

October 21, 2019

Justin Ballard
Hart & Hickman
3921 Sunset Ridge Rd.
Suite 301
Raleigh, NC 27607

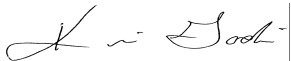
RE: Project: TCH-009
Pace Project No.: 92448530

Dear Justin Ballard:

Enclosed are the analytical results for sample(s) received by the laboratory on October 07, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Kevin Godwin
kevin.godwin@pacelabs.com
1(704)875-9092
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: TCH-009
Pace Project No.: 92448530

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alaska DEC- CS/UST/LUST
Alabama Certification #: 41320
Arizona Certification# AZ0819
Colorado Certification: FL NELAC Reciprocity
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
New Hampshire Certification #: 2958
New Jersey Certification #: FL022
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

Pace Analytical National Certification IDs

12065 Lebanon Road, Mt. Juliet, TN 37122
Alabama Certification #: 40660
Alaska Certification 17-026
Arizona Certification #: AZ0612
Arkansas Certification #: 88-0469
California Certification #: 2932
Canada Certification #: 1461.01
Colorado Certification #: TN00003
Connecticut Certification #: PH-0197
DOD Certification: #1461.01
EPA# TN00003
Florida Certification #: E87487
Georgia DW Certification #: 923
Georgia Certification: NELAP
Idaho Certification #: TN00003
Illinois Certification #: 200008
Indiana Certification #: C-TN-01
Iowa Certification #: 364
Kansas Certification #: E-10277
Kentucky UST Certification #: 16
Kentucky Certification #: 90010
Louisiana Certification #: AI30792
Louisiana DW Certification #: LA180010
Maine Certification #: TN0002
Maryland Certification #: 324
Massachusetts Certification #: M-TN003
Michigan Certification #: 9958
Minnesota Certification #: 047-999-395
Mississippi Certification #: TN00003

Missouri Certification #: 340
Montana Certification #: CERT0086
Nebraska Certification #: NE-OS-15-05
Nevada Certification #: TN-03-2002-34
New Hampshire Certification #: 2975
New Jersey Certification #: TN002
New Mexico DW Certification
New York Certification #: 11742
North Carolina Aquatic Toxicity Certification #: 41
North Carolina Drinking Water Certification #: 21704
North Carolina Environmental Certificate #: 375
North Dakota Certification #: R-140
Ohio VAP Certification #: CL0069
Oklahoma Certification #: 9915
Oregon Certification #: TN200002
Pennsylvania Certification #: 68-02979
Rhode Island Certification #: LAO00356
South Carolina Certification #: 84004
South Dakota Certification
Tennessee DW/Chem/Micro Certification #: 2006
Texas Certification #: T 104704245-17-14
Texas Mold Certification #: LAB0152
USDA Soil Permit #: P330-15-00234
Utah Certification #: TN00003
Vermont Dept. of Health: ID# VT-2006
Virginia Certification #: VT2006
Virginia Certification #: 460132
Washington Certification #: C847
West Virginia Certification #: 233

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CERTIFICATIONS

Project: TCH-009

Pace Project No.: 92448530

Pace Analytical National Certification IDs

Wisconsin Certification #: 9980939910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #: 100789

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078

Louisiana/NELAP Certification # LA170028

North Carolina Drinking Water Certification #: 37706

North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627

Kentucky UST Certification #: 84

Virginia/VELAP Certification #: 460221

Asheville Certification IDs

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: TCH-009
Pace Project No.: 92448530

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92448530001	Area G	Solid	10/04/19 11:35	10/07/19 15:45
92448530002	Area I	Solid	10/04/19 12:30	10/07/19 15:45
92448530003	Area H	Solid	10/04/19 13:30	10/07/19 15:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: TCH-009
Pace Project No.: 92448530

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92448530001	Area G	EPA 6010	LEC	1	PASI-O
		EPA 6010D	KQ	7	PASI-A
		EPA 7470A	SOO	1	PASI-A
		ASTM D2974-87	KDF	1	PASI-C
		SM 2540G	KBC	1	PAN
		EPA 9056A	ST	1	PAN
		EPA 9045D	ECH	1	PASI-A
92448530002	Area I	EPA 6010	LEC	1	PASI-O
		EPA 6010D	KQ	7	PASI-A
		EPA 7470A	SOO	1	PASI-A
		ASTM D2974-87	KDF	1	PASI-C
		SM 2540G	KBC	1	PAN
		EPA 9056A	ST	1	PAN
		EPA 9045D	ECH	1	PASI-A
92448530003	Area H	EPA 6010	LEC	1	PASI-O
		EPA 6010D	KQ	7	PASI-A
		EPA 7470A	SOO	1	PASI-A
		ASTM D2974-87	KDF	1	PASI-C
		SM 2540G	KBC	1	PAN
		EPA 9056A	ST	1	PAN
		EPA 9045D	ECH	1	PASI-A

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: TCH-009
Pace Project No.: 92448530

Sample: Area G **Lab ID: 92448530001** Collected: 10/04/19 11:35 Received: 10/07/19 15:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Sulfur	200J	mg/kg	339	169	5	10/12/19 06:41	10/12/19 20:06		
6010 MET ICP, TCLP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Leachate Method/Date: EPA 1311; 10/12/19 16:14 Initial pH: 6.72; Final pH: 4.5									
Arsenic	0.0078J	mg/L	0.050	0.0047	1	10/13/19 19:10	10/15/19 02:13	7440-38-2	B
Barium	2.4	mg/L	0.25	0.0010	1	10/13/19 19:10	10/15/19 02:13	7440-39-3	
Cadmium	0.0016J	mg/L	0.0050	0.00040	1	10/13/19 19:10	10/15/19 02:13	7440-43-9	B
Chromium	0.0029J	mg/L	0.050	0.0010	1	10/13/19 19:10	10/15/19 02:13	7440-47-3	B
Lead	0.046	mg/L	0.025	0.0016	1	10/13/19 19:10	10/15/19 02:13	7439-92-1	
Selenium	ND	mg/L	0.10	0.0047	1	10/13/19 19:10	10/15/19 02:13	7782-49-2	
Silver	ND	mg/L	0.025	0.0025	1	10/13/19 19:10	10/15/19 02:13	7440-22-4	
7470 Mercury, TCLP									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Leachate Method/Date: EPA 1311; 10/12/19 16:14 Initial pH: 6.72; Final pH: 4.5									
Mercury	ND	mg/L	0.00020	0.00010	1	10/13/19 20:37	10/15/19 17:03	7439-97-6	
Percent Moisture									
Analytical Method: ASTM D2974-87									
Percent Moisture	10.7	%	0.10	0.10	1		10/11/19 00:19		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Total Solids	74.9	%			1	10/18/19 12:32	10/18/19 12:40		
Wet Chemistry 9056A									
Analytical Method: EPA 9056A Preparation Method: 9056									
Sulfate	29.9J	mg/kg	66.8	0.761	1	10/16/19 10:16	10/16/19 16:45	14808-79-8	D8,J
9045 pH Soil									
Analytical Method: EPA 9045D									
pH at 25 Degrees C	6.3	Std. Units	0.10	0.10	1		10/11/19 12:09		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: TCH-009
Pace Project No.: 92448530

Sample: Area I **Lab ID: 92448530002** Collected: 10/04/19 12:30 Received: 10/07/19 15:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Sulfur	341	mg/kg	331	165	5	10/12/19 06:41	10/12/19 20:13		
6010 MET ICP, TCLP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Leachate Method/Date: EPA 1311; 10/12/19 16:14 Initial pH: 6.92; Final pH: 5									
Arsenic	0.011J	mg/L	0.050	0.0047	1	10/13/19 19:10	10/15/19 02:16	7440-38-2	B
Barium	2.9	mg/L	0.25	0.0010	1	10/13/19 19:10	10/15/19 02:16	7440-39-3	
Cadmium	0.00088J	mg/L	0.0050	0.00040	1	10/13/19 19:10	10/15/19 02:16	7440-43-9	B
Chromium	ND	mg/L	0.050	0.0010	1	10/13/19 19:10	10/15/19 02:16	7440-47-3	
Lead	ND	mg/L	0.025	0.0016	1	10/13/19 19:10	10/15/19 02:16	7439-92-1	
Selenium	ND	mg/L	0.10	0.0047	1	10/13/19 19:10	10/15/19 02:16	7782-49-2	
Silver	ND	mg/L	0.025	0.0025	1	10/13/19 19:10	10/15/19 02:16	7440-22-4	
7470 Mercury, TCLP									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Leachate Method/Date: EPA 1311; 10/12/19 16:14 Initial pH: 6.92; Final pH: 5									
Mercury	ND	mg/L	0.00020	0.00010	1	10/13/19 20:37	10/15/19 17:06	7439-97-6	
Percent Moisture									
Analytical Method: ASTM D2974-87									
Percent Moisture	10.4	%	0.10	0.10	1		10/11/19 00:19		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Total Solids	69.9	%			1	10/18/19 12:32	10/18/19 12:40		
Wet Chemistry 9056A									
Analytical Method: EPA 9056A Preparation Method: 9056									
Sulfate	13.1J	mg/kg	71.5	0.815	1	10/16/19 10:16	10/16/19 17:16	14808-79-8	B,J
9045 pH Soil									
Analytical Method: EPA 9045D									
pH at 25 Degrees C	6.3	Std. Units	0.10	0.10	1		10/11/19 12:10		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: TCH-009
Pace Project No.: 92448530

Sample: Area H **Lab ID: 92448530003** Collected: 10/04/19 13:30 Received: 10/07/19 15:45 Matrix: Solid

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

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP									
Analytical Method: EPA 6010 Preparation Method: EPA 3050									
Sulfur	479	mg/kg	360	180	5	10/12/19 06:41	10/12/19 20:20		
6010 MET ICP, TCLP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Leachate Method/Date: EPA 1311; 10/12/19 16:14 Initial pH: 6.87; Final pH: 4.5									
Arsenic	0.038J	mg/L	0.050	0.0047	1	10/13/19 19:10	10/15/19 02:19	7440-38-2	B
Barium	3.0	mg/L	0.25	0.0010	1	10/13/19 19:10	10/15/19 02:19	7440-39-3	
Cadmium	ND	mg/L	0.0050	0.00040	1	10/13/19 19:10	10/15/19 02:19	7440-43-9	
Chromium	ND	mg/L	0.050	0.0010	1	10/13/19 19:10	10/15/19 02:19	7440-47-3	
Lead	ND	mg/L	0.025	0.0016	1	10/13/19 19:10	10/15/19 02:19	7439-92-1	
Selenium	ND	mg/L	0.10	0.0047	1	10/13/19 19:10	10/15/19 02:19	7782-49-2	
Silver	ND	mg/L	0.025	0.0025	1	10/13/19 19:10	10/15/19 02:19	7440-22-4	
7470 Mercury, TCLP									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Leachate Method/Date: EPA 1311; 10/12/19 16:14 Initial pH: 6.87; Final pH: 4.5									
Mercury	ND	mg/L	0.00020	0.00010	1	10/13/19 20:37	10/15/19 17:08	7439-97-6	
Percent Moisture									
Analytical Method: ASTM D2974-87									
Percent Moisture	16.7	%	0.10	0.10	1		10/11/19 00:19		
Total Solids 2540 G-2011									
Analytical Method: SM 2540G Preparation Method: SM 2540 G									
Total Solids	78.4	%			1	10/18/19 12:32	10/18/19 12:40		
Wet Chemistry 9056A									
Analytical Method: EPA 9056A Preparation Method: 9056									
Sulfate	14.6J	mg/kg	63.8	0.727	1	10/16/19 10:16	10/16/19 17:31	14808-79-8	B,J
9045 pH Soil									
Analytical Method: EPA 9045D									
pH at 25 Degrees C	6.4	Std. Units	0.10	0.10	1		10/11/19 12:12		H3

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: TCH-009

Pace Project No.: 92448530

QC Batch: 503311

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470 Mercury TCLP

Associated Lab Samples: 92448530001, 92448530002, 92448530003

METHOD BLANK: 2704306

Matrix: Water

Associated Lab Samples: 92448530001, 92448530002, 92448530003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.00010	10/15/19 16:27	

