January 19, 2016

Faller, Davis and Associates, Inc.
5525 West Cypress Street, Suite 300
Tampa, Florida 33607

Attn: Mr. Kenneth R. Muzyk, Jr., P.E.
Executive Vice President

RE: Final Level 2 Field Screening Report
SR 60 Grade Separation over CSX Railroad
Ingress/Egress Easement #1, Ingress/Egress Easement #2 and Lateral Ditch
Polk County, Florida
FPN: 436559-1-32-01
Tierra Project No.: 6511-15-022E

Mr. Muzyk:

Tierra, Inc. (Tierra) has completed this Level 2 Field Screening Report for the above-referenced project. This report presents the field and laboratory analytical results for soil and groundwater samples collected at Ingress/Egress Easement #1, Ingress/Egress Easement #2 and the Lateral Ditch. Based on these findings, *final* risk rankings have been developed.

Previous contamination related submittals for this project include the following:

- Final Contamination Screening Technical Memorandum by Atkins North America, Inc. dated March 2015 (includes Level 1 and 2 for mainline and Stormwater Management Facilities),
- Final NESHAP Asbestos Survey Report and Screening for Metals-Based Coatings dated February 18, 2015,
- Draft Level 1 Contamination Screening Evaluation Report Technical Memorandum dated July 1, 2015,
- Response to Comments Memo dated September 18, 2015,
- Level 2 Field Screening Scope of Services dated October 6, 2015, and
- Draft Level 2 Field Screening Report dated December 10, 2015.

We appreciate the opportunity to be of service to Faller, Davis and Associates, Inc. and the Florida Department of Transportation. Should you have any questions, please contact us at (813) 989-1354.

Respectfully Submitted,

TIERRA, INC.

Michael J. Bair, ASP
Chief Scientist

Donald R. Polanis, CGC, PSSC
Chief Scientist

FINAL Level 2 Field Screening Report

SR 60 Grade Separation over CSX Railroad
Ingress/Egress Easement #1, Ingress/Egress Easement #2, Lateral Ditch
Polk County, Florida

FPN: 436559-1-32-01

Prepared for:

Faller, Davis and Associates, Inc.
5525 West Cypress Street, Suite 300
Tampa, Florida 33607

Prepared by:

TIERRA, Inc.
7351 Temple Terrace Highway
Tampa, Florida 33637

Tierra Project No.: 6511-15-022E

January 2016

TABLE OF CONTENTS

Definitions, Acronyms and Abbreviations

AST	Aboveground Storage Tank
bls	Below Land Surface
BTEX	Benzene, Toluene, Ethylbenzene, Total Xylenes (EPA Method 8260)
CDV	Cattle Dip Vat
C/IDE	Commercial/Industrial Direct Exposure
CSER	Contamination Screening Evaluation Report
CTL	Cleanup Target Level (Chapter 62-777, F.A.C.)
DCIC	District Contamination Impact Coordinator
EPA	Environmental Protection Agency
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FL-PRO	Florida Petroleum Range Organics
GCTL	Groundwater Cleanup Target Level (Chapter 62-777, Table II, F.A.C.)
GNE	Groundwater Not Encountered
mg/kg	milligram per kilogram
NADC	Natural Attenuation Default Concentration (Chapter 62-777, Table V, F.A.C.)
NFA	No Further Action
NTU	Nephelometric Turbidity Units
OVA	Organic Vapor Analyzer
PAHs	Polynuclear Aromatic Hydrocarbons (EPA Method 8270)
PCBs	Polychlorinated Biphenyls (EPA Method 8082)
PD&E	Project Development and Environment
PID	Photoionization Detector
PPM	Parts Per Million
PSR	Pond Siting Report
RDE	Residential Direct Exposure
ROW	Right of Way
SB	Soil Boring
SCTL	Soil Cleanup Target Level (Chapter 62-777, Table I, F.A.C.)
SPLP	Synthetic Precipitation Leaching Procedure
SRCO	Site Rehabilitation Completion Order
TMW	Temporary Monitor Well
TRPH	Total Recoverable Petroleum Hydrocarbons (FL-PRO Method)
ug/L	microgram per liter
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds (EPA Method 8260)

1.0 INTRODUCTION

This report provides Level 2 field screening results for Ingress/Egress Easement #1, Ingress/Egress Easement #2, and the Lateral Ditch associated with the SR 60 Grade Separation over CSX Railroad project in Polk County, Florida. A Project Location Map is provided as **Sheet 1, Appendix A**. The Level 2 Field Screening Scope of Services was issued on October 6, 2015 to Mr. Jeffrey James, District Contamination Impact Coordinator (DCIC), and approved on October 7, 2015.

2.0 SCOPE & METHODOLOGY

Level 2 field screening was conducted in October 2015. Sample locations are illustrated on **Sheet 2, Appendix A**. Laboratory analytical results are summarized in **Appendix B**. Laboratory analytical reports are included in **Appendix C**. Field forms are included in **Appendix D** and GPS Coordinates are summarized in **Appendix E**.

Equipment decontamination, sample collection, field documentation, sample custody, and laboratory analyses were completed in general accordance with the latest version of the "Florida Department of Environmental Protection (FDEP) Standard Operating Procedures (SOP)." All field services were conducted and supervised by Tierra staff and a NELAP-accredited environmental laboratory performed the chemical testing. All soil boring locations were backfilled with native material after completion of the sampling activities. The specific scope of work and results for each site is described as follows:

Ingress/Egress Easement #1 – "No" Initial Risk Ranking

Two (2) soil borings (labeled as SB-1 and SB-2) were completed to a depth of 5 feet below existing grade using a hand auger. As evidenced by soil moisture, the shallow groundwater table was noted at 2.5 feet. Soil aliquots were collected at 1-foot intervals and screened in the field for organic vapors using an Organic Vapor Analyzer (OVA).

Soil samples (SB-1 and SB-2) were retained from each boring from land surface to two feet below grade, composited in the field and sent to the laboratory for analysis of the following parameter:

- Arsenic by EPA Method 6010.

Since OVA readings were not detected above 10 parts per million (ppm), no additional soil samples were retained for laboratory analysis and a temporary monitoring well was not installed for groundwater sample collection.

Ingress/Egress Easement #2 – "Medium" Initial Risk Ranking

Two (2) soil samples (labeled SB-3 and SB-4) were collected in the area of suspected herbicide usage (area of stressed vegetation at fence line common with Petersen Industries). Both samples were collected from land surface to two feet below grade, composited in the field and sent to the laboratory for analysis of the following parameters:

- Arsenic by EPA Method 6010,
- Herbicides by EPA Method 8151, and
- PCBs by EPA Method 8082.

Soil boring SB-4 was completed to 5 feet below existing grade using a hand auger. As evidenced by soil moisture, the shallow groundwater table was noted at 3 feet. Soil aliquots were collected at 1-foot intervals and screened in the field for organic vapors using an OVA.

The soil samples at SB-4 (0-2 feet) were additionally analyzed for the following parameters:

- Total Metals by EPA Method 6010/7471 (cadmium, chromium, copper, lead, nickel, zinc, and mercury) and
- Volatile Organic Compounds (VOCs) by EPA Method 8260.

Soil boring SB-4 was converted to a temporary monitoring well (labeled as TMW-1). The well was installed with a hand auger to approximately 5.5 feet below grade. The well was constructed of 5 feet of slotted well screen, which intersected the shallow water table. The well was developed after installation. The Well Construction and Development Log is included in **Appendix D**.

The well was allowed to equilibrate for one day prior to groundwater sample collected. A peristaltic pump and clean, disposable tubing was used to collect groundwater sample for laboratory analysis. The Groundwater Sampling Log is included in **Appendix D**. The well was removed upon completion of the groundwater sampling tasks. The groundwater samples from TMW-1 were subject to laboratory analysis for the following parameters:

- PCBs by EPA Method 8082,
- Herbicides by EPA Method 8151,
- Total Metals by EPA Method 6010/7470 (arsenic, cadmium, chromium, copper, lead, nickel, zinc, and mercury), and
- VOCs by EPA Method 8260.

Additionally, two shallow test pits (TP-1 and TP-2) were completed at the suspected debris area within Ingress/Egress Easement #2. The test pits were hand dug to a depth of 3.5 feet to determine the presence and nature of any buried debris. OVA screening was not conducted since unusual odors or stained soil was not encountered. One soil sample (labeled as SS-1) was collected from TP-1 for laboratory analysis of the following parameters:

- RCRA 8 Metals by EPA Method 6010/7471 and
- TRPH by the FL-PRO Method.

The sample (SS-1) was collected at 1 feet below land surface in proximity to the surficial debris. Since OVA samples were not collected, the discrete soil sample for laboratory analysis of Volatile Organic Compounds by EPA Method 8260 was not collected.

Groundwater sampling was not proposed for the test pits at Ingress/Egress Easement #2. Additionally, groundwater was not encountered at either test pit.

Lateral Ditch – "Medium" Initial Risk Ranking

Two (2) borings (SB-5 and SB-6) were completed to depths of 8 feet and 6 feet, respectively, below existing grade using a hand auger. Soil aliquots were collected at 1-foot intervals and screened in the field for organic vapors using an OVA.

Soil samples (SB-5 and SB-6) were retained from each boring from land surface to two feet below grade, composited in the field and sent to the laboratory for analysis of the following parameter:

- Arsenic by EPA Method 6010.

Since OVA readings were not detected above 10 parts per million (ppm), no additional soil samples were retained for laboratory analysis and a temporary monitoring well was not installed for groundwater sample collection.

3.0 FINDINGS & CONCLUSIONS

Field and laboratory results are summarized in **Appendix B**. The results were compared to the relevant Cleanup Target Levels (CTLs) of Chapter 62-777, Florida Administrative Code (F.A.C.).

Ingress/Egress Easement #1

- Two soil borings (SB-1 and SB-2) were completed to 2.5 feet below grade.
- OVA readings did not exceed 0.0 ppm.
- Two soil samples (SB-1 and SB-2) were collected for laboratory analysis.
- Soil analytical results did not exceed the RDE, C/IDE or Leachability SCTLs.
- Buried debris was not observed.
- No groundwater samples were collected.
- Contamination concentrations were not detected in excess of the CTLs. Therefore, this site is assigned a FINAL Level 2 risk ranking of "**No**."

Ingress/Egress Easement #2

- Two soil borings (SB-3 and SB-4) were completed.
- OVA readings did not exceed 0.0 ppm.
- Two shallow test pits (TP-1 and TP-2) were completed.
- Three soil samples (SS-1, SB-1 and SB-2) were collected for laboratory analysis.
- Soil analytical results did not exceed the RDE, C/IDE or Leachability SCTLs.
- Buried debris was not observed.
- Groundwater samples (TMW-1) were collected for laboratory analysis from one temporary monitoring well (TMW-1).
- Groundwater analytical results did not exceed the GCTLs or NADCs.
- Contamination concentrations were not detected in excess of the CTLs. Therefore, this site is assigned a FINAL Level 2 risk ranking of "**Low**."

Lateral Ditch

- Two soil borings (SB-5 and SB-6) were completed to 6 to 8 feet below grade.
- OVA readings did not exceed 0.0 ppm.
- Two soil samples (SB-5 and SB-6) were collected for laboratory analysis.
- Soil analytical results did not exceed the RDE, C/IDE or Leachability SCTLs.
- Buried debris was not observed.
- No groundwater samples were collected.
- Contamination concentrations were not detected in excess of the CTLs. Therefore, this site is assigned a FINAL Level 2 risk ranking of "**Low**."

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4.0 RECOMMENDATIONS

Based on the results of this Level 2 field screening, no contaminants were identified above their CTLs identified in Chapter 62-777, F.A.C. No buried debris was encountered in any of the soil borings. Based on these results, the following table has been updated to provide the final risk rankings for Ingress/Egress Easement #1, Ingress/Egress Easement #2, and the Lateral Ditch.

Risk Ranking Summary Table

Pond Alternative	Initial Risk Ranking	Final Risk Ranking	Comment
Ingress/Egress Easement #1	"No"	"No"	Historical use as woods and trails. Level 2 screening did not reveal buried debris and CTLs were not exceeded. Final risk ranking is "No."
Ingress/Egress Easement #2	"Medium"	"Low"	Herbicide use, possible buried debris, nearby paint building and HAZMAT storage area. Level 2 screening did not reveal buried debris and CTLs were not exceeded. Final risk ranking is "Low."
Lateral Ditch	"Medium"	"Low"	Nearby buried petroleum pipeline. Level 2 screening did not reveal buried debris and CTLs were not exceeded. Final risk ranking is "Low."

For sites with a final risk ranking of "No" or "Low," no additional work is recommended at this time. Should a facility's regulatory status change between now and the time acquisitions or roadway improvements are initiated, additional screening should be conducted.

5.0 LIMITATIONS

This study was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results, findings, conclusions, and recommendations expressed in this report are based on conditions observed during our course of work and under the scope of work authorized by the client. This report provides analytical results for a limited number of sample locations and should not be used to represent an assessment, but rather a Level 2 field screening that identifies the presence or absence of a tested contaminant. The information contained in this report is relevant to the date on which this survey was performed, and should not be relied upon to represent conditions at a later date. This report has been prepared on behalf of and exclusively for use by our client for specific application to their project as previously discussed. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. Tierra does not warrant the work of reporting agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report. No warranty, expressed or implied is made.

Appendix A

Project Location Map - Sheet 1
Sample Location Map - Sheet 2

SOURCE: FDOT SURVEY AND MAPPING DATED 2014

PROJECT LOCATION MAP

REVISIONS				TIERRA, INC. 7351 TEMPLE TERRACE HIGHWAY TAMPA, FLORIDA 33637 CERTIFICATE OF AUTHORIZATION 6486	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SR 60 GRADE SEPARATION OVER CSX	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
			TIERRA PROJECT NO.: 6511-15-022E		SR 60	POLK	436559-1-32-01		1

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NOTES

U = COMPOUND ANALYZED BUT NOT DETECTED ABOVE MDL

(I) = BETWEEN PQL AND MDL

<SCTL = LESS THAN THE SOIL CLEANUP TARGET LEVEL

<GCTL = LESS THAN THE GROUNDWATER CLEANUP TARGET LEVEL

ug/L = MICROGRAMS PER LITER

mg/kg = MILLIGRAMS PER KILOGRAM

CSX

SR 60

PEACE CREEK

1" = 500'

N

SB-1

SB-2

SB-3

SB-4

SB-5

SB-6

TP-1

TP-2

Ingress/Egress Easement #1
SOIL: SB-1 @ 0-2'
EPA 6010 (METALS) – mg/kg
ARSENIC | U

Ingress/Egress Easement #1
SOIL: SB-2 @ 0-2'
EPA 6010 (METALS) – mg/kg
ARSENIC | U

Lateral Ditch
SOIL: SB-5 @ 0-2'
EPA 6010 (METALS) – mg/kg
ARSENIC | U

Lateral Ditch
SOIL: SB-6 @ 0-2'
EPA 6010 (METALS) – mg/kg
ARSENIC | U

Ingress/Egress Easement #2
SOIL: SB-4 @ 0-2'
EPA 8082 (PCBs) – mg/kg
ALL COMPOUNDS | U
EPA 8151 (HERBICIDES) – mg/kg
ALL COMPOUNDS | U
EPA 6010/7471 (METALS) – mg/kg
ALL COMPOUNDS | U or (I)
EPA 8260 (VOLATILES) – mg/kg
ALL COMPOUNDS | U

Test Pit #1 at Ingress/Egress Easement #2
SOIL: SS-1 @ 1'
EPA 6010/7471 (METALS) – mg/kg
ALL COMPOUNDS | U or <SCTL
FL-PRO – mg/kg
TRPH | U

Ingress/Egress Easement #2
GROUNDWATER: TMW-1
EPA 8082 (PCBs) – ug/L
ALL COMPOUNDS | U
EPA 8151 (HERBICIDES) – ug/L
ALL COMPOUNDS | U
EPA 6010/7470 (METALS) – ug/L
ALL COMPOUNDS | U or <GCTL
EPA 8260 (VOLATILES) – ug/L
ALL COMPOUNDS | U

Ingress/Egress Easement #2
SOIL: SB-3 @ 0-2'
EPA 8082 (PCBs) – mg/kg
ALL COMPOUNDS | U
EPA 8151 (HERBICIDES) – mg/kg
ALL COMPOUNDS | U

SAMPLE LOCATION MAP

SOURCE: FDOT SURVEY AND MAPPING DATED 2014

● BORING LOCATION

▲ TEST PIT LOCATION

REVISIONS				TIERRA, INC. 7351 TEMPLE TERRACE HIGHWAY TAMPA, FLORIDA 33637 CERTIFICATE OF AUTHORIZATION 6486	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SR 60 GRADE SEPARATION OVER CSX	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		2
			TIERRA PROJECT NO.: 6511-15-022E		SR 60	POLK	436559-1-32-01		

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Appendix B

OVA Field Screening Summary - Table 1
Soil Analytical Summary - Table 2
Groundwater Analytical Summary - Table 3

TABLE 1: OVA FIELD SCREENING SUMMARY

SR 60 GRADE SEPARATION OVER CSX RAILROAD
POLK COUNTY
FPID: 436559-1-32-01
TIERRA PROJECT NO: 6511-15-022E

Site Reference	Boring No.	Sample Date	Apparent Depth to Groundwater (bls)	Approx. Sample Depth (feet bls)	NET OVA (ppm)	Comments
Ingress/Egress Easement #1	**SB-1**	10/22/15	2.5 ft.	1	0.0	lab sample 0-2 ft. composite
				2	0.0	
				3	0.0	
				4	0.0	
				5	0.0	
	SB-2	10/22/15	2.5 ft.	1	0.0	lab sample 0-2 ft. composite
				2	0.0	
				3	0.0	
				4	0.0	
				5	0.0	
Ingress/Egress Easement #2	**SB-3**	10/21/15	not encountered	per scope, OVA samples not collected		lab sample 0-2 ft. composite
	SB-4 (TMW-1)	10/21/15	3 ft.	1	0.0	lab sample 0-2 ft. composite
				2	0.0	
				3	0.0	
				4	0.0	
				5	0.0	
Lateral Ditch	**SB-5**	10/21/15	not encountered	1	0.0	lab sample 0-2 ft. composite
				2	0.0	
				3	0.0	
				4	0.0	
				5	0.0	
				6	0.0	
				7	0.0	
				8	0.0	
	SB-6	10/21/15	4 ft.	1	0.0	lab sample 0-2 ft. composite
				2	0.0	
				3	0.0	
				4	0.0	
				5	0.0	
				6	0.0	

NOTES:

bls = below land surface

OVA = Organic Vapor Analyzer

ppm = parts per million

SB = Soil Boring

TMW = Temporary Monitor Well

TABLE 2: SOIL ANALYTICAL SUMMARY

SR 60 GRADE SEPARATION OVER CSX RAILROAD
POLK COUNTY
FPID: 436559-1-32-01
TIERRA PROJECT NO: 6511-15-022E

SAMPLE INFORMATION				PCBs - EPA METHOD 8082 (mg/kg)							HERBICIDES - EPA METHOD 8151 (mg/kg)									
Site Reference	**Sample ID**	**Sample Depth**	**Date Collected**	**PCB-1016 (Aroclor 1016)**	**PCB-1221 (Aroclor 1221)**	**PCB-1232 (Aroclor 1232)**	**PCB-1242 (Aroclor 1242)**	**PCB-1248 (Aroclor 1248)**	**PCB-1254 (Aroclor 1254)**	**PCB-1260 (Aroclor 1260)**	**Bentazon**	**2,4-D**	**Dalapon**	**2,4-DB**	**Dicamba**	**Dinoseb**	**Pentachlorophenol**	**Picloram**	**2,4,5-T**	**2,4,5-TP (Silvex)**
	Leachability SCTL (mg/kg) →			#	#	#	#	#	#	#	*1.2*	*0.7*	#	#	*2.6*	*0.03*	*0.03*	#	*0.4*	*5.4*
	Residential Direct Exposure SCTL (mg/kg) →			#	#	#	#	#	#	#	*2,100*	*770*	#	#	*2,300*	*65*	*7.2*	#	*690*	*660*
	Commercial/Industrial Direct Exposure SCTL (mg/kg) →			#	#	#	#	#	#	#	*32,000*	*13,000*	#	#	*40,000*	*840*	*28*	#	*9,500*	*14,000*
Ingress/Egress Easement #1	**SB-1**	0-2 ft.	10/22/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-2	0-2 ft.	10/22/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ingress/Egress Easement #2	**SB-3**	0-2 ft.	10/21/15	0.010 U	0.0082 U	0.0086 U	0.0028 U	0.011 U	0.0070 U	0.011 U	0.0020 U	0.0077 U	0.0063 U	0.017 U	0.0013 U	0.0015 U	0.00083 U	0.0010 U	0.0016 U	0.00081 U
	SB-4	0-2 ft.	10/21/15	0.011 U	0.0085 U	0.0089 U	0.0029 U	0.011 U	0.0072 U	0.011 U	0.0020 U	0.0079 U	0.0064 U	0.018 U	0.0013 U	0.0015 U	0.00084 U	0.0010 U	0.0017 U	0.00083 U
	SS-1	1 ft.	10/21/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lateral Ditch	**SB-5**	0-2 ft.	10/21/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-6	0-2 ft.	10/21/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTES

mg/kg = milligrams per kilogram
SCTL = Soil Cleanup Target Level per Ch 62-777, F.A.C.
 # no SCTL has been established
must be derived using SPLP Method
U = analyte not detected above noted concentration
I = analytes detected between PQL and MDL
***BOLD** concentration exceeds SCTL*

TABLE 2: SOIL ANALYTICAL SUMMARY

SR 60 GRADE SEPARATION OVER CSX RAILROAD
POLK COUNTY
FPID: 436559-1-32-01
TIERRA PROJECT NO: 6511-15-022E

SAMPLE INFORMATION				METALS - EPA METHOD 6010/7471 AND TRPH - FL-PRO METHOD (mg/kg)												VOLATILES - EPA METHOD 8260 (mg/kg)						
Site Reference	**Sample ID**	**Sample Depth**	**Date Collected**	**Arsenic**	**Barium**	**Cadmium**	**Chromium**	**Copper**	**Lead**	**Nickel**	**Selenium**	**Silver**	**Zinc**	**Mercury**	**TRPH**	**Acetone**	**Benzene**	**Bromochloromethane**	**Bromodichloromethane**	**Bromoform**	**Bromomethane**	**2-Butanone (MEK)**
			Leachability SCTL (mg/kg) →	*##*	*1,600*	*7.5*	*38*	*##*	*##*	*130*	*5.2*	*17*	*##*	*2.1*	*340*	*25*	*0.007*	*0.6*	*0.004*	*0.03*	*0.05*	*17*
			Residential Direct Exposure SCTL (mg/kg) →	*2.1*	*120*	*82*	*210*	*150*	*400*	*340*	*440*	*410*	*26,000*	*3*	*460*	*11,000*	*1.2*	*95*	*1.5*	*48*	*3.1*	*16,000*
			Commercial/Industrial Direct Exposure SCTL (mg/kg) →	*12*	*130,000*	*1,700*	*470*	*89,000*	*1,400*	*35,000*	*11,000*	*8,200*	*630,000*	*17*	*2700*	*68,000*	*1.7*	*530*	*2.2*	*93*	*16*	*110,000*
Ingress/Egress Easement #1	**SB-1**	0-2 ft.	10/22/15	0.25 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-2	0-2 ft.	10/22/15	0.25 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ingress/Egress Easement #2	**SB-3**	0-2 ft.	10/21/15	0.26 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-4	0-2 ft.	10/21/15	0.25 U	-	0.025 U	0.15 I	0.13 U	0.25 U	0.13 U	-	-	0.68 I	0.0040 U	-	0.0065 U	0.0017 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U
	SS-1	1 ft.	10/21/15	0.27 U	2.6	0.060 U	0.18 U	-	2.3	-	0.18 U	0.19 U	-	0.0052 U	2.7 U	-	-	-	-	-	-	-	-
Lateral Ditch	**SB-5**	0-2 ft.	10/21/15	0.24 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-6	0-2 ft.	10/21/15	0.26 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTES

mg/kg = milligrams per kilogram
SCTL = Soil Cleanup Target Level per Ch 62-777, F.A.C.
 # no SCTL has been established
must be derived using SPLP Method
U = analyte not detected above noted concentration
I = analytes detected between PQL and MDL
***BOLD** concentration exceeds SCTL*

TABLE 2: SOIL ANALYTICAL SUMMARY

SR 60 GRADE SEPARATION OVER CSX RAILROAD
POLK COUNTY
FPID: 436559-1-32-01
TIERRA PROJECT NO: 6511-15-022E

SAMPLE INFORMATION				VOLATILES - EPA METHOD 8260 (mg/kg)																	
Site Reference	**Sample ID**	**Sample Depth**	**Date Collected**	**Carbon disulfide**	**Carbon tetrachloride**	**Chlorobenzene**	**Chloroethane**	**Chloroform**	**Chloromethane**	**Dibromochloromethane**	**Dibromomethane**	**1,2-Dichlorobenzene**	**1,3-Dichlorobenzene**	**1,4-Dichlorobenzene**	**Dichlorodifluoromethane**	**1,1-Dichloroethane**	**1,2-Dichloroethane**	**1,1-Dichloroethene**	**cis-1,2-Dichloroethene**	**trans-1,2-Dichloroethene**	**1,2-Dichloropropane**	**1,3-Dichloropropene**
			Leachability SCTL (mg/kg) →	*5.6*	*0.04*	*1.3*	*0.06*	*0.4*	*0.02*	*0.003*	*0.3*	*17*	*7*	*2.2*	*44*	*0.4*	*0.01*	*0.06*	*0.4*	*0.7*	*0.03*	*0.002*
			Residential Direct Exposure SCTL (mg/kg) →	*270*	*0.5*	*120*	*3.9*	*0.4*	*4*	*1.5*	*96*	*880*	*380*	*6.4*	*77*	*390*	*0.5*	*95*	*33*	*53*	*0.6*	*1.4*
			Commercial/Industrial Direct Exposure SCTL (mg/kg) →	*1,500*	*0.7*	*650*	*5.4*	*0.6*	*5.7*	*2.3*	*550*	*5,000*	*2,200*	*9.9*	*410*	*2,100*	*0.7*	*510*	*180*	*290*	*0.9*	*2.2*
Ingress/Egress Easement #1	**SB-1**	0-2 ft.	10/22/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-2	0-2 ft.	10/22/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ingress/Egress Easement #2	**SB-3**	0-2 ft.	10/21/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-4	0-2 ft.	10/21/15	0.0016 U	0.0016 U	0.0016 U	0.0023 U	0.0019 U	0.0018 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0017 U	0.0018 U	0.0016 U	0.0016 U	0.0016 U	0.0020 U	0.0016 U	0.0016 U
	SS-1	1 ft.	10/21/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lateral Ditch	**SB-5**	0-2 ft.	10/21/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-6	0-2 ft.	10/21/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTES

mg/kg = milligrams per kilogram
SCTL = Soil Cleanup Target Level per Ch 62-777, F.A.C.
 # no SCTL has been established
must be derived using SPLP Method
U = analyte not detected above noted concentration
I = analytes detected between PQL and MDL
***BOLD** concentration exceeds SCTL*

TABLE 2: SOIL ANALYTICAL SUMMARY

SR 60 GRADE SEPARATION OVER CSX RAILROAD
POLK COUNTY
FPID: 436559-1-32-01
TIERRA PROJECT NO: 6511-15-022E

SAMPLE INFORMATION				VOLATILES - EPA METHOD 8260 (mg/kg)																
Site Reference	Sample ID	Sample Depth	Date Collected	**Ethylbenzene**	**2-Hexanone**	**Isopropylbenzene (Cumene)**	**Methylene Chloride**	**4-Methyl-2-pentanone (MIBK)**	**Methyl-tert-butyl ether**	**Styrene**	**1,1,2,2-Tetrachloroethane**	**Tetrachloroethene**	**Toluene**	**1,1,1-Trichloroethane**	**1,1,2-Trichloroethane**	**Trichloroethene**	**Trichlorofluoromethane**	**1,2,4-Trimethylbenzene**	**1,3,5-Trimethylbenzene**	**Vinyl chloride**	**Xylene (Total)**
	Leachability SCTL (mg/kg) →			*0.6*	*1.4*	*0.2*	*0.02*	*2.6*	*0.09*	*3.6*	*0.001*	*0.03*	*0.5*	*1.9*	*0.03*	*0.03*	*33*	*0.3*	*0.3*	*0.007*	*0.2*
	Residential Direct Exposure SCTL (mg/kg) →			*1,500*	*24*	*220*	*17*	*4,300*	*4,400*	*3,600*	*0.7*	*8.8*	*7,500*	*730*	*1.4*	*6.4*	*270*	*18*	*15*	*0.2*	*130*
	Commercial/Industrial Direct Exposure SCTL (mg/kg) →			*9,200*	*130*	*1,200*	*26*	*44,000*	*24,000*	*23,000*	*1.2*	*18*	*60,000*	*3,900*	*2*	*9.3*	*1,500*	*95*	*80*	*0.8*	*700*
Ingress/Egress Easement #1	**SB-1**	0-2 ft.	10/22/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-2	0-2 ft.	10/22/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ingress/Egress Easement #2	**SB-3**	0-2 ft.	10/21/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-4	0-2 ft.	10/21/15	0.0018 U	0.0016 U	0.0019 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0016 U	0.0018 U	0.0018 U	0.0016 U	0.0018 U	0.0018 U	0.0018 U	0.0019 U	0.0018 U	0.0033 U
	SS-1	1 ft.	10/21/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lateral Ditch	**SB-5**	0-2 ft.	10/21/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SB-6	0-2 ft.	10/21/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTES

mg/kg = milligrams per kilogram
SCTL = Soil Cleanup Target Level per Ch 62-777, F.A.C.
 # no SCTL has been established
must be derived using SPLP Method
U = analyte not detected above noted concentration
I = analytes detected between PQL and MDL
***BOLD** concentration exceeds SCTL*

TABLE 3: GROUNDWATER ANALYTICAL SUMMARY

SR 60 GRADE SEPARATION OVER CSX RAILROAD
POLK COUNTY
FPID: 436559-1-32-01
TIERRA PROJECT NO: 6511-15-022E

SAMPLE INFORMATION			PCBs - EPA METHOD 8082 (ug/L)							HERBICIDES - EPA METHOD 8151 (ug/L)								
Site Reference	**Sample ID**	**Date Collected**	**PCB-1016 (Aroclor 1016)**	**PCB-1221 (Aroclor 1221)**	**PCB-1232 (Aroclor 1232)**	**PCB-1242 (Aroclor 1242)**	**PCB-1248 (Aroclor 1248)**	**PCB-1254 (Aroclor 1254)**	**PCB-1260 (Aroclor 1260)**	**Bentazon**	**2,4-D**	**Dalapon**	**2,4-DB**	**Dicamba**	**Dinoseb**	**Pentachlorophenol**	**Picloram**	**2,4,5-T**	**2,4,5-TP (Silvex)**
		GCTL (ug/L) →	*#*	*#*	*#*	*#*	*#*	*#*	*#*	*210*	*70*	*200*	*56*	*210*	*7*	*1*	*500*	*70*	*50*
		NADC (ug/L) →	*#*	*#*	*#*	*#*	*#*	*#*	*#*	*2,100*	*700*	*2,000*	*560*	*2,100*	*70*	*100*	*5,000*	*700*	*500*
Ingress/Egress Easement #2	**TMW-1**	10/22/15	0.080 U	0.081 U	0.12 U	0.13 U	0.28 U	0.15 U	0.11 U	0.015 U	0.21 U	0.41 U	0.48 U	0.028 U	0.054 U	0.016 U	0.018 U	0.040 U	0.046 U

NOTES

ug/L = micrograms per liter
GCTL = Groundwater Cleanup Target Level per Ch 62-777, F.A.C.
NADC = Natural Attenuation Default Concentration per Ch 62-777, F.A.C.
 # no GCTL has been established
U = analyte not detected above noted concentration
I = analyte detected between PQL and MDL
BOLD *concentration exceeds GCTL*

TABLE 3: GROUNDWATER ANALYTICAL SUMMARY

SR 60 GRADE SEPARATION OVER CSX RAILROAD
POLK COUNTY
FPID: 436559-1-32-01
TIERRA PROJECT NO: 6511-15-022E

SAMPLE INFORMATION			METALS - EPA METHOD 6010/7470 (ug/L)								VOLATILES - EPA METHOD 8260 (ug/L)									
Site Reference	**Sample ID**	**Date Collected**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Lead**	**Nickel**	**Zinc**	**Mercury**	**Acetone**	**Benzene**	**Bromochloromethane**	**Bromodichloromethane**	**Bromoform**	**Bromomethane**	**2-Butanone (MEK)**	**Carbon disulfide**	**Carbon tetrachloride**	**Chlorobenzene**
		GCTL (ug/L) →	*10*	*5*	*100*	*1,000*	*15*	*100*	*5,000*	*2*	*6,300*	*1*	*91*	*0.6*	*4.4*	*9.8*	*4,200*	*700*	*3*	*100*
		NADC (ug/L) →	*100*	*50*	*1,000*	*10,000*	*150*	*1,000*	*50,000*	*20*	*63,000*	*100*	*910*	*60*	*440*	*98*	*42,000*	*7,000*	*300*	*1,000*
Ingress/Egress Easement #2	**TMW-1**	10/22/15	5.0 U	0.50 U	2.5 U	7.6	5.0 U	2.5 U	20.9	0.10 U	10.0 U	0.10 U	0.50 U	0.27 U	0.50 U	0.50 U	5.0 U	5.0 U	0.50 U	0.50 U

NOTES

ug/L = micrograms per liter
GCTL = Groundwater Cleanup Target Level per Ch 62-777, F.A.C.
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 # no GCTL has been established
U = analyte not detected above noted concentration
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TABLE 3: GROUNDWATER ANALYTICAL SUMMARY

SR 60 GRADE SEPARATION OVER CSX RAILROAD
POLK COUNTY
FPID: 436559-1-32-01
TIERRA PROJECT NO: 6511-15-022E

SAMPLE INFORMATION			VOLATILES - EPA METHOD 8260 (ug/L)																
Site Reference	**Sample ID**	**Date Collected**	**Chloroethane**	**Chloroform**	**Chloromethane**	**Dibromochloromethane**	**Dibromomethane**	**1,2-Dichlorobenzene**	**1,3-Dichlorobenzene**	**1,4-Dichlorobenzene**	**Dichlorodifluoromethane**	**1,1-Dichloroethane**	**1,2-Dichloroethane**	**1,1-Dichloroethene**	**cis-1,2-Dichloroethene**	**trans-1,2-Dichloroethene**	**1,2-Dichloropropane**	**1,3-Dichloropropene**	**Ethylbenzene**	**2-Hexanone**
		GCTL (ug/L) →	*12*	*70*	*2.7*	*0.4*	*70*	*600*	*210*	*75*	*1,400*	*70*	*3*	*7*	*70*	*100*	*5*	*0.4*	*30*	*280*
		NADC (ug/L) →	*1,200*	*700*	*270*	*40*	*700*	*6,000*	*2,100*	*7,500*	*14,000*	*700*	*300*	*70*	*700*	*1,000*	*500*	*40*	*300*	*2,800*
Ingress/Egress Easement #2	**TMW-1**	10/22/15	0.50 U	0.50 U	0.62 U	0.26 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.25 U	0.50 U	5.0 U

NOTES

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 # no GCTL has been established
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BOLD *concentration exceeds GCTL*

TABLE 3: GROUNDWATER ANALYTICAL SUMMARY

SR 60 GRADE SEPARATION OVER CSX RAILROAD
POLK COUNTY
FPID: 436559-1-32-01
TIERRA PROJECT NO: 6511-15-022E

SAMPLE INFORMATION			VOLATILES - EPA METHOD 8260 (ug/L)															
Site Reference	**Sample ID**	**Date Collected**	**Isopropylbenzene (Cumene)**	**Methylene Chloride**	**4-Methyl-2-pentanone (MIBK)**	**Methyl-tert-butyl ether**	**Styrene**	**1,1,2,2-Tetrachloroethane**	**Tetrachloroethene**	**Toluene**	**1,1,1-Trichloroethane**	**1,1,2-Trichloroethane**	**Trichloroethene**	**Trichlorofluoromethane**	**1,2,4-Trimethylbenzene**	**1,3,5-Trimethylbenzene**	**Vinyl chloride**	**Xylene (Total)**
		GCTL (ug/L) →	*0.8*	*5*	*560*	*20*	*100*	*0.2*	*3*	*40*	*200*	*5*	*3*	*2,100*	*10*	*10*	*1*	*20*
		NADC (ug/L) →	*8*	*500*	*5,600*	*200*	*1,000*	*20*	*300*	*400*	*2,000*	*500*	*300*	*21,000*	*100*	*100*	*100*	*200*
Ingress/Egress Easement #2	**TMW-1**	10/22/15	0.50 U	2.5 U	5.0 U	0.50 U	0.50 U	0.12 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U

NOTES

ug/L = micrograms per liter
GCTL = Groundwater Cleanup Target Level per Ch 62-777, F.A.C.
NADC = Natural Attenuation Default Concentration per Ch 62-777, F.A.C.
 # no GCTL has been established
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I = analyte detected between PQL and MDL
BOLD *concentration exceeds GCTL*

Appendix C

Laboratory Analytical Reports

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

October 29, 2015

Michael Bair
Tierra, Inc.
7351 Temple Terrace Highway
Tampa, FL 33637

RE: Project: SR 60 Grade Separation
Pace Project No.: 35212854

Dear Michael Bair:
Enclosed are the analytical results for sample(s) received by the laboratory between October 21, 2015 and October 22, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

LA Palmer

Lori Palmer
lori.palmer@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

CERTIFICATIONS

Project: SR 60 Grade Separation
Pace Project No.: 35212854

Ormond Beach Certification IDs
8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

