

**Technical Report for**

**Southwest Geoscience**

**0111C278A/ SC Sediment Sampling**

**Accutest Job Number: TC32298**

**Sampling Date: 06/12/13**


**Report to:**

**Southwest Geoscience**  
**2351 W. Northwest Highway Suite 3321**  
**Dallas, TX 75220**  
**jason.minter@southwestgeoscience.com; rusty.simpson@southwestgeoscience.com**  
**ATTN: Jason Minter**

**Total number of pages in report: 38**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

  
**Richard Rodriguez**  
**Laboratory Director**

**Client Service contact: Sylvia Garza 713-271-4700**

Certifications: TX (T104704220-13-10) AR (12-029-0) AZ (AZ0769) FL (E87628) KS (E-10366)  
LA (85695/04004) OK (2012-059)

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Test results relate only to samples analyzed.

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## Sample Summary

**Southwest Geoscience**

**Job No: TC32298**

**0111C278A/ SC Sediment Sampling**

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
TC32298-1	06/12/13	13:36	06/15/13	SO	Soil	SC-SED-31
TC32298-2	06/12/13	13:39	06/15/13	SO	Soil	SC-SED-32
TC32298-3	06/12/13	13:42	06/15/13	SO	Soil	SC-SED-33
TC32298-4	06/12/13	14:06	06/15/13	SO	Soil	SC-SED-34
TC32298-5	06/12/13	14:09	06/15/13	SO	Soil	SC-SED-35
TC32298-6	06/12/13	14:13	06/15/13	SO	Soil	SC-SED-36
TC32298-7	06/12/13	14:37	06/15/13	SO	Soil	SC-SED-37
TC32298-8	06/12/13	14:41	06/15/13	SO	Soil	SC-SED-38
TC32298-9	06/12/13	14:44	06/15/13	SO	Soil	SC-SED-39
TC32298-10	06/12/13	15:06	06/15/13	SO	Soil	SC-SED-40

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Soil samples reported on a dry weight basis unless otherwise indicated on result page.



## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Southwest Geoscience

**Job No** TC32298

**Site:** 0111C278A/ SC Sediment Sampling

**Report Date** 7/3/2013 5:04:19 PM

10 Samples were collected on 06/12/2013 and were received intact at Accutest on 06/15/2013 and properly preserved in 1 cooler at 2 Deg C These Samples received an Accutest job number of TC32298. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

### Wet Chemistry By Method ASTM D422-63

<b>Matrix</b> SO	<b>Batch ID:</b> N:GP72913
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- .
- Analysis performed at Accutest Laboratories, Dayton, NJ.

Accutest Laboratories Gulf Coast (ALGC) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALGC and as stated on the COC. ALGC certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALGC Quality Manual except as noted above. This report is to be used in its entirety. ALGC is not responsible for any assumptions of data quality if partial data packages are used

## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** Accutest Laboratories Gulf Coast, Inc.

**Job No** TC32298

**Site:** SGTXD: 0111C278A/ SC Sediment Sampling

**Report Date** 7/2/2013 8:13:50 AM

On 06/20/2013, 10 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a temperature of 3.5 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of TC32298 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### Wet Chemistry By Method ASTM D422-63

**Matrix:** SO

**Batch ID:** GP72913

- Sample(s) TC32298-10DUP were used as the QC samples for % Gravel, % Sand, % Silt, Clay, Colloids, 0.0015 mm (Hydrometer), 0.005 mm (Hydrometer), 0.030 mm (Hydrometer), 0.375 Inch Sieve, 0.75 inch sieve, 1.5 Inch Sieve, 3 inch sieve, No.10 Sieve (2.00 mm), No.100 Sieve (0.15 mm), No.16 Sieve (1.18 mm), No.200 Sieve (0.075 mm), No.30 Sieve (0.60 mm), No.4 Sieve (4.75 mm), No.50 Sieve (0.30 mm), No.8 Sieve (2.36 mm).
- TC32298-9 for 0.030 mm (Hydrometer): Data extrapolated from higher and lower data points due to possible analytical problem with hydrometer analysis at short analysis times.
- TC32298-7 for 0.030 mm (Hydrometer): Data extrapolated from higher and lower data points due to possible analytical problem with hydrometer analysis at short analysis times.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

## Summary of Hits

**Job Number:** TC32298  
**Account:** Southwest Geoscience  
**Project:** 0111C278A/ SC Sediment Sampling  
**Collected:** 06/12/13



Lab Sample ID	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
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**TC32298-1 SC-SED-31**

3 Inch Sieve <sup>a</sup>	100	%	ASTM D422-63
1.5 Inch Sieve <sup>a</sup>	100	%	ASTM D422-63
0.75 Inch Sieve <sup>a</sup>	100	%	ASTM D422-63
0.375 Inch Sieve <sup>a</sup>	100	%	ASTM D422-63
No.4 Sieve (4.75 mm) <sup>a</sup>	99.3	%	ASTM D422-63
No.8 Sieve (2.36 mm) <sup>a</sup>	93.6	%	ASTM D422-63
No.10 Sieve (2.00 mm) <sup>a</sup>	91.1	%	ASTM D422-63
No.16 Sieve (1.18 mm) <sup>a</sup>	71.9	%	ASTM D422-63
No.30 Sieve (0.60 mm) <sup>a</sup>	39.4	%	ASTM D422-63
No.50 Sieve (0.30 mm) <sup>a</sup>	18.9	%	ASTM D422-63
No.100 Sieve (0.15 mm) <sup>a</sup>	13.3	%	ASTM D422-63
No.200 Sieve (0.075 mm) <sup>a</sup>	12.3	%	ASTM D422-63
0.030 mm (Hydrometer) <sup>a</sup>	10.0	%	ASTM D422-63
0.005 mm (Hydrometer) <sup>a</sup>	6.0	%	ASTM D422-63
0.0015 mm (Hydrometer) <sup>a</sup>	4.7	%	ASTM D422-63
% Gravel <sup>a</sup>	0.67	%	ASTM D422-63
% Sand <sup>a</sup>	87.0	%	ASTM D422-63
% Silt, Clay, Colloids <sup>a</sup>	12.3	%	ASTM D422-63

**TC32298-2 SC-SED-32**

3 Inch Sieve <sup>a</sup>	100	%	ASTM D422-63
1.5 Inch Sieve <sup>a</sup>	100	%	ASTM D422-63
0.75 Inch Sieve <sup>a</sup>	100	%	ASTM D422-63
0.375 Inch Sieve <sup>a</sup>	98.5	%	ASTM D422-63
No.4 Sieve (4.75 mm) <sup>a</sup>	73.2	%	ASTM D422-63
No.8 Sieve (2.36 mm) <sup>a</sup>	36.7	%	ASTM D422-63
No.10 Sieve (2.00 mm) <sup>a</sup>	28.2	%	ASTM D422-63
No.16 Sieve (1.18 mm) <sup>a</sup>	11.3	%	ASTM D422-63
No.30 Sieve (0.60 mm) <sup>a</sup>	5.7	%	ASTM D422-63
No.50 Sieve (0.30 mm) <sup>a</sup>	4.9	%	ASTM D422-63
No.100 Sieve (0.15 mm) <sup>a</sup>	4.3	%	ASTM D422-63
No.200 Sieve (0.075 mm) <sup>a</sup>	3.8	%	ASTM D422-63
0.030 mm (Hydrometer) <sup>a</sup>	2.6	%	ASTM D422-63
0.005 mm (Hydrometer) <sup>a</sup>	1.4	%	ASTM D422-63
0.0015 mm (Hydrometer) <sup>a</sup>	1.4	%	ASTM D422-63
% Gravel <sup>a</sup>	26.8	%	ASTM D422-63
% Sand <sup>a</sup>	69.4	%	ASTM D422-63
% Silt, Clay, Colloids <sup>a</sup>	3.8	%	ASTM D422-63

**TC32298-3 SC-SED-33**

3 Inch Sieve <sup>a</sup>	100	%	ASTM D422-63
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## Summary of Hits

**Job Number:** TC32298  
**Account:** Southwest Geoscience  
**Project:** 0111C278A/ SC Sediment Sampling  
**Collected:** 06/12/13



Lab Sample ID	Client Sample ID	Result/ Analyte	MQL	SDL	Units	Method
		1.5 Inch Sieve <sup>a</sup>	100		%	ASTM D422-63
		0.75 Inch Sieve <sup>a</sup>	100		%	ASTM D422-63
		0.375 Inch Sieve <sup>a</sup>	97.4		%	ASTM D422-63
		No.4 Sieve (4.75 mm) <sup>a</sup>	91.6		%	ASTM D422-63
		No.8 Sieve (2.36 mm) <sup>a</sup>	72.0		%	ASTM D422-63
		No.10 Sieve (2.00 mm) <sup>a</sup>	65.6		%	ASTM D422-63
		No.16 Sieve (1.18 mm) <sup>a</sup>	39.1		%	ASTM D422-63
		No.30 Sieve (0.60 mm) <sup>a</sup>	13.1		%	ASTM D422-63
		No.50 Sieve (0.30 mm) <sup>a</sup>	7.9		%	ASTM D422-63
		No.100 Sieve (0.15 mm) <sup>a</sup>	7.0		%	ASTM D422-63
		No.200 Sieve (0.075 mm) <sup>a</sup>	6.7		%	ASTM D422-63
		0.030 mm (Hydrometer) <sup>a</sup>	3.4		%	ASTM D422-63
		0.005 mm (Hydrometer) <sup>a</sup>	3.0		%	ASTM D422-63
		0.0015 mm (Hydrometer) <sup>a</sup>	2.0		%	ASTM D422-63
		% Gravel <sup>a</sup>	8.4		%	ASTM D422-63
		% Sand <sup>a</sup>	85.0		%	ASTM D422-63
		% Silt, Clay, Colloids <sup>a</sup>	6.7		%	ASTM D422-63
TC32298-4	SC-SED-34					
		3 Inch Sieve <sup>a</sup>	100		%	ASTM D422-63
		1.5 Inch Sieve <sup>a</sup>	100		%	ASTM D422-63
		0.75 Inch Sieve <sup>a</sup>	100		%	ASTM D422-63
		0.375 Inch Sieve <sup>a</sup>	100		%	ASTM D422-63
		No.4 Sieve (4.75 mm) <sup>a</sup>	97.6		%	ASTM D422-63
		No.8 Sieve (2.36 mm) <sup>a</sup>	85.8		%	ASTM D422-63
		No.10 Sieve (2.00 mm) <sup>a</sup>	81.3		%	ASTM D422-63
		No.16 Sieve (1.18 mm) <sup>a</sup>	37.8		%	ASTM D422-63
		No.30 Sieve (0.60 mm) <sup>a</sup>	14.1		%	ASTM D422-63
		No.50 Sieve (0.30 mm) <sup>a</sup>	9.9		%	ASTM D422-63
		No.100 Sieve (0.15 mm) <sup>a</sup>	9.1		%	ASTM D422-63
		No.200 Sieve (0.075 mm) <sup>a</sup>	8.7		%	ASTM D422-63
		0.030 mm (Hydrometer) <sup>a</sup>	7.5		%	ASTM D422-63
		0.005 mm (Hydrometer) <sup>a</sup>	5.0		%	ASTM D422-63
		0.0015 mm (Hydrometer) <sup>a</sup>	4.1		%	ASTM D422-63
		% Gravel <sup>a</sup>	2.4		%	ASTM D422-63
		% Sand <sup>a</sup>	88.9		%	ASTM D422-63
		% Silt, Clay, Colloids <sup>a</sup>	8.7		%	ASTM D422-63
TC32298-5	SC-SED-35					
		3 Inch Sieve <sup>a</sup>	100		%	ASTM D422-63
		1.5 Inch Sieve <sup>a</sup>	100		%	ASTM D422-63
		0.75 Inch Sieve <sup>a</sup>	100		%	ASTM D422-63
		0.375 Inch Sieve <sup>a</sup>	98.5		%	ASTM D422-63

## Summary of Hits

**Job Number:** TC32298  
**Account:** Southwest Geoscience  
**Project:** 0111C278A/ SC Sediment Sampling  
**Collected:** 06/12/13



Lab Sample ID	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
No.4 Sieve (4.75 mm) <sup>a</sup>		66.9			%	ASTM D422-63
No.8 Sieve (2.36 mm) <sup>a</sup>		16.2			%	ASTM D422-63
No.10 Sieve (2.00 mm) <sup>a</sup>		9.1			%	ASTM D422-63
No.16 Sieve (1.18 mm) <sup>a</sup>		4.7			%	ASTM D422-63
No.30 Sieve (0.60 mm) <sup>a</sup>		2.6			%	ASTM D422-63
No.50 Sieve (0.30 mm) <sup>a</sup>		2.1			%	ASTM D422-63
No.100 Sieve (0.15 mm) <sup>a</sup>		1.9			%	ASTM D422-63
No.200 Sieve (0.075 mm) <sup>a</sup>		1.8			%	ASTM D422-63
% Gravel <sup>a</sup>		33.1			%	ASTM D422-63
% Sand <sup>a</sup>		65.2			%	ASTM D422-63
% Silt, Clay, Colloids <sup>a</sup>		1.8			%	ASTM D422-63
<b>TC32298-6</b>						
<b>SC-SED-36</b>						
3 Inch Sieve <sup>a</sup>		100			%	ASTM D422-63
1.5 Inch Sieve <sup>a</sup>		100			%	ASTM D422-63
0.75 Inch Sieve <sup>a</sup>		100			%	ASTM D422-63
0.375 Inch Sieve <sup>a</sup>		98.2			%	ASTM D422-63
No.4 Sieve (4.75 mm) <sup>a</sup>		89.6			%	ASTM D422-63
No.8 Sieve (2.36 mm) <sup>a</sup>		63.1			%	ASTM D422-63
No.10 Sieve (2.00 mm) <sup>a</sup>		56.1			%	ASTM D422-63
No.16 Sieve (1.18 mm) <sup>a</sup>		32.1			%	ASTM D422-63
No.30 Sieve (0.60 mm) <sup>a</sup>		19.4			%	ASTM D422-63
No.50 Sieve (0.30 mm) <sup>a</sup>		16.2			%	ASTM D422-63
No.100 Sieve (0.15 mm) <sup>a</sup>		15.0			%	ASTM D422-63
No.200 Sieve (0.075 mm) <sup>a</sup>		14.2			%	ASTM D422-63
0.030 mm (Hydrometer) <sup>a</sup>		12.3			%	ASTM D422-63
0.005 mm (Hydrometer) <sup>a</sup>		9.0			%	ASTM D422-63
0.0015 mm (Hydrometer) <sup>a</sup>		7.0			%	ASTM D422-63
% Gravel <sup>a</sup>		10.4			%	ASTM D422-63
% Sand <sup>a</sup>		75.4			%	ASTM D422-63
% Silt, Clay, Colloids <sup>a</sup>		14.2			%	ASTM D422-63
<b>TC32298-7</b>						
<b>SC-SED-37</b>						
3 Inch Sieve <sup>a</sup>		100			%	ASTM D422-63
1.5 Inch Sieve <sup>a</sup>		100			%	ASTM D422-63
0.75 Inch Sieve <sup>a</sup>		100			%	ASTM D422-63
0.375 Inch Sieve <sup>a</sup>		98.7			%	ASTM D422-63
No.4 Sieve (4.75 mm) <sup>a</sup>		92.1			%	ASTM D422-63
No.8 Sieve (2.36 mm) <sup>a</sup>		79.0			%	ASTM D422-63
No.10 Sieve (2.00 mm) <sup>a</sup>		74.5			%	ASTM D422-63
No.16 Sieve (1.18 mm) <sup>a</sup>		53.7			%	ASTM D422-63
No.30 Sieve (0.60 mm) <sup>a</sup>		22.9			%	ASTM D422-63
No.50 Sieve (0.30 mm) <sup>a</sup>		9.8			%	ASTM D422-63



## Summary of Hits

**Job Number:** TC32298  
**Account:** Southwest Geoscience  
**Project:** 0111C278A/ SC Sediment Sampling  
**Collected:** 06/12/13



Lab Sample ID	Client Sample ID	Result/ Analyte	Qual	MQL	SDL	Units	Method
		No.100 Sieve (0.15 mm) <sup>a</sup>	8.1			%	ASTM D422-63
		No.200 Sieve (0.075 mm) <sup>a</sup>	7.8			%	ASTM D422-63
		0.030 mm (Hydrometer) <sup>b</sup>	7.8			%	ASTM D422-63
		0.005 mm (Hydrometer) <sup>a</sup>	7.0			%	ASTM D422-63
		0.0015 mm (Hydrometer) <sup>a</sup>	6.0			%	ASTM D422-63
		% Gravel <sup>a</sup>	7.9			%	ASTM D422-63
		% Sand <sup>a</sup>	84.3			%	ASTM D422-63
		% Silt, Clay, Colloids <sup>a</sup>	7.8			%	ASTM D422-63
TC32298-8	SC-SED-38						
		3 Inch Sieve <sup>a</sup>	100			%	ASTM D422-63
		1.5 Inch Sieve <sup>a</sup>	100			%	ASTM D422-63
		0.75 Inch Sieve <sup>a</sup>	100			%	ASTM D422-63
		0.375 Inch Sieve <sup>a</sup>	98.5			%	ASTM D422-63
		No.4 Sieve (4.75 mm) <sup>a</sup>	91.0			%	ASTM D422-63
		No.8 Sieve (2.36 mm) <sup>a</sup>	76.2			%	ASTM D422-63
		No.10 Sieve (2.00 mm) <sup>a</sup>	71.1			%	ASTM D422-63
		No.16 Sieve (1.18 mm) <sup>a</sup>	44.2			%	ASTM D422-63
		No.30 Sieve (0.60 mm) <sup>a</sup>	17.2			%	ASTM D422-63
		No.50 Sieve (0.30 mm) <sup>a</sup>	12.1			%	ASTM D422-63
		No.100 Sieve (0.15 mm) <sup>a</sup>	11.4			%	ASTM D422-63
		No.200 Sieve (0.075 mm) <sup>a</sup>	11.2			%	ASTM D422-63
		0.030 mm (Hydrometer) <sup>a</sup>	7.9			%	ASTM D422-63
		0.005 mm (Hydrometer) <sup>a</sup>	6.5			%	ASTM D422-63
		0.0015 mm (Hydrometer) <sup>a</sup>	4.0			%	ASTM D422-63
		% Gravel <sup>a</sup>	9.0			%	ASTM D422-63
		% Sand <sup>a</sup>	79.9			%	ASTM D422-63
		% Silt, Clay, Colloids <sup>a</sup>	11.2			%	ASTM D422-63
TC32298-9	SC-SED-39						
		3 Inch Sieve <sup>a</sup>	100			%	ASTM D422-63
		1.5 Inch Sieve <sup>a</sup>	100			%	ASTM D422-63
		0.75 Inch Sieve <sup>a</sup>	100			%	ASTM D422-63
		0.375 Inch Sieve <sup>a</sup>	92.6			%	ASTM D422-63
		No.4 Sieve (4.75 mm) <sup>a</sup>	71.6			%	ASTM D422-63
		No.8 Sieve (2.36 mm) <sup>a</sup>	49.0			%	ASTM D422-63
		No.10 Sieve (2.00 mm) <sup>a</sup>	45.0			%	ASTM D422-63
		No.16 Sieve (1.18 mm) <sup>a</sup>	32.7			%	ASTM D422-63
		No.30 Sieve (0.60 mm) <sup>a</sup>	22.3			%	ASTM D422-63
		No.50 Sieve (0.30 mm) <sup>a</sup>	19.9			%	ASTM D422-63
		No.100 Sieve (0.15 mm) <sup>a</sup>	18.0			%	ASTM D422-63
		No.200 Sieve (0.075 mm) <sup>a</sup>	16.5			%	ASTM D422-63
		0.030 mm (Hydrometer) <sup>b</sup>	16.0			%	ASTM D422-63

## Summary of Hits

**Job Number:** TC32298  
**Account:** Southwest Geoscience  
**Project:** 0111C278A/ SC Sediment Sampling  
**Collected:** 06/12/13



Lab Sample ID	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
0.005 mm (Hydrometer) <sup>a</sup>		13.0			%	ASTM D422-63
0.0015 mm (Hydrometer) <sup>a</sup>		8.0			%	ASTM D422-63
% Gravel <sup>a</sup>		28.4			%	ASTM D422-63
% Sand <sup>a</sup>		55.1			%	ASTM D422-63
% Silt, Clay, Colloids <sup>a</sup>		16.5			%	ASTM D422-63
<b>TC32298-10 SC-SED-40</b>						
3 Inch Sieve <sup>a</sup>		100			%	ASTM D422-63
1.5 Inch Sieve <sup>a</sup>		100			%	ASTM D422-63
0.75 Inch Sieve <sup>a</sup>		100			%	ASTM D422-63
0.375 Inch Sieve <sup>a</sup>		97.3			%	ASTM D422-63
No.4 Sieve (4.75 mm) <sup>a</sup>		94.6			%	ASTM D422-63
No.8 Sieve (2.36 mm) <sup>a</sup>		87.7			%	ASTM D422-63
No.10 Sieve (2.00 mm) <sup>a</sup>		85.6			%	ASTM D422-63
No.16 Sieve (1.18 mm) <sup>a</sup>		81.3			%	ASTM D422-63
No.30 Sieve (0.60 mm) <sup>a</sup>		77.0			%	ASTM D422-63
No.50 Sieve (0.30 mm) <sup>a</sup>		73.5			%	ASTM D422-63
No.100 Sieve (0.15 mm) <sup>a</sup>		67.2			%	ASTM D422-63
No.200 Sieve (0.075 mm) <sup>a</sup>		64.8			%	ASTM D422-63
0.030 mm (Hydrometer) <sup>a</sup>		59.0			%	ASTM D422-63
0.005 mm (Hydrometer) <sup>a</sup>		44.0			%	ASTM D422-63
0.0015 mm (Hydrometer) <sup>a</sup>		31.0			%	ASTM D422-63
% Gravel <sup>a</sup>		5.4			%	ASTM D422-63
% Sand <sup>a</sup>		29.9			%	ASTM D422-63
% Silt, Clay, Colloids <sup>a</sup>		64.8			%	ASTM D422-63

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

(b) Data extrapolated from higher and lower data points due to possible analytical problem with hydrometer analysis at short analysis times. Analysis performed at Accutest Laboratories, Dayton, NJ.

**Sample Results**

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**Report of Analysis**

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## Report of Analysis

Client Sample ID: SC-SED-31	Date Sampled: 06/12/13
Lab Sample ID: TC32298-1	Date Received: 06/15/13
Matrix: SO - Soil	Percent Solids: n/a
Project: 0111C278A/ SC Sediment Sampling	

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
<b>Particle Size Analysis (Sieve and Hydrometer Testing)</b>							
3 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
1.5 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
0.75 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
0.375 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
No.4 Sieve (4.75 mm) <sup>a</sup>	99.3		%	1	06/29/13	ANJ	ASTM D422-63
No.8 Sieve (2.36 mm) <sup>a</sup>	93.6		%	1	06/29/13	ANJ	ASTM D422-63
No.10 Sieve (2.00 mm) <sup>a</sup>	91.1		%	1	06/29/13	ANJ	ASTM D422-63
No.16 Sieve (1.18 mm) <sup>a</sup>	71.9		%	1	06/29/13	ANJ	ASTM D422-63
No.30 Sieve (0.60 mm) <sup>a</sup>	39.4		%	1	06/29/13	ANJ	ASTM D422-63
No.50 Sieve (0.30 mm) <sup>a</sup>	18.9		%	1	06/29/13	ANJ	ASTM D422-63
No.100 Sieve (0.15 mm) <sup>a</sup>	13.3		%	1	06/29/13	ANJ	ASTM D422-63
No.200 Sieve (0.075 mm) <sup>a</sup>	12.3		%	1	06/29/13	ANJ	ASTM D422-63
0.030 mm (Hydrometer) <sup>a</sup>	10.0		%	1	06/29/13	ANJ	ASTM D422-63
0.005 mm (Hydrometer) <sup>a</sup>	6.0		%	1	06/29/13	ANJ	ASTM D422-63
0.0015 mm (Hydrometer) <sup>a</sup>	4.7		%	1	06/29/13	ANJ	ASTM D422-63
% Gravel <sup>a</sup>	0.67		%	1	06/29/13	ANJ	ASTM D422-63
% Sand <sup>a</sup>	87.0		%	1	06/29/13	ANJ	ASTM D422-63
% Silt, Clay, Colloids <sup>a</sup>	12.3		%	1	06/29/13	ANJ	ASTM D422-63

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

## Report of Analysis

Client Sample ID:	SC-SED-32	Date Sampled:	06/12/13
Lab Sample ID:	TC32298-2	Date Received:	06/15/13
Matrix:	SO - Soil	Percent Solids:	n/a
Project:	0111C278A/ SC Sediment Sampling		

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
<b>Particle Size Analysis (Sieve and Hydrometer Testing)</b>							
3 Inch Sieve <sup>a</sup>	100		%	1	06/30/13	ANJ	ASTM D422-63
1.5 Inch Sieve <sup>a</sup>	100		%	1	06/30/13	ANJ	ASTM D422-63
0.75 Inch Sieve <sup>a</sup>	100		%	1	06/30/13	ANJ	ASTM D422-63
0.375 Inch Sieve <sup>a</sup>	98.5		%	1	06/30/13	ANJ	ASTM D422-63
No.4 Sieve (4.75 mm) <sup>a</sup>	73.2		%	1	06/30/13	ANJ	ASTM D422-63
No.8 Sieve (2.36 mm) <sup>a</sup>	36.7		%	1	06/30/13	ANJ	ASTM D422-63
No.10 Sieve (2.00 mm) <sup>a</sup>	28.2		%	1	06/30/13	ANJ	ASTM D422-63
No.16 Sieve (1.18 mm) <sup>a</sup>	11.3		%	1	06/30/13	ANJ	ASTM D422-63
No.30 Sieve (0.60 mm) <sup>a</sup>	5.7		%	1	06/30/13	ANJ	ASTM D422-63
No.50 Sieve (0.30 mm) <sup>a</sup>	4.9		%	1	06/30/13	ANJ	ASTM D422-63
No.100 Sieve (0.15 mm) <sup>a</sup>	4.3		%	1	06/30/13	ANJ	ASTM D422-63
No.200 Sieve (0.075 mm) <sup>a</sup>	3.8		%	1	06/30/13	ANJ	ASTM D422-63
0.030 mm (Hydrometer) <sup>a</sup>	2.6		%	1	06/30/13	ANJ	ASTM D422-63
0.005 mm (Hydrometer) <sup>a</sup>	1.4		%	1	06/30/13	ANJ	ASTM D422-63
0.0015 mm (Hydrometer) <sup>a</sup>	1.4		%	1	06/30/13	ANJ	ASTM D422-63
% Gravel <sup>a</sup>	26.8		%	1	06/30/13	ANJ	ASTM D422-63
% Sand <sup>a</sup>	69.4		%	1	06/30/13	ANJ	ASTM D422-63
% Silt, Clay, Colloids <sup>a</sup>	3.8		%	1	06/30/13	ANJ	ASTM D422-63

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

## Report of Analysis

Client Sample ID: SC-SED-33	Date Sampled: 06/12/13
Lab Sample ID: TC32298-3	Date Received: 06/15/13
Matrix: SO - Soil	Percent Solids: n/a
Project: 0111C278A/ SC Sediment Sampling	

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
<b>Particle Size Analysis (Sieve and Hydrometer Testing)</b>							
3 Inch Sieve <sup>a</sup>	100		%	1	06/30/13	ANJ	ASTM D422-63
1.5 Inch Sieve <sup>a</sup>	100		%	1	06/30/13	ANJ	ASTM D422-63
0.75 Inch Sieve <sup>a</sup>	100		%	1	06/30/13	ANJ	ASTM D422-63
0.375 Inch Sieve <sup>a</sup>	97.4		%	1	06/30/13	ANJ	ASTM D422-63
No.4 Sieve (4.75 mm) <sup>a</sup>	91.6		%	1	06/30/13	ANJ	ASTM D422-63
No.8 Sieve (2.36 mm) <sup>a</sup>	72.0		%	1	06/30/13	ANJ	ASTM D422-63
No.10 Sieve (2.00 mm) <sup>a</sup>	65.6		%	1	06/30/13	ANJ	ASTM D422-63
No.16 Sieve (1.18 mm) <sup>a</sup>	39.1		%	1	06/30/13	ANJ	ASTM D422-63
No.30 Sieve (0.60 mm) <sup>a</sup>	13.1		%	1	06/30/13	ANJ	ASTM D422-63
No.50 Sieve (0.30 mm) <sup>a</sup>	7.9		%	1	06/30/13	ANJ	ASTM D422-63
No.100 Sieve (0.15 mm) <sup>a</sup>	7.0		%	1	06/30/13	ANJ	ASTM D422-63
No.200 Sieve (0.075 mm) <sup>a</sup>	6.7		%	1	06/30/13	ANJ	ASTM D422-63
0.030 mm (Hydrometer) <sup>a</sup>	3.4		%	1	06/30/13	ANJ	ASTM D422-63
0.005 mm (Hydrometer) <sup>a</sup>	3.0		%	1	06/30/13	ANJ	ASTM D422-63
0.0015 mm (Hydrometer) <sup>a</sup>	2.0		%	1	06/30/13	ANJ	ASTM D422-63
% Gravel <sup>a</sup>	8.4		%	1	06/30/13	ANJ	ASTM D422-63
% Sand <sup>a</sup>	85.0		%	1	06/30/13	ANJ	ASTM D422-63
% Silt, Clay, Colloids <sup>a</sup>	6.7		%	1	06/30/13	ANJ	ASTM D422-63

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

## Report of Analysis

Client Sample ID: SC-SED-34	Date Sampled: 06/12/13
Lab Sample ID: TC32298-4	Date Received: 06/15/13
Matrix: SO - Soil	Percent Solids: n/a
Project: 0111C278A/ SC Sediment Sampling	

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
<b>Particle Size Analysis (Sieve and Hydrometer Testing)</b>							
3 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
1.5 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
0.75 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
0.375 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
No.4 Sieve (4.75 mm) <sup>a</sup>	97.6		%	1	06/29/13	ANJ	ASTM D422-63
No.8 Sieve (2.36 mm) <sup>a</sup>	85.8		%	1	06/29/13	ANJ	ASTM D422-63
No.10 Sieve (2.00 mm) <sup>a</sup>	81.3		%	1	06/29/13	ANJ	ASTM D422-63
No.16 Sieve (1.18 mm) <sup>a</sup>	37.8		%	1	06/29/13	ANJ	ASTM D422-63
No.30 Sieve (0.60 mm) <sup>a</sup>	14.1		%	1	06/29/13	ANJ	ASTM D422-63
No.50 Sieve (0.30 mm) <sup>a</sup>	9.9		%	1	06/29/13	ANJ	ASTM D422-63
No.100 Sieve (0.15 mm) <sup>a</sup>	9.1		%	1	06/29/13	ANJ	ASTM D422-63
No.200 Sieve (0.075 mm) <sup>a</sup>	8.7		%	1	06/29/13	ANJ	ASTM D422-63
0.030 mm (Hydrometer) <sup>a</sup>	7.5		%	1	06/29/13	ANJ	ASTM D422-63
0.005 mm (Hydrometer) <sup>a</sup>	5.0		%	1	06/29/13	ANJ	ASTM D422-63
0.0015 mm (Hydrometer) <sup>a</sup>	4.1		%	1	06/29/13	ANJ	ASTM D422-63
% Gravel <sup>a</sup>	2.4		%	1	06/29/13	ANJ	ASTM D422-63
% Sand <sup>a</sup>	88.9		%	1	06/29/13	ANJ	ASTM D422-63
% Silt, Clay, Colloids <sup>a</sup>	8.7		%	1	06/29/13	ANJ	ASTM D422-63

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

## Report of Analysis

Client Sample ID: SC-SED-35		Date Sampled: 06/12/13
Lab Sample ID: TC32298-5		Date Received: 06/15/13
Matrix: SO - Soil		Percent Solids: n/a
Project: 0111C278A/ SC Sediment Sampling		

**General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
<b>Particle Size Analysis (Sieve and Hydrometer Testing)</b>							
3 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
1.5 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
0.75 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
0.375 Inch Sieve <sup>a</sup>	98.5		%	1	06/29/13	ANJ	ASTM D422-63
No.4 Sieve (4.75 mm) <sup>a</sup>	66.9		%	1	06/29/13	ANJ	ASTM D422-63
No.8 Sieve (2.36 mm) <sup>a</sup>	16.2		%	1	06/29/13	ANJ	ASTM D422-63
No.10 Sieve (2.00 mm) <sup>a</sup>	9.1		%	1	06/29/13	ANJ	ASTM D422-63
No.16 Sieve (1.18 mm) <sup>a</sup>	4.7		%	1	06/29/13	ANJ	ASTM D422-63
No.30 Sieve (0.60 mm) <sup>a</sup>	2.6		%	1	06/29/13	ANJ	ASTM D422-63
No.50 Sieve (0.30 mm) <sup>a</sup>	2.1		%	1	06/29/13	ANJ	ASTM D422-63
No.100 Sieve (0.15 mm) <sup>a</sup>	1.9		%	1	06/29/13	ANJ	ASTM D422-63
No.200 Sieve (0.075 mm) <sup>a</sup>	1.8		%	1	06/29/13	ANJ	ASTM D422-63
0.030 mm (Hydrometer) <sup>a</sup>	U	0.84	%	1	06/29/13	ANJ	ASTM D422-63
0.005 mm (Hydrometer) <sup>a</sup>	U	0.84	%	1	06/29/13	ANJ	ASTM D422-63
0.0015 mm (Hydrometer) <sup>a</sup>	U	0.84	%	1	06/29/13	ANJ	ASTM D422-63
% Gravel <sup>a</sup>	33.1		%	1	06/29/13	ANJ	ASTM D422-63
% Sand <sup>a</sup>	65.2		%	1	06/29/13	ANJ	ASTM D422-63
% Silt, Clay, Colloids <sup>a</sup>	1.8		%	1	06/29/13	ANJ	ASTM D422-63

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

4.5  
4



## Report of Analysis

Client Sample ID: SC-SED-36	Date Sampled: 06/12/13
Lab Sample ID: TC32298-6	Date Received: 06/15/13
Matrix: SO - Soil	Percent Solids: n/a
Project: 0111C278A/ SC Sediment Sampling	

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
<b>Particle Size Analysis (Sieve and Hydrometer Testing)</b>							
3 Inch Sieve <sup>a</sup>	100		%	1	06/30/13	ANJ	ASTM D422-63
1.5 Inch Sieve <sup>a</sup>	100		%	1	06/30/13	ANJ	ASTM D422-63
0.75 Inch Sieve <sup>a</sup>	100		%	1	06/30/13	ANJ	ASTM D422-63
0.375 Inch Sieve <sup>a</sup>	98.2		%	1	06/30/13	ANJ	ASTM D422-63
No.4 Sieve (4.75 mm) <sup>a</sup>	89.6		%	1	06/30/13	ANJ	ASTM D422-63
No.8 Sieve (2.36 mm) <sup>a</sup>	63.1		%	1	06/30/13	ANJ	ASTM D422-63
No.10 Sieve (2.00 mm) <sup>a</sup>	56.1		%	1	06/30/13	ANJ	ASTM D422-63
No.16 Sieve (1.18 mm) <sup>a</sup>	32.1		%	1	06/30/13	ANJ	ASTM D422-63
No.30 Sieve (0.60 mm) <sup>a</sup>	19.4		%	1	06/30/13	ANJ	ASTM D422-63
No.50 Sieve (0.30 mm) <sup>a</sup>	16.2		%	1	06/30/13	ANJ	ASTM D422-63
No.100 Sieve (0.15 mm) <sup>a</sup>	15.0		%	1	06/30/13	ANJ	ASTM D422-63
No.200 Sieve (0.075 mm) <sup>a</sup>	14.2		%	1	06/30/13	ANJ	ASTM D422-63
0.030 mm (Hydrometer) <sup>a</sup>	12.3		%	1	06/30/13	ANJ	ASTM D422-63
0.005 mm (Hydrometer) <sup>a</sup>	9.0		%	1	06/30/13	ANJ	ASTM D422-63
0.0015 mm (Hydrometer) <sup>a</sup>	7.0		%	1	06/30/13	ANJ	ASTM D422-63
% Gravel <sup>a</sup>	10.4		%	1	06/30/13	ANJ	ASTM D422-63
% Sand <sup>a</sup>	75.4		%	1	06/30/13	ANJ	ASTM D422-63
% Silt, Clay, Colloids <sup>a</sup>	14.2		%	1	06/30/13	ANJ	ASTM D422-63

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

## Report of Analysis

Client Sample ID:	SC-SED-37	Date Sampled:	06/12/13
Lab Sample ID:	TC32298-7	Date Received:	06/15/13
Matrix:	SO - Soil	Percent Solids:	n/a
Project:	0111C278A/ SC Sediment Sampling		

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
<b>Particle Size Analysis (Sieve and Hydrometer Testing)</b>							
3 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
1.5 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
0.75 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
0.375 Inch Sieve <sup>a</sup>	98.7		%	1	06/29/13	ANJ	ASTM D422-63
No.4 Sieve (4.75 mm) <sup>a</sup>	92.1		%	1	06/29/13	ANJ	ASTM D422-63
No.8 Sieve (2.36 mm) <sup>a</sup>	79.0		%	1	06/29/13	ANJ	ASTM D422-63
No.10 Sieve (2.00 mm) <sup>a</sup>	74.5		%	1	06/29/13	ANJ	ASTM D422-63
No.16 Sieve (1.18 mm) <sup>a</sup>	53.7		%	1	06/29/13	ANJ	ASTM D422-63
No.30 Sieve (0.60 mm) <sup>a</sup>	22.9		%	1	06/29/13	ANJ	ASTM D422-63
No.50 Sieve (0.30 mm) <sup>a</sup>	9.8		%	1	06/29/13	ANJ	ASTM D422-63
No.100 Sieve (0.15 mm) <sup>a</sup>	8.1		%	1	06/29/13	ANJ	ASTM D422-63
No.200 Sieve (0.075 mm) <sup>a</sup>	7.8		%	1	06/29/13	ANJ	ASTM D422-63
0.030 mm (Hydrometer) <sup>b</sup>	7.8		%	1	06/29/13	ANJ	ASTM D422-63
0.005 mm (Hydrometer) <sup>a</sup>	7.0		%	1	06/29/13	ANJ	ASTM D422-63
0.0015 mm (Hydrometer) <sup>a</sup>	6.0		%	1	06/29/13	ANJ	ASTM D422-63
% Gravel <sup>a</sup>	7.9		%	1	06/29/13	ANJ	ASTM D422-63
% Sand <sup>a</sup>	84.3		%	1	06/29/13	ANJ	ASTM D422-63
% Silt, Clay, Colloids <sup>a</sup>	7.8		%	1	06/29/13	ANJ	ASTM D422-63

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

(b) Data extrapolated from higher and lower data points due to possible analytical problem with hydrometer analysis at short analysis times. Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b> SC-SED-38 <b>Lab Sample ID:</b> TC32298-8 <b>Matrix:</b> SO - Soil <b>Project:</b> 0111C278A/ SC Sediment Sampling	<b>Date Sampled:</b> 06/12/13 <b>Date Received:</b> 06/15/13 <b>Percent Solids:</b> n/a
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**General Chemistry**

Analyte	Result	RL	Units	DF	Analyzed	By	Method
<b>Particle Size Analysis (Sieve and Hydrometer Testing)</b>							
3 Inch Sieve <sup>a</sup>	100		%	1	06/30/13	ANJ	ASTM D422-63
1.5 Inch Sieve <sup>a</sup>	100		%	1	06/30/13	ANJ	ASTM D422-63
0.75 Inch Sieve <sup>a</sup>	100		%	1	06/30/13	ANJ	ASTM D422-63
0.375 Inch Sieve <sup>a</sup>	98.5		%	1	06/30/13	ANJ	ASTM D422-63
No.4 Sieve (4.75 mm) <sup>a</sup>	91.0		%	1	06/30/13	ANJ	ASTM D422-63
No.8 Sieve (2.36 mm) <sup>a</sup>	76.2		%	1	06/30/13	ANJ	ASTM D422-63
No.10 Sieve (2.00 mm) <sup>a</sup>	71.1		%	1	06/30/13	ANJ	ASTM D422-63
No.16 Sieve (1.18 mm) <sup>a</sup>	44.2		%	1	06/30/13	ANJ	ASTM D422-63
No.30 Sieve (0.60 mm) <sup>a</sup>	17.2		%	1	06/30/13	ANJ	ASTM D422-63
No.50 Sieve (0.30 mm) <sup>a</sup>	12.1		%	1	06/30/13	ANJ	ASTM D422-63
No.100 Sieve (0.15 mm) <sup>a</sup>	11.4		%	1	06/30/13	ANJ	ASTM D422-63
No.200 Sieve (0.075 mm) <sup>a</sup>	11.2		%	1	06/30/13	ANJ	ASTM D422-63
0.030 mm (Hydrometer) <sup>a</sup>	7.9		%	1	06/30/13	ANJ	ASTM D422-63
0.005 mm (Hydrometer) <sup>a</sup>	6.5		%	1	06/30/13	ANJ	ASTM D422-63
0.0015 mm (Hydrometer) <sup>a</sup>	4.0		%	1	06/30/13	ANJ	ASTM D422-63
% Gravel <sup>a</sup>	9.0		%	1	06/30/13	ANJ	ASTM D422-63
% Sand <sup>a</sup>	79.9		%	1	06/30/13	ANJ	ASTM D422-63
% Silt, Clay, Colloids <sup>a</sup>	11.2		%	1	06/30/13	ANJ	ASTM D422-63

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

4.8  
4

## Report of Analysis

Client Sample ID: SC-SED-39	Date Sampled: 06/12/13
Lab Sample ID: TC32298-9	Date Received: 06/15/13
Matrix: SO - Soil	Percent Solids: n/a
Project: 0111C278A/ SC Sediment Sampling	

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
<b>Particle Size Analysis (Sieve and Hydrometer Testing)</b>							
3 Inch Sieve <sup>a</sup>	100		%	1	06/30/13	ANJ	ASTM D422-63
1.5 Inch Sieve <sup>a</sup>	100		%	1	06/30/13	ANJ	ASTM D422-63
0.75 Inch Sieve <sup>a</sup>	100		%	1	06/30/13	ANJ	ASTM D422-63
0.375 Inch Sieve <sup>a</sup>	92.6		%	1	06/30/13	ANJ	ASTM D422-63
No.4 Sieve (4.75 mm) <sup>a</sup>	71.6		%	1	06/30/13	ANJ	ASTM D422-63
No.8 Sieve (2.36 mm) <sup>a</sup>	49.0		%	1	06/30/13	ANJ	ASTM D422-63
No.10 Sieve (2.00 mm) <sup>a</sup>	45.0		%	1	06/30/13	ANJ	ASTM D422-63
No.16 Sieve (1.18 mm) <sup>a</sup>	32.7		%	1	06/30/13	ANJ	ASTM D422-63
No.30 Sieve (0.60 mm) <sup>a</sup>	22.3		%	1	06/30/13	ANJ	ASTM D422-63
No.50 Sieve (0.30 mm) <sup>a</sup>	19.9		%	1	06/30/13	ANJ	ASTM D422-63
No.100 Sieve (0.15 mm) <sup>a</sup>	18.0		%	1	06/30/13	ANJ	ASTM D422-63
No.200 Sieve (0.075 mm) <sup>a</sup>	16.5		%	1	06/30/13	ANJ	ASTM D422-63
0.030 mm (Hydrometer) <sup>b</sup>	16.0		%	1	06/30/13	ANJ	ASTM D422-63
0.005 mm (Hydrometer) <sup>a</sup>	13.0		%	1	06/30/13	ANJ	ASTM D422-63
0.0015 mm (Hydrometer) <sup>a</sup>	8.0		%	1	06/30/13	ANJ	ASTM D422-63
% Gravel <sup>a</sup>	28.4		%	1	06/30/13	ANJ	ASTM D422-63
% Sand <sup>a</sup>	55.1		%	1	06/30/13	ANJ	ASTM D422-63
% Silt, Clay, Colloids <sup>a</sup>	16.5		%	1	06/30/13	ANJ	ASTM D422-63

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

(b) Data extrapolated from higher and lower data points due to possible analytical problem with hydrometer analysis at short analysis times. Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

## Report of Analysis

Client Sample ID: SC-SED-40	Date Sampled: 06/12/13
Lab Sample ID: TC32298-10	Date Received: 06/15/13
Matrix: SO - Soil	Percent Solids: n/a
Project: 0111C278A/ SC Sediment Sampling	

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
<b>Particle Size Analysis (Sieve and Hydrometer Testing)</b>							
3 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
1.5 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
0.75 Inch Sieve <sup>a</sup>	100		%	1	06/29/13	ANJ	ASTM D422-63
0.375 Inch Sieve <sup>a</sup>	97.3		%	1	06/29/13	ANJ	ASTM D422-63
No.4 Sieve (4.75 mm) <sup>a</sup>	94.6		%	1	06/29/13	ANJ	ASTM D422-63
No.8 Sieve (2.36 mm) <sup>a</sup>	87.7		%	1	06/29/13	ANJ	ASTM D422-63
No.10 Sieve (2.00 mm) <sup>a</sup>	85.6		%	1	06/29/13	ANJ	ASTM D422-63
No.16 Sieve (1.18 mm) <sup>a</sup>	81.3		%	1	06/29/13	ANJ	ASTM D422-63
No.30 Sieve (0.60 mm) <sup>a</sup>	77.0		%	1	06/29/13	ANJ	ASTM D422-63
No.50 Sieve (0.30 mm) <sup>a</sup>	73.5		%	1	06/29/13	ANJ	ASTM D422-63
No.100 Sieve (0.15 mm) <sup>a</sup>	67.2		%	1	06/29/13	ANJ	ASTM D422-63
No.200 Sieve (0.075 mm) <sup>a</sup>	64.8		%	1	06/29/13	ANJ	ASTM D422-63
0.030 mm (Hydrometer) <sup>a</sup>	59.0		%	1	06/29/13	ANJ	ASTM D422-63
0.005 mm (Hydrometer) <sup>a</sup>	44.0		%	1	06/29/13	ANJ	ASTM D422-63
0.0015 mm (Hydrometer) <sup>a</sup>	31.0		%	1	06/29/13	ANJ	ASTM D422-63
% Gravel <sup>a</sup>	5.4		%	1	06/29/13	ANJ	ASTM D422-63
% Sand <sup>a</sup>	29.9		%	1	06/29/13	ANJ	ASTM D422-63
% Silt, Clay, Colloids <sup>a</sup>	64.8		%	1	06/29/13	ANJ	ASTM D422-63

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

## Misc. Forms

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## Custody Documents and Other Forms

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**Includes the following where applicable:**

- Chain of Custody
- LRC Form
- LRC Form (Accutest New Jersey)

**Southwest GEOSCIENCE**  
Environmental & Hydrogeologic Consultants

Office Location: Dallas, TX

Project Manager: R. Simpson

Laboratory: Accutest  
Address: Houston, TX

Contact: 1  
Phone: \_\_\_\_\_  
PO/SO #: \_\_\_\_\_

Analyses Requested: Grain Size Analysis ASTM D422-63

Lab use only  
Due Date: \_\_\_\_\_

Temp. of coolers when received (C°):  
1 2 3 4 5  
Page 1 of 1

Sampler's Name: Jason Minter  
Project Name: SC Sediment Sampling  
Sampler's Signature: [Signature]

Proj. No.: 01110278A  
Project Name: SC Sediment Sampling  
No/Type of Containers: \_\_\_\_\_

Matrix	Date	Time	CO D P	GRA P	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AG 1 L.	250 ml	P/O	Lab Sample ID (Lab Use Only)
S	6/12/13	1336	X		Sc-Sed-31						X	
		1339			Sc-Sed-32							
		1342			Sc-Sed-33							
		1406			Sc-Sed-34							
		1409			Sc-Sed-35							
		1413			Sc-Sed-36							
		1437			Sc-Sed-37							
		1441			Sc-Sed-38							
		1444			Sc-Sed-39							
S	6/12/13	1506	X		Sc-Sed-40						X	

Turn around time:  Normal  25% Rush  50% Rush  100% Rush

Relinquished by (Signature): [Signature] Date: 6/14/13 Time: 1605  
Received by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by (Signature): [Signature] Date: \_\_\_\_\_ Time: \_\_\_\_\_  
Received by (Signature): \_\_\_\_\_ Date: 6/13/13 Time: 1015

Relinquished by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
Received by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
Received by (Signature): \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Matrix: WW - Wastewater, W - Water, S - Soil, SD - Solid, L - Liquid, A - Air Bag, C - Charcoal tube, SL - sludge, O - Oil  
Container: VOA - 40 ml vial, AG - Amber / Or Glass 1 Liter, 250 ml - Glass wide mouth, P/O - Plastic or other

12345678910

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SOUTHWEST GEOSCIENCE • 2351 W. Northwest Hwy., Suite 3321 • Dallas, Texas 75220 • Office: 214-350-5469 • Fax 214-350-2914

**Accutest Job Number:** TC32298      **Client:** SOUTHWEST GEOSCIENCE      **Project:** SC SEDIMENT SAMPLING  
**Date / Time Received:** 6/15/2013      **Delivery Method:** \_\_\_\_\_      **Airbill #'s:** 558744953896  
**No. Coolers:** 1      **Therm ID:** IR-5;      **Temp Adjustment Factor:** 0;  
**Cooler Temps (Initial/Adjusted):** #1: (2/2): \_\_\_\_\_

<u>Cooler Security</u>	<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:	_____		
3. Cooler media:	Ice (Bag)		

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>	<u>WTB</u>	<u>STB</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>			
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>		

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	Intact		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

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Job #: TC32298

Date / Time Received: 6/15/2013 10:15:00 AM

Initials: EC

Client: SOUTHWEST GEOSCIENCE

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC32298-1	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-5	2	0	2
1	TC32298-2	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-5	2	0	2
1	TC32298-3	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-5	2	0	2
1	TC32298-4	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-5	2	0	2
1	TC32298-5	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-5	2	0	2
1	TC32298-6	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-5	2	0	2
1	TC32298-7	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-5	2	0	2
1	TC32298-8	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-5	2	0	2
1	TC32298-9	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-5	2	0	2
1	TC32298-10	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-5	2	0	2
1	TC32298-11	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-5	2	0	2
1	TC32298-12	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-5	2	0	2
1	TC32298-13	8oz	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-5	2	0	2

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TC32298: Chain of Custody

Page 3 of 3

# Appendix A Laboratory Data Package Cover Page

TC32298 This data package consists of

- This signature page, the laboratory review checklist, and the following reportable data:
- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) The amount of analyte measured in the duplicate,
  - b) The calculated RPD, and
  - c) The laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each
- R10 Other problems or anomalies.


The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

**Release Statement:** I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

**Check, if applicable:** This laboratory meets an exception under 30 TAC&25.6 and was last inspection by

[ ] TCEQ or  [ ] \_\_\_\_\_ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

**QA Manager**

Name (Printed)	Signature	Official Title (printed)	Date
Richard Rodriguez		Laboratory Director	7/3/2013
_____	_____	_____	_____

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA						
Laboratory Name:		Accutest Gulf Coast	LRC Date:		7/3/2013	
Project Name:		0111C278A/ SC Sediment Sampling	Laboratory Project Number:		TC32298	
Reviewer Name:		Richard Rodriguez	Prep Batch Number(s):			
# <sup>1</sup>	A <sup>2</sup>	DESCRIPTION	YES	NO	NA <sup>3</sup>	NR <sup>4</sup>   ER # <sup>5</sup>
R1	OI	<b>CHAIN-OF-CUSTODY (C-O-C):</b>				
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?				
		Were all departures from standard conditions described in an exception report?	X			
R2	OI	<b>Sample and quality control (QC) identification</b>				
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X			
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X			
R3	OI	<b>Test reports</b>				
		Were samples prepared and analyzed within holding times?				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?			X	
		Were calculations checked by a peer or supervisor?			X	
		Were all analyte identifications checked by a peer or supervisor?			X	
		Were sample detection limits reported for all analytes not detected?			X	
		Were all results for soil and sediment samples reported on a dry weight basis?			X	
		Were % moisture (or solids) reported for all soil and sediment samples?			X	
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X	
		If required for the project, are TIC's reported?			X	
R4	O	<b>Surrogate recovery data</b>				
		Were surrogates added prior to extraction?			X	
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X	
R5	OI	<b>Test reports/summary forms for blank samples</b>				
		Were appropriate type(s) of blanks analyzed?			X	
		Were blanks analyzed at the appropriate frequency?			X	
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?			X	
		Were blank concentrations <MQL?			X	
R6	OI	<b>Laboratory control samples (LCS):</b>				
		Were all COCs included in the LCS?			X	
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?			X	
		Were LCSs analyzed at required frequency?			X	
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?			X	
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?			X	
		Was the LCSD RPD within QC limits?			X	
R7	OI	<b>Matrix spike (MS) and matrix spike duplicate (MSD) data</b>				
		Were the project/method specified analytes included in the MS and MSD?			X	
		Were MS/MSD analyzed at the appropriate frequency?			X	
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?			X	
		Were the MS/MSD RPDs within laboratory QC limits?			X	
R8	OI	<b>Analytical duplicate data</b>				
		Were appropriate analytical duplicates analyzed for each matrix?			X	
		Were analytical duplicates analyzed at the appropriate frequency?			X	
		Were RPDs or relative standard deviations within the laboratory QC limits?			X	
R9	OI	<b>Method quantitation limits (MQLs):</b>				
		Are the MQLs for each method analyte included in the laboratory data package?			X	
		Do the MQLs correspond to the concentration of the lowest non-zero calibration			X	
		Are unadjusted MQLs and DCSs included in the laboratory data package?			X	
R10	OI	<b>Other problems/anomalies</b>				
		Are all known problems/anomalies/special conditions noted in this LRC and ER?			X	
		Was applicable and available technology used to lower the SDL to minimize the			X	
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X			3

Laboratory Name:		Accutest Gulf Coast	LRC Date:		7/3/2013		
Project Name:		0111C278A/ SC Sediment Samp	Laboratory Project Number:		TC32298		
Reviewer Name:		Richard Rodriguez	Prep Batch Number(s):				
# <sup>1</sup>	A <sup>2</sup>	DESCRIPTION	YES	NO	NA <sup>3</sup>	NR <sup>4</sup>	ER # <sup>5</sup>
S1	OI	<b>Initial calibration (ICAL)</b>					
		Were response factors and/or relative response factors for each analyte within QC limits?			X		
		Were percent RSDs or correlation coefficient criteria met?			X		
		Was the number of standards recommended in the method used for all analytes?			X		
		Were all points generated between the lowest and highest standard used to calculate the curve?			X		
		Are ICAL data available for all instruments used?			X		
		Has the initial calibration curve been verified using an appropriate second source standard?			X		
S2	OI	<b>Initial and continuing calibration verification (ICCV AND CCV) and continuing</b>			X		
		Was the CCV analyzed at the method-required frequency?			X		
		Were percent differences for each analyte within the method-required QC limits?			X		
		Was the ICAL curve verified for each analyte?			X		
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?			X		
S3	O	<b>Mass spectral tuning</b>			X		
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	<b>Internal standards (IS)</b>			X		
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	OI	<b>Raw data (NELAC Section 5.5.10)</b>			X		
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?			X		
		Were data associated with manual integrations flagged on the raw data?			X		
S6	O	<b>Dual column confirmation</b>			X		
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	<b>Tentatively identified compounds (TICs):</b>			X		
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	<b>Interference Check Sample (ICS) results</b>			X		
		Were percent recoveries within method QC limits?			X		
S9	I	<b>Serial dilutions, post digestion spikes, and method of standard additions</b>			X		
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	<b>Method detection limit (MDL) studies</b>			X		
		Was a MDL study performed for each reported analyte?			X		
		Is the MDL either adjusted or supported by the analysis of DCSs?			X		
S11	OI	<b>Proficiency test reports</b>			X		
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?			X		
S12	OI	<b>Standards documentation</b>			X		
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?			X		
S13	OI	<b>Compound/analyte identification procedures</b>			X		
		Are the procedures for compound/analyte identification documented?			X		
S14	OI	<b>Demonstration of analyst competency (DOC)</b>			X		
		Was DOC conducted consistent with NELAC Chapter 5?			X		
		Is documentation of the analyst's competency up-to-date and on file?			X		
S15	OI	<b>Verification/validation documentation for methods (NELAC Chapter 5)</b>			X		
		Are all the methods used to generate the data documented, verified, and validated, where applicable?			X		
S16	OI	<b>Laboratory standard operating procedures (SOPs)</b>			X		
		Are laboratory SOPs current and on file for each method performed?			X		

<b>LABORATORY REVIEW CHECKLIST (continued): Exception Reports</b>			
Laboratory Name:	Accutest Gulf Coast	LRC Date:	7/3/2013
Project Name:	0111C278A/ SC Sediment Samp	Laboratory Project Number:	TC32298
Reviewer Name:	Richard Rodriguez	Prep Batch Number(s):	
ER#	Description		
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.		
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.		
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.		
4	All anomalies are discussed in the case narrative.		

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on

# Appendix A Laboratory Data Package Cover Page

This data packages consists of:

- X This signature page, the laboratory review checklist, and the following reportable data:
- X R1 Field chain-of-custody documentation;
- X R2 Sample identification cross-reference;
- X R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- N/A R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- X R5 Test reports/summary forms for blank samples;
- X R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits.
- X R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- X R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) The amount of analyte measured in the duplicate,
  - b) The calculated RPD, and
  - c) The laboratory's QC limits for analytical duplicates.
- X R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- X R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

**Release Statement:** I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

**Check, if applicable:**  This laboratory meets an exception under 30 TAC&25.6 and was last inspected by  TCEQ or  \_\_\_\_\_ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Nicholas C. Straccione QA Officer 07/02/13



Name (Printed)	Signature	Official Title (printed)	Date
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<b>Appendix A (cont'd): Laboratory Review Checklist: Reportable Data</b>							
Laboratory Name: Accutest Laboratories New Jersey				LRC Date: 7/2/13			
Project Name: 0111C278A/ SC Sediment Sampling, SGTXD16590				Laboratory Job Number: TC32298			
Reviewer Name: Nicholas Straccione				Prep Batch Number(s):			
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
R1	OI	<b>Chain-of-custody (C-O-C)</b>					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	x				
		Were all departures from standard conditions described in an exception report?	x				3
R2	OI	<b>Sample and quality control (QC) identification</b>					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	x				
R3	OI	Are all laboratory ID numbers cross-referenced to the corresponding QC data?	x				
		<b>Test reports</b>					
R4	O	Were all samples prepared and analyzed within holding times?	x				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	x				
		Were calculations checked by a peer or supervisor?	x				
		Were all analyte identifications checked by a peer or supervisor?	x				
		Were sample detection limits reported for all analytes not detected?	x				
		Were all results for soil and sediment samples reported on a dry weight basis?	x				
		Were % moisture (or solids) reported for all soil and sediment samples?	x				
		Were bulk soil/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?				x	
R4	O	If required for the project, TICs reported?				x	
		<b>Surrogate recovery data</b>					
R5	OI	Were surrogates added prior to extraction?				x	
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				x	
R5	OI	<b>Test reports/summary forms for blank samples</b>					
		Were appropriate type(s) of blanks analyzed?				X	
		Were blanks analyzed at the appropriate frequency?				X	
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?				X	
R6	OI	Were blank concentrations < MQL?				X	
		<b>Laboratory control samples (LCS):</b>					
R6	OI	Were all COCs included in the LCS?	x				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	x				
		Were LCSs analyzed at the required frequency?	x				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	x				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	x				
		Was the LCSD RPD within QC limits?				x	
R7	OI	<b>Matrix spike (MS) and matrix spike duplicate (MSD) data</b>					
		Were the project/method specified analytes included in the MS and MSD?				X	
		Were MS/MSD analyzed at the appropriate frequency?				X	
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				X	
R8	OI	Were MS/MSD RPDs within laboratory QC limits?				X	
		<b>Analytical duplicate data</b>					
R8	OI	Were appropriate analytical duplicates analyzed for each matrix?	x				
		Were analytical duplicates analyzed at the appropriate frequency?	x				
		Were RPDs or relative standard deviations within the laboratory QC limits?	x				
R9	OI	<b>Method quantitation limits (MQLs):</b>					
		Are the MQLs for each method analyte included in the laboratory data package?	x				1
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	x				
R9	OI	Are unadjusted MQLs and DCSs included in the laboratory data package?		x			2
		<b>Other problems/anomalies</b>					
R10	OI	Are all known problems/anomalies/special conditions noted in this LRC and ER?	x				
		Was applicable and available technology used to lower the SDL minimize the matrix interference affects on the sample results?	x				
		Is the Laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	x				

**Appendix A (cont'd): Laboratory Review Checklist: Reportable Data**

Laboratory Name: Accutest Laboratories New Jersey		LRC Date: 7/2/13					
Project Name: 0111C278A/ SC Sediment Sampling, SGTXD16590		Laboratory Job Number: TC32298					
Reviewer Name: Nicholas Straccione		Prep Batch Number(s):					
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER <sup>5</sup>
<b>S1</b>	<b>OI</b>	<b>Initial calibration (ICAL)</b>					
		Were response factors and/or relative response factors for each analyte within QC limits?			X		
		Were percent RSDs or correlation coefficient criteria met?			X		
		Was the number of standards recommended in the method used for all analytes?			X		
		Were all points generated between the lowest and highest standard used to calculate the curve?			X		
		Are ICAL data available for all instruments used?			X		
		Has the initial calibration curve been verified using an appropriate second source standard?			X		
<b>S2</b>	<b>OI</b>	<b>Initial and continuing calibration verification (ICCV and CCV) and continuing calibration</b>					
		Was the CCV analyzed at the method-required frequency?			X		
		Were percent differences for each analyte within the method-required QC limits?			X		
		Was the ICAL curve verified for each analyte?			X		
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			x		
<b>S3</b>	<b>O</b>	<b>Mass spectral tuning:</b>					
		Was the appropriate compound for the method used for tuning?			x		
		Were ion abundance data within the method-required QC limits?			x		
<b>S4</b>	<b>O</b>	<b>Internal standards (IS):</b>					
		Were IS area counts and retention times within the method-required QC limits?			x		
<b>S5</b>	<b>OI</b>	<b>Raw data (NELAC section 5.5.10)</b>					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	x				
		Were data associated with manual integrations flagged on the raw data?			x		
<b>S6</b>	<b>O</b>	<b>Dual column confirmation</b>					
		Did dual column confirmation results meet the method-required QC?			x		
<b>S7</b>	<b>O</b>	<b>Tentatively identified compounds (TICs):</b>					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			x		
<b>S8</b>	<b>I</b>	<b>Interference Check Sample (ICS) results:</b>					
		Were percent recoveries within method QC limits?			x		
<b>S9</b>	<b>I</b>	<b>Serial dilutions, post digestion spikes, and method of standard additions</b>					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			x		
<b>S10</b>	<b>OI</b>	<b>Method detection limit (MDL) studies</b>					
		Was a MDL study performed for each reported analyte?	x				
		Is the MDL either adjusted or supported by the analysis of DCSSs?	x				
<b>S11</b>	<b>OI</b>	<b>Proficiency test reports:</b>					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	x				
<b>S12</b>	<b>OI</b>	<b>Standards documentation</b>					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	x				
<b>S13</b>	<b>OI</b>	<b>Compound/analyte identification procedures</b>					
		Are the procedures for compound/analyte identification documented?	x				
<b>S14</b>	<b>OI</b>	<b>Demonstration of analyst competency (DOC)</b>					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	x				
		Is documentation of the analyst's competency up-to-date and on file?	x				
<b>S15</b>	<b>OI</b>	<b>Verification/validation documentation for methods (NELAC Chap 5 )</b>					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	x				
<b>S16</b>	<b>OI</b>	<b>Laboratory standard operating procedures (SOPs):</b>					
		Are laboratory SOPs current and on file for each method performed?	x				



<b>Appendix A (cont'd): Laboratory Review Checklist: Exception Reports</b>	
Laboratory Name: Accutest Laboratories New Jersey	LRC Date: 07/2/13
Project Name: 0111C278A/ SC Sediment Sampling, SGTXD16590	Laboratory Job Number: TC32298
Reviewer Name: Nicholas Straccione	Prep Batch Number(s):
DESCRIPTION	
1	MQL is RL
2	DCS Values not included in Data Report
3	TC32298-9 for 0.030 mm (Hydrometer): Data extrapolated from higher and lower data points due to possible analytical problem with hydrometer analysis at short analysis times.
	TC32298-7 for 0.030 mm (Hydrometer): Data extrapolated from higher and lower data points due to possible analytical problem with hydrometer analysis at short analysis times.

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O= organic analyses; I= inorganic analyses (and general chemistry, when applicable);
3. NA = Not Applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

## Misc. Forms

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### Custody Documents and Other Forms

(Accutest New Jersey)

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**Includes the following where applicable:**

- Chain of Custody



# SUBCONTRACT COC

10165 Harwin, Suite 150 - Houston, TX 77036 - 713-271-4700 fax: 713-271-4770

FED-EX Tracking # 564246175860	Bottle Order Control #
Accutest Quote #	Accutest Job #

Client Information		Subcontract Information		Requested Analyses										Matrix Codes		
Company Name Accutest Gulf Coast		Subcontract Laboratory ACCUTEST NEW JERSEY		<b>GRAIN SIZE ANALYSIS (ASTM D422-63)</b>										DW - Drinking Water GW - Ground Water WW - Wastewater SW - Surface Water SO - Soil SL - Sludge OL - Oil LIQ - Liquid SOL - Other Solid		
Project Contact Sylvia Garza		Laboratory Contact Sample Receiving														
Address 10165 Harwin Dr, Suite 150		Address														
City	State	Zip	City												State	Zip
Houston	TX	77036														
Phone No. 713-271-4700		Phone No.														

Accutest Sample Number	Collection		Matrix	# of bottles	Number of preserved bottles										LAB USE ONLY		
	Date	Time			HCl	Mech	PHOT	ASSAY	DIMAPR	TOP	NONE	OTHER					
TC32298 - 1	6/12/2013	1336	SO	1												X	
TC32298 - 2	6/12/2013	1339	SO	1												X	
TC32298 - 3	6/12/2013	1342	SO	1												X	
TC32298 - 4	6/12/2013	1406	SO	1												X	B7TX
TC32298 - 5	6/12/2013	1409	SO	1												X	
TC32298 - 6	6/12/2013	1413	SO	1												X	
TC32298 - 7	6/12/2013	1437	SO	1												X	
TC32298 - 8	6/12/2013	1441	SO	1												X	
TC32298 - 9	6/12/2013	1441	SO	1												X	
TC32298 - 10	6/12/2013	1506	SO	1												X	

Turnaround Time (Business days)	Approved By/ Date:	Data Deliverable Information	Comments / Remarks
<input type="checkbox"/> STANDARD <input checked="" type="checkbox"/> 7 Day <input type="checkbox"/> 4 Day RUSH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY <input type="checkbox"/> Other	Approved By: _____ Date: _____ <b>STD TURN - 7 DAY</b>	<input type="checkbox"/> Commercial "A" <input type="checkbox"/> Commercial "B" <input type="checkbox"/> Reduced Tier 1 <input type="checkbox"/> Full Data Package <input checked="" type="checkbox"/> TRRP-13 <input type="checkbox"/> EDD Format <input type="checkbox"/> Other NAKK+	SENDS WHOLE JOB

**Real time analytical data available via Lablink**

**SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY**

Relinquished by: [Signature]	Date Time: 6/12/13 10:20	Received By: [Signature]	Received By: [Signature]
Relinquished by:	Date Time:	Received By:	Received By:
Relinquished by:	Date Time:	Received By:	Received By:
Relinquished by:	Date Time:	Received By:	Received By:
Relinquished by:	Date Time:	Received By:	Received By:

On Ice  Cooler Temp. 3.5°C

13

EF

**TC32298: Chain of Custody**  
**Page 1 of 2**  
**Accutest New Jersey**

## Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** TC32298      **Client:** \_\_\_\_\_      **Project:** \_\_\_\_\_  
**Date / Time Received:** 6/20/2013      **Delivery Method:** \_\_\_\_\_      **Airbill #s:** \_\_\_\_\_

**Cooler Temps (Initial/Adjusted):** #1: (3.5/3.5); 0

<u>Cooler Security</u>	<u>Y or N</u>	<u>Y or N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/> <input type="checkbox"/>	3. COC Present: <input checked="" type="checkbox"/> <input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/> <input type="checkbox"/>	4. Smpl Dates/Time OK <input checked="" type="checkbox"/> <input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y or N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Cooler temp verification:	_____
3. Cooler media:	Ice (Bag)
4. No. Coolers:	1

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. VOCs headspace free:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Condition of sample:	Intact		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Bottles received for unspecified tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Compositing instructions clear:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

6.1  
6

## General Chemistry

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### QC Data Summaries

(Accutest New Jersey)

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**Includes the following where applicable:**

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

DUPLICATE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: TC32298  
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.  
Project: SGTXD: 0111C278A/ SC Sediment Sampling

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
% Gravel	GP72913/GN87455	TC32298-10	%	5.4	6.5	18.5	0-77%
% Sand	GP72913/GN87455	TC32298-10	%	29.9	35.2	16.3	0-31%
% Silt, Clay, Colloids	GP72913/GN87455	TC32298-10	%	64.8	58.3	10.6	0-36%
0.0015 mm (Hydrometer)	GP72913/GN87455	TC32298-10	%	31.0	28.0	10.2	0-61%
0.005 mm (Hydrometer)	GP72913/GN87455	TC32298-10	%	44.0	40.0	9.5	0-87%
0.030 mm (Hydrometer)	GP72913/GN87455	TC32298-10	%	59.0	53.0	10.7	0-50%
0.375 Inch Sieve	GP72913/GN87455	TC32298-10	%	97.3	99.0	1.7	0-27%
0.75 Inch Sieve	GP72913/GN87455	TC32298-10	%	100	100	0.0	0-21%
1.5 Inch Sieve	GP72913/GN87455	TC32298-10	%	100	100	0.0	0-20%
3 Inch Sieve	GP72913/GN87455	TC32298-10	%	100	100	0.0	0-20%
No.10 Sieve (2.00 mm)	GP72913/GN87455	TC32298-10	%	85.6	77.0	10.7	0-18%
No.100 Sieve (0.15 mm)	GP72913/GN87455	TC32298-10	%	67.2	60.4	10.7	0-32%
No.16 Sieve (1.18 mm)	GP72913/GN87455	TC32298-10	%	81.3	73.2	10.5	0-21%
No.200 Sieve (0.075 mm)	GP72913/GN87455	TC32298-10	%	64.8	58.3	10.5	0-27%
No.30 Sieve (0.60 mm)	GP72913/GN87455	TC32298-10	%	77.0	69.4	10.4	0-27%
No.4 Sieve (4.75 mm)	GP72913/GN87455	TC32298-10	%	94.6	93.5	1.2	0-17%
No.50 Sieve (0.30 mm)	GP72913/GN87455	TC32298-10	%	73.5	66.1	10.6	0-25%
No.8 Sieve (2.36 mm)	GP72913/GN87455	TC32298-10	%	87.7	79.7	9.5	0-18%

Associated Samples:

Batch GP72913: TC32298-1, TC32298-2, TC32298-3, TC32298-4, TC32298-5, TC32298-6, TC32298-7, TC32298-8, TC32298-9, TC32298-10

(\*) Outside of QC limits

7.1  
7