METHOD BLANK: 2705117

Matrix: Water

Associated Lab Samples: 92448530001, 92448530002, 92448530003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/L	ND	0.00020	0.00010	10/15/19 16:31	

LABORATORY CONTROL SAMPLE: 2705382

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0020	82	80-120	

LABORATORY CONTROL SAMPLE: 2705383

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	0.0025	0.0021	86	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2705384 2705385

Parameter	Units	2705384		2705385		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Mercury	mg/L	ND	0.0025	0.0025	0.0025	0.0024	98	96	75-125	2	20	

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QUALITY CONTROL DATA

Project: TCH-009
Pace Project No.: 92448530

QC Batch: 577863 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET Solid
Associated Lab Samples: 92448530001, 92448530002, 92448530003

METHOD BLANK: 3141940 Matrix: Solid
Associated Lab Samples: 92448530001, 92448530002, 92448530003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfur	mg/kg	ND	61.6	30.8	10/12/19 18:33	

LABORATORY CONTROL SAMPLE: 3141941

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfur	mg/kg	154	139	90	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3141942 3141943

Parameter	Units	3141942		3141943		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		35503584001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Sulfur	mg/kg	285	149	151	436	518	101	154	75-125	17	20 M1

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QUALITY CONTROL DATA

Project: TCH-009
Pace Project No.: 92448530

QC Batch: 503309 Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A Analysis Description: 6010 MET TCLP
Associated Lab Samples: 92448530001, 92448530002, 92448530003

METHOD BLANK: 2704306 Matrix: Water
Associated Lab Samples: 92448530001, 92448530002, 92448530003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.050	0.0047	10/15/19 01:28	
Barium	mg/L	0.038J	0.25	0.0010	10/15/19 01:28	
Cadmium	mg/L	0.0019J	0.0050	0.00040	10/15/19 01:28	
Chromium	mg/L	ND	0.050	0.0010	10/15/19 01:28	
Lead	mg/L	0.0026J	0.025	0.0016	10/15/19 01:28	
Selenium	mg/L	0.019J	0.10	0.0047	10/15/19 01:28	
Silver	mg/L	ND	0.025	0.0025	10/15/19 01:28	

METHOD BLANK: 2705117 Matrix: Water
Associated Lab Samples: 92448530001, 92448530002, 92448530003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	0.037J	0.050	0.0047	10/15/19 01:35	
Barium	mg/L	0.043J	0.25	0.0010	10/15/19 01:35	
Cadmium	mg/L	0.0017J	0.0050	0.00040	10/15/19 01:35	
Chromium	mg/L	0.0025J	0.050	0.0010	10/15/19 01:35	
Lead	mg/L	ND	0.025	0.0016	10/15/19 01:35	
Selenium	mg/L	0.0088J	0.10	0.0047	10/15/19 01:35	
Silver	mg/L	0.0077J	0.025	0.0025	10/15/19 01:35	

LABORATORY CONTROL SAMPLE: 2705375

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	2.5	2.6	103	80-120	
Barium	mg/L	2.5	2.4	95	80-120	
Cadmium	mg/L	2.5	2.4	97	80-120	
Chromium	mg/L	2.5	2.4	95	80-120	
Lead	mg/L	2.5	2.4	95	80-120	
Selenium	mg/L	2.5	2.5	99	80-120	
Silver	mg/L	1.2	1.3	103	80-120	

LABORATORY CONTROL SAMPLE: 2705376

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	2.5	2.6	104	80-120	
Barium	mg/L	2.5	2.4	96	80-120	

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QUALITY CONTROL DATA

Project: TCH-009
Pace Project No.: 92448530

LABORATORY CONTROL SAMPLE: 2705376

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cadmium	mg/L	2.5	2.5	98	80-120	
Chromium	mg/L	2.5	2.4	97	80-120	
Lead	mg/L	2.5	2.5	100	80-120	
Selenium	mg/L	2.5	2.6	105	80-120	
Silver	mg/L	1.2	1.3	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2705377 2705378

Parameter	Units	2705377		2705378		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92447565016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Arsenic	mg/L	ND	2.5	2.5	2.6	2.6	103	104	75-125	0	20
Barium	mg/L	ND	2.5	2.5	2.5	2.5	95	94	75-125	1	20
Cadmium	mg/L	ND	2.5	2.5	2.5	2.4	98	98	75-125	1	20
Chromium	mg/L	0.26	2.5	2.5	2.7	2.6	96	95	75-125	1	20
Lead	mg/L	ND	2.5	2.5	2.4	2.4	95	95	75-125	0	20
Selenium	mg/L	0.55	2.5	2.5	3.1	3.1	102	104	75-125	1	20
Silver	mg/L	ND	1.2	1.2	1.3	1.3	103	102	75-125	1	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

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QUALITY CONTROL DATA

Project: TCH-009
Pace Project No.: 92448530

QC Batch: 502993 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 92448530001, 92448530002, 92448530003

SAMPLE DUPLICATE: 2703907

Parameter	Units	92448530001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.7	10.4	4	25	

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QUALITY CONTROL DATA

Project: TCH-009
Pace Project No.: 92448530

QC Batch: 1364683 Analysis Method: SM 2540G
QC Batch Method: SM 2540 G Analysis Description: Total Solids 2540 G-2011
Associated Lab Samples: 92448530001, 92448530002, 92448530003

METHOD BLANK: R3462631-1 Matrix: Solid
Associated Lab Samples: 92448530001, 92448530002, 92448530003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Solids	%	0.00100			10/18/19 12:40	

LABORATORY CONTROL SAMPLE: R3462631-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	%	50.0	50.0	99.9	85.0-115	

SAMPLE DUPLICATE: R3462631-3

Parameter	Units	92448530003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	%	78.4	77.8	0.705	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: TCH-009
Pace Project No.: 92448530

QC Batch: 1363261 Analysis Method: EPA 9056A
QC Batch Method: 9056 Analysis Description: Wet Chemistry 9056A
Associated Lab Samples: 92448530001, 92448530002, 92448530003

METHOD BLANK: R3461835-1 Matrix: Solid
Associated Lab Samples: 92448530001, 92448530002, 92448530003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/kg	1.64J	50.0	0.570	10/16/19 11:35	J

LABORATORY CONTROL SAMPLE: R3461835-2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/kg	200	206	103	80.0-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: R3461835-5 R3461835-6

Parameter	Units	L1149989-02 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/kg	77.4	514	514	562	557	94.3	93.3	80.0-120	0.918	15	

SAMPLE DUPLICATE: R3461835-4

Parameter	Units	92448530001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/kg	22.4	28.6J	24.4	15	D8,J

SAMPLE DUPLICATE: R3461835-7

Parameter	Units	L1148806-02 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/kg	1220	1330	8.17	15	

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

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QUALITY CONTROL DATA

Project: TCH-009

Pace Project No.: 92448530

QC Batch: 503065 Analysis Method: EPA 9045D

QC Batch Method: EPA 9045D Analysis Description: 9045 pH

Associated Lab Samples: 92448530001, 92448530002, 92448530003

SAMPLE DUPLICATE: 2704041

Parameter	Units	92447795001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.4	0	10	H3

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: TCH-009
Pace Project No.: 92448530

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

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

PAN Pace Analytical National
PASI-A Pace Analytical Services - Asheville
PASI-C Pace Analytical Services - Charlotte
PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.
D8 The sample and duplicate results for this parameter are less than 5 times the reporting limit, the RPD may not be statistically valid.
H3 Sample was received or analysis requested beyond the recognized method holding time.
J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE


Project: TCH-009

Pace Project No.: 92448530

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92448530001	Area G	EPA 3050	577863	EPA 6010	577907
92448530002	Area I	EPA 3050	577863	EPA 6010	577907
92448530003	Area H	EPA 3050	577863	EPA 6010	577907
92448530001	Area G	EPA 3010A	503309	EPA 6010D	503314
92448530002	Area I	EPA 3010A	503309	EPA 6010D	503314
92448530003	Area H	EPA 3010A	503309	EPA 6010D	503314
92448530001	Area G	EPA 7470A	503311	EPA 7470A	503391
92448530002	Area I	EPA 7470A	503311	EPA 7470A	503391
92448530003	Area H	EPA 7470A	503311	EPA 7470A	503391
92448530001	Area G	ASTM D2974-87	502993		
92448530002	Area I	ASTM D2974-87	502993		
92448530003	Area H	ASTM D2974-87	502993		
92448530001	Area G	SM 2540 G	1364683	SM 2540G	1364683
92448530002	Area I	SM 2540 G	1364683	SM 2540G	1364683
92448530003	Area H	SM 2540 G	1364683	SM 2540G	1364683
92448530001	Area G	9056	1363261	EPA 9056A	1363261
92448530002	Area I	9056	1363261	EPA 9056A	1363261
92448530003	Area H	9056	1363261	EPA 9056A	1363261
92448530001	Area G	EPA 9045D	503065		
92448530002	Area I	EPA 9045D	503065		
92448530003	Area H	EPA 9045D	503065		

REPORT OF LABORATORY ANALYSIS

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	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: February 7, 2018 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.06	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicsville

Sample Condition
Upon Receipt

Client Name:

Hart & Hickman

Project #:

WO#: **92448530**



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

Custody Seal Present? Yes No Seals Intact? Yes No

Date/Initials Person Examining Contents: DDG 10/7/19

Packing Material: Bubble Wrap Bubble Bags None Other

Biological Tissue Frozen?

Yes No N/A

Thermometer:

IR Gun ID: 917005

Type of Ice: Wet Blue None

Cooler Temp (°C): 1.6 Correction Factor: Add/Subtract (°C) -0.1

Temp should be above freezing to 6°C

Cooler Temp Corrected (°C): 1.5

Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil (N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

Yes No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)?

Yes No

			Comments/Discrepancy:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Short Hold Time Analysis (<72 hr.)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Dissolved analysis: Samples Field Filtered?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	8.	
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Includes Date/Time/ID/Analysis Matrix:	<u>SL</u>		
Headspace in VOA Vials (>5-6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10.	
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: JL

Date: 10/8/19

Project Manager SRF Review: JL

Date: 10/8/19



Document Name:
Sample Condition Upon Receipt (SCUR)
 Document No.:
F-CAR-CS-033-Rev.06

Document Revised: February 7, 2018
 Page 1 of 2
 Issuing Authority:
 Pace Carolinas Quality Office

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg
 **Bottom half of box is to list number of bottle

Project #

WO# : 92448530

PM: KRG

Due Date: 10/14/19

CLIENT: 92-Hart_Ral

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFLU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GIK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3A-250 mL Plastic (NH2)2SO4 (9.9-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)		
1																													
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information: Company: Hart & Hickman, Address: 3921 Sunset Ridge Rd, Suite 301, Raleigh, NC 27607, Email: jbeveler@hartandhickman.com, Phone: (252)548-9191, Fax: [blank], Requested Due Date: [blank]

Section B Required Project Information: Report To: Ballard, Justin, Copy To: [blank], Purchase Order #: [blank], Project Name: TCH-009, Project #: [blank]

Section C Invoice Information: Attention: [blank], Company Name: Accurate Systems, Address: [blank], POC: Kevin Godwin, POC Email: kevin.godwin@accuats.com, POC Phone: 948-1- [blank]

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique	MATRIX Dining Water DWI Waste Water WW Product P Sewage SL Oil OL Wipe WP Air AR Other OT Tissue TS	COOE DW WT WW P SL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Y/N	Residual Chlorine (Y/N)
						DATE	TIME						
1	Area G												
2	Area J										X	X	
3	Area H										X	X	
4											X	X	
5											X	X	
6											X	X	
7											X	X	
8											X	X	
9											X	X	
10											X	X	
11											X	X	
12											X	X	

SAMPLE ID: [blank] DATE: 6/21/16
 PRINT Name of SAMPLER: [blank] DATE Signed: 6/21/16
 SIGNATURE OF SAMPLER: *[Signature]*

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