From: Alan Martin
To: Drummond, Jaclynne;
cc: Brock Turner (Forsyth Co); Yi, Yongsheng (Yong); Hopkins, Max E.; Tom Wilson;
Subject: Permit #34-05 RJRT Ash Landfill - Water Supply Well Results
Date: Friday, October 07, 2011 5:19:02 PM

Some files have been sent to you via the **YouSendIt** File Delivery Service.

Download the file - WSW Results - Sprinkle R1.pdf; WSW Results - D Stewart R1.pdf; WSW Results - Freedom Church R1.pdf; WSW Results - Freeman R1.pdf; WSW Results - Guthrie R1.pdf; WSW Results - Hawks R1.pdf; WSW Results - Ken Stewart R1.pdf; WSW Results - Mozelle Stewart R1.pdf; WSW Results - Phipps R1.pdf

Your files will expire after 7 days.

Jackie / Brock –
Attached via download link are copies of letters to nearby property owners summarizing the results of samples from their water supply wells. These will be delivered next week to the property owners via US Mail. Paper copies will also be sent to you for your records.

Let me know if you have questions. Thanks -

Alan Martin, P.G.
ERM NC, Inc.
8000 Corporate Center Drive, #200 | Charlotte, NC 28226
Office: 704-541-8345 Cell: 704-564-8091
alan.martin@erm.com

One Planet. One Company. ERM.
P please consider the environment before printing this email

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necessary to delete the message completely from your computer system. Thank you, ERM NC, Inc.

ERM NC, INC.

8000 Corporate Center Dr.
Suite 200
Charlotte, NC 28226
(704) 541-8345
(704) 541-8416 (fax)

October 7, 2011

Michael & Susan Sprinkle
8390 Crestbrook Road
Rural Hall, NC 27045

Reference: Notification of Water Supply Well Sample Results
8390 Crestbrook Road
Forsyth County Parcel ID #: 6921-41-4516
Rural Hall, NC

Dear Mr. & Mrs. Sprinkle:

On behalf of the R.J. Reynolds Tobacco Company, ERM NC, Inc. (ERM) would like to thank you for your cooperation in allowing us to sample your water supply well on June 22, 2011.

As in the summer of 2009, the water sample obtained from your well was analyzed for the compounds noted in the table below. None of the compounds were detected above the applicable North Carolina Ground Water Quality Standards which are also set forth in the table. The table includes summarized data from the laboratory report, a copy of which is enclosed for your information. The laboratory tests were conducted utilizing methods approved by North Carolina Department of Environment and Natural Resources (NCDENR).

Owner	Phipps	
Address	8320 Crestbrook	NC
Well Use	Potable	Ground Water
Laboratory Sample ID	Phipps	Standard
Inorganic Laboratory Analyses (µg/L)		
Iron	Not Detected	300
Manganese	Not Detected	50
Selenium	Not Detected	20
Barium	103	700
Cadmium	Not Detected	2.0
Chromium	Not Detected	10
Lead	1.2	15
Sulfates (mg/L)	Not Detected	250
Field Measurements		
pH (Standard Units)	6.2	6.5-8.5
Conductivity (µS/cm)	106	Not Established
Dissolved Oxygen (mg/l)	7.1	Not Established
Oxidation-Reduction Potential (millivolts)	133	Not Established
Turbidity (NTUs)	Not Detected	Not Established
Temperature (degrees Celsius)	20.6	Not Established

µg/L = Micrograms per Liter (equivalent to parts per billion)
mg/L = Milligrams per Liter (equivalent to parts per million)

Barium and lead are naturally present in ground water within the Piedmont Region of North Carolina. The detections of these compounds in the water sample are typical of levels that are naturally present. The pH of the water sample was also within the natural range of pH for ground water in the Piedmont Region. Again, none of these levels were above the applicable North Carolina Ground Water Quality Standards.

These results will be submitted to the NCDENR and Forsyth County Health Department for their records.

If you have any questions, please contact me at 704-541-8345. Thank you for your assistance.

Sincerely,

Alan D. Martin

Alan Martin
Project Manager

Attachment

cc: Jackie Drummond – NCDENR
Brock Turner – Forsyth County Health Department

Pace Analytical Services, Inc.
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(704)875-9092

July 12, 2011

Mr. Alan Martin
ERM
8000 Corporate Center Drive
Suite 200
Charlotte, NC 28226

RE: Project: RJRT
Pace Project No.: 9296938

Dear Mr. Martin:
Enclosed are the analytical results for sample(s) received by the laboratory on June 23, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Report revised July 12, 2011 to include Cadmium by EPA 200.8.

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

Sincerely,

Kevin Godwin for
Brandon Helton
brandon.helton@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: RJRT
Pace Project No.: 9296938

Ormond Beach Certification IDs
8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Arizona Certification #: AZ0735
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH 0216
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: LA090012
Louisiana Environmental Certificate #: 05007
Maine Certification #: FL1264
Massachusetts Certification #: M-FL1264
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Montana Certification #: Cert 0074
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL765
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Pennsylvania Certification #: 68-547
Puerto Rico Certification #: FL01264
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
Virginia Certification #: 00432
Wyoming Certification: FL NELAC Reciprocity

Asheville Certification IDs
2225 Riverside Dr., Asheville, NC 28804
Connecticut Certification #: PH-0106
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
New Jersey Certification #: NC011
North Carolina Bioassay Certification #: 9
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
Pennsylvania Certification #: 68-03578
South Carolina Bioassay Certification #: 99030002
South Carolina Certification #: 99030001
Virginia Certification #: 00072
West Virginia Certification #: 356

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(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: RJRT
Pace Project No.: 9296938

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9296938001	**8 SPRINKLE**	Water	06/22/11 11:10	06/23/11 16:35

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SAMPLE ANALYTE COUNT

Project: RJRT
Pace Project No.: 9296938

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9296938001	**8 SPRINKLE**	EPA 200.7	TAP	1	PASI-O
		EPA 200.8	DRS	6	PASI-O
		EPA 300.0	EWS	1	PASI-A

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ANALYTICAL RESULTS

Project: RJRT
Pace Project No.: 9296938

Sample: 8 SPRINKLE **Lab ID: 9296938001** Collected: 06/22/11 11:10 Received: 06/23/11 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7							
Iron	ND	ug/L	40.0	1	06/28/11 16:00	06/29/11 15:23	7439-89-6	
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Barium	**103**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:09	7440-39-3	
Cadmium	ND	ug/L	0.10	1	06/28/11 16:00	07/01/11 18:09	7440-43-9	
Chromium	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:09	7440-47-3	
Lead	**1.2**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:09	7439-92-1	
Manganese	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:09	7439-96-5	
Selenium	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:09	7782-49-2	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	ND	mg/L	5.0	1		06/29/11 19:44	14808-79-8	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296938

QC Batch: ICP/4994
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 MET
Associated Lab Samples: 9296938001

METHOD BLANK: 218018
Matrix: Water
Associated Lab Samples: 9296938001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	40.0	06/29/11 14:39	

LABORATORY CONTROL SAMPLE: 218019

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	2500	2580	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218020 218021

Parameter	Units	9296942001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2570	2600	102	104	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218022 218023

Parameter	Units	9296937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2610	2600	104	104	70-130	.2	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296938

QC Batch: ICPM/4993
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Associated Lab Samples: 9296938001

METHOD BLANK: 218008
Matrix: Water
Associated Lab Samples: 9296938001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	1.0	07/01/11 17:36	
Cadmium	ug/L	ND	0.10	07/01/11 17:36	
Chromium	ug/L	ND	1.0	07/01/11 17:36	
Lead	ug/L	ND	1.0	07/01/11 17:36	
Manganese	ug/L	ND	1.0	07/01/11 17:36	
Selenium	ug/L	ND	1.0	07/01/11 17:36	

LABORATORY CONTROL SAMPLE: 218009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	50	51.0	102	85-115	
Cadmium	ug/L	5	4.8	97	85-115	
Chromium	ug/L	50	49.9	100	85-115	
Lead	ug/L	50	49.0	98	85-115	
Manganese	ug/L	50	51.1	102	85-115	
Selenium	ug/L	50	52.5	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218010 218011

Parameter	Units	9296936001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	79.7	50	50	134	133	109	106	70-130	1	20	
Cadmium	ug/L	ND	5	5	4.9	5.0	98	99	70-130	1	20	
Chromium	ug/L	1.3	50	50	50.6	51.5	99	100	70-130	2	20	
Lead	ug/L	2.0	50	50	51.0	52.3	98	101	70-130	2	20	
Manganese	ug/L	1.4	50	50	51.3	52.2	100	102	70-130	2	20	
Selenium	ug/L	ND	50	50	51.1	51.7	102	103	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218012 218013

Parameter	Units	9296936002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	82.9	50	50	134	135	102	104	70-130	1	20	
Cadmium	ug/L	ND	5	5	5.0	4.8	99	96	70-130	3	20	
Chromium	ug/L	2.2	50	50	52.2	52.6	100	101	70-130	.7	20	
Lead	ug/L	2.3	50	50	52.1	53.5	100	102	70-130	3	20	
Manganese	ug/L	1.7	50	50	52.5	53.1	102	103	70-130	1	20	
Selenium	ug/L	ND	50	50	51.6	52.1	103	104	70-130	.9	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296938

QC Batch: WETA/10006
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 9296938001

METHOD BLANK: 626984
Matrix: Water
Associated Lab Samples: 9296938001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	06/29/11 13:38	

LABORATORY CONTROL SAMPLE: 626985

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.4	97	90-110	

MATRIX SPIKE SAMPLE: 626986

Parameter	Units	9296580001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	21.9	94	90-110	

MATRIX SPIKE SAMPLE: 626988

Parameter	Units	9296580002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	22.8	95	90-110	

SAMPLE DUPLICATE: 626987

Parameter	Units	9296580001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 626989

Parameter	Units	9296580002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	ND	ND		20	

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QUALIFIERS

Project: RJRT
Pace Project No.: 9296938

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-O	Pace Analytical Services - Ormond Beach

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A
Required Client Information:

Company:	ERM NC, Inc
Address:	8000 Corporate Ctr. Dr. Ste. 200
	Charlotte, NC 28226
Email To:	alan.martin@erm.com
Phone: 704-541-8345	Fax:
Requested Due Date/TAT:	Standard

Section B
Required Project Information:

Report To:	Alan Martin
Copy To:	
Purchase Order No.:	103137 Ph. 6
Project Name:	RJRT
Project Number:	103137 Ph. 6

Section C
Invoice Information:

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

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☑ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: NC

Section D
Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): SULFATE - 300.0	IRON - 200	MANGANESE - 200	SELENIUM - 200	BARIUM - 200	CHROMIUM - 200	LEAD - 200	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	8 SPRINKLE	DW	G			6/22/11	1110	20	2	1		1						X	X	X	X	X	X	X		9296938001
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Drinking Water / NC Public Health Method

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Matt Lovine	6/23/11	1635	Pace	6/23/11	1635	4.2	Y	n	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Matt Lovine

SIGNATURE of SAMPLER: Matt Lovine — DATE Signed (MM/DD/YY): 6/23/11

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

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

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

Sample Condition Upon Receipt

Pace Analytical

Client Name: ERM Project # 9296938

Where Received: ☒ Huntersville ☐ Asheville ☐ Eden

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other_____

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

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other_____

Thermometer Used: IR Gun : T1101 **Type of Ice:** (Wet) Blue None ☒ Samples on ice, cooling process has begun

Temp Correction Factor: Add / Subtract 0 °C

Corrected Cooler Temp.: 4/2 C **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: DHW 6/23/2011

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☑No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: Waters		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed
Samples checked for dechlorination:	☑Yes ☐No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: BMH **Date:** 6/23/11 **SRF Review:** [signature] **Date:** 6/24/11

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)

ERM NC, INC.

8000 Corporate Center Dr.
Suite 200
Charlotte, NC 28226
(704) 541-8345
(704) 541-8416 (fax)

October 7, 2011

Mack Phipps
8320 Crestbrook Road
Rural Hall, NC 27045

Reference: Notification of Water Supply Well Sample Results
8320 Crestbrook Road
Forsyth County Parcel ID #: 6921-41-5108
Rural Hall, NC

Dear Mr. Phipps:

On behalf of the R.J. Reynolds Tobacco Company, ERM NC, Inc. (ERM) would like to thank you for your cooperation in allowing us to sample your water supply well on June 23, 2011.

As in the summer of 2009, the water sample obtained from your well was analyzed for the compounds noted in the table below. None of the compounds were detected above the applicable North Carolina Ground Water Quality Standards which are also set forth in the table. The table includes summarized data from the laboratory report, a copy of which is enclosed for your information. The laboratory tests were conducted utilizing methods approved by the North Carolina Department of Environment and Natural Resources (NCDENR).

Owner Address Well Use Laboratory Sample ID	Phipps 8320 Crestbrook Potable Phipps	NC Ground Water Standard
Inorganic Laboratory Analyses (µg/L)		
Iron	Not Detected	300
Manganese	1.3	50
Selenium	Not Detected	20
Barium	64.6	700
Cadmium	Not Detected	2.0
Chromium	Not Detected	10
Lead	5.9	15
Sulfates (mg/L)	6.4	250
Field Measurements		
pH (Standard Units)	6.7	6.5-8.5
Conductivity (µS/cm)	209	Not Established
Dissolved Oxygen (mg/l)	4.4	Not Established
Oxidation-Reduction Potential (millivolts)	146	Not Established
Turbidity (NTUs)	0.14	Not Established
Temperature (degrees Celsius)	15.9	Not Established

µg/L = Micrograms per Liter (equivalent to parts per billion)
mg/L = Milligrams per Liter (equivalent to parts per million)

Manganese, barium, lead and sulfates are naturally present in ground water within the Piedmont Region of North Carolina. The detections of these compounds in the water sample are typical of levels that are naturally present. Again, none of these levels were above the applicable North Carolina Ground Water Quality Standards.

These results will be submitted to the NCDENR and Forsyth County Health Department for their records.

If you have any questions, please contact me at 704-541-8345. Thank you for your assistance.

Sincerely,

Alan D. Martin

Alan Martin
Project Manager

Attachment

cc: Jackie Drummond – NCDENR
Brock Turner – Forsyth County Health Department

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

July 12, 2011

Mr. Alan Martin
ERM
8000 Corporate Center Drive
Suite 200
Charlotte, NC 28226

RE: Project: RJRT
Pace Project No.: 9296939

Dear Mr. Martin:
Enclosed are the analytical results for sample(s) received by the laboratory on June 23, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Report revised July 12, 2011 to include Cadmium by EPA 200.8.

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

Sincerely,

Kevin Godwin for
Brandon Helton
brandon.helton@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: RJRT
Pace Project No.: 9296939

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Arizona Certification #: AZ0735
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH 0216
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: LA090012
Louisiana Environmental Certificate #: 05007
Maine Certification #: FL1264
Massachusetts Certification #: M-FL1264
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Montana Certification #: Cert 0074
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL765
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Pennsylvania Certification #: 68-547
Puerto Rico Certification #: FL01264
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
Virginia Certification #: 00432
Wyoming Certification: FL NELAC Reciprocity

Asheville Certification IDs

2225 Riverside Dr., Asheville, NC 28804
Connecticut Certification #: PH-0106
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
New Jersey Certification #: NC011
North Carolina Bioassay Certification #: 9
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
Pennsylvania Certification #: 68-03578
South Carolina Bioassay Certification #: 99030002
South Carolina Certification #: 99030001
Virginia Certification #: 00072
West Virginia Certification #: 356

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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: RJRT
Pace Project No.: 9296939

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9296939001	**7 PHIPPS**	Water	06/23/11 12:35	06/23/11 16:35

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SAMPLE ