12/1/17

**Report No.** 1711205

**Sample ID #:** EA1, Area E Agricultural 1

**Sampling Method:** Composite

**Lab Sample ID #:** 1711205-05

**Sample Matrix:** Solid

**Date/Time Collected:** 11/14/17 13:55

Analyte	Result	Units	PQL	RMCCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
<b>General Chemistry</b>										
% Solids	91.1	% by Wt.	1.00		EPA 3540C	B746088	11/16/17 00:00	EPA 3540C	XE	
Total Kjeldahl Nitrogen	919	mg/kg	1.00			B749006	12/04/17 13:25	EPA 351.3	PLP	
<b>Anions by Ion Chromatography</b>										
Nitrate as N *	2.71	mg/kg	0.10		EPA 300.0	B746124	11/17/17 13:59	EPA 300.0	JL	
<b>Total Metals</b>										
Phosphorus *	627	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:26	EPA 6010B	XE	



## LABORATORY REPORT



NELAC Cert. No.: T104704360-17-17

Adams Environmental, Inc  
12018 Las Nubes Street  
San Antonio TX, 78233

Project: Mitchell Lake Wetlands  
Project Number: [none]  
Project Manager: Brian Gottschalk

**Reported:**  
12/04/17 15:51  
**Received:**  
11/14/17 15:54

Additional Notes:

Client requested TKN on samples 2, 5, 6, and 7. 12/1/17

**Report No.** 1711205

**Sample ID #:** EA2, Area E Agricultural 2

**Sampling Method:** Composite

**Lab Sample ID #:** 1711205-06

**Sample Matrix:** Solid

**Date/Time Collected:** 11/14/17 14:35

Analyte	Result	Units	PQL	RMCCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
% Solids	88.5	% by Wt.	1.00	EPA 3540C	B746088	11/16/17 00:00	EPA 3540C	XE		
Total Kjeldahl Nitrogen	779	mg/kg	1.00		B749006	12/04/17 13:25	EPA 351.3	PLP		
<b>General Chemistry</b>										
Nitrate as N *	5.04	mg/kg	0.10	EPA 300.0	B746124	11/17/17 14:16	EPA 300.0	JL		
<b>Total Metals</b>										
Phosphorus *	805	mg/kg dry	1.00	EPA 3050B	B746085	11/20/17 22:32	EPA 6010B	XE		

**General Chemistry**

% Solids	88.5	% by Wt.	1.00	EPA 3540C	B746088	11/16/17 00:00	EPA 3540C	XE		
Total Kjeldahl Nitrogen	779	mg/kg	1.00		B749006	12/04/17 13:25	EPA 351.3	PLP		

**Anions by Ion Chromatography**

Nitrate as N *	5.04	mg/kg	0.10	EPA 300.0	B746124	11/17/17 14:16	EPA 300.0	JL		
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**Total Metals**

Phosphorus *	805	mg/kg dry	1.00	EPA 3050B	B746085	11/20/17 22:32	EPA 6010B	XE		
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## LABORATORY REPORT



NELAC Cert. No.: T104704360-17-17

Adams Environmental, Inc  
12018 Las Nubes Street  
San Antonio TX, 78233

Project: Mitchell Lake Wetlands  
Project Number: [none]  
Project Manager: Brian Gottschalk

**Reported:**  
12/04/17 15:51  
**Received:**  
11/14/17 15:54

Additional Notes:

Client requested TKN on samples 2, 5, 6, and 7. 12/1/17

**Report No.** 1711205

**Sample ID #:** EA3, Area E Agricultural 3

**Sampling Method:** Composite

**Lab Sample ID #:** 1711205-07

**Sample Matrix:** Solid

**Date/Time Collected:** 11/14/17 15:05

Analyte	Result	Units	PQL	RMCCL	Prep Method	Batch	Analyzed	Method	Analyst	Notes
<b>General Chemistry</b>										
% Solids	90.0	% by Wt.	1.00		EPA 3540C	B746088	11/16/17 00:00	EPA 3540C	XE	
Total Kjeldahl Nitrogen	829	mg/kg	1.00			B749006	12/04/17 13:25	EPA 351.3	PLP	
<b>Anions by Ion Chromatography</b>										
Nitrate as N *	5.60	mg/kg	0.10		EPA 300.0	B746124	11/17/17 14:34	EPA 300.0	JL	
<b>Total Metals</b>										
Phosphorus *	543	mg/kg dry	1.00		EPA 3050B	B746085	11/20/17 22:38	EPA 6010B	XE	



## LABORATORY REPORT



NELAC Cert. No.: T104704360-17-17

Adams Environmental, Inc  
12018 Las Nubes Street  
San Antonio TX, 78233

Project: Mitchell Lake Wetlands  
Project Number: [none]  
Project Manager: Brian Gottschalk

**Reported:**  
12/04/17 15:51  
**Received:**  
11/14/17 15:54

Additional Notes:  
Client requested TKN on samples 2, 5, 6, and 7. 12/1/17

**Report No. 1711205**

### General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch B749006 - NO PREP

Blank (B749006-BLK1)				Prepared: 12/04/17 08:42 Analyzed: 12/04/17 13:25				
Total Kjeldahl Nitrogen	<1.00	1.00	mg/kg					
LCS (B749006-BS1)				Prepared: 12/04/17 08:42 Analyzed: 12/04/17 13:25				
Total Kjeldahl Nitrogen	196	1.00	mg/kg	200	98	80-120		
LCS Dup (B749006-BSD1)				Prepared: 12/04/17 08:42 Analyzed: 12/04/17 13:25				
Total Kjeldahl Nitrogen	196	1.00	mg/kg	200	98	80-120	0	20
Duplicate (B749006-DUP1)				Source: 1711205-02 Prepared: 12/04/17 08:42 Analyzed: 12/04/17 13:25				
Total Kjeldahl Nitrogen	986	1.00	mg/kg	997			1	20

### Anions by Ion Chromatography - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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#### Batch B746124 - EPA 300.0

Blank (B746124-BLK1)				Prepared: 11/17/17 10:45 Analyzed: 11/17/17 10:48				
Nitrate as N	<0.10	0.10	mg/kg					
LCS (B746124-BS1)				Prepared: 11/17/17 10:45 Analyzed: 11/17/17 11:06				
Nitrate as N	49.8	0.10	mg/kg	50.0	100	90-110		
LCS Dup (B746124-BSD1)				Prepared: 11/17/17 10:45 Analyzed: 11/17/17 11:23				
Nitrate as N	49.9	0.10	mg/kg	50.0	100	90-110	0.07	30
Duplicate (B746124-DUP1)				Source: 1711205-07 Prepared: 11/17/17 10:45 Analyzed: 11/17/17 15:26				
Nitrate as N	5.69	0.10	mg/kg	5.60			2	20
Matrix Spike (B746124-MS1)				Source: 1711205-07 Prepared: 11/17/17 10:45 Analyzed: 11/17/17 15:43				
Nitrate as N	60.0	0.10	mg/kg	50.0	5.60	109	90-110	

### Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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# LABORATORY REPORT