Tampa Certification IDs
5460 Beaumont Center Blvd, Ste 520, Tampa, FL 33634
Florida Certification #: E84809

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

SAMPLE SUMMARY

Project: SR 60 Grade Separation
Pace Project No.: 35212854

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35212854001	**SB-3**	Solid	10/21/15 09:50	10/21/15 15:00
35212854002	**SB-4**	Solid	10/21/15 10:25	10/21/15 15:00
35212854003	**SS-1**	Solid	10/21/15 11:30	10/21/15 15:00
35212854004	**SB-5**	Solid	10/21/15 12:20	10/21/15 15:00
35212854005	**SB-6**	Solid	10/21/15 12:50	10/21/15 15:00
35212854006	**SB-1**	Solid	10/22/15 11:53	10/22/15 14:00
35212854007	**SB-2**	Solid	10/22/15 12:05	10/22/15 14:00

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

SAMPLE ANALYTE COUNT

Project: SR 60 Grade Separation
Pace Project No.: 35212854

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35212854001	**SB-3**	EPA 8082	JLG	9	PASI-O
		EPA 8151	LJM	11	PASI-O
		ASTM D2974-87	MLO	1	PASI-O
		EPA 6010	SAM	1	PASI-Tp
35212854002	**SB-4**	EPA 8082	JLG	9	PASI-O
		EPA 8151	LJM	11	PASI-O
		EPA 6010	TAP	7	PASI-O
		EPA 7471	MEW	1	PASI-O
		EPA 8260	BCH	47	PASI-O
		ASTM D2974-87	MLO	1	PASI-O
35212854003	**SS-1**	FL-PRO	JGW	3	PASI-O
		ASTM D2974-87	MLO	1	PASI-O
		EPA 6010	SAM	7	PASI-Tp
		EPA 7471	SAM	1	PASI-Tp
35212854004	**SB-5**	ASTM D2974-87	JH1	1	PASI-O
		EPA 6010	SAM	1	PASI-Tp
35212854005	**SB-6**	ASTM D2974-87	JH1	1	PASI-O
		EPA 6010	SAM	1	PASI-Tp
35212854006	**SB-1**	ASTM D2974-87	JH1	1	PASI-O
		EPA 6010	SAM	1	PASI-Tp
35212854007	**SB-2**	ASTM D2974-87	JH1	1	PASI-O
		EPA 6010	SAM	1	PASI-Tp

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

ANALYTICAL RESULTS

Project: SR 60 Grade Separation
Pace Project No.: 35212854

Sample: SB-3 **Lab ID: 35212854001** Collected: 10/21/15 09:50 Received: 10/21/15 15:00 Matrix: Solid

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

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3546								
PCB-1016 (Aroclor 1016)	**0.010 U**	mg/kg	0.017	0.010	1	10/23/15 18:30	10/24/15 12:51	12674-11-2	
PCB-1221 (Aroclor 1221)	**0.0082 U**	mg/kg	0.017	0.0082	1	10/23/15 18:30	10/24/15 12:51	11104-28-2	
PCB-1232 (Aroclor 1232)	**0.0086 U**	mg/kg	0.017	0.0086	1	10/23/15 18:30	10/24/15 12:51	11141-16-5	
PCB-1242 (Aroclor 1242)	**0.0028 U**	mg/kg	0.017	0.0028	1	10/23/15 18:30	10/24/15 12:51	53469-21-9	
PCB-1248 (Aroclor 1248)	**0.011 U**	mg/kg	0.017	0.011	1	10/23/15 18:30	10/24/15 12:51	12672-29-6	
PCB-1254 (Aroclor 1254)	**0.0070 U**	mg/kg	0.017	0.0070	1	10/23/15 18:30	10/24/15 12:51	11097-69-1	
PCB-1260 (Aroclor 1260)	**0.011 U**	mg/kg	0.017	0.011	1	10/23/15 18:30	10/24/15 12:51	11096-82-5	
Surrogates									
Tetrachloro-m-xylene (S)	114	%	19.6-135		1	10/23/15 18:30	10/24/15 12:51	877-09-8	
Decachlorobiphenyl (S)	138	%	24.5-162		1	10/23/15 18:30	10/24/15 12:51	2051-24-3	
8151 Chlorinated Herbicides	Analytical Method: EPA 8151 Preparation Method: EPA 8151								
Bentazon	**0.0020 U**	mg/kg	0.0032	0.0020	1	10/27/15 08:45	10/28/15 02:34	25057-89-0	L3
2,4-D	**0.0077 U**	mg/kg	0.032	0.0077	1	10/27/15 08:45	10/28/15 02:34	94-75-7	
Dalapon	**0.0063 U**	mg/kg	0.031	0.0063	1	10/27/15 08:45	10/28/15 02:34	75-99-0	
2,4-DB	**0.017 U**	mg/kg	0.065	0.017	1	10/27/15 08:45	10/28/15 02:34	94-82-6	
Dicamba	**0.0013 U**	mg/kg	0.0032	0.0013	1	10/27/15 08:45	10/28/15 02:34	1918-00-9	
Dinoseb	**0.0015 U**	mg/kg	0.0064	0.0015	1	10/27/15 08:45	10/28/15 02:34	88-85-7	
Pentachlorophenol	**0.00083 U**	mg/kg	0.00097	0.00083	1	10/27/15 08:45	10/28/15 02:34	87-86-5	
Picloram	**0.0010 U**	mg/kg	0.0032	0.0010	1	10/27/15 08:45	10/28/15 02:34	1918-02-1	
2,4,5-T	**0.0016 U**	mg/kg	0.0065	0.0016	1	10/27/15 08:45	10/28/15 02:34	93-76-5	
2,4,5-TP (Silvex)	**0.00081 U**	mg/kg	0.0065	0.00081	1	10/27/15 08:45	10/28/15 02:34	93-72-1	
Surrogates									
2,4-DCAA (S)	81	%	36-130		1	10/27/15 08:45	10/28/15 02:34	19719-28-9	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**2.6**	%	0.10	0.10	1		10/28/15 12:56		
6010 MET ICP Tampa	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**0.26 U**	mg/kg	0.99	0.26	1	10/23/15 13:34	10/23/15 17:53	7440-38-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

ANALYTICAL RESULTS

Project: SR 60 Grade Separation
Pace Project No.: 35212854

Sample: SB-4 **Lab ID: 35212854002** Collected: 10/21/15 10:25 Received: 10/21/15 15:00 Matrix: Solid

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

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3546								
PCB-1016 (Aroclor 1016)	**0.011 U**	mg/kg	0.018	0.011	1	10/23/15 18:30	10/24/15 13:07	12674-11-2	
PCB-1221 (Aroclor 1221)	**0.0085 U**	mg/kg	0.018	0.0085	1	10/23/15 18:30	10/24/15 13:07	11104-28-2	
PCB-1232 (Aroclor 1232)	**0.0089 U**	mg/kg	0.018	0.0089	1	10/23/15 18:30	10/24/15 13:07	11141-16-5	
PCB-1242 (Aroclor 1242)	**0.0029 U**	mg/kg	0.018	0.0029	1	10/23/15 18:30	10/24/15 13:07	53469-21-9	
PCB-1248 (Aroclor 1248)	**0.011 U**	mg/kg	0.018	0.011	1	10/23/15 18:30	10/24/15 13:07	12672-29-6	
PCB-1254 (Aroclor 1254)	**0.0072 U**	mg/kg	0.018	0.0072	1	10/23/15 18:30	10/24/15 13:07	11097-69-1	
PCB-1260 (Aroclor 1260)	**0.011 U**	mg/kg	0.018	0.011	1	10/23/15 18:30	10/24/15 13:07	11096-82-5	
Surrogates									
Tetrachloro-m-xylene (S)	113	%	19.6-135		1	10/23/15 18:30	10/24/15 13:07	877-09-8	
Decachlorobiphenyl (S)	139	%	24.5-162		1	10/23/15 18:30	10/24/15 13:07	2051-24-3	
8151 Chlorinated Herbicides	Analytical Method: EPA 8151 Preparation Method: EPA 8151								
Bentazon	**0.0020 U**	mg/kg	0.0033	0.0020	1	10/27/15 08:45	10/28/15 03:04	25057-89-0	L3
2,4-D	**0.0079 U**	mg/kg	0.033	0.0079	1	10/27/15 08:45	10/28/15 03:04	94-75-7	
Dalapon	**0.0064 U**	mg/kg	0.032	0.0064	1	10/27/15 08:45	10/28/15 03:04	75-99-0	
2,4-DB	**0.018 U**	mg/kg	0.066	0.018	1	10/27/15 08:45	10/28/15 03:04	94-82-6	
Dicamba	**0.0013 U**	mg/kg	0.0033	0.0013	1	10/27/15 08:45	10/28/15 03:04	1918-00-9	
Dinoseb	**0.0015 U**	mg/kg	0.0066	0.0015	1	10/27/15 08:45	10/28/15 03:04	88-85-7	J(R1)
Pentachlorophenol	**0.00084 U**	mg/kg	0.00099	0.00084	1	10/27/15 08:45	10/28/15 03:04	87-86-5	
Picloram	**0.0010 U**	mg/kg	0.0033	0.0010	1	10/27/15 08:45	10/28/15 03:04	1918-02-1	
2,4,5-T	**0.0017 U**	mg/kg	0.0066	0.0017	1	10/27/15 08:45	10/28/15 03:04	93-76-5	
2,4,5-TP (Silvex)	**0.00083 U**	mg/kg	0.0066	0.00083	1	10/27/15 08:45	10/28/15 03:04	93-72-1	
Surrogates									
2,4-DCAA (S)	85	%	36-130		1	10/27/15 08:45	10/28/15 03:04	19719-28-9	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**0.25 U**	mg/kg	0.50	0.25	1	10/23/15 04:33	10/24/15 17:17	7440-38-2	
Cadmium	**0.025 U**	mg/kg	0.050	0.025	1	10/23/15 04:33	10/24/15 17:17	7440-43-9	
Chromium	**0.15 I**	mg/kg	0.25	0.13	1	10/23/15 04:33	10/24/15 17:17	7440-47-3	
Copper	**0.13 U**	mg/kg	0.25	0.13	1	10/23/15 04:33	10/24/15 17:17	7440-50-8	
Lead	**0.25 U**	mg/kg	0.50	0.25	1	10/23/15 04:33	10/24/15 17:17	7439-92-1	
Nickel	**0.13 U**	mg/kg	0.25	0.13	1	10/23/15 04:33	10/24/15 17:17	7440-02-0	
Zinc	**0.68 I**	mg/kg	1.0	0.50	1	10/23/15 04:33	10/24/15 17:17	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.0040 U**	mg/kg	0.0080	0.0040	1	10/26/15 14:07	10/27/15 17:57	7439-97-6	
8260 MSV 5030 Low Level	Analytical Method: EPA 8260								
Acetone	**0.0065 U**	mg/kg	0.013	0.0065	1		10/27/15 19:27	67-64-1	
Benzene	**0.0017 U**	mg/kg	0.0033	0.0017	1		10/27/15 19:27	71-43-2	
Bromochloromethane	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	74-97-5	
Bromodichloromethane	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	75-27-4	
Bromoform	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	75-25-2	J(L2)
Bromomethane	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	74-83-9	
2-Butanone (MEK)	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	78-93-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

ANALYTICAL RESULTS

Project: SR 60 Grade Separation
Pace Project No.: 35212854

Sample: SB-4 **Lab ID: 35212854002** Collected: 10/21/15 10:25 Received: 10/21/15 15:00 Matrix: Solid

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

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Low Level	Analytical Method: EPA 8260								
Carbon disulfide	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	75-15-0	
Carbon tetrachloride	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	56-23-5	
Chlorobenzene	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	108-90-7	
Chloroethane	**0.0023 U**	mg/kg	0.0033	0.0023	1		10/27/15 19:27	75-00-3	
Chloroform	**0.0019 U**	mg/kg	0.0033	0.0019	1		10/27/15 19:27	67-66-3	
Chloromethane	**0.0018 U**	mg/kg	0.0033	0.0018	1		10/27/15 19:27	74-87-3	
Dibromochloromethane	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	124-48-1	
Dibromomethane	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	74-95-3	
1,2-Dichlorobenzene	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	95-50-1	
1,3-Dichlorobenzene	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	541-73-1	
1,4-Dichlorobenzene	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	106-46-7	
Dichlorodifluoromethane	**0.0017 U**	mg/kg	0.0033	0.0017	1		10/27/15 19:27	75-71-8	
1,1-Dichloroethane	**0.0018 U**	mg/kg	0.0033	0.0018	1		10/27/15 19:27	75-34-3	
1,2-Dichloroethane	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	107-06-2	
1,1-Dichloroethene	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	75-35-4	
cis-1,2-Dichloroethene	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	156-59-2	
trans-1,2-Dichloroethene	**0.0020 U**	mg/kg	0.0033	0.0020	1		10/27/15 19:27	156-60-5	
1,2-Dichloropropane	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	78-87-5	
1,3-Dichloropropene	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	542-75-6	
Ethylbenzene	**0.0018 U**	mg/kg	0.0033	0.0018	1		10/27/15 19:27	100-41-4	
2-Hexanone	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	591-78-6	
Isopropylbenzene (Cumene)	**0.0019 U**	mg/kg	0.0033	0.0019	1		10/27/15 19:27	98-82-8	
Methylene Chloride	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	108-10-1	
Methyl-tert-butyl ether	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	1634-04-4	
Styrene	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	100-42-5	
1,1,2,2-Tetrachloroethane	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	79-34-5	
Tetrachloroethene	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	127-18-4	
Toluene	**0.0018 U**	mg/kg	0.0033	0.0018	1		10/27/15 19:27	108-88-3	
1,1,1-Trichloroethane	**0.0018 U**	mg/kg	0.0033	0.0018	1		10/27/15 19:27	71-55-6	
1,1,2-Trichloroethane	**0.0016 U**	mg/kg	0.0033	0.0016	1		10/27/15 19:27	79-00-5	
Trichloroethene	**0.0018 U**	mg/kg	0.0033	0.0018	1		10/27/15 19:27	79-01-6	
Trichlorofluoromethane	**0.0018 U**	mg/kg	0.0033	0.0018	1		10/27/15 19:27	75-69-4	
1,2,4-Trimethylbenzene	**0.0018 U**	mg/kg	0.0033	0.0018	1		10/27/15 19:27	95-63-6	
1,3,5-Trimethylbenzene	**0.0019 U**	mg/kg	0.0033	0.0019	1		10/27/15 19:27	108-67-8	
Vinyl chloride	**0.0018 U**	mg/kg	0.0033	0.0018	1		10/27/15 19:27	75-01-4	
Xylene (Total)	**0.0033 U**	mg/kg	0.0098	0.0033	1		10/27/15 19:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	85	%	55-148		1		10/27/15 19:27	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	80-131		1		10/27/15 19:27	17060-07-0	
Toluene-d8 (S)	95	%	84-117		1		10/27/15 19:27	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**4.2**	%	0.10	0.10	1		10/28/15 12:56		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

ANALYTICAL RESULTS

Project: SR 60 Grade Separation
Pace Project No.: 35212854

Sample: SS-1 **Lab ID: 35212854003** Collected: 10/21/15 11:30 Received: 10/21/15 15:00 Matrix: Solid

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

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
FL-PRO Soil Microwave	Analytical Method: FL-PRO Preparation Method: EPA 3546								
Petroleum Range Organics	**2.7 U**	mg/kg	4.2	2.7	1	10/24/15 05:00	10/24/15 16:48		
Surrogates									
o-Terphenyl (S)	92	%	62-109		1	10/24/15 05:00	10/24/15 16:48	84-15-1	
N-Pentatriacontane (S)	68	%	42-159		1	10/24/15 05:00	10/24/15 16:48	630-07-09	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**5.3**	%	0.10	0.10	1		10/28/15 12:56		
6010 MET ICP Tampa	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**0.27 U**	mg/kg	1.1	0.27	1	10/23/15 13:34	10/23/15 17:17	7440-38-2	
Barium	**2.6**	mg/kg	1.1	0.053	1	10/23/15 13:34	10/23/15 17:17	7440-39-3	
Cadmium	**0.060 U**	mg/kg	0.11	0.060	1	10/23/15 13:34	10/23/15 17:17	7440-43-9	
Chromium	**0.18 U**	mg/kg	1.1	0.18	1	10/23/15 13:34	10/23/15 17:17	7440-47-3	
Lead	**2.3**	mg/kg	1.1	0.51	1	10/23/15 13:34	10/23/15 17:17	7439-92-1	
Selenium	**0.18 U**	mg/kg	1.6	0.18	1	10/23/15 13:34	10/23/15 17:17	7782-49-2	
Silver	**0.19 U**	mg/kg	0.53	0.19	1	10/23/15 13:34	10/23/15 17:17	7440-22-4	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.0052 U**	mg/kg	0.010	0.0052	1	10/26/15 10:59	10/26/15 13:01	7439-97-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: SR 60 Grade Separation
Pace Project No.: 35212854

Sample: SB-5 **Lab ID: 35212854004** Collected: 10/21/15 12:20 Received: 10/21/15 15:00 Matrix: Solid

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

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**2.2**	%	0.10	0.10	1		10/23/15 12:24		
6010 MET ICP Tampa	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**0.24 U**	mg/kg	0.92	0.24	1	10/23/15 13:34	10/23/15 17:55	7440-38-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: SR 60 Grade Separation
Pace Project No.: 35212854

Sample: SB-6 **Lab ID: 35212854005** Collected: 10/21/15 12:50 Received: 10/21/15 15:00 Matrix: Solid

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

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**3.5**	%	0.10	0.10	1		10/23/15 12:24		
6010 MET ICP Tampa	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**0.26 U**	mg/kg	1.0	0.26	1	10/23/15 13:34	10/23/15 17:57	7440-38-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
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ANALYTICAL RESULTS

Project: SR 60 Grade Separation
Pace Project No.: 35212854

Sample: SB-1 **Lab ID: 35212854006** Collected: 10/22/15 11:53 Received: 10/22/15 14:00 Matrix: Solid

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

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**12.7**	%	0.10	0.10	1		10/23/15 12:24		
6010 MET ICP Tampa	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**0.25 U**	mg/kg	0.96	0.25	1	10/23/15 14:39	10/23/15 18:23	7440-38-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

ANALYTICAL RESULTS

Project: SR 60 Grade Separation
Pace Project No.: 35212854

Sample: SB-2 **Lab ID: 35212854007** Collected: 10/22/15 12:05 Received: 10/22/15 14:00 Matrix: Solid

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

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**12.2**	%	0.10	0.10	1		10/23/15 12:24		
6010 MET ICP Tampa	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**0.25 U**	mg/kg	0.95	0.25	1	10/23/15 14:39	10/23/15 18:25	7440-38-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation
Pace Project No.: 35212854

QC Batch: MERP/6283
QC Batch Method: EPA 7471
Analysis Method: EPA 7471
Analysis Description: 7471 Mercury
Associated Lab Samples: 35212854002

METHOD BLANK: 1372878 Matrix: Solid
Associated Lab Samples: 35212854002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/kg	0.0039 U	0.0079	0.0039	10/27/15 17:53	

LABORATORY CONTROL SAMPLE: 1372879

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.078	0.078	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1372880 1372881

Parameter	Units	35212854002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	0.0040 U	.088	.08	0.085	0.078	97	97	80-120	9	20	

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, Inc.
5460 Beaumont Center Blvd - Suite 520
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QUALITY CONTROL DATA

Project: SR 60 Grade Separation
Pace Project No.: 35212854

QC Batch: MPRP/26997
QC Batch Method: EPA 3050
Analysis Method: EPA 6010
Analysis Description: 6010 MET Solid
Associated Lab Samples: 35212854002

METHOD BLANK: 1369949
Matrix: Solid
Associated Lab Samples: 35212854002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/kg	0.25 U	0.51	0.25	10/24/15 16:24	
Cadmium	mg/kg	0.025 U	0.051	0.025	10/24/15 16:24	
Chromium	mg/kg	0.13 U	0.25	0.13	10/24/15 16:24	
Copper	mg/kg	0.13 U	0.25	0.13	10/24/15 16:24	
Lead	mg/kg	0.25 U	0.51	0.25	10/24/15 16:24	
Nickel	mg/kg	0.13 U	0.25	0.13	10/24/15 16:24	
Zinc	mg/kg	0.51 U	1.0	0.51	10/24/15 16:24	

LABORATORY CONTROL SAMPLE: 1369950

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	12.5	11.6	93	80-120	
Cadmium	mg/kg	1.3	1.2	98	80-120	
Chromium	mg/kg	12.5	12.3	98	80-120	
Copper	mg/kg	12.5	12.0	96	80-120	
Lead	mg/kg	12.5	12.2	98	80-120	
Nickel	mg/kg	12.5	12.2	98	80-120	
Zinc	mg/kg	62.7	60.7	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1369951 1369952

Parameter	Units	35212666001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	0.38 I	13.7	13.8	11.8	12.3	83	87	75-125	5	20	
Cadmium	mg/kg	0.041 I	1.4	1.4	1.3	1.3	88	90	75-125	2	20	
Chromium	mg/kg	14.3	13.7	13.8	19.2	19.8	36	39	75-125	3	20	J(M1)
Copper	mg/kg	3.2	13.7	13.8	15.4	15.3	89	88	75-125	0	20	
Lead	mg/kg	2.8	13.7	13.8	15.1	15.5	89	92	75-125	2	20	
Nickel	mg/kg	0.65	13.7	13.8	13.1	13.5	91	93	75-125	3	20	
Zinc	mg/kg	6.0	68.6	68.9	68.3	68.6	91	91	75-125	0	20	

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, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation
Pace Project No.: 35212854

QC Batch: MSV/16442
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV 5030 Low
Associated Lab Samples: 35212854002

METHOD BLANK: 1374254
Matrix: Solid
Associated Lab Samples: 35212854002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	mg/kg	0.0027 U	0.0049	0.0027	10/27/15 11:29	
1,1,2,2-Tetrachloroethane	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
1,1,2-Trichloroethane	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
1,1-Dichloroethane	mg/kg	0.0027 U	0.0049	0.0027	10/27/15 11:29	
1,1-Dichloroethene	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
1,2,4-Trimethylbenzene	mg/kg	0.0028 U	0.0049	0.0028	10/27/15 11:29	
1,2-Dichlorobenzene	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
1,2-Dichloroethane	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
1,2-Dichloropropane	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
1,3,5-Trimethylbenzene	mg/kg	0.0028 U	0.0049	0.0028	10/27/15 11:29	
1,3-Dichlorobenzene	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
1,3-Dichloropropene	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
1,4-Dichlorobenzene	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
2-Butanone (MEK)	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
2-Hexanone	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
4-Methyl-2-pentanone (MIBK)	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
Acetone	mg/kg	0.0099 U	0.020	0.0099	10/27/15 11:29	
Benzene	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
Bromochloromethane	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
Bromodichloromethane	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
Bromoform	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
Bromomethane	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
Carbon disulfide	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
Carbon tetrachloride	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
Chlorobenzene	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
Chloroethane	mg/kg	0.0035 U	0.0049	0.0035	10/27/15 11:29	
Chloroform	mg/kg	0.0029 U	0.0049	0.0029	10/27/15 11:29	
Chloromethane	mg/kg	0.0028 U	0.0049	0.0028	10/27/15 11:29	
cis-1,2-Dichloroethene	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
Dibromochloromethane	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
Dibromomethane	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
Dichlorodifluoromethane	mg/kg	0.0026 U	0.0049	0.0026	10/27/15 11:29	
Ethylbenzene	mg/kg	0.0028 U	0.0049	0.0028	10/27/15 11:29	
Isopropylbenzene (Cumene)	mg/kg	0.0029 U	0.0049	0.0029	10/27/15 11:29	
Methyl-tert-butyl ether	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
Methylene Chloride	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
Styrene	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
Tetrachloroethene	mg/kg	0.0025 U	0.0049	0.0025	10/27/15 11:29	
Toluene	mg/kg	0.0027 U	0.0049	0.0027	10/27/15 11:29	
trans-1,2-Dichloroethene	mg/kg	0.0030 U	0.0049	0.0030	10/27/15 11:29	
Trichloroethene	mg/kg	0.0028 U	0.0049	0.0028	10/27/15 11:29	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation
Pace Project No.: 35212854

METHOD BLANK: 1374254 Matrix: Solid
Associated Lab Samples: 35212854002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Trichlorofluoromethane	mg/kg	0.0027 U	0.0049	0.0027	10/27/15 11:29	
Vinyl chloride	mg/kg	0.0027 U	0.0049	0.0027	10/27/15 11:29	
Xylene (Total)	mg/kg	0.0051 U	0.015	0.0051	10/27/15 11:29	
1,2-Dichloroethane-d4 (S)	%	104	80-131		10/27/15 11:29	
4-Bromofluorobenzene (S)	%	88	55-148		10/27/15 11:29	
Toluene-d8 (S)	%	94	84-117		10/27/15 11:29	

LABORATORY CONTROL SAMPLE: 1374255

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	mg/kg	.02	0.018	90	68-130	
1,1,2,2-Tetrachloroethane	mg/kg	.02	0.021	109	70-130	
1,1,2-Trichloroethane	mg/kg	.02	0.019	99	70-130	
1,1-Dichloroethane	mg/kg	.02	0.021	105	69-130	
1,1-Dichloroethene	mg/kg	.02	0.021	106	67-130	
1,2,4-Trimethylbenzene	mg/kg	.02	0.022	111	70-130	
1,2-Dichlorobenzene	mg/kg	.02	0.021	107	70-130	
1,2-Dichloroethane	mg/kg	.02	0.019	98	70-130	
1,2-Dichloropropane	mg/kg	.02	0.019	97	70-130	
1,3,5-Trimethylbenzene	mg/kg	.02	0.022	112	70-130	
1,3-Dichlorobenzene	mg/kg	.02	0.022	110	70-130	
1,3-Dichloropropene	mg/kg	.039	0.035	89	70-130	
1,4-Dichlorobenzene	mg/kg	.02	0.021	107	70-130	
2-Butanone (MEK)	mg/kg	.039	0.038	98	51-161	
2-Hexanone	mg/kg	.039	0.045	114	59-137	
4-Methyl-2-pentanone (MIBK)	mg/kg	.039	0.041	104	64-143	
Acetone	mg/kg	.039	0.041	104	32-175	
Benzene	mg/kg	.02	0.019	96	70-130	
Bromochloromethane	mg/kg	.02	0.018	91	70-130	
Bromodichloromethane	mg/kg	.02	0.015	74	70-130	
Bromoform	mg/kg	.02	0.012	60	70-130	J(L0)
Bromomethane	mg/kg	.02	0.022	111	42-156	
Carbon disulfide	mg/kg	.02	0.013	65	49-152	
Carbon tetrachloride	mg/kg	.02	0.015	76	65-132	
Chlorobenzene	mg/kg	.02	0.020	100	70-130	
Chloroethane	mg/kg	.02	0.025	129	56-146	
Chloroform	mg/kg	.02	0.017	86	69-130	
Chloromethane	mg/kg	.02	0.021	105	50-145	
cis-1,2-Dichloroethene	mg/kg	.02	0.019	98	70-130	
Dibromochloromethane	mg/kg	.02	0.014	71	70-130	
Dibromomethane	mg/kg	.02	0.016	81	68-133	
Dichlorodifluoromethane	mg/kg	.02	0.016	84	58-138	
Ethylbenzene	mg/kg	.02	0.020	101	70-130	
Isopropylbenzene (Cumene)	mg/kg	.02	0.021	109	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation
Pace Project No.: 35212854

LABORATORY CONTROL SAMPLE: 1374255

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methyl-tert-butyl ether	mg/kg	.02	0.017	87	70-130	
Methylene Chloride	mg/kg	.02	0.021	106	40-159	
Styrene	mg/kg	.02	0.019	97	70-130	
Tetrachloroethene	mg/kg	.02	0.019	94	63-130	
Toluene	mg/kg	.02	0.020	103	70-130	
trans-1,2-Dichloroethene	mg/kg	.02	0.021	106	70-130	
Trichloroethene	mg/kg	.02	0.017	88	69-130	
Trichlorofluoromethane	mg/kg	.02	0.020	103	67-130	
Vinyl chloride	mg/kg	.02	0.021	109	67-130	
Xylene (Total)	mg/kg	.059	0.061	103	70-130	
1,2-Dichloroethane-d4 (S)	%			103	80-131	
4-Bromofluorobenzene (S)	%			89	55-148	
Toluene-d8 (S)	%			96	84-117	

MATRIX SPIKE SAMPLE: 1374256

Parameter	Units	35213119001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	mg/kg	0.0031 U	.022	0.024	108	42-131	
1,1,2,2-Tetrachloroethane	mg/kg	0.0028 U	.022	0.0028 U	0	50-130	J(M1)
1,1,2-Trichloroethane	mg/kg	0.0028 U	.022	0.028	126	59-130	
1,1-Dichloroethane	mg/kg	0.0031 U	.022	0.029	131	50-130	J(M1)
1,1-Dichloroethene	mg/kg	0.0028 U	.022	0.031	137	51-130	J(M1)
1,2,4-Trimethylbenzene	mg/kg	0.015	.022	0.046	137	20-133	J(M1)
1,2-Dichlorobenzene	mg/kg	0.0028 U	.022	0.022	99	20-134	
1,2-Dichloroethane	mg/kg	0.0028 U	.022	0.029	128	57-130	
1,2-Dichloropropane	mg/kg	0.0028 U	.022	0.027	121	52-130	
1,3,5-Trimethylbenzene	mg/kg	0.0042 I	.022	0.029	110	26-130	
1,3-Dichlorobenzene	mg/kg	0.0028 U	.022	0.022	100	20-133	
1,3-Dichloropropene	mg/kg	0.0028 U	.044	0.047	104	33-130	
1,4-Dichlorobenzene	mg/kg	0.0028 U	.022	0.022	97	20-134	
2-Butanone (MEK)	mg/kg	0.0028 U	.044	0.044	99	20-217	
2-Hexanone	mg/kg	0.0028 U	.044	0.049	110	20-136	
4-Methyl-2-pentanone (MIBK)	mg/kg	0.0028 U	.044	0.046	104	21-151	
Acetone	mg/kg	0.011 I	.044	0.064	118	20-219	
Benzene	mg/kg	0.0029 U	.022	0.025	112	24-141	
Bromochloromethane	mg/kg	0.0028 U	.022	0.027	121	53-141	
Bromodichloromethane	mg/kg	0.0028 U	.022	0.020	88	20-155	
Bromoform	mg/kg	0.0028 U	.022	0.015	65	30-130	
Bromomethane	mg/kg	0.0028 U	.022	0.029	132	22-152	
Carbon disulfide	mg/kg	0.0028 U	.022	0.013	56	20-160	
Carbon tetrachloride	mg/kg	0.0028 U	.022	0.019	86	23-141	
Chlorobenzene	mg/kg	0.0028 U	.022	0.023	102	34-130	
Chloroethane	mg/kg	0.0040 U	.022	0.036	160	43-146	J(M1)
Chloroform	mg/kg	0.0033 U	.022	0.024	108	42-132	
Chloromethane	mg/kg	0.0031 U	.022	0.026	117	31-144	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation
Pace Project No.: 35212854

MATRIX SPIKE SAMPLE: 1374256

Parameter	Units	35213119001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	mg/kg	0.0028 U	.022	0.027	121	45-131	
Dibromochloromethane	mg/kg	0.0028 U	.022	0.018	82	20-151	
Dibromomethane	mg/kg	0.0028 U	.022	0.023	105	49-137	
Dichlorodifluoromethane	mg/kg	0.0030 U	.022	0.023	101	39-130	
Ethylbenzene	mg/kg	0.0032 U	.022	0.022	96	30-130	
Isopropylbenzene (Cumene)	mg/kg	0.0032 U	.022	0.021	91	28-130	
Methyl-tert-butyl ether	mg/kg	0.0028 U	.022	0.020	91	31-156	
Methylene Chloride	mg/kg	0.0028 U	.022	0.031	140	20-150	
Styrene	mg/kg	0.0028 U	.022	0.021	93	20-137	
Tetrachloroethene	mg/kg	0.0028 U	.022	0.035	156	23-144	J(M1)
Toluene	mg/kg	0.0030 U	.022	0.025	113	24-137	
trans-1,2-Dichloroethene	mg/kg	0.0034 U	.022	0.028	126	50-130	
Trichloroethene	mg/kg	0.0032 U	.022	0.042	189	42-130	J(M1)
Trichlorofluoromethane	mg/kg	0.0030 U	.022	0.028	124	40-130	
Vinyl chloride	mg/kg	0.0030 U	.022	0.027	120	47-130	
Xylene (Total)	mg/kg	0.0057 U	.067	0.068	102	26-130	
1,2-Dichloroethane-d4 (S)	%				105	80-131	
4-Bromofluorobenzene (S)	%				83	55-148	
Toluene-d8 (S)	%				95	84-117	

SAMPLE DUPLICATE: 1374257

Parameter	Units	35213119002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	mg/kg	0.0030 U	0.0033 U		40	
1,1,2,2-Tetrachloroethane	mg/kg	0.0027 U	0.0030 U		40	
1,1,2-Trichloroethane	mg/kg	0.0027 U	0.0030 U		40	
1,1-Dichloroethane	mg/kg	0.0030 U	0.0033 U		40	
1,1-Dichloroethene	mg/kg	0.0027 U	0.0030 U		40	
1,2,4-Trimethylbenzene	mg/kg	0.0031 U	0.0034 U		40	
1,2-Dichlorobenzene	mg/kg	0.0027 U	0.0030 U		40	
1,2-Dichloroethane	mg/kg	0.0027 U	0.0030 U		40	
1,2-Dichloropropane	mg/kg	0.0027 U	0.0030 U		40	
1,3,5-Trimethylbenzene	mg/kg	0.0032 U	0.0035 U		40	
1,3-Dichlorobenzene	mg/kg	0.0027 U	0.0030 U		40	
1,3-Dichloropropene	mg/kg	0.0027 U	0.0030 U		40	
1,4-Dichlorobenzene	mg/kg	0.0027 U	0.0030 U		40	
2-Butanone (MEK)	mg/kg	0.0027 U	0.0030 U		40	
2-Hexanone	mg/kg	0.0027 U	0.0030 U		40	
4-Methyl-2-pentanone (MIBK)	mg/kg	0.0027 U	0.0030 U		40	
Acetone	mg/kg	0.34	0.035	163	40	J(D6)
Benzene	mg/kg	0.0028 U	0.0031 U		40	
Bromochloromethane	mg/kg	0.0027 U	0.0030 U		40	
Bromodichloromethane	mg/kg	0.0027 U	0.0030 U		40	
Bromoform	mg/kg	0.0027 U	0.0030 U		40	
Bromomethane	mg/kg	0.0027 U	0.0030 U		40	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation
Pace Project No.: 35212854

SAMPLE DUPLICATE: 1374257

Parameter	Units	35213119002 Result	Dup Result	RPD	Max RPD	Qualifiers
Carbon disulfide	mg/kg	0.0027 U	0.0030 U		40	
Carbon tetrachloride	mg/kg	0.0027 U	0.0030 U		40	
Chlorobenzene	mg/kg	0.0027 U	0.0030 U		40	
Chloroethane	mg/kg	0.0039 U	0.0043 U		40	
Chloroform	mg/kg	0.0032 U	0.0036 U		40	
Chloromethane	mg/kg	0.0031 U	0.0034 U		40	
cis-1,2-Dichloroethene	mg/kg	0.0027 U	0.0030 U		40	
Dibromochloromethane	mg/kg	0.0027 U	0.0030 U		40	
Dibromomethane	mg/kg	0.0027 U	0.0030 U		40	
Dichlorodifluoromethane	mg/kg	0.0029 U	0.0032 U		40	
Ethylbenzene	mg/kg	0.0031 U	0.0034 U		40	
Isopropylbenzene (Cumene)	mg/kg	0.0032 U	0.0035 U		40	
Methyl-tert-butyl ether	mg/kg	0.0027 U	0.0030 U		40	
Methylene Chloride	mg/kg	0.0027 U	0.0030 U		40	
Styrene	mg/kg	0.0027 U	0.0030 U		40	
Tetrachloroethene	mg/kg	0.0030 I	0.0030 U		40	
Toluene	mg/kg	0.0030 U	0.0032 U		40	
trans-1,2-Dichloroethene	mg/kg	0.0033 U	0.0037 U		40	
Trichloroethene	mg/kg	0.0031 U	0.0034 U		40	
Trichlorofluoromethane	mg/kg	0.0030 U	0.0033 U		40	
Vinyl chloride	mg/kg	0.0030 U	0.0032 U		40	
Xylene (Total)	mg/kg	0.0056 U	0.0062 U		40	
1,2-Dichloroethane-d4 (S)	%	101	102	10	40	
4-Bromofluorobenzene (S)	%	82	84	12	40	
Toluene-d8 (S)	%	94	95	10	40	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation
Pace Project No.: 35212854

QC Batch: OEXT/24896 Analysis Method: EPA 8082
QC Batch Method: EPA 3546 Analysis Description: 8082 GCS PCB
Associated Lab Samples: 35212854001, 35212854002

METHOD BLANK: 1371230 Matrix: Solid
Associated Lab Samples: 35212854001, 35212854002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	0.010 U	0.017	0.010	10/24/15 10:49	
PCB-1221 (Aroclor 1221)	mg/kg	0.0081 U	0.017	0.0081	10/24/15 10:49	
PCB-1232 (Aroclor 1232)	mg/kg	0.0085 U	0.017	0.0085	10/24/15 10:49	
PCB-1242 (Aroclor 1242)	mg/kg	0.0028 U	0.017	0.0028	10/24/15 10:49	
PCB-1248 (Aroclor 1248)	mg/kg	0.011 U	0.017	0.011	10/24/15 10:49	
PCB-1254 (Aroclor 1254)	mg/kg	0.0069 U	0.017	0.0069	10/24/15 10:49	
PCB-1260 (Aroclor 1260)	mg/kg	0.010 U	0.017	0.010	10/24/15 10:49	
Decachlorobiphenyl (S)	%	136	24.5-162		10/24/15 10:49	
Tetrachloro-m-xylene (S)	%	99	19.6-135		10/24/15 10:49	

LABORATORY CONTROL SAMPLE: 1371231

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	.083	0.072	87	62.4-118	
PCB-1260 (Aroclor 1260)	mg/kg	.083	0.086	104	14.4-190	
Decachlorobiphenyl (S)	%			131	24.5-162	
Tetrachloro-m-xylene (S)	%			105	19.6-135	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1372069 1372070

Parameter	Units	35212854002 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	0.011 U	.086	.087	0.071	0.072	83	83	62.4-118	1	40	
PCB-1260 (Aroclor 1260)	mg/kg	0.011 U	.086	.087	0.084	0.087	98	100	14.4-190	3	40	
Decachlorobiphenyl (S)	%						135	136	24.5-162			
Tetrachloro-m-xylene (S)	%						111	113	19.6-135			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation
Pace Project No.: 35212854

QC Batch: OEXT/24936 Analysis Method: EPA 8151
QC Batch Method: EPA 8151 Analysis Description: 8151 GCS Herbicides
Associated Lab Samples: 35212854001, 35212854002

METHOD BLANK: 1373262 Matrix: Solid
Associated Lab Samples: 35212854001, 35212854002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2,4,5-T	mg/kg	0.0016 U	0.0063	0.0016	10/28/15 00:33	
2,4,5-TP (Silvex)	mg/kg	0.00079 U	0.0063	0.00079	10/28/15 00:33	
2,4-D	mg/kg	0.0076 U	0.031	0.0076	10/28/15 00:33	
2,4-DB	mg/kg	0.017 U	0.063	0.017	10/28/15 00:33	
Bentazon	mg/kg	0.0019 U	0.0031	0.0019	10/28/15 00:33	
Dalapon	mg/kg	0.0061 U	0.030	0.0061	10/28/15 00:33	
Dicamba	mg/kg	0.0013 U	0.0031	0.0013	10/28/15 00:33	
Dinoseb	mg/kg	0.0015 U	0.0063	0.0015	10/28/15 00:33	
Pentachlorophenol	mg/kg	0.00081 U	0.00095	0.00081	10/28/15 00:33	
Picloram	mg/kg	0.0010 U	0.0031	0.0010	10/28/15 00:33	
2,4-DCAA (S)	%	74	36-130		10/28/15 00:33	

LABORATORY CONTROL SAMPLE: 1373263

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-T	mg/kg	.04	0.035	88	40-130	
2,4,5-TP (Silvex)	mg/kg	.04	0.041	103	58-130	
2,4-D	mg/kg	.2	0.16	78	42-134	
2,4-DB	mg/kg	.4	0.46	116	65-130	
Bentazon	mg/kg	.02	0.11	573	52-130	J(L0)
Dalapon	mg/kg	.2	0.14	69	22-130	
Dicamba	mg/kg	.02	0.018	88	42-130	
Dinoseb	mg/kg	.04	0.021	54	10-157	
Pentachlorophenol	mg/kg	.006	0.0062	104	62-154	
Picloram	mg/kg	.02	0.014	72	10-145	
2,4-DCAA (S)	%			82	36-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1373666 1373667

Parameter	Units	35212854002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-T	mg/kg	0.0017 U	.042	.042	0.042	0.039	100	93	40-130	8	40	
2,4,5-TP (Silvex)	mg/kg	0.00083 U	.042	.042	0.043	0.042	103	101	58-130	2	40	
2,4-D	mg/kg	0.0079 U	.21	.21	0.18	0.17	85	83	42-134	2	40	
2,4-DB	mg/kg	0.018 U	.42	.42	0.46	0.40	109	96	65-130	13	40	
Bentazon	mg/kg	0.0020 U	.021	.021	0.018	0.013	88	64	52-130	32	40	
Dalapon	mg/kg	0.0064 U	.21	.21	0.13	0.15	61	72	22-130	16	40	

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, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation
Pace Project No.: 35212854

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1373666 1373667

Parameter	Units	35212854002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dicamba	mg/kg	0.0013 U	.021	.021	0.019	0.019	89	90	42-130	1	40	
Dinoseb	mg/kg	0.0015 U	.042	.042	0.025	0.016	59	39	10-157	42	40	J(R1)
Pentachlorophenol	mg/kg	0.00084 U	.0063	.0063	0.0069	0.0068	111	109	62-154	3	40	
Picloram	mg/kg	0.0010 U	.021	.021	0.015	0.017	72	82	10-145	14	40	
2,4-DCAA (S)	%						88	87	36-130		40	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation
Pace Project No.: 35212854

QC Batch: OEXT/24915 Analysis Method: FL-PRO
QC Batch Method: EPA 3546 Analysis Description: FL-PRO Soil
Associated Lab Samples: 35212854003

METHOD BLANK: 1371971 Matrix: Solid
Associated Lab Samples: 35212854003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Petroleum Range Organics	mg/kg	2.5 U	4.0	2.5	10/24/15 13:59	
N-Pentatriacontane (S)	%	77	42-159		10/24/15 13:59	
o-Terphenyl (S)	%	112	62-109		10/24/15 13:59	S3

LABORATORY CONTROL SAMPLE: 1371972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Petroleum Range Organics	mg/kg	200	184	92	63-153	
N-Pentatriacontane (S)	%			98	42-159	
o-Terphenyl (S)	%			102	62-109	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1371973 1371974

Parameter	Units	35212856001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Petroleum Range Organics	mg/kg	2.9 U	226	226	227	192	100	85	51-215	17	25	
N-Pentatriacontane (S)	%						120	92	42-159			
o-Terphenyl (S)	%						118	93	62-109			S7

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, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation
Pace Project No.: 35212854

QC Batch: PMST/4008 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 35212854004, 35212854005, 35212854006, 35212854007

SAMPLE DUPLICATE: 1371126

Parameter	Units	35212782001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	11.6	12.8	10	10	

SAMPLE DUPLICATE: 1371127

Parameter	Units	35212782011 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	7.8	7.9	2	10	

SAMPLE DUPLICATE: 1371128

Parameter	Units	35212782021 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	3.6	3.9	6	10	

SAMPLE DUPLICATE: 1371129

Parameter	Units	35212782031 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.3	10.0	3	10	

SAMPLE DUPLICATE: 1371130

Parameter	Units	35212782041 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	8.0	8.0	0	10	

SAMPLE DUPLICATE: 1371131

Parameter	Units	35212950001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	4.9	4.9	1	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation
Pace Project No.: 35212854

QC Batch: PMST/4020 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 35212854001, 35212854002, 35212854003

SAMPLE DUPLICATE: 1375120

Parameter	Units	35211674001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	15.6	17.0	9	10	

SAMPLE DUPLICATE: 1375121

Parameter	Units	92272225009 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	24.9	25.3	2	10	

SAMPLE DUPLICATE: 1375122

Parameter	Units	35212872009 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.3	9.9	4	10	

SAMPLE DUPLICATE: 1375123

Parameter	Units	35212793002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	7.8	8.3	6	10	

SAMPLE DUPLICATE: 1375124

Parameter	Units	35213134002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	0.53	0.66	23	10	J(D6)

SAMPLE DUPLICATE: 1375125

Parameter	Units	35213134011 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.3	11.3	9	10	

SAMPLE DUPLICATE: 1375126

Parameter	Units	35213134020 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	7.2	6.4	12	10	J(D6)

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation
Pace Project No.: 35212854

SAMPLE DUPLICATE: 1375127

Parameter	Units	35213134029 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	6.4	7.6	17	10	J(D6)

SAMPLE DUPLICATE: 1375128

Parameter	Units	35213564005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	22.2	25.1	12	10	J(D6)

SAMPLE DUPLICATE: 1375129

Parameter	Units	35213715005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	7.3	7.5	3	10	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation
Pace Project No.: 35212854

QC Batch: TAMP/7397 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET Tampa
Associated Lab Samples: 35212854001, 35212854003, 35212854004, 35212854005, 35212854006, 35212854007

METHOD BLANK: 1371424 Matrix: Solid
Associated Lab Samples: 35212854001, 35212854003, 35212854004, 35212854005, 35212854006, 35212854007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/kg	0.26 U	1.0	0.26	10/23/15 17:01	
Barium	mg/kg	0.050 U	1.0	0.050	10/23/15 17:01	
Cadmium	mg/kg	0.057 U	0.10	0.057	10/23/15 17:01	
Chromium	mg/kg	0.17 U	1.0	0.17	10/23/15 17:01	
Lead	mg/kg	0.48 U	1.0	0.48	10/23/15 17:01	
Selenium	mg/kg	0.17 U	1.5	0.17	10/23/15 17:01	
Silver	mg/kg	0.18 U	0.50	0.18	10/23/15 17:01	

LABORATORY CONTROL SAMPLE: 1371425

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	12.5	12.1	97	80-120	
Barium	mg/kg	12.5	12.7	102	80-120	
Cadmium	mg/kg	1.2	1.1	90	80-120	
Chromium	mg/kg	12.5	12.4	99	80-120	
Lead	mg/kg	12.5	12.2	98	80-120	
Selenium	mg/kg	12.5	11.3	90	80-120	
Silver	mg/kg	1.2	1.1	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1371426 1371427

Parameter	Units	35212854003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	0.27 U	11.7	12	10.9	11.2	94	94	75-125	3	20	
Barium	mg/kg	2.6	11.7	12	14.1	14.8	99	102	75-125	5	20	
Cadmium	mg/kg	0.060 U	1.2	1.2	1.1	1.1	92	93	75-125	3	20	
Chromium	mg/kg	0.18 U	11.7	12	12.2	12.4	105	103	75-125	1	20	
Lead	mg/kg	2.3	11.7	12	13.8	14.9	99	105	75-125	8	20	
Selenium	mg/kg	0.18 U	11.7	12	10.7	11.1	92	92	75-125	4	20	
Silver	mg/kg	0.19 U	1.2	1.2	1.1	1.1	97	88	75-125	7	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation
Pace Project No.: 35212854

QC Batch: TAMP/7416 Analysis Method: EPA 7471
QC Batch Method: EPA 7471 Analysis Description: 7471 Mercury
Associated Lab Samples: 35212854003

METHOD BLANK: 1372941 Matrix: Solid
Associated Lab Samples: 35212854003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/kg	0.0047 U	0.0094	0.0047	10/26/15 12:51	

LABORATORY CONTROL SAMPLE: 1372942

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.079	0.083	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1372943 1372944

Parameter	Units	35213137001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	0.010 U	.16	.16	0.16	0.16	103	98	85-115	4	20	

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, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALIFIERS

Project: SR 60 Grade Separation
Pace Project No.: 35212854

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.

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-O	Pace Analytical Services - Ormond Beach
PASI-Tp	Pace Analytical Services - Tampa

ANALYTE QUALIFIERS

I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Compound was analyzed for but not detected.
J(D6)	Estimated Value. The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
J(L0)	Estimated Value. Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
J(L2)	Estimated Value. Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
J(M1)	Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
J(R1)	Estimated Value. RPD value was outside control limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
S7	Surrogate recovery outside control limits (not confirmed by re-analysis).

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR 60 Grade Separation
Pace Project No.: 35212854

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35212854001	**SB-3**	EPA 3546	OEXT/24896	EPA 8082	GCSV/16187
35212854002	**SB-4**	EPA 3546	OEXT/24896	EPA 8082	GCSV/16187
35212854001	**SB-3**	EPA 8151	OEXT/24936	EPA 8151	GCSV/16220
35212854002	**SB-4**	EPA 8151	OEXT/24936	EPA 8151	GCSV/16220
35212854003	**SS-1**	EPA 3546	OEXT/24915	FL-PRO	GCSV/16192
35212854002	**SB-4**	EPA 3050	MPRP/26997	EPA 6010	ICP/16276
35212854002	**SB-4**	EPA 7471	MERP/6283	EPA 7471	MERC/6266
35212854002	**SB-4**	EPA 8260	MSV/16442		
35212854001	**SB-3**	ASTM D2974-87	PMST/4020		
35212854002	**SB-4**	ASTM D2974-87	PMST/4020		
35212854003	**SS-1**	ASTM D2974-87	PMST/4020		
35212854004	**SB-5**	ASTM D2974-87	PMST/4008		
35212854005	**SB-6**	ASTM D2974-87	PMST/4008		
35212854006	**SB-1**	ASTM D2974-87	PMST/4008		
35212854007	**SB-2**	ASTM D2974-87	PMST/4008		
35212854001	**SB-3**	EPA 3050	TAMP/7397	EPA 6010	TAMP/7398
35212854003	**SS-1**	EPA 3050	TAMP/7397	EPA 6010	TAMP/7398
35212854004	**SB-5**	EPA 3050	TAMP/7397	EPA 6010	TAMP/7398
35212854005	**SB-6**	EPA 3050	TAMP/7397	EPA 6010	TAMP/7398
35212854006	**SB-1**	EPA 3050	TAMP/7397	EPA 6010	TAMP/7398
35212854007	**SB-2**	EPA 3050	TAMP/7397	EPA 6010	TAMP/7398
35212854003	**SS-1**	EPA 7471	TAMP/7416	EPA 7471	TAMP/7417

WO# : 35212854

35212854

F-CUSTODY / Analytical Request Document

Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Tierra, Inc.	Report To:	Bair, Mike	Attention:	
Address:	7351 Temple Terrace Highway	Copy To:		Company Name:	
Tampa, FL 33637				Address:	
Email:		Purchase Order #:		Pace Quote:	
Phone:	Fax:	Project Name:	SR 60 Grade Separation	Pace Project Manager:	lori.palmer@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	7371 Line 2 and 3

Regulatory Agency	
State / Location	FL

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Arsenic only	8260 BTEX/MTBE	PAH / TRPH	8151 / 8082-PCB	8260 Full List	Cd,Cr,Pb,Zn,Cu,Ni + Hg	RCRA 8 Metals	TRPH FL-PRO	8260 MS/MSD			Residual Chlorine (Y/N)
1	SB-3	SL	C	10/21/15	0945	10/21/15	0950		2	✓									✓			✓									
2	SB-4	SL	C	10/21/15	1000	10/21/15	1025		6							✓			✓			✓	✓	✓							
3	SS-1	SL	G	10/21/15	1110	10/21/15	1115/1120		2	✓															✓	✓					
4	SB-5	SL	C	10/21/15	1205	10/21/15	1210		1	✓									✓												
5	SB-6	SL	C	10/21/15	1235	10/21/15	1250		1	✓									✓												
6																															
7																															
8																															
9																															
10																															
11																															
12																															

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
6511-15-022E Empty Containers	MKE	10/20/15	0900		10/20/15	0900	
	Sam Awad / Tierra	10/21/15	1500	Pace	10/21/15	1500	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Samad Awad

SIGNATURE of SAMPLER: Sam Awad DATE Signed: 10/21/15

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical Florida Laboratory	Document Name: Sample Condition Upon Receipt Form	Document Revised: August 11, 2014
	Document No.: F-FL-C-007 rev. 06	Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Table Number: _____

Client Name: Tierra Project # 35212854

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

Tracking # _____

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

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

Thermometer Used TPA 14 **Type of Ice:** (Wet) Blue None

Cooler Temperature°C 2.4 (Visual) 0 (Correction Factor) 2.4 (Actual)

(Temp should be above freezing to 6°C). If below 0°C, then was sample frozen? ☐Yes ☐No

Date and Initials of person examining contents: MP 10/21/15

Receipt of samples satisfactory: ☑Yes ☐No

Rush TAT requested on COC:

If yes, then all conditions below were met:	If no, then mark box & describe issue (use comments area if necessary):
Chain of Custody Present	☐
Chain of Custody Filled Out	☐
Relinquished Signature & Sampler Name COC	☐
Samples Arrived within Hold Time	☐
Sufficient Volume	☐
Correct Containers Used	☐
Containers Intact	☐
Sample Labels match COC (sample IDs & date/time of collection)	☐ No Labels: ☐ No Time/Date on Labels: ☐
All containers needing preservation are found to be in compliance with EPA recommendation.	☐
No Headspace in VOA Vials (>6mm):	☐

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution (use back for additional comments): _____

Project Manager Review: _____ **Date:** _____

Finished Product Information Only

F.P. Sample ID: _____

Production Code: _____

Date/Time Opened: _____

Number of Unopened Bottles Remaining: _____

Extra Sample in Shed: Yes No

Size & Qty of Bottles Received

_____ x 5 Gal
_____ x 2.5 Gal
_____ x 1 Gal
_____ x 1 Liter
_____ x 500 mL
_____ x 250 mL
_____ x Other: _____

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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

1702411

Section A Required Client Information:

Company:	Tierra Inc
Address:	7351 Temple Terrace Hwy Tampa FL 33637
Email To:	Mbair@tierraeng.com
Phone:	Fax:
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Bair, Mike
Copy To:	
Purchase Order No.:	
Project Name:	SR 60 Grade Seperation
Project Number:	0511-15-0225

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	

REGULATORY AGENCY

- NPDES
- GROUND WATER
- DRINKING WATER
- UST
- RCRA
- OTHER ______

Site Location STATE: FL

Section D Required Client Information

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

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

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	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	6010 As	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	SB-1	SL	C	10/22/15	1146	10/22/15	1153		1	✓									✓		
2	SB-2	SL	C	10/22/15	1200	10/22/15	1205		1	✓									✓		
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Sammy Awad / Tierra	10/22/15	1400	Chuseakta Pace	10/22/15	1400	

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Sammy Awad

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 10/22/15

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical Florida Laboratory	Document Name: Sample Condition Upon Receipt Form	Document Revised: August 11, 2014
	Document No.: F-FL-C-007 rev. 06	Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Table Number: _____

Client Name: Tierra Project # 35212854 p.2

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

Tracking # _____

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

Date and Initials of person examining contents: 10/22/15 CLG

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

Thermometer Used IPA-14 **Type of Ice:** (Wet) Blue None

Cooler Temperature°C 4.7 **(Visual)** 0 **(Correction Factor)** 4.7 **(Actual)**

(Temp should be above freezing to 6°C). If below 0°C, then was sample frozen?

☐ Yes ☐ No

Receipt of samples satisfactory: ☒ Yes ☐ No **Rush TAT requested on COC:**

If yes, then all conditions below were met:	If no, then mark box & describe issue (use comments area if necessary):
Chain of Custody Present	☐
Chain of Custody Filled Out	☐
Relinquished Signature & Sampler Name COC	☐
Samples Arrived within Hold Time	☐
Sufficient Volume	☐
Correct Containers Used	☐
Containers Intact	☐
Sample Labels match COC (sample IDs & date/time of collection)	☐ No Labels: ☐ No Time/Date on Labels: ☐
All containers needing preservation are found to be in compliance with EPA recommendation.	☐
No Headspace in VOA Vials (>6mm):	☐

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution (use back for additional comments): _____

Project Manager Review: _____ **Date:** _____

Finished Product Information Only

F.P. Sample ID: _____

Production Code: _____

Date/Time Opened: _____

Number of Unopened Bottles Remaining: _____

Extra Sample in Shed: Yes No

Size & Qty of Bottles Received

_____ x 5 Gal
_____ x 2.5 Gal
_____ x 1 Gal
_____ x 1 Liter
_____ x 500 mL
_____ x 250 mL
_____ x Other: _____

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

October 29, 2015

Michael Bair
Tierra, Inc.
7351 Temple Terrace Highway
Tampa, FL 33637

RE: Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

Dear Michael Bair:
Enclosed are the analytical results for sample(s) received by the laboratory on October 22, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Lori Palmer
lori.palmer@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

CERTIFICATIONS

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

Ormond Beach Certification IDs
8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

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(813)881-9401

SAMPLE SUMMARY

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35213050001	**TMW-1**	Water	10/22/15 10:40	10/22/15 14:00

Pace Analytical Services, Inc.
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(813)881-9401

SAMPLE ANALYTE COUNT

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35213050001	**TMW-1**	EPA 8082	JLG	9	PASI-O
		EPA 8151	LJM	11	PASI-O
		EPA 6010	TAP	7	PASI-O
		EPA 7470	CKJ	1	PASI-O
		EPA 8260	SK	47	PASI-O

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

ANALYTICAL RESULTS

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

Sample: TMW-1 **Lab ID: 35213050001** Collected: 10/22/15 10:40 Received: 10/22/15 14:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3510								
PCB-1016 (Aroclor 1016)	**0.080 U**	ug/L	0.50	0.080	1	10/24/15 04:00	10/24/15 12:36	12674-11-2	
PCB-1221 (Aroclor 1221)	**0.081 U**	ug/L	0.50	0.081	1	10/24/15 04:00	10/24/15 12:36	11104-28-2	
PCB-1232 (Aroclor 1232)	**0.12 U**	ug/L	0.50	0.12	1	10/24/15 04:00	10/24/15 12:36	11141-16-5	
PCB-1242 (Aroclor 1242)	**0.13 U**	ug/L	0.50	0.13	1	10/24/15 04:00	10/24/15 12:36	53469-21-9	
PCB-1248 (Aroclor 1248)	**0.28 U**	ug/L	0.50	0.28	1	10/24/15 04:00	10/24/15 12:36	12672-29-6	
PCB-1254 (Aroclor 1254)	**0.15 U**	ug/L	0.50	0.15	1	10/24/15 04:00	10/24/15 12:36	11097-69-1	
PCB-1260 (Aroclor 1260)	**0.11 U**	ug/L	0.50	0.11	1	10/24/15 04:00	10/24/15 12:36	11096-82-5	
Surrogates									
Tetrachloro-m-xylene (S)	105	%	48-111		1	10/24/15 04:00	10/24/15 12:36	877-09-8	
Decachlorobiphenyl (S)	49	%	63-121		1	10/24/15 04:00	10/24/15 12:36	2051-24-3	P2,S7
8151 Chlorinated Herbicides	Analytical Method: EPA 8151 Preparation Method: EPA 8151								
Bentazon	**0.015 U**	ug/L	0.089	0.015	1	10/25/15 16:40	10/27/15 02:14	25057-89-0	
2,4-D	**0.21 U**	ug/L	0.89	0.21	1	10/25/15 16:40	10/27/15 02:14	94-75-7	
Dalapon	**0.41 U**	ug/L	0.86	0.41	1	10/25/15 16:40	10/27/15 02:14	75-99-0	
2,4-DB	**0.48 U**	ug/L	1.8	0.48	1	10/25/15 16:40	10/27/15 02:14	94-82-6	
Dicamba	**0.028 U**	ug/L	0.089	0.028	1	10/25/15 16:40	10/27/15 02:14	1918-00-9	
Dinoseb	**0.054 U**	ug/L	0.18	0.054	1	10/25/15 16:40	10/27/15 02:14	88-85-7	
Pentachlorophenol	**0.016 U**	ug/L	0.027	0.016	1	10/25/15 16:40	10/27/15 02:14	87-86-5	
Picloram	**0.018 U**	ug/L	0.089	0.018	1	10/25/15 16:40	10/27/15 02:14	1918-02-1	
2,4,5-T	**0.040 U**	ug/L	0.18	0.040	1	10/25/15 16:40	10/27/15 02:14	93-76-5	
2,4,5-TP (Silvex)	**0.046 U**	ug/L	0.18	0.046	1	10/25/15 16:40	10/27/15 02:14	93-72-1	
Surrogates									
2,4-DCAA (S)	99	%	36-130		1	10/25/15 16:40	10/27/15 02:14	19719-28-9	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Arsenic	**5.0 U**	ug/L	10.0	5.0	1	10/27/15 10:05	10/28/15 07:56	7440-38-2	
Cadmium	**0.50 U**	ug/L	1.0	0.50	1	10/27/15 10:05	10/28/15 07:56	7440-43-9	
Chromium	**2.5 U**	ug/L	5.0	2.5	1	10/27/15 10:05	10/28/15 07:56	7440-47-3	
Copper	**7.6**	ug/L	5.0	2.5	1	10/27/15 10:05	10/28/15 07:56	7440-50-8	
Lead	**5.0 U**	ug/L	10.0	5.0	1	10/27/15 10:05	10/28/15 07:56	7439-92-1	
Nickel	**2.5 U**	ug/L	5.0	2.5	1	10/27/15 10:05	10/28/15 07:56	7440-02-0	
Zinc	**20.9**	ug/L	20.0	10.0	1	10/27/15 10:05	10/28/15 07:56	7440-66-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	**0.10 U**	ug/L	0.20	0.10	1	10/27/15 12:10	10/29/15 13:47	7439-97-6	
8260 MSV	Analytical Method: EPA 8260								
Acetone	**10.0 U**	ug/L	20.0	10.0	1		10/28/15 07:21	67-64-1	
Benzene	**0.10 U**	ug/L	1.0	0.10	1		10/28/15 07:21	71-43-2	
Bromochloromethane	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	74-97-5	
Bromodichloromethane	**0.27 U**	ug/L	0.60	0.27	1		10/28/15 07:21	75-27-4	
Bromoform	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	75-25-2	
Bromomethane	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	74-83-9	
2-Butanone (MEK)	**5.0 U**	ug/L	10.0	5.0	1		10/28/15 07:21	78-93-3	
Carbon disulfide	**5.0 U**	ug/L	10.0	5.0	1		10/28/15 07:21	75-15-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

ANALYTICAL RESULTS

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

Sample: TMW-1 **Lab ID: 35213050001** Collected: 10/22/15 10:40 Received: 10/22/15 14:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Carbon tetrachloride	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	56-23-5	
Chlorobenzene	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	108-90-7	
Chloroethane	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	75-00-3	
Chloroform	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	67-66-3	
Chloromethane	**0.62 U**	ug/L	1.0	0.62	1		10/28/15 07:21	74-87-3	L3
Dibromochloromethane	**0.26 U**	ug/L	0.50	0.26	1		10/28/15 07:21	124-48-1	
Dibromomethane	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	74-95-3	
1,2-Dichlorobenzene	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	95-50-1	
1,3-Dichlorobenzene	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	541-73-1	
1,4-Dichlorobenzene	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	106-46-7	
Dichlorodifluoromethane	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	75-71-8	L3
1,1-Dichloroethane	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	75-34-3	
1,2-Dichloroethane	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	107-06-2	
1,1-Dichloroethene	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	75-35-4	
cis-1,2-Dichloroethene	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	156-59-2	
trans-1,2-Dichloroethene	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	156-60-5	
1,2-Dichloropropane	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	78-87-5	
1,3-Dichloropropene	**0.25 U**	ug/L	0.50	0.25	1		10/28/15 07:21	10061-02-6	
Ethylbenzene	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	100-41-4	
2-Hexanone	**5.0 U**	ug/L	10.0	5.0	1		10/28/15 07:21	591-78-6	
Isopropylbenzene (Cumene)	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	98-82-8	
Methylene Chloride	**2.5 U**	ug/L	5.0	2.5	1		10/28/15 07:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	**5.0 U**	ug/L	10.0	5.0	1		10/28/15 07:21	108-10-1	
Methyl-tert-butyl ether	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	1634-04-4	
Styrene	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	100-42-5	
1,1,2,2-Tetrachloroethane	**0.12 U**	ug/L	0.50	0.12	1		10/28/15 07:21	79-34-5	
Tetrachloroethene	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	127-18-4	
Toluene	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	108-88-3	
1,1,1-Trichloroethane	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	71-55-6	
1,1,2-Trichloroethane	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	79-00-5	
Trichloroethene	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	79-01-6	
Trichlorofluoromethane	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	75-69-4	
1,2,4-Trimethylbenzene	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	95-63-6	
1,3,5-Trimethylbenzene	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	108-67-8	
Vinyl chloride	**0.50 U**	ug/L	1.0	0.50	1		10/28/15 07:21	75-01-4	
Xylene (Total)	**0.50 U**	ug/L	3.0	0.50	1		10/28/15 07:21	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-114		1		10/28/15 07:21	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	86-125		1		10/28/15 07:21	17060-07-0	
Toluene-d8 (S)	111	%	87-113		1		10/28/15 07:21	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

QC Batch: MERP/6284
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Associated Lab Samples: 35213050001

METHOD BLANK: 1373750 Matrix: Water
Associated Lab Samples: 35213050001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	0.10 U	0.20	0.10	10/29/15 13:19	

LABORATORY CONTROL SAMPLE: 1373751

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2	2.1	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1373752 1373753

Parameter	Units	35212683002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.10 U	2	2	2.1	2.2	105	108	75-125	3	20	

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, Inc.
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Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

QC Batch: MPRP/27067 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 35213050001

METHOD BLANK: 1373658 Matrix: Water
Associated Lab Samples: 35213050001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	5.0 U	10.0	5.0	10/28/15 06:34	
Cadmium	ug/L	0.50 U	1.0	0.50	10/28/15 06:34	
Chromium	ug/L	2.5 U	5.0	2.5	10/28/15 06:34	
Copper	ug/L	2.5 U	5.0	2.5	10/28/15 06:34	
Lead	ug/L	5.0 U	10.0	5.0	10/28/15 06:34	
Nickel	ug/L	2.5 U	5.0	2.5	10/28/15 06:34	
Zinc	ug/L	10.0 U	20.0	10.0	10/28/15 06:34	

LABORATORY CONTROL SAMPLE: 1373659

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	250	228	91	80-120	
Cadmium	ug/L	25	24.0	96	80-120	
Chromium	ug/L	250	237	95	80-120	
Copper	ug/L	250	232	93	80-120	
Lead	ug/L	250	244	98	80-120	
Nickel	ug/L	250	239	96	80-120	
Zinc	ug/L	1250	1180	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1373660 1373661

Parameter	Units	35212986005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	15.3	250	250	257	251	97	94	75-125	2	20	
Cadmium	ug/L	0.88 I	25	25	24.5	23.8	95	92	75-125	3	20	
Chromium	ug/L	2.5 U	250	250	233	224	93	89	75-125	4	20	
Copper	ug/L	2.5 U	250	250	228	223	91	89	75-125	2	20	
Lead	ug/L	5.0 U	250	250	237	230	95	92	75-125	3	20	
Nickel	ug/L	36.6	250	250	271	261	94	90	75-125	4	20	
Zinc	ug/L	10.0 U	1250	1250	1230	1190	98	95	75-125	3	20	

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, Inc.
5460 Beaumont Center Blvd - Suite 520
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(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

QC Batch: MSV/16447 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 35213050001

METHOD BLANK: 1374336 Matrix: Water
Associated Lab Samples: 35213050001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
1,1,2,2-Tetrachloroethane	ug/L	0.12 U	0.50	0.12	10/28/15 02:15	
1,1,2-Trichloroethane	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
1,1-Dichloroethane	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
1,1-Dichloroethene	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
1,2,4-Trimethylbenzene	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
1,2-Dichlorobenzene	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
1,2-Dichloroethane	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
1,2-Dichloropropane	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
1,3,5-Trimethylbenzene	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
1,3-Dichlorobenzene	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
1,3-Dichloropropene	ug/L	0.25 U	0.50	0.25	10/28/15 02:15	
1,4-Dichlorobenzene	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
2-Butanone (MEK)	ug/L	5.0 U	10.0	5.0	10/28/15 02:15	
2-Hexanone	ug/L	5.0 U	10.0	5.0	10/28/15 02:15	
4-Methyl-2-pentanone (MIBK)	ug/L	5.0 U	10.0	5.0	10/28/15 02:15	
Acetone	ug/L	10.0 U	20.0	10.0	10/28/15 02:15	
Benzene	ug/L	0.10 U	1.0	0.10	10/28/15 02:15	
Bromochloromethane	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Bromodichloromethane	ug/L	0.27 U	0.60	0.27	10/28/15 02:15	
Bromoform	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Bromomethane	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Carbon disulfide	ug/L	5.0 U	10.0	5.0	10/28/15 02:15	
Carbon tetrachloride	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Chlorobenzene	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Chloroethane	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Chloroform	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Chloromethane	ug/L	0.62 U	1.0	0.62	10/28/15 02:15	
cis-1,2-Dichloroethene	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Dibromochloromethane	ug/L	0.26 U	0.50	0.26	10/28/15 02:15	
Dibromomethane	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Dichlorodifluoromethane	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Ethylbenzene	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Isopropylbenzene (Cumene)	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Methyl-tert-butyl ether	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Methylene Chloride	ug/L	2.5 U	5.0	2.5	10/28/15 02:15	
Styrene	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Tetrachloroethene	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Toluene	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
trans-1,2-Dichloroethene	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Trichloroethene	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

METHOD BLANK: 1374336 Matrix: Water
Associated Lab Samples: 35213050001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Trichlorofluoromethane	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Vinyl chloride	ug/L	0.50 U	1.0	0.50	10/28/15 02:15	
Xylene (Total)	ug/L	0.50 U	3.0	0.50	10/28/15 02:15	
1,2-Dichloroethane-d4 (S)	%	98	86-125		10/28/15 02:15	
4-Bromofluorobenzene (S)	%	100	70-114		10/28/15 02:15	
Toluene-d8 (S)	%	111	87-113		10/28/15 02:15	

LABORATORY CONTROL SAMPLE: 1374337

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	24.0	120	70-130	
1,1,2,2-Tetrachloroethane	ug/L	20	19.6	98	70-130	
1,1,2-Trichloroethane	ug/L	20	19.9	99	70-130	
1,1-Dichloroethane	ug/L	20	24.4	122	70-130	
1,1-Dichloroethene	ug/L	20	23.9	119	70-130	
1,2,4-Trimethylbenzene	ug/L	20	19.0	95	70-130	
1,2-Dichlorobenzene	ug/L	20	18.9	95	70-130	
1,2-Dichloroethane	ug/L	20	24.5	123	70-130	
1,2-Dichloropropane	ug/L	20	24.1	120	70-130	
1,3,5-Trimethylbenzene	ug/L	20	19.5	97	70-130	
1,3-Dichlorobenzene	ug/L	20	18.8	94	70-130	
1,3-Dichloropropene	ug/L	40	42.9	107	70-130	
1,4-Dichlorobenzene	ug/L	20	19.8	99	70-130	
2-Butanone (MEK)	ug/L	40	48.7	122	55-167	
2-Hexanone	ug/L	40	41.0	103	65-130	
4-Methyl-2-pentanone (MIBK)	ug/L	40	42.5	106	70-130	
Acetone	ug/L	40	51.8	129	40-150	
Benzene	ug/L	20	24.3	122	70-130	
Bromochloromethane	ug/L	20	24.8	124	70-130	
Bromodichloromethane	ug/L	20	23.5	117	70-130	
Bromoform	ug/L	20	18.5	92	68-130	
Bromomethane	ug/L	20	32.5	163	38-179	
Carbon disulfide	ug/L	20	23.4	117	51-155	
Carbon tetrachloride	ug/L	20	23.1	116	70-130	
Chlorobenzene	ug/L	20	20.3	101	70-130	
Chloroethane	ug/L	20	28.6	143	59-149	
Chloroform	ug/L	20	24.3	122	70-130	
Chloromethane	ug/L	20	47.8	239	68-130	J(L0)
cis-1,2-Dichloroethene	ug/L	20	24.2	121	70-130	
Dibromochloromethane	ug/L	20	19.2	96	70-130	
Dibromomethane	ug/L	20	24.7	123	70-130	
Dichlorodifluoromethane	ug/L	20	26.8	134	67-130	J(L0)
Ethylbenzene	ug/L	20	19.9	100	70-130	
Isopropylbenzene (Cumene)	ug/L	20	19.4	97	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

LABORATORY CONTROL SAMPLE: 1374337

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methyl-tert-butyl ether	ug/L	20	22.8	114	70-130	
Methylene Chloride	ug/L	20	24.4	122	70-130	
Styrene	ug/L	20	19.7	99	70-130	
Tetrachloroethene	ug/L	20	21.3	107	66-133	
Toluene	ug/L	20	20.5	103	70-130	
trans-1,2-Dichloroethene	ug/L	20	24.6	123	70-130	
Trichloroethene	ug/L	20	24.2	121	70-130	
Trichlorofluoromethane	ug/L	20	25.2	126	70-131	
Vinyl chloride	ug/L	20	25.5	128	69-140	
Xylene (Total)	ug/L	60	59.7	100	70-130	
1,2-Dichloroethane-d4 (S)	%			104	86-125	
4-Bromofluorobenzene (S)	%			98	70-114	
Toluene-d8 (S)	%			110	87-113	

MATRIX SPIKE SAMPLE: 1375396

Parameter	Units	35213170002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	0.50 U	20	27.4	137	70-130	J(M1)
1,1,2,2-Tetrachloroethane	ug/L	0.12 U	20	20.2	101	70-130	
1,1,2-Trichloroethane	ug/L	0.50 U	20	20.1	101	70-130	
1,1-Dichloroethane	ug/L	0.50 U	20	26.6	133	70-130	J(M1)
1,1-Dichloroethene	ug/L	0.50 U	20	28.0	140	70-130	J(M1)
1,2,4-Trimethylbenzene	ug/L	0.50 U	20	19.1	95	70-130	
1,2-Dichlorobenzene	ug/L	0.50 U	20	19.0	95	70-130	
1,2-Dichloroethane	ug/L	0.50 U	20	24.8	124	70-130	
1,2-Dichloropropane	ug/L	0.50 U	20	25.6	128	70-130	
1,3,5-Trimethylbenzene	ug/L	0.50 U	20	19.7	99	70-130	
1,3-Dichlorobenzene	ug/L	0.50 U	20	19.1	95	70-130	
1,3-Dichloropropene	ug/L	0.25 U	40	45.9	115	70-130	
1,4-Dichlorobenzene	ug/L	0.50 U	20	19.5	98	70-130	
2-Butanone (MEK)	ug/L	5.0 U	40	41.6	104	70-130	
2-Hexanone	ug/L	5.0 U	40	33.2	83	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	5.0 U	40	37.1	93	70-130	
Acetone	ug/L	10.0 U	40	41.2	103	70-130	
Benzene	ug/L	0.10 U	20	26.9	135	70-130	J(M1)
Bromochloromethane	ug/L	0.50 U	20	27.1	136	70-130	J(M1)
Bromodichloromethane	ug/L	0.27 U	20	24.9	125	70-130	
Bromoform	ug/L	0.50 U	20	18.2	91	70-130	
Bromomethane	ug/L	0.50 U	20	32.7	163	70-130	J(M1)
Carbon disulfide	ug/L	5.0 U	20	24.4	120	70-130	
Carbon tetrachloride	ug/L	0.50 U	20	27.8	139	70-130	J(M1)
Chlorobenzene	ug/L	0.50 U	20	21.0	105	70-130	
Chloroethane	ug/L	0.50 U	20	31.7	158	70-130	J(M1)
Chloroform	ug/L	0.50 U	20	25.6	128	70-130	
Chloromethane	ug/L	0.62 U	20	51.1	256	70-130	J(M0)

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

MATRIX SPIKE SAMPLE: 1375396

Parameter	Units	35213170002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	0.50 U	20	26.4	132	70-130	J(M1)
Dibromochloromethane	ug/L	0.26 U	20	19.2	96	70-130	
Dibromomethane	ug/L	0.50 U	20	24.5	123	70-130	
Dichlorodifluoromethane	ug/L	0.50 U	20	32.2	161	70-130	J(M0)
Ethylbenzene	ug/L	0.50 U	20	21.2	106	70-130	
Isopropylbenzene (Cumene)	ug/L	0.50 U	20	20.7	104	70-130	
Methyl-tert-butyl ether	ug/L	0.50 U	20	21.4	107	70-130	
Methylene Chloride	ug/L	2.5 U	20	26.5	132	70-130	J(M1)
Styrene	ug/L	0.50 U	20	20.1	101	70-130	
Tetrachloroethene	ug/L	0.50 U	20	13.8	69	70-130	J(M1)
Toluene	ug/L	0.50 U	20	21.9	109	70-130	
trans-1,2-Dichloroethene	ug/L	0.50 U	20	26.5	133	70-130	J(M1)
Trichloroethene	ug/L	0.50 U	20	26.2	131	70-130	J(M1)
Trichlorofluoromethane	ug/L	0.50 U	20	28.8	144	70-130	J(M1)
Vinyl chloride	ug/L	0.50 U	20	29.8	149	70-130	J(M1)
Xylene (Total)	ug/L	0.50 U	60	62.7	104	70-130	
1,2-Dichloroethane-d4 (S)	%				104	86-125	
4-Bromofluorobenzene (S)	%				99	70-114	
Toluene-d8 (S)	%				111	87-113	

SAMPLE DUPLICATE: 1375395

Parameter	Units	35213170001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	0.50 U	0.50 U		40	
1,1,2,2-Tetrachloroethane	ug/L	0.12 U	0.12 U		40	
1,1,2-Trichloroethane	ug/L	0.50 U	0.50 U		40	
1,1-Dichloroethane	ug/L	0.50 U	0.50 U		40	
1,1-Dichloroethene	ug/L	0.50 U	0.50 U		40	
1,2,4-Trimethylbenzene	ug/L	0.50 U	0.50 U		40	
1,2-Dichlorobenzene	ug/L	0.50 U	0.50 U		40	
1,2-Dichloroethane	ug/L	0.50 U	0.50 U		40	
1,2-Dichloropropane	ug/L	0.50 U	0.50 U		40	
1,3,5-Trimethylbenzene	ug/L	0.50 U	0.50 U		40	
1,3-Dichlorobenzene	ug/L	0.50 U	0.50 U		40	
1,3-Dichloropropene	ug/L	0.25 U	0.25 U		40	
1,4-Dichlorobenzene	ug/L	0.50 U	0.50 U		40	
2-Butanone (MEK)	ug/L	5.0 U	5.0 U		40	
2-Hexanone	ug/L	5.0 U	5.0 U		40	
4-Methyl-2-pentanone (MIBK)	ug/L	5.0 U	5.0 U		40	
Acetone	ug/L	10.3 I	10.0 U		40	
Benzene	ug/L	0.10 U	0.10 U		40	
Bromochloromethane	ug/L	0.50 U	0.50 U		40	
Bromodichloromethane	ug/L	0.27 U	0.27 U		40	
Bromoform	ug/L	0.50 U	0.50 U		40	
Bromomethane	ug/L	0.50 U	0.50 U		40	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

SAMPLE DUPLICATE: 1375395

Parameter	Units	35213170001 Result	Dup Result	RPD	Max RPD	Qualifiers
Carbon disulfide	ug/L	5.0 U	5.0 U		40	
Carbon tetrachloride	ug/L	0.50 U	0.50 U		40	
Chlorobenzene	ug/L	0.50 U	0.50 U		40	
Chloroethane	ug/L	0.50 U	0.50 U		40	
Chloroform	ug/L	0.50 U	0.50 U		40	
Chloromethane	ug/L	0.62 U	0.62 U		40	
cis-1,2-Dichloroethene	ug/L	1.6	1.8	7	40	
Dibromochloromethane	ug/L	0.26 U	0.26 U		40	
Dibromomethane	ug/L	0.50 U	0.50 U		40	
Dichlorodifluoromethane	ug/L	0.50 U	0.50 U		40	
Ethylbenzene	ug/L	0.50 U	0.50 U		40	
Isopropylbenzene (Cumene)	ug/L	0.50 U	0.50 U		40	
Methyl-tert-butyl ether	ug/L	0.50 U	0.50 U		40	
Methylene Chloride	ug/L	2.5 U	2.5 U		40	
Styrene	ug/L	0.50 U	0.50 U		40	
Tetrachloroethene	ug/L	4.4	3.5	1	40	
Toluene	ug/L	0.50 U	0.50 U		40	
trans-1,2-Dichloroethene	ug/L	0.50 U	0.50 U		40	
Trichloroethene	ug/L	0.50 U	0.50 U		40	
Trichlorofluoromethane	ug/L	0.50 U	0.50 U		40	
Vinyl chloride	ug/L	0.92 I	0.50 U		40	
Xylene (Total)	ug/L	0.50 U	0.50 U		40	
1,2-Dichloroethane-d4 (S)	%	99	100	1	40	
4-Bromofluorobenzene (S)	%	95	97	2	40	
Toluene-d8 (S)	%	110	110	1	40	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

QC Batch: OEXT/24907 Analysis Method: EPA 8082
QC Batch Method: EPA 3510 Analysis Description: 8082 GCS PCB
Associated Lab Samples: 35213050001

METHOD BLANK: 1371477 Matrix: Water
Associated Lab Samples: 35213050001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	0.080 U	0.50	0.080	10/24/15 11:04	
PCB-1221 (Aroclor 1221)	ug/L	0.081 U	0.50	0.081	10/24/15 11:04	
PCB-1232 (Aroclor 1232)	ug/L	0.12 U	0.50	0.12	10/24/15 11:04	
PCB-1242 (Aroclor 1242)	ug/L	0.13 U	0.50	0.13	10/24/15 11:04	
PCB-1248 (Aroclor 1248)	ug/L	0.28 U	0.50	0.28	10/24/15 11:04	
PCB-1254 (Aroclor 1254)	ug/L	0.14 U	0.50	0.14	10/24/15 11:04	
PCB-1260 (Aroclor 1260)	ug/L	0.11 U	0.50	0.11	10/24/15 11:04	
Decachlorobiphenyl (S)	%	103	63-121		10/24/15 11:04	
Tetrachloro-m-xylene (S)	%	98	48-111		10/24/15 11:04	

LABORATORY CONTROL SAMPLE & LCSD: 1371478 1372094

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	2.5	2.2	2.2	88	86	50-114	2	40	
PCB-1260 (Aroclor 1260)	ug/L	2.5	2.5	2.4	101	95	10-127	7	40	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

QC Batch: OEXT/24916 Analysis Method: EPA 8151
QC Batch Method: EPA 8151 Analysis Description: 8151A GCS Herbicides
Associated Lab Samples: 35213050001

METHOD BLANK: 1371979 Matrix: Water
Associated Lab Samples: 35213050001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2,4,5-T	ug/L	0.042 U	0.19	0.042	10/26/15 23:13	
2,4,5-TP (Silvex)	ug/L	0.049 U	0.19	0.049	10/26/15 23:13	
2,4-D	ug/L	0.22 U	0.94	0.22	10/26/15 23:13	
2,4-DB	ug/L	0.51 U	1.9	0.51	10/26/15 23:13	
Bentazon	ug/L	0.016 U	0.094	0.016	10/26/15 23:13	
Dalapon	ug/L	0.43 U	0.91	0.43	10/26/15 23:13	
Dicamba	ug/L	0.030 U	0.094	0.030	10/26/15 23:13	
Dinoseb	ug/L	0.057 U	0.19	0.057	10/26/15 23:13	
Pentachlorophenol	ug/L	0.017 U	0.028	0.017	10/26/15 23:13	
Picloram	ug/L	0.019 U	0.094	0.019	10/26/15 23:13	
2,4-DCAA (S)	%	87	36-130		10/26/15 23:13	

LABORATORY CONTROL SAMPLE: 1371980

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-T	ug/L	1.2	1.2	97	40-130	
2,4,5-TP (Silvex)	ug/L	1.2	1.2	100	58-130	
2,4-D	ug/L	6	4.8	79	42-134	
2,4-DB	ug/L	12	10.5	87	65-130	
Bentazon	ug/L	.6	0.56	93	52-130	
Dalapon	ug/L	6	3.5	59	22-130	
Dicamba	ug/L	.6	0.55	92	42-130	
Dinoseb	ug/L	1.2	0.94	79	10-157	
Pentachlorophenol	ug/L	.18	0.24	135	62-154	
Picloram	ug/L	.6	0.16	27	10-145	
2,4-DCAA (S)	%			89	36-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1372724 1372725

Parameter	Units	92272855003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-T	ug/L	ND	1.2	1.2	1.3	1.2	106	97	40-130	9	40	
2,4,5-TP (Silvex)	ug/L	ND	1.2	1.2	1.4	1.3	114	111	58-130	3	40	
2,4-D	ug/L	ND	6	6	5.1	4.8	86	80	42-134	7	40	
2,4-DB	ug/L	ND	12	12	12.1	10.7	101	89	65-130	13	40	
Bentazon	ug/L	ND	.6	.6	0.46	0.62	77	103	52-130	29	40	
Dalapon	ug/L	ND	6	6	4.6	3.5	77	58	22-130	28	40	
Dicamba	ug/L	ND	.6	.6	0.60	0.57	101	95	42-130	6	40	

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, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1372724 1372725

Parameter	Units	92272855003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dinoseb	ug/L	ND	1.2	1.2	1.0	0.97	84	81	10-157	4	40	
Pentachlorophenol	ug/L	ND	.18	.18	0.26	0.25	146	139	62-154	5	40	
Picloram	ug/L	ND	.6	.6	0.26	0.16	44	27	10-145	47	40	J(R1)
2,4-DCAA (S)	%						98	93	36-130		40	

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, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALIFIERS

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

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.

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-O	Pace Analytical Services - Ormond Beach

BATCH QUALIFIERS

Batch: GCSV/16190

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Compound was analyzed for but not detected.
J(L0)	Estimated Value. Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
J(M0)	Estimated Value. Matrix spike recovery was outside laboratory control limits.
J(M1)	Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
J(R1)	Estimated Value. RPD value was outside control limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
P2	Re-extraction or re-analysis could not be performed due to insufficient sample amount.
S7	Surrogate recovery outside control limits (not confirmed by re-analysis).

Pace Analytical Services, Inc.
5460 Beaumont Center Blvd - Suite 520
Tampa, FL 33634
(813)881-9401

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SR 60 Grade Separation (GW)
Pace Project No.: 35213050

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35213050001	**TMW-1**	EPA 3510	OEXT/24907	EPA 8082	GCSV/16190
35213050001	**TMW-1**	EPA 8151	OEXT/24916	EPA 8151	GCSV/16204
35213050001	**TMW-1**	EPA 3010	MPRP/27067	EPA 6010	ICP/16310
35213050001	**TMW-1**	EPA 7470	MERP/6284	EPA 7470	MERC/6269
35213050001	**TMW-1**	EPA 8260	MSV/16447		

WO# : 35213050

35213050

Pace Analytical

AIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Tierra, Inc.	Report To:	Bair, Mike	Attention:	
Address:	7351 Temple Terrace Highway	Copy To:		Company Name:	
	Tampa, FL 33637			Address:	
Email:	mbair@tierrainc.com	Purchase Order #:		Pace Quote:	
Phone:	Fax	Project Name:	SR 60 Grade Separation (GW)	Pace Project Manager:	lori.palmer@pacelabs.com,
Requested Due Date:	Standard	Project #:	6511-15-022E	Pace Profile #:	7371 Lines 1 and 4

Regulatory Agency	
State / Location	FL

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: BTEX/MTBE	PAH by 8270SIM	PAH MS/MSD	TRPH FL-PRO	TRPH MS/MSD	8151 Chlorinated Herbicides	8151 MS/MSD	8082 PCB	8082 MS/MSD	8260 Full List	As,Cd,Cr,Pb,Zn,Cu,Ni+Hg	Residual Chlorine (Y/N)
1	TMW-1	WT	G	10/22/15	1030	10/22/15	1040		10			✓	✓											✓	✓	✓	✓	
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
6511-15-022E EMPTY CONTAINERS	[signature]	10/21/15	0900	[signature]	10/21/15	0900	
	[signature]	10/22/15	1400	[signature] Pace	10/22/15	1400	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Sammi Aird

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/22/15

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical Florida Laboratory	Document Name: Sample Condition Upon Receipt Form	Document Revised: August 11, 2014
	Document No.: F-FL-C-007 rev. 06	Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Table Number: _____

Client Name: TIERRA Project # _____

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

Tracking # _____

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

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

Thermometer Used T/A-14 **Type of Ice:** (Wet) Blue None

Cooler Temperature°C 2.9 (Visual) 0.0 (Correction Factor) 2.9 (Actual)

(Temp should be above freezing to 6°C). If below 0°C, then was sample frozen? ☐Yes ☐No

Date and Initials of person examining contents: CAM 10/22/15

Receipt of samples satisfactory: ☑Yes ☐No **Rush TAT requested on COC:**

If yes, then all conditions below were met:	If no, then mark box & describe issue (use comments area if necessary):
Chain of Custody Present	☐
Chain of Custody Filled Out	☐
Relinquished Signature & Sampler Name COC	☐
Samples Arrived within Hold Time	☐
Sufficient Volume	☐
Correct Containers Used	☐
Containers Intact	☐
Sample Labels match COC (sample IDs & date/time of collection)	☐ No Labels: ☐ No Time/Date on Labels: ☐
All containers needing preservation are found to be in compliance with EPA recommendation.	☐
No Headspace in VOA Vials (>6mm):	☐

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution (use back for additional comments): _____

Project Manager Review: _____ **Date:** _____

Finished Product Information Only

F.P. Sample ID: _____

Production Code: _____

Date/Time Opened: _____

Number of Unopened Bottles Remaining: _____

Extra Sample in Shed: Yes No

Size & Qty of Bottles Received

_____ x 5 Gal
_____ x 2.5 Gal
_____ x 1 Gal
_____ x 1 Liter
_____ x 500 mL
_____ x 250 mL
_____ x Other: _____

Appendix D

Field Forms

BORING LOG

Ingress/Egress Easement 1

Boring/Well Number: SB-1	Permit Number: NA	FDEP Facility Identification Number: NA	
Site Name: SR 60 Grade Separation 6511-15-022E	Borehole Start Date: 10/22/15 End Date: 10/22/15	Borehole Start Time: 1146 End Time: 1153	☑ AM ☐ PM ☑ AM ☐ PM
Environmental Contractor: TIERRA, INC.	Geologist's Name: NA	Environmental Technician's Name: Sammy A.	
Drilling Company: TIERRA, INC.	Pavement Thickness (inches): NA	Borehole Diameter (inches): 3.25	Borehole Depth (feet): 5
Drilling Method(s): HA	Apparent Borehole DTW (in feet from soil moisture content): 2 1/2	Measured Well DTW (in feet after water recharges in well): NA	OVA (list model and check type): MiniRAE 3000 ☐ FID ☑ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☑ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☑ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	SB-1					0.0	1	Light Br P/S		D → M	SB-1, 0-2 ft
↓	↓					0.0	2			↓ W	
						0.0	3	Br F/S		↓	
						0.0	4			S	
						0.0	5	EOT		↓	
							6	no debris observed			
							7				
							8				
							9				
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Ingress/Egress Easement 1

Boring/Well Number:	Permit Number:	FDEP Facility Identification Number:
SB-2	NA	NA

Site Name:	Borehole Start Date:	Borehole Start Time:	
SR 60 Grade Separation 05111-15-022E	End Date: 10/22/15	End Time: 1205	☐ AM ☐ PM / ☐ AM ☐ PM

Environmental Contractor:	Geologist's Name:	Environmental Technician's Name:
TIERRA, INC.	NA	Sammy A.

Drilling Company:	Pavement Thickness (inches):	Borehole Diameter (inches):	Borehole Depth (feet):
TIERRA, INC.	NA	3.25	5

Drilling Method(s):	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	OVA (list model and check type):
HA	2 1/2	NA	MiniRAE3000 ☐ FID ☑ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☑ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☑ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	SB-2					0.0	1	Light Br. F/S		D→M	SB-2, 0-2ft
↓	↓					0.0	2			M→W	
						0.0	3	Br F/S			
						0.0	4			W→S	
						0.0	5	EOB		S	
							6	no debris observed			
							7				
							8				
							9				
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

Florida Department of Environmental Protection - Division of Waste Management - Bureau of Petroleum Storage Systems

BORING LOG

Ingress/Egress Easement 2

Boring/Well Number:	Permit Number:	FDEP Facility Identification Number:
SB-3	NA	NA

Site Name:	Borehole Start Date:	Borehole Start Time:	End Time:	
SR 60 Grade Separation 05111-15-022E	10/21/15 End Date: 10/21/15	0945	0950	☑ AM ☐ PM ☑ AM ☐ PM

Environmental Contractor:	Geologist's Name:	Environmental Technician's Name:
TIERRA, INC.	NA	Sammy A.

Drilling Company:	Pavement Thickness (inches):	Borehole Diameter (inches):	Borehole Depth (feet):
TIERRA, INC.	NA	3.25	2

Drilling Method(s):	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	OVA (list model and check type):
HA	NA	NA	~~MiniRAE~~ SA NA ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☑ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☑ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	SB-3					NA	1	Br F/S		D	SB-3, 0-2ft
↓	↓						2	Grey F/S EOB		↓	
							3	no debris observed			
							4				
							5				
							6				
							7				
							8				
							9				
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Ingress/Egress Easement 2

Boring/Well Number:	Permit Number:	FDEP Facility Identification Number:
SB-4/TMW-1	NA	NA

Site Name:	Borehole Start Date:	Borehole Start Time:	
SR 60 Grade Separation (6511-15-022E	10/21/15 End Date: 10/21/15	1005 End Time: 1025	☑ AM ☐ PM ☑ AM ☐ PM

Environmental Contractor:	Geologist's Name:	Environmental Technician's Name:
TIERRA, INC.	NA	Sammy A.

Drilling Company:	Pavement Thickness (inches):	Borehole Diameter (inches):	Borehole Depth (feet):
TIERRA, INC.	NA	3.25	5 1/2

Drilling Method(s):	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	OVA (list model and check type):
HA	3	3.35	mini RAE 3000 ☐ FID ☑ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☑ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well "TMW-1" ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	SB-4					0.0	1	Gray F/S		D	SB-4, 0-2ft
↓	↓					0.0	2	↓		M	
						0.0	3	Light Br. F/S		~~D~~W	
						0.0	4	↓		↓	
						0.0	5	Br Silty Sand		S	
↓							6	EOB		↓	
							7	no debris observed			
							8				
							9				
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Lateral Ditch

Boring/Well Number:	Permit Number:	FDEP Facility Identification Number:
SB-5	NA	NA

Site Name:	Borehole Start Date:	Borehole Start Time:	
SR 60 Grade Separation 05II-15-022E	End Date: 10/21/2015	End Time: 1220	☐ AM ☑ PM ☐ AM ☑ PM

Environmental Contractor:	Geologist's Name:	Environmental Technician's Name:
TIERRA, INC.	NA	Sammy A.

Drilling Company:	Pavement Thickness (inches):	Borehole Diameter (inches):	Borehole Depth (feet):
TIERRA, INC.	NA	3.25	8

Drilling Method(s):	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	OVA (list model and check type):
HA	NA	NA	MiniRAE3000 ☐ FID ☑ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☑ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☑ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	SB-5					0.0	1	Br F/S		D	SB-5, 0-2FT
						0.0	2	Gray F/S			
						0.0	3	Light Gr F/S			
						0.0	4	Br. Silty Clayey Sand			
						0.0	5	Br. Clayey Sand			
						0.0	6				
						0.0	7			M	
						0.0	8	EOB			
							9	no debris observed			
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Lateral Ditch

Boring/Well Number: SB-6	Permit Number: NA		FDEP Facility Identification Number: NA
Site Name: SR60 Grade Separation 6511-15-022E	Borehole Start Date: 10/21/15 End Date: 10/21/15	Borehole Start Time: 1235 End Time: 1250	☐ AM ☑ PM ☐ AM ☑ PM
Environmental Contractor: TIERRA, INC.	Geologist's Name: NA		Environmental Technician's Name: Sammy A
Drilling Company: TIERRA, INC.	Pavement Thickness (inches): NA	Borehole Diameter (inches): 3.25	Borehole Depth (feet): 6
Drilling Method(s): HA	Apparent Borehole DTW (in feet from soil moisture content): 4	Measured Well DTW (in feet after water recharges in well): NA	OVA (list model and check type): miniRAE3000 ☐ FID ☑ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☑ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☑ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	SB-6					0.0	1	Br F/S		D	SB-6 0-2Ft
						0.0	2				
						0.0	3	Br F/S w clay nodules			
						0.0	4	▼		W	
						0.0	5	Br Clayey Sand			
						0.0	6	EOB			
							7	no debris observed			
							8				
							9				
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

TEST PIT LOG

Ingress/Egress Easement 2

Test Pit ID:	Permit Number:	FDEP Facility Identification Number:
TP- 1	NA	NA

Site Name: SR 60 Grade Separation 0511-15-022E	Start Date: 10/21/15 End Date: 10/21/15	Start Time: 1110 End Time: 1115	☑ AM ☐ PM ☑ AM ☐ PM

Environmental Contractor:	Geologist's Name: NA	Environmental Technician's Name:
TIERRA, INC.		Sammy A

Excavation Company:	Pavement Thickness (inches):	Test Pit Size (length x width x depth in feet):
Tierra	NA	3'x2'x3 1/2'

Excavation Method(s):	Apparent Test Pit DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	OVA (list model and check type):
Shovel and Hand Auger	NA	NA	NA ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☑ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Test Pit Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☑ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA BH	SS-1	NA	NA	NA	NA	NA	1	Roots w/ Br Fls		D	SS-1, 1-4
							2	Light Br Fls			
							3			M	
							4	EOB			
							5				
							6				
							7	No debris encountered			
							8	Past surface			
							9				
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **BH**=Backhoe; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

TEST PIT LOG

Ingress/Egress Easement 2

Test Pit ID: TP-2	Permit Number: NA	FDEP Facility Identification Number: NA
Site Name: SR 60 Grade Separation 0511-15-022E	Start Date: 10/21/15 End Date: 10/21/15	Start Time: 1120 End Time: 1130 ☑ AM ☐ PM ☑ AM ☐ PM
Environmental Contractor: TIERRA, INC.	Geologist's Name: NA	Environmental Technician's Name: Sammy A.
Excavation Company: Tierra	Pavement Thickness (inches): NA	Test Pit Size (length x width x depth in feet): 3'x2'x3½'
Excavation Method(s): shovel and Hand Auger	Apparent Test Pit DTW (in feet from soil moisture content): NA	Measured Well DTW (in feet after water recharges in well): NA
OVA (list model and check type): NA ☐ FID ☐ PID		

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☑ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Test Pit Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☑ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
BH	NA	NA	NA	NA	NA	NA	1	Roots w/ Br F/S		0	
↓							2	Br F/S		↓	
							3				
							4	EOB			
							5				
							6	No debris encountered past surface			
							7				
							8				
							9				
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **BH**=Backhoe; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

Florida Department of Environmental Protection - Division of Waste Management - Bureau of Petroleum Storage Systems

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA Ingress/Egress Easement #2

Well Number:	Site Name: SR 60 Grade Separation 6511-15-022E	FDEP Facility I.D. Number:	Well Install Date(s):
TMW-1		NA	10/21/2015

Well Location and Type (check appropriate boxes):
- [x] On-Site
- [ ] Right-of-Way
- [ ] Off-Site Private Property
- [ ] Above Grade (AG)
- [x] Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose:
- [ ] Perched Monitoring
- [x] Shallow (Water-Table) Monitoring
- [ ] Intermediate or Deep Monitoring
- [ ] Remediation or Other (describe)

Well Install Method: Hand Auger

Surface Casing Install Method: HSA NA

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
5 1/2	5 1/2	3.25	NA	NA feet by _____ feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2.0" PVC	[x] Flush-Threaded [ ] Other (describe)	1/2 feet; from 0 feet to 1/2 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
2.0" PVC	0.010"	5 feet; from 1/2 feet to 5 1/2 feet

1st Surface Casing Material:	1st Surface Casing I.D. (inches):	1st Surface Casing Length:
also check: [ ] Permanent [ ] Temporary n/a		_____ feet; from _____ feet to _____ feet

2nd Surface Casing Material:	1st Surface Casing I.D. (inches):	2nd Surface Casing Length:
also check: [ ] Permanent [ ] Temporary		_____ feet; from _____ feet to _____ feet

3rd Surface Casing Material:	1st Surface Casing I.D. (inches):	3rd Surface Casing Length:
also check: [ ] Permanent [ ] Temporary		_____ feet; from _____ feet to _____ feet

Filter Pack Material and Size:	Pre-packed Filter Around Screen (check one):	Filter Pack Length:
20/30 Silica Sand	[ ] Yes [x] No	5 1/2 feet; from 0 feet to 5 1/2 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
	_____ feet; from _____ feet to _____ feet

Surface Seal Material:	Surface Seal Length:
	_____ feet; from _____ feet to _____ feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one):
10/21/2015	[ ] Surge/Pum [x] Pump [ ] Compressed Air [ ] Other (describe)

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
[ ] Centrifugal [x] Peristaltic [ ] Submersible [ ] Other (describe)	3.35

S: 1045
S: 1140

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
0.09	3.67	[ ] Yes [x] No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
[x] Continuous [ ] Intermittent	5	55	[ ] Yes [x] No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Dr Brown / None	Br / Cloudy

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

Ingress/Egress Easement #2

SITE NAME: SR60 Grade Separation 6511-15-022E	SITE LOCATION: Polk County	
WELL NO: TMW-1	SAMPLE ID: TMW-1	DATE: 10/22/15

PURGING DATA

WELL DIAMETER (inches): 2.00	TUBING DIAMETER (inches): 0.25	WELL SCREEN INTERVAL DEPTH: 1/2 feet to 5 1/2 feet	STATIC DEPTH TO WATER (feet): 3.46	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (5 1/2 feet – 3.46 feet) X 0.16 gallons/foot = 0.34 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable) = gallons + (gallons/foot X feet) + 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 4	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 4	PURGING INITIATED AT: 0950	PURGING ENDED AT: 1027	TOTAL VOLUME PURGED (gallons): 0.75

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or (µS/cm)	DISSOLVED OXYGEN mg/L and % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1018	0.57	0.57	0.02	3.50	5.96	25.3	87.1	1.38/16.9	18.9	Clear	None
1022	0.08	0.65	0.02	3.50	5.96	25.5	87.1	1.36/16.8	16.4	Clear	None
1027	0.1	0.75	0.02	3.50	5.97	25.5	87.2	1.36/16.9	14.2	Clear	None
								/			
								/			
								/			
								/			
								/			
								/			
								/			
								/			

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Sammy Awad / Tierra	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1030	SAMPLING ENDED AT: 1040
PUMP OR TUBING DEPTH IN WELL (feet): 4	TUBING MATERIAL CODE: HDPE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: _____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
TMW-1	1	Plastic	250mL	Nitric	Lab	Lab	6010 As, Cd, Cr, Pb, Zn Cu, Ni, Hg	APP	378.50
	1	AG	1L	None			8151 Chl. Herb		378.50
	1	AG	1L	None			8082 PCB		378.50
	3	CG	40mL	HCL			8260 Full List		378.50 <0.10GPM

REMARKS: Stabilization Parameters Met. Samples put on ice.

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **SM** = Straw Method (Tubing Gravity Drain); **RFPP** = Reverse Flow Peristaltic Pump; **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5%
Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater)
Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP-SOP-001/01
FT 1600 Field Measurement of Turbidity

SR 60
Grade Separation
6511-15-022E

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

INSTRUMENT (MAKER/MODEL#) MiniRAE3000 **INSTRUMENT #** 592-914437

PARAMETER: *[check only one]*

☐ TEMPERATURE ☐ CONDUCTIVITY ☐ SALINITY ☐ pH ☐ ORP
☐ TURBIDITY ☐ RESIDUAL Cl ☐ DO ☑ OTHER OVA

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard A 0ppm Ambient Air
Standard B 100ppm Isobutelene Lot#: FAP-248-100-22
Standard C

DATE (yy/mm/dd)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
15/10/21	0940	A	0	0.0	0	Yes	Cont	SA
15/10/21	0940	B	100	100.0	0	Yes	Cont	SA
15/10/21	1340	A	0	0.0	0	Yes	Cont	SA
15/10/21	1340	B	100	100.0	0	Yes	Cont	SA
15/10/22	0935	A	0	0.0	0	Yes	Cont	SA
15/10/22	0935	B	100	99.98	.02	Yes	Cont.	SA
15/10/22	1220	A	0	0.0	0	Yes	Cont	SA
15/10/22	1220	B	100	100.01	.01	Yes	Cont	SA

Boldly "X" this box if there is qualified data on this page.

Form FD9000-8 **CALIBRATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)** 11-10-05

Project/Site: SR 60 Grade Separation 6511-15-022E Date: 10/22/2015 Meter # 10FG11Q

Temperature (Quarterly) *For Date of Last Temperature Verification see* ____ *in log book*

Dissolved Oxygen	**DEP SOP FT 1500**	Initials	Date	Time	Probe Charge	Probe Gain	mg/L	Temp °c	% DO	Saturation mg/L (from chart)	Pass or Fail
									Acceptance Criteria:	**+/-0.3mg/l**	
CAL (ICV) CCV		SA	10/22/15	0940	NA	NA	8.535	22.7	100.1	8.627	(P) F
CAL ICV (CCV)		SA	10/22/15	1045	↓	↓	8.513	23.1	98.9	8.562	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

Specific Conductance	**DEP SOP FT 1200**	Initials	Date	Time	Standard µmhos/cm	Exp. Date	Lot #	Bottle #	Cell Constant	Reading µmhos/cm	Pass or Fail
									Acceptance Criteria:	**+/- 5%**	
CAL (ICV) CCV		SA	10/22/15	0940	1000	Aug-16	SGH149	NA	NA	1005	(P) F
CAL ICV (CCV)		SA	10/22/15	1045	1000	Aug-16	SGH149	↓	↓	1004	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

pH	**DEP SOP FT 1100**	Initials	Date	Time	Standard SU	Exp. Date	Lot #	Bottle #	Slope	Reading SU	Pass or Fail
									Acceptance Criteria:	**+/- 0.2 SU**	
CAL (ICV) CCV		SA	10/22/15	0940	7.00	Aug-17	SGH596	NA	NA	7.02	(P) F
CAL (ICV) CCV		SA	↓	0940	4.00	Aug-17	SGH467	↓	↓	4.01	(P) F
CAL (ICV) CCV		SA		0940	10.00	Aug-17	SGH725			10.02	(P) F
CAL ICV (CCV)		SA		1045	7.00	Aug-17	SGH596			7.01	(P) F
CAL ICV (CCV)		SA		1045	4.00	Aug-17	SGH467			3.99	(P) F
CAL ICV (CCV)		SA		1045	10.00	Aug-17	SGH596			10.02	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

Maintenance: Weekly pH Slope: NA Specific Conductance Probe Cleaned? Yes (No) Dissolved Oxygen Membrane Changed: Yes (No)

Notes:

Perform only in Calibrate Mode: **CAL** - Calibrate -
Perform only in Run Mode: **ICV** - Initial Calibration Verification
Perform only in Run Mode: **CCV** - Continuing Calibration Verification

SR 60 Grade Separation
6511-15-022E

DEP-SOP-001/01
FT 1600 Field Measurement of Turbidity

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

INSTRUMENT (MAKER/MODEL#) Hach 2100 Q **INSTRUMENT #** 12090c02275

PARAMETER: *[check only one]*

☐ TEMPERATURE ☐ CONDUCTIVITY ☐ SALINITY ☐ pH ☐ ORP
☒ TURBIDITY ☐ RESIDUAL Cl ☐ DO ☐ OTHER _____

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard A 10 NTU Exp Jul-14 Lot# A5103
Standard B 20 NTU Exp Jul 14 Lot# A5114
Standard C 100 NTU Exp Jul 14 Lot# A5112

DATE (yy/mm/dd)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
15/10/22	0940	A	10NTU	9.95	.05	Yes	Cont	SA
↓	0940	B	20NTU	20.21	.21	Yes	↓	SA
	0940	C	100NTU	98.93	1.07	Yes		SA
	1045	A	10NTU	9.98	.02	Yes		SA
	1045	B	20NTU	20.10	0.1	Yes		SA
	1045	C	100NTU	101	1	Yes		SA

US Environmental Rental Corporation

(888) 550-8100 www.usenvironmental.com

166 Riverview Ave, Waltham, MA 02453 (781) 899-1560
91 Prestige Park Circle, Suite 5, East Hartford, CT 06108 (860) 289-8700
5C South Gold Dr, Hamilton, NJ 08691 (609) 570-8555
1202 Tech Blvd., Suite 108, Tampa, FL 33619 (813) 628-4200

Order No.: RS09919
Date: 10/20/2015
Technician: SJ

YSI

Company: Tierra Eng
Contact: Sammy awad
Phone #: #N/A

Packing List

Item	Serial Number	Tech	QC
Pro Series	10F011Q	✓	
Handheld Display	10E100240	✓	

Item	Tech	QC	Item	Tech	QC
Cable 4M	✓		AC Adaptor		
Flow Cell	✓		Stand		
Barb Kit	✓		D.O Kit	✓	
Storage / Cal Cup	✓		Calibration Kit	✓	
Sensor Guard	✓				
Manual	✓				
Sonde Cap					
Software					
Extra Batteries	✓				
Display Comm. Cable	✓				
Sonde Comm. Cable					

Calibration Report

Pro Series		10F011Q		
Parameter	**Accuracy**	**Before**	**After**	**Lot #**
Conductivy 1000 µs/cm	(+/-.5%)	1052	1000	150415A
pH 7 Buffer	(+/- .2)	7.33	7.03	150415C
pH mV for 7 Buffer	(0 +/- 50)		**-18.9**	
pH 4 Buffer	(+/- .2)	4.28	4.00	150415B
pH mV for 4 Buffer	(180 +/- 50)		**157.3**	
pH 10 Buffer	(+/- .2)	10.11	10.07	#REF!
pH mV for 10 Buffer	(-180 +/- 50)		**-180.6**	
ORP mV, 237.5	(+/- 20 mV)	168.1	200.00	150415D
DO 100% Sat	(+/- 2%)	102.1%	100.1%	
0% DO Check	(+/- 2%)		0.30	
Turbidity 0 NTU	(+/- 5%)			
Turbidity 126 NTU	(+/- 5%)			
Lab Conditions during calibration				

All calibration standards are NIST traceable. Calibration must be performed according to manufacturer's specifications.

This document certifies that US Environmental Rental Corporation has provided this rental equipment and all accessories in good working order. It is the renter's responsibility to: a) review all included items upon receipt, b) verify that all items are in acceptable condition and function properly, and c) contact a US Environmental associate immediately if any item is missing, damaged, and/or not functioning properly. Any delay in notifying US Environmental will be considered as the Renter taking responsibility for such missing, damaged, and/or malfunctioning item.

Missing, damaged, and/or malfunctioning equipment and accessories will result in additional fees.

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1202 Tech Blvd., Suite 108, Tampa, FL 33619 (813) 628-4200

Order No.: RS09919

Date: 10/20/2015

Technician: SJ

Company: Tierra Eng.

Contact: Sammy Awad

Phone #: #N/A

Packing List

Item	Serial Number	Included	QC
MiniRAE 3000	**592-914437**	✓	
Manual		✓	
Charger		✓	
Probe Tip		✓	
Alkaline Battery Pack		✓	
External Filters		✓	
Software			
Comm. Cable			
Regulator		✓	
Tedlar Bag		✓	
Calibration Gas		✓	
Tube Holder			
Zero Tubes			

Calibration Report

Item		Information	
MiniRAE 3000	**592-914437**		
Calibration Gas:		***Isobutylene***	
Lot Number:		FAP-248-100-22	
Span Setting:		***100.00***	***ppm***
Correction Factor:		***1.00***	
Zero Reading:		***0.00***	***ppm***
Span Reading:		***99.80***	***ppm***
Post-Cal Bump Test:		***99.30***	***ppm***
Lamp		***10.6***	

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Appendix E

GPS Coordinates

GPS Coordinates

Label	Latitude	Longitude
SB-1	27.906637	-81.66918
SB-2	27.906263	-81.667881
SB-3	27.903628	-81.657378
SB-4	27.903947	-81.657397
SB-5	27.904936	-81.659985
SB-6	27.905632	-81.660679
TP-1/SS-1	27.904423	-81.657419
TP-2	27.904445	-81.657434

NOTES:

Geographic Coordinate System: GCS_WGS_84

Geodetic Datum: D_WGS_84

Prime Meridian: Greenwich

Angular Unit: Degree