NELAC Cert. No.: T104704360-17-17

Adams Environmental, Inc  
12018 Las Nubes Street  
San Antonio TX, 78233

Project: Mitchell Lake Wetlands  
Project Number: [none]  
Project Manager: Brian Gottschalk

**Reported:**  
12/04/17 15:51  
**Received:**  
11/14/17 15:54

Additional Notes:  
Client requested TKN on samples 2, 5, 6, and 7. 12/1/17

**Report No. 1711205**

## Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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### Batch B746085 - EPA 3050B

**Blank (B746085-BLK1)** Prepared: 11/16/17 09:43 Analyzed: 11/16/17 14:46

Arsenic	<1.00	1.00	mg/kg wet						
Barium	<1.00	1.00	mg/kg wet						
Cadmium	<0.500	0.500	mg/kg wet						
Chromium	<1.00	1.00	mg/kg wet						
Lead	<1.00	1.00	mg/kg wet						
Phosphorus	<1.00	1.00	mg/kg wet						
Selenium	<1.00	1.00	mg/kg wet						
Silver	<0.450	0.450	mg/kg wet						

**LCS (B746085-BS1)** Prepared: 11/16/17 09:43 Analyzed: 11/16/17 14:52

Arsenic	105	1.00	mg/kg wet	100	105	80-120			
Barium	90.6	1.00	mg/kg wet	100	91	80-120			
Cadmium	104	0.500	mg/kg wet	100	104	80-120			
Chromium	105	1.00	mg/kg wet	100	105	80-120			
Lead	105	1.00	mg/kg wet	100	105	80-120			
Phosphorus	106	1.00	mg/kg wet	100	106	80-120			
Selenium	102	1.00	mg/kg wet	100	102	80-120			
Silver	52.8	0.450	mg/kg wet	50.0	106	80-120			

**LCS Dup (B746085-BSD1)** Prepared: 11/16/17 09:43 Analyzed: 11/16/17 14:58

Arsenic	108	1.00	mg/kg wet	100	108	80-120	3	30	
Barium	93.6	1.00	mg/kg wet	100	94	80-120	3	30	
Cadmium	107	0.500	mg/kg wet	100	107	80-120	3	30	
Chromium	109	1.00	mg/kg wet	100	109	80-120	4	30	
Lead	108	1.00	mg/kg wet	100	108	80-120	3	30	
Phosphorus	109	1.00	mg/kg wet	100	109	80-120	3	20	
Selenium	106	1.00	mg/kg wet	100	106	80-120	3	30	
Silver	54.4	0.450	mg/kg wet	50.0	109	80-120	3	30	

**Matrix Spike (B746085-MS1)** Source: 1711205-02 Prepared: 11/16/17 09:43 Analyzed: 11/16/17 15:09

Arsenic	78.7	1.00	mg/kg dry	111	3.11	68	75-125		M
Barium	109	1.00	mg/kg dry	111	28.8	72	75-125		M
Cadmium	76.7	0.500	mg/kg dry	111	0.120	69	75-125		M
Chromium	90.3	1.00	mg/kg dry	111	8.47	74	75-125		M
Lead	111	1.00	mg/kg dry	111	11.3	90	75-125		M
Phosphorus	311	1.00	mg/kg dry	111	228	74	75-125		M
Selenium	70.0	1.00	mg/kg dry	111	<1.00	63	75-125		M
Silver	38.4	0.450	mg/kg dry	55.5	<0.450	69	75-125		M



# LABORATORY REPORT



NELAC Cert. No.: **T104704360-17-17**

Adams Environmental, Inc  
12018 Las Nubes Street  
San Antonio TX, 78233

Project: Mitchell Lake Wetlands  
Project Number: [none]  
Project Manager: Brian Gottschalk

**Reported:**  
12/04/17 15:51  
**Received:**  
11/14/17 15:54

Additional Notes:  
Client requested TKN on samples 2, 5, 6, and 7. 12/1/17

**Report No. 1711205**

## Total Metals - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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### Batch B746085 - EPA 3050B

Matrix Spike Dup (B746085-MSD1)		Source: 1711205-02		Prepared: 11/16/17 09:43 Analyzed: 11/16/17 15:15							
Arsenic	75.0		1.00	mg/kg dry	112	3.11	64	75-125	5	30	M
Barium	108		1.00	mg/kg dry	112	28.8	70	75-125	1	30	M
Cadmium	73.7		0.500	mg/kg dry	112	0.120	65	75-125	4	30	M
Chromium	87.1		1.00	mg/kg dry	112	8.47	70	75-125	4	30	M
Lead	105		1.00	mg/kg dry	112	11.3	83	75-125	6	30	
Phosphorus	292		1.00	mg/kg dry	112	228	57	75-125	6	20	M
Selenium	65.6		1.00	mg/kg dry	112	<1.00	58	75-125	6	30	M
Silver	37.0		0.450	mg/kg dry	56.2	<0.450	66	75-125	4	30	M

### Batch B746086 - EPA 7471B

Blank (B746086-BLK1)				Prepared: 11/16/17 11:45 Analyzed: 11/16/17 14:56						
Mercury	<0.040		0.040	mg/kg wet						
LCS (B746086-BS1)				Prepared: 11/16/17 11:45 Analyzed: 11/16/17 14:58						
Mercury	0.839		0.040	mg/kg wet	0.833		101	85-115		
LCS Dup (B746086-BSD1)				Prepared: 11/16/17 11:45 Analyzed: 11/16/17 15:00						
Mercury	0.826		0.040	mg/kg wet	0.833		99	85-115	2	25
Matrix Spike (B746086-MS1)				Source: 1711205-01 Prepared: 11/16/17 11:45 Analyzed: 11/16/17 15:04						
Mercury	1.08		0.040	mg/kg dry	0.906	0.0102	118	75-125		
Matrix Spike Dup (B746086-MSD1)				Source: 1711205-01 Prepared: 11/16/17 11:45 Analyzed: 11/16/17 15:06						
Mercury	0.979		0.040	mg/kg dry	0.836	0.0102	116	75-125	9	25

## Chlorinated Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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### Batch B746092 - EPA 3550B

Blank (B746092-BLK1)				Prepared: 11/16/17 09:00 Analyzed: 11/21/17 12:35						
alpha-BHC	<0.002		0.002	mg/kg						
gamma-BHC (Lindane)	<0.002		0.002	mg/kg						
beta-BHC	<0.002		0.002	mg/kg						
delta-BHC	<0.002		0.002	mg/kg						
Heptachlor	<0.002		0.002	mg/kg						



# LABORATORY REPORT



NELAC Cert. No.: T104704360-17-17

Adams Environmental, Inc  
12018 Las Nubes Street  
San Antonio TX, 78233

Project: Mitchell Lake Wetlands  
Project Number: [none]  
Project Manager: Brian Gottschalk

Additional Notes:  
Client requested TKN on samples 2, 5, 6, and 7. 12/1/17

**Reported:**  
12/04/17 15:51  
**Received:**  
11/14/17 15:54

**Report No.** 1711205

## Chlorinated Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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### Batch B746092 - EPA 3550B

#### Blank (B746092-BLK1)

Prepared: 11/16/17 09:00 Analyzed: 11/21/17 12:35

Aldrin	<0.002	0.002	mg/kg						
Heptachlor Epoxide	<0.002	0.002	mg/kg						
gamma-Chlordane	<0.002	0.002	mg/kg						
alpha-Chlordane	<0.002	0.002	mg/kg						
Endosulfan I	<0.002	0.002	mg/kg						
4,4'-DDE	<0.005	0.005	mg/kg						
Dieldrin	<0.002	0.002	mg/kg						
Endrin	<0.002	0.002	mg/kg						
4,4'-DDD	<0.002	0.002	mg/kg						
Endosulfan II	<0.002	0.002	mg/kg						
4,4'-DDT	<0.002	0.002	mg/kg						
Endrin Aldehyde	<0.002	0.002	mg/kg						
Endosulfan Sulfate	<0.002	0.002	mg/kg						
Methoxychlor	<0.002	0.002	mg/kg						
Endrin Ketone	<0.002	0.002	mg/kg						
Toxaphene	<0.05	0.05	mg/kg						
Chlordane	<0.05	0.05	mg/kg						

#### Surrogate: Decachlorobiphenyl

0.0274 mg/kg 0.0333 82 14.8-141

#### LCS (B746092-BS1)

Prepared: 11/16/17 09:00 Analyzed: 11/21/17 20:48

alpha-BHC	0.0247	0.002	mg/kg	0.0333	74	52.5-127
gamma-BHC (Lindane)	0.0246	0.002	mg/kg	0.0333	74	53.3-139
beta-BHC	0.0273	0.002	mg/kg	0.0333	82	52.7-132
delta-BHC	0.0259	0.002	mg/kg	0.0333	78	50.6-139
Heptachlor	0.0241	0.002	mg/kg	0.0333	72	44.5-148
Aldrin	0.0232	0.002	mg/kg	0.0333	69	56.3-129
Heptachlor Epoxide	0.0252	0.002	mg/kg	0.0333	76	58.9-129
gamma-Chlordane	0.0256	0.002	mg/kg	0.0333	77	59.6-125
alpha-Chlordane	0.0265	0.002	mg/kg	0.0333	79	57.7-130
Endosulfan I	0.0250	0.002	mg/kg	0.0333	75	59-122
4,4'-DDE	0.0254	0.005	mg/kg	0.0333	76	60.8-130
Dieldrin	0.0245	0.002	mg/kg	0.0333	74	55.2-136
Endrin	0.0304	0.002	mg/kg	0.0333	91	67.9-149
4,4'-DDD	0.0305	0.002	mg/kg	0.0333	91	58.2-137
Endosulfan II	0.0237	0.002	mg/kg	0.0333	71	57.6-133
4,4'-DDT	0.0306	0.002	mg/kg	0.0333	92	55.6-135
Endrin Aldehyde	0.0284	0.002	mg/kg	0.0333	85	50-138



# LABORATORY REPORT



NELAC Cert. No.: **T104704360-17-17**

Adams Environmental, Inc  
12018 Las Nubes Street  
San Antonio TX, 78233

Project: Mitchell Lake Wetlands  
Project Number: [none]  
Project Manager: Brian Gottschalk

**Reported:**  
12/04/17 15:51  
**Received:**  
11/14/17 15:54

Additional Notes:

Client requested TKN on samples 2, 5, 6, and 7. 12/1/17

**Report No. 1711205**

## Chlorinated Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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### Batch B746092 - EPA 3550B

LCS (B746092-BS1)		Prepared: 11/16/17 09:00 Analyzed: 11/21/17 20:48						
Endosulfan Sulfate	0.0293	0.002	mg/kg	0.0333	88	55.9-156		
Methoxychlor	0.0373	0.002	mg/kg	0.0333	112	50.9-171		
Endrin Ketone	0.0317	0.002	mg/kg	0.0333	95	48.7-153		
Toxaphene	<0.05	0.05	mg/kg			40-160		
Chlordane	<0.05	0.05	mg/kg			60-140		
Surrogate: Decachlorobiphenyl	0.0305		mg/kg	0.0333	91	44-153		
LCS Dup (B746092-BSD1)		Prepared: 11/16/17 09:00 Analyzed: 11/21/17 21:03						
alpha-BHC	0.0273	0.002	mg/kg	0.0333	82	52.5-127	10	17.2
gamma-BHC (Lindane)	0.0275	0.002	mg/kg	0.0333	83	53.3-139	11	16
beta-BHC	0.0297	0.002	mg/kg	0.0333	89	52.7-132	9	9.22
delta-BHC	0.0281	0.002	mg/kg	0.0333	84	50.6-139	8	8.76
Heptachlor	0.0263	0.002	mg/kg	0.0333	79	44.5-148	9	8.25
Aldrin	0.0247	0.002	mg/kg	0.0333	74	56.3-129	6	9.34
Heptachlor Epoxide	0.0267	0.002	mg/kg	0.0333	80	58.9-129	6	10.7
gamma-Chlordane	0.0267	0.002	mg/kg	0.0333	80	59.6-125	4	10.6
alpha-Chlordane	0.0275	0.002	mg/kg	0.0333	83	57.7-130	4	9.89
Endosulfan I	0.0259	0.002	mg/kg	0.0333	78	59-122	4	13.7
4,4'-DDE	0.0258	0.005	mg/kg	0.0333	77	60.8-130	2	20.8
Dieldrin	0.0250	0.002	mg/kg	0.0333	75	55.2-136	2	7.76
Endrin	0.0304	0.002	mg/kg	0.0333	91	67.9-149	0.09	8.34
4,4'-DDD	0.0302	0.002	mg/kg	0.0333	91	58.2-137	0.8	8.96
Endosulfan II	0.0259	0.002	mg/kg	0.0333	78	57.6-133	9	8.38
4,4'-DDT	0.0302	0.002	mg/kg	0.0333	90	55.6-135	2	7.5
Endrin Aldehyde	0.0272	0.002	mg/kg	0.0333	82	50-138	4	8.96
Endosulfan Sulfate	0.0285	0.002	mg/kg	0.0333	85	55.9-156	3	19.5
Methoxychlor	0.0336	0.002	mg/kg	0.0333	101	50.9-171	10	10.2
Endrin Ketone	0.0308	0.002	mg/kg	0.0333	93	48.7-153	3	8.18
Toxaphene	<0.05	0.05	mg/kg			40-160		50
Chlordane	<0.05	0.05	mg/kg			60-140		200
Surrogate: Decachlorobiphenyl	0.0326		mg/kg	0.0333	98	44-153		

Matrix Spike (B746092-MS1)	Source: 1711118-02	Prepared: 11/16/17 09:00 Analyzed: 11/21/17 14:19						
alpha-BHC	0.0236	0.002	mg/kg	0.0333	<0.002	71	35-114	
gamma-BHC (Lindane)	0.0241	0.002	mg/kg	0.0333	<0.002	72	35.6-125	
beta-BHC	0.0228	0.002	mg/kg	0.0333	<0.002	68	37.1-119	
delta-BHC	0.0251	0.002	mg/kg	0.0333	<0.002	75	36.2-127	



# LABORATORY REPORT



NELAC Cert. No.: **T104704360-17-17**

Adams Environmental, Inc  
12018 Las Nubes Street  
San Antonio TX, 78233

Project: Mitchell Lake Wetlands  
Project Number: [none]  
Project Manager: Brian Gottschalk

**Reported:**  
12/04/17 15:51  
**Received:**  
11/14/17 15:54

Additional Notes:  
Client requested TKN on samples 2, 5, 6, and 7. 12/1/17

**Report No. 1711205**

## Chlorinated Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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### Batch B746092 - EPA 3550B

Matrix Spike (B746092-MS1)	Source: 1711118-02	Prepared: 11/16/17 09:00		Analyzed: 11/21/17 14:19			
Heptachlor	0.0236	0.002	mg/kg	0.0333	<0.002	71	30.1-132
Aldrin	0.0246	0.002	mg/kg	0.0333	<0.002	74	32-124
Heptachlor Epoxide	0.0249	0.002	mg/kg	0.0333	<0.002	75	37.4-128
gamma-Chlordane	0.0274	0.002	mg/kg	0.0333	<0.002	82	45.3-106
alpha-Chlordane	0.0274	0.002	mg/kg	0.0333	<0.002	82	38.2-116
Endosulfan I	0.0249	0.002	mg/kg	0.0333	<0.002	75	20.8-135
4,4'-DDE	0.0258	0.005	mg/kg	0.0333	<0.005	78	37-121
Dieldrin	0.0241	0.002	mg/kg	0.0333	<0.002	72	36.1-128
Endrin	0.0312	0.002	mg/kg	0.0333	<0.002	94	39.9-156
4,4'-DDD	0.0328	0.002	mg/kg	0.0333	<0.002	98	16.7-155
Endosulfan II	0.0266	0.002	mg/kg	0.0333	<0.002	80	28.5-128
4,4'-DDT	0.0320	0.002	mg/kg	0.0333	<0.002	96	12.3-149
Endrin Aldehyde	0.0385	0.002	mg/kg	0.0333	<0.002	115	31.4-140
Endosulfan Sulfate	0.0304	0.002	mg/kg	0.0333	<0.002	91	37-142
Methoxychlor	0.0382	0.002	mg/kg	0.0333	<0.002	115	24.4-167
Endrin Ketone	0.0331	0.002	mg/kg	0.0333	<0.002	99	32.7-135
Surrogate: Decachlorobiphenyl	0.0383		mg/kg	0.0333		115	14.8-141

Matrix Spike Dup (B746092-MSD1)	Source: 1711118-02	Prepared: 11/16/17 09:00		Analyzed: 11/21/17 14:34			
alpha-BHC	0.0210	0.002	mg/kg	0.0333	<0.002	63	35-114
gamma-BHC (Lindane)	0.0210	0.002	mg/kg	0.0333	<0.002	63	35.6-125
beta-BHC	0.0238	0.002	mg/kg	0.0333	<0.002	71	37.1-119
delta-BHC	0.0220	0.002	mg/kg	0.0333	<0.002	66	36.2-127
Heptachlor	0.0209	0.002	mg/kg	0.0333	<0.002	63	30.1-132
Aldrin	0.0202	0.002	mg/kg	0.0333	<0.002	60	32-124
Heptachlor Epoxide	0.0215	0.002	mg/kg	0.0333	<0.002	65	37.4-128
gamma-Chlordane	0.0214	0.002	mg/kg	0.0333	<0.002	64	45.3-106
alpha-Chlordane	0.0221	0.002	mg/kg	0.0333	<0.002	66	38.2-116
Endosulfan I	0.0207	0.002	mg/kg	0.0333	<0.002	62	20.8-135
4,4'-DDE	0.0215	0.005	mg/kg	0.0333	<0.005	64	37-121
Dieldrin	0.0203	0.002	mg/kg	0.0333	<0.002	61	36.1-128
Endrin	0.0242	0.002	mg/kg	0.0333	<0.002	73	39.9-156
4,4'-DDD	0.0257	0.002	mg/kg	0.0333	<0.002	77	16.7-155
Endosulfan II	0.0213	0.002	mg/kg	0.0333	<0.002	64	28.5-128
4,4'-DDT	0.0250	0.002	mg/kg	0.0333	<0.002	75	12.3-149
Endrin Aldehyde	0.0306	0.002	mg/kg	0.0333	<0.002	92	31.4-140
Endosulfan Sulfate	0.0242	0.002	mg/kg	0.0333	<0.002	72	37-142



# LABORATORY REPORT



NELAC Cert. No.: T104704360-17-17

Adams Environmental, Inc  
12018 Las Nubes Street  
San Antonio TX, 78233

Project: Mitchell Lake Wetlands  
Project Number: [none]  
Project Manager: Brian Gottschalk

Additional Notes:  
Client requested TKN on samples 2, 5, 6, and 7. 12/1/17

**Reported:**  
12/04/17 15:51  
**Received:**  
11/14/17 15:54

**Report No. 1711205**

## Chlorinated Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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### Batch B746092 - EPA 3550B

Matrix Spike Dup (B746092-MSD1)	Source: 1711118-02	Prepared: 11/16/17 09:00 Analyzed: 11/21/17 14:34							
Methoxychlor	0.0291	0.002	mg/kg	0.0333	<0.002	87	24.4-167	27	69.4
Endrin Ketone	0.0251	0.002	mg/kg	0.0333	<0.002	75	32.7-135	27	44
Surrogate: Decachlorobiphenyl	0.0276		mg/kg	0.0333		83	14.8-141		

### DEFINITIONS

*	TNI / NELAC accredited analyte
PQL	Practical Quantitation Limit
MCL	Maximum Contaminant Level
mg/Kg	Milligrams per Kilogram (Parts per Million)
mg/L	Milligrams per Liter (Parts per Million)
PPM	Parts per Million
L	LCS recovery is outside QC acceptance limits, the results may have a slight bias.
M	MS recovery is outside QC limits, the results may have a slight bias due to possible matrix interferences.
RMCCCL	Recommended Maximum Concentration of Contaminants Level
Surr L	Surrogate recovery is outside QC limits due to matrix interferences.
Surr H	Surrogate recovery is high due to contribution from hydrocarbon interferences.
µR/hr	MicroRoentgens per hour (Measure of Radioactivity Level)
HT	Sample received past holdtime
IC	Improper Container
IT	Improper Temperature
V	Inssufficient Volume
B	Sample collected in Bulk
S	RPD is outside QC limits. This may be due to possible matrix interferences in Matrix spike samples.

Test Methods followed by the laboratory are referenced in the following approved methodology, unless otherwise specified.

Standard Methods for the Examination of Water and Wastewater, 21st Edition 2005

Methods for Chemical Analysis of Water and Wastes, EPA 600/4-79-020, Rev. March 1983

EPA SW Test Methods for the Examination of Solid Waste, SW-846, 1996



## LABORATORY REPORT



NELAC Cert. No.: T104704360-17-17

Adams Environmental, Inc  
12018 Las Nubes Street  
San Antonio TX, 78233

Project: Mitchell Lake Wetlands  
Project Number: [none]  
Project Manager: Brian Gottschalk

**Reported:**  
12/04/17 15:51  
**Received:**  
11/14/17 15:54

Additional Notes:

Client requested TKN on samples 2, 5, 6, and 7. 12/1/17

**Report No.** 1711205

### Subcontracted Analyses

Subcontractor Lab	Lab Number	Analysis
ALS Environmental	1711205-01	Herbicides
ALS Environmental	1711205-03	Herbicides
ALS Environmental	1711205-04	Herbicides

Aimee Landon For Marcela Gracia Hawk, President For

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

Richard Hawk, General Manager



## CHAIN-OF-CUSTODY RECORD

REPORT TO:

INVOICE TO:

REPORT NUMBER

**SAN ANTONIO  
TESTING LABORATORY LLC**

1610 S. Laredo Street, San Antonio, Texas 78207  
(210) 229-9920 • Fax (210) 229-9821  
[www.satesutinglab.com](http://www.satesutinglab.com)

PROJECT NAME/LOCATION/SITE

Michelle Lake Wetlands

COMPANY **Enviro-Solutions, Inc.**  
ADDRESS 12013 Las Flores St #~~7333~~  
CITY San Antonio STATE TX ZIP 78233  
ATN: Brian Costanzo PHONE # 210-853-6373 ATTN: Sabine Hartman PHONE # Same

REQUESTED TURNAROUND TIME  
IN BUSINESS DAYS & SURCHARGE  
REG 10 Days  5 Days  4 Days  3 Days  2 Days  Next Day  SAME DAY WHEN POSSIBLE  
+25%  +50%  +75%  +100%  +150%  +300%

REMARKS: *bogottxwalk@andrewsenv.com*

E-MAIL

FAX # 210-587-7922

PHONE # 210-853-6373

ATTN: Brian Costanzo

PHONE # Same

CITY Same

STATE Same

ZIP 78233

CITY Same

STATE Same

ZIP

COLLECTED

DATE

TIME

DRINKER

DRAIN

COLECTED

DATE

TIME

DRAIN

SAMPLE IDENTIFICATION

SAMPLE NUMBER

COND. OF SAMPLE

4. 001.00

DATE

TIME

DRAIN

REMARKS

PRESERVED WITH

REMARKS



### Sample Receipt Checklist

Client: Adams Env.Report Number: 1711205

Project Name:

Date Received: 11/14/17

Shipped via:

 FedEx  UPS  Lonestar  Hand Delivered  DHL  SATL  Other
Date Due: 11/27/17Rush:  Specify:  3-5  2  1

#### Items to be checked upon Receipt: [Yes, No, N/A]

1. Custody Seals present?	Yes	No	NA	If NA-reason:	
2. Custody Seals intact?	Yes	No	NA	If NA-reason:	
3. Air Bill included in folder, if received?	Yes	No	NA	If NA-reason:	
4. Is COC included with samples?	Yes	No	NA	If NA-reason:	
5. Is COC signed and dated by client?	Yes	No	NA	If NA-reason:	
6. Sample temperature: Thermal preservation between >0°- 6° C? (Samples that are delivered to the laboratory on the same day that they are collected may not meet this criterion, but are acceptable if they arrive on ice.)	Yes	No	NA	Temp: <u>4.8 °C</u>	<u>76.4 °F</u>
7. Samples received with ice <input checked="" type="checkbox"/> ice packs <input type="checkbox"/> other cooling <input type="checkbox"/>	Yes	No	NA	If NA-reason:	
8. Is the COC filled out correctly, and completely?	Yes	No	NA	If NA-reason:	
9. Information on the COC matches the samples?	Yes	No	NA	If NA-reason:	
10. Samples received within holding time?	Yes	No	NA	If NA-reason:	
11. Samples properly labeled?	Yes	No	NA	If NA-reason:	
12. Samples submitted with chemical preservation? (e.g. pH adjusted, or sodium thiosulfate added for microbiological tests)	Yes	No	NA	If NA-reason:	<u>solid</u>
13. Proper sample containers used?	Yes	No	NA	If NA-reason:	
14. All samples received intact, containers not damaged or leaking?	Yes	No	NA	If NA-reason:	
15. VOA vials (requesting BTEX/VOC analysis) received with no air bubbles? Bubbles acceptable on VOA vials for TPH.	Yes	No	NA	If NA-reason:	<u>new vials</u>
16. Sample volume sufficient for requested analysis?	Yes	No	NA	If NA-reason:	
17. Sample amount sufficient for TCLP analysis?	Yes	No	N/A	If NA-reason:	
18. Subcontracted Samples: [if Yes, complete the next section]	Yes	No	NA	If NA-reason:	

Analyses Subcontracted Out:

H&BNo. of Samples 1

Samples sent to:

MicrobaeSent By: dl

Date samples sent:

11/15/17

Samples shipped via:

UPS

TAT Requested:

Tracking number [if any]:

Comments:

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Received By:

SL

Date:

11/14/17

Labeled By:

Date:

Logged into LIMS By:

Date:

Logged into RF By:

Date:



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10450 Stancliff Rd. Suite 210  
Houston, TX 77099  
T: +1 281 530 5656  
F: +1 281 530 5887

November 29, 2017

Sairum Abburu  
San Antonio Testing Laboratory, Inc.  
1610 S. Laredo St.

San Antonio, TX 78207

Work Order: **HS17111021**

Revision: **1**

Laboratory Results for: **Herbicides 8151**

Dear Sairum,

ALS Environmental received 3 sample(s) on Nov 16, 2017 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Generated By: Jumoke.Lawal  
Nicole Brown  
Senior Project Manager

**Client:** San Antonio Testing Laboratory, Inc.  
**Project:** Herbicides 8151  
**Work Order:** HS17111021

**SAMPLE SUMMARY**

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17111021-01	1711205-01 (PE Pilot Env)	Solid		14-Nov-2017 10:15	16-Nov-2017 10:00	<input type="checkbox"/>
HS17111021-02	1711205-03 (EE1 Area E Env 1)	Solid		14-Nov-2017 13:55	16-Nov-2017 10:00	<input type="checkbox"/>
HS17111021-03	1711205-04 (EE2 Area E Env 2)	Solid		14-Nov-2017 15:05	16-Nov-2017 10:00	<input type="checkbox"/>

**Client:** San Antonio Testing Laboratory, Inc.  
**Project:** Herbicides 8151  
**Work Order:** HS17111021

**CASE NARRATIVE****Work Order Comments**

- At the request of the client via email on November 28, 2017, the Report was revised on November 29, 2017 to correct sample ID to Sample #3 should read 1711205-04 (EE2 Area E Env 2)."

**ECD Organics by Method SW8151****Batch ID: 122418**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

**Revision:1**

Client: San Antonio Testing Laboratory, Inc.  
 Project: Herbicides 8151  
 Sample ID: 1711205-01 (PE Pilot Env)  
 Collection Date: 14-Nov-2017 10:15

**ANALYTICAL REPORT**  
 WorkOrder:HS17111021  
 Lab ID:HS17111021-01  
 Matrix:Solid

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>CHLORINATED HERBICIDES BY SW8151A</b>		<b>Method:SW8151</b>			Prep:SW8151 / 21-Nov-2017	Analyst: STH
2,4,5-T	ND		0.0033	mg/Kg	1	23-Nov-2017 09:34
2,4,5-TP (Silvex)	ND		0.0033	mg/Kg	1	23-Nov-2017 09:34
2,4-D	ND		0.0066	mg/Kg	1	23-Nov-2017 09:34
2,4-DB	ND		0.0066	mg/Kg	1	23-Nov-2017 09:34
Dalapon	ND		0.0033	mg/Kg	1	23-Nov-2017 09:34
Dicamba	ND		0.0033	mg/Kg	1	23-Nov-2017 09:34
Dichlorprop	ND		0.0066	mg/Kg	1	23-Nov-2017 09:34
Dinoseb	ND		0.0033	mg/Kg	1	23-Nov-2017 09:34
MCPA	ND		0.66	mg/Kg	1	23-Nov-2017 09:34
MCPP	ND		0.66	mg/Kg	1	23-Nov-2017 09:34
<i>Surr: DCAA</i>	69.8		30-150	%REC	1	23-Nov-2017 09:34

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:1**

Client: San Antonio Testing Laboratory, Inc.  
 Project: Herbicides 8151  
 Sample ID: 1711205-03 (EE1 Area E Env 1)  
 Collection Date: 14-Nov-2017 13:55

**ANALYTICAL REPORT**  
 WorkOrder:HS17111021  
 Lab ID:HS17111021-02  
 Matrix:Solid

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>CHLORINATED HERBICIDES BY SW8151A</b>		<b>Method:SW8151</b>			Prep:SW8151 / 21-Nov-2017	Analyst: STH
2,4,5-T	ND		0.0033	mg/Kg	1	23-Nov-2017 10:05
2,4,5-TP (Silvex)	ND		0.0033	mg/Kg	1	23-Nov-2017 10:05
2,4-D	ND		0.0066	mg/Kg	1	23-Nov-2017 10:05
2,4-DB	ND		0.0066	mg/Kg	1	23-Nov-2017 10:05
Dalapon	ND		0.0033	mg/Kg	1	23-Nov-2017 10:05
Dicamba	ND		0.0033	mg/Kg	1	23-Nov-2017 10:05
Dichlorprop	ND		0.0066	mg/Kg	1	23-Nov-2017 10:05
Dinoseb	ND		0.0033	mg/Kg	1	23-Nov-2017 10:05
MCPA	ND		0.66	mg/Kg	1	23-Nov-2017 10:05
MCPP	ND		0.66	mg/Kg	1	23-Nov-2017 10:05
<i>Surr: DCAA</i>	88.0		30-150	%REC	1	23-Nov-2017 10:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:1**

Client: San Antonio Testing Laboratory, Inc.  
 Project: Herbicides 8151  
 Sample ID: 1711205-04 (EE2 Area E Env 2)  
 Collection Date: 14-Nov-2017 15:05

**ANALYTICAL REPORT**  
 WorkOrder:HS17111021  
 Lab ID:HS17111021-03  
 Matrix:Solid

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>CHLORINATED HERBICIDES BY SW8151A</b>		<b>Method:SW8151</b>			Prep:SW8151 / 21-Nov-2017	Analyst: STH
2,4,5-T	ND		0.0033	mg/Kg	1	23-Nov-2017 10:36
2,4,5-TP (Silvex)	ND		0.0033	mg/Kg	1	23-Nov-2017 10:36
2,4-D	ND		0.0066	mg/Kg	1	23-Nov-2017 10:36
2,4-DB	ND		0.0066	mg/Kg	1	23-Nov-2017 10:36
Dalapon	ND		0.0033	mg/Kg	1	23-Nov-2017 10:36
Dicamba	ND		0.0033	mg/Kg	1	23-Nov-2017 10:36
Dichlorprop	ND		0.0066	mg/Kg	1	23-Nov-2017 10:36
Dinoseb	ND		0.0033	mg/Kg	1	23-Nov-2017 10:36
MCPA	ND		0.66	mg/Kg	1	23-Nov-2017 10:36
MCPP	ND		0.66	mg/Kg	1	23-Nov-2017 10:36
<i>Surr: DCAA</i>	70.4		30-150	%REC	1	23-Nov-2017 10:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Revision:1**

**WEIGHT LOG**

**Client:** San Antonio Testing Laboratory, Inc.  
**Project:** Herbicides 8151  
**WorkOrder:** HS17111021

**Batch ID:** 122418      **Method:** CHLORINATED HERBICIDES BY SW8151A      **Prep:** 8151PRS

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17111021-01	1	30.01	10 (mL)	0.3332
HS17111021-02	1	30.09	10 (mL)	0.3323
HS17111021-03	1	30.03	10 (mL)	0.333

**Client:** San Antonio Testing Laboratory, Inc.  
**Project:** Herbicides 8151  
**WorkOrder:** HS17111021

**DATES REPORT**

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
<b>Batch ID</b>	122418	<b>Test Name :</b> CHLORINATED HERBICIDES BY SW8151A			<b>Matrix:</b> Solid	
HS17111021-01	1711205-01 (PE Pilot Env)	14 Nov 2017 10:15		21 Nov 2017 13:07	23 Nov 2017 09:34	1
HS17111021-02	1711205-03 (EE1 Area E Env 1) 1)	14 Nov 2017 13:55		21 Nov 2017 13:07	23 Nov 2017 10:05	1
HS17111021-03	1711205-04 (EE2 Area E Env 2)	14 Nov 2017 15:05		21 Nov 2017 13:07	23 Nov 2017 10:36	1

**Client:** San Antonio Testing Laboratory, Inc.  
**Project:** Herbicides 8151  
**WorkOrder:** HS17111021

**QC BATCH REPORT**

Batch ID: 122418		Instrument: ECD_9		Method: SW8151			
MLBK	Sample ID: MBLK-122418	Units: ug/Kg		Analysis Date: 22-Nov-2017 20:29			
Client ID:	Run ID: ECD_9_306058	SeqNo: 4324109		PrepDate: 21-Nov-2017	DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual
2,4,5-T	ND	3.3					
2,4,5-TP (Silvex)	ND	3.3					
2,4-D	ND	6.6					
2,4-DB	ND	6.6					
Dalapon	ND	3.3					
Dicamba	ND	3.3					
Dichlorprop	ND	6.6					
Dinoseb	ND	3.3					
MCPA	ND	660					
MCPP	ND	660					
Surr: DCAA	122.1	0	166.7	0	73.3	30 - 150	
LCS	Sample ID: LCS-122418	Units: ug/Kg		Analysis Date: 22-Nov-2017 21:00			
Client ID:	Run ID: ECD_9_306058	SeqNo: 4324110		PrepDate: 21-Nov-2017	DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual
2,4,5-T	77.2	3.3	83.33	0	92.6	50 - 150	
2,4,5-TP (Silvex)	80.54	3.3	83.33	0	96.6	50 - 150	
2,4-D	100	6.6	83.33	0	120	40 - 150	
2,4-DB	81.52	6.6	83.33	0	97.8	40 - 150	
Dalapon	74.6	3.3	83.33	0	89.5	30 - 150	
Dicamba	82.47	3.3	83.33	0	99.0	40 - 150	
Dichlorprop	71.53	6.6	83.33	0	85.8	40 - 150	
Dinoseb	54.61	3.3	83.33	0	65.5	40 - 150	
MCPA	7311	660	8333	0	87.7	40 - 150	
MCPP	8145	660	8333	0	97.7	40 - 150	
Surr: DCAA	149.3	0	166.7	0	89.6	30 - 150	

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** San Antonio Testing Laboratory, Inc.  
**Project:** Herbicides 8151  
**WorkOrder:** HS17111021

**QC BATCH REPORT**

Batch ID: 122418		Instrument: ECD_9		Method: SW8151			
MS	Sample ID: HS17110895-03MS	Units: ug/Kg		Analysis Date: 22-Nov-2017 23:06			
Client ID:	Run ID: ECD_9_306058			SeqNo: 4324114	PrepDate: 21-Nov-2017	DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual
2,4,5-T	83.92	3.3	83.14	0	101	50 - 150	
2,4,5-TP (Silvex)	93.46	3.3	83.14	0	112	50 - 150	
2,4-D	112.9	6.6	83.14	0	136	40 - 150	
2,4-DB	81.34	6.6	83.14	0	97.8	40 - 150	
Dalapon	84.89	3.3	83.14	0	102	30 - 150	
Dicamba	95.39	3.3	83.14	0	115	40 - 150	
Dichlorprop	82.74	6.6	83.14	0	99.5	40 - 150	
Dinoseb	120.4	3.3	83.14	4.938	139	40 - 150	
MCPA	10890	660	8314	0	131	40 - 150	
MCPP	9341	660	8314	1423	95.2	40 - 150	P
<i>Surr: DCAA</i>	200.2	0	166.3	0	120	30 - 150	
MSD	Sample ID: HS17110895-03MSD	Units: ug/Kg		Analysis Date: 22-Nov-2017 23:37			
Client ID:	Run ID: ECD_9_306058			SeqNo: 4324115	PrepDate: 21-Nov-2017	DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value %RPD Limit Qual
2,4,5-T	79.86	3.3	83.22	0	96.0	50 - 150	83.92 4.96 30
2,4,5-TP (Silvex)	88.27	3.3	83.22	0	106	50 - 150	93.46 5.71 30
2,4-D	101.8	6.6	83.22	0	122	40 - 150	112.9 10.4 30
2,4-DB	76.2	6.6	83.22	0	91.6	40 - 150	81.34 6.53 30
Dalapon	87.36	3.3	83.22	0	105	30 - 150	84.89 2.86 30
Dicamba	88.7	3.3	83.22	0	107	40 - 150	95.39 7.27 30
Dichlorprop	70.06	6.6	83.22	0	84.2	40 - 150	82.74 16.6 30
Dinoseb	114.3	3.3	83.22	4.938	131	40 - 150	120.4 5.21 30
MCPA	9484	660	8322	0	114	40 - 150	10890 13.8 30
MCPP	7430	660	8322	1423	72.2	40 - 150	9341 22.8 30 P
<i>Surr: DCAA</i>	179.1	0	166.4	0	108	30 - 150	200.2 11.2 30

The following samples were analyzed in this batch: HS17111021-01 HS17111021-02 HS17111021-03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** San Antonio Testing Laboratory, Inc.  
**Project:** Herbicides 8151  
**WorkOrder:** HS17111021

**QUALIFIERS,  
ACRONYMS, UNITS**

<b>Qualifier</b>	<b>Description</b>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

<b>Acronym</b>	<b>Description</b>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<b>Unit Reported</b>	<b>Description</b>
mg/Kg	Milligrams per Kilogram

**CERTIFICATIONS,ACCREDITATIONS & LICENSES**

Agency	Number	Expire Date
Arkansas	17-027-0	27-Mar-2018
California	2919 2016-2018	31-Jul-2018
Illinois	004112	09-May-2018
Kentucky	123043	30-Apr-2018
Louisiana	03087 2017-2017	30-Jun-2018
North Carolina	624-2017	31-Dec-2017
North Dakota	R193 2017-2017	30-Apr-2018
Oklahoma	2017-088	31-Aug-2018
Texas	T104704231-17-19	30-Apr-2018

**Sample Receipt Checklist**

Client Name: San Antonio Testing Date/Time Received: 16-Nov-2017 10:00  
 Work Order: HS17111021 Received by: SBM

Checklist completed by:	<i>Raegen Giga</i> eSignature	20-Nov-2017 Date	Reviewed by:	<i>Nicole Brown</i> eSignature	21-Nov-2017 Date
-------------------------	----------------------------------	---------------------	--------------	-----------------------------------	---------------------

Matrices: **solid** Carrier name: **FedEx Ground**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
TX1005 solids received in hermetically sealed vials?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	

Temperature(s)/Thermometer(s):

4.1c/4.4c uc/c | IR 25

Cooler(s)/Kit(s):

Box/Foam

Date/Time sample(s) sent to storage:

11/20/2017 18:00 prior to sample login

Water - VOA vials have zero headspace?

Yes  No  No VOA vials submitted

Water - pH acceptable upon receipt?

Yes  No  N/A

pH adjusted?

Yes  No  N/A

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:

# CHAIN-OF-CUSTODY RECORD

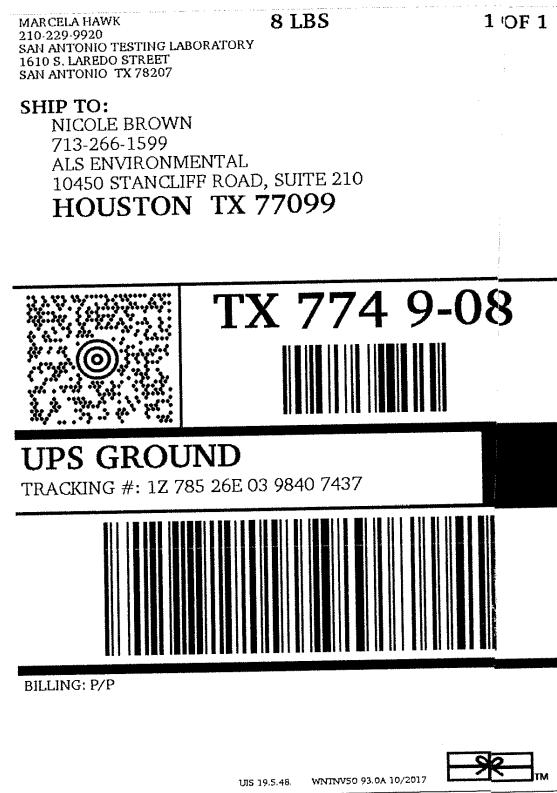


1610 S. Laredo Street, San Antonio, Texas 78207  
 (210) 229-9920 • Fax (210) 229-9921  
[www.satestinglab.com](http://www.satestinglab.com)

REPORT TO:				INVOICE TO:				P.O. #			
COMPANY <u>SATL</u>				COMPANY <u>SATL</u>				REPORT NUMBER			
ADDRESS				ADDRESS							
CITY                    STATE                    ZIP		CITY                    STATE                    ZIP		CITY                    STATE                    ZIP		FAX #					
ATTN: <u>Aimee Landin</u> PHONE # <u>210 829-9920</u>		ATTN: <u>Jandrea</u> PHONE # <u>210 829-9920</u>		ATTN: <u>Sat testing</u> PHONE # <u>210 829-9920</u>		EMAIL: <u>satesting@satestinglab.com</u>					
REQUESTED TURNAROUND TIME } IN BUSINESS DAYS & SURCHARGE } REG                    +25%                    +50%                    +75%                    +100%                    +150%				7-10 Days <input type="checkbox"/> 5 Days <input type="checkbox"/> 4 Days <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 2 DAYS <input type="checkbox"/> Next Day <input type="checkbox"/> SAME DAY WHEN POSSIBLE +25%                    +50%                    +75%                    +100%                    +150%                    +300%							
PROJECT NAME/LOCATION/SITE				COMMENTS/SPECIAL REQUESTS:  TRRP 13 <input type="checkbox"/> YES <input type="checkbox"/> NO    LPST PCLS <input type="checkbox"/>  HARDCOPY <input type="checkbox"/> YES <input type="checkbox"/> NO    /    FOR STATE COMPLIANCE <input type="checkbox"/> YES <input type="checkbox"/> NO							
PROJECT NO.				TEMP. I.R. GUN # _____ SAMPLE TEMPERATURE WITHIN COMPLIANCE (> 0°C ≤ 6°C) <input type="checkbox"/> YES <input type="checkbox"/> NO PROPER CONTAINERS ..... <input type="checkbox"/> YES <input type="checkbox"/> NO    INITIAL TO AUTHORIZE BULK ANALYSIS IF NO, INITIAL HERE TO AUTHORIZE ANALYSIS							
SAMPLED BY		MATRIX	SAMPLING METHOD	TEMP. ON RECPT.		COND. OF SAMPLE		ANALYSIS REQUESTED			
S N M P P E R A M P L E R DATE TIME D R I N K W A T E R L I Q U I D P A I N T O I L S L O U T H G R E E N C O M P O S I T E G R O U P A R E A B E E R	SAMPLE IDENTIFICATION				C O N T A M I N A C O N T A I N E R N U M B E R S      S A M P L E      C O N T A I N E R M O U P L E N T      O F S	ANALYSIS REQUESTED				PRESERVED WITH	
	BTEX / MTBE (8280)					TPH (TK105 TK106)				HOLD	
	Metals 8 / 11 / 12 / 13					TPH / SRP / Total				H2O / H3O / H4O / H5O	
	PAH / SVOC / 8270 / 825 / TCIP / SRP / Total					Water Quality - Drinking / Livestock / Irrigation				H2O / H3O / H4O / H5O	
	VOC / 8260 / 624 / TCIP / SRP / Total					Coli / TC / FC / HPC / Ecoli / Enteroccci				H2O / H3O / H4O / H5O	
Herbicides 8/15				H2O / H3O / H4O / H5O				H2O / H3O / H4O / H5O			
REMARKS				REMARKS				REMARKS			
1 11/4/17 1015 X		1711205-01 (E Pilot Env)		1 1711205-02		X		HS17111021			
2 1 1355		1711205-03 (EE1 Area E Env)		1 1		X		San Antonio Testing Laboratory, Inc.			
3 1 1505		1711205-04 (EE2 Area E Env)		1 1		X		Herbicides 8151			
RELINQUISHED BY (SIGNATURE) <u>Aimee Landin</u>		DATE / TIME <u>11/15/17</u>		RECEIVED BY (SIGNATURE)		RELINQUISHED BY (SIGNATURE)		DATE / TIME		RECEIVED BY (SIGNATURE)	
RELINQUISHED BY (PRINT NAME) <u>Aimee Landin</u>		RECEIVED BY (PRINT NAME)		RELINQUISHED BY (PRINT NAME)		RECEIVED BY (PRINT NAME)					
RELINQUISHED BY (SIGNATURE)		RECEIVED BY (SIGNATURE) <u>JM 10/08</u>		METHOD OF SHIPMENT		SUBCONTRACTED <input type="checkbox"/> YES <input type="checkbox"/> NO					
RELINQUISHED BY (PRINT NAME)		RECEIVED BY (PRINT NAME)		SAMPLED IN 5035 CONTAINERS <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A		CUSTODY SEAL IN PLACE & INTACT <input type="checkbox"/> YES <input type="checkbox"/> NO					

[https://www.ups.com/uis/create?ActionOriginPair=default\\_\\_PrintWindowPage&key=la...](https://www.ups.com/uis/create?ActionOriginPair=default__PrintWindowPage&key=la...)

11/15/2017



box / foam



## **CHAIN-OF-CUSTODY RECORD**

## San Antonio TESTING LABORATORY INC.

10 S. Laredo Street, San Antonio, Texas 78207  
(210) 229-9920 • Fax (210) 229-9921  
www.cookandchase.com

विष्णुसामाजिक

PROJECT NAME/LOCATION/SITE <u>Michael Lake Westbank</u>		SAMPLED BY <u>S. G. Smithville</u>	MATRIX	SAMPLED DATE-CD	SDN	NAME	NUMBER
PROJECT NO. <u> </u>		COLLECTED	TIME	DATE			

## SAtesting

---

**From:** Brian Gottschalk <bgottschalk@adamsenvironmental.com>  
**Sent:** Friday, December 01, 2017 11:37 AM  
**To:** SAtesting  
**Cc:** Sable Kitchen  
**Subject:** RE: Mitchell Lake Wetlands - [none]

Thank you for the report. Please run the following samples (3-day turnaround) for Total Nitrogen:

- 1711205-02
- 1711205-05
- 1711205-06
- 1711205-07

Please let us know if you have any questions, and thanks!

Brian Gottschalk

Principal Scientist



12018 Las Nubes Street  
San Antonio, TX 78233  
Phone: (210) 858-6873 | Cell: (512) 784-1522

-----Original Message-----

**From:** SAtesting [mailto:[SAtesting@satestinglab.com](mailto:SAtesting@satestinglab.com)]  
**Sent:** Thursday, November 30, 2017 11:16 AM  
**To:** Brian Gottschalk <[bgottschalk@adamsenvironmental.com](mailto:bgottschalk@adamsenvironmental.com)>  
**Subject:** Mitchell Lake Wetlands - [none]

Email Text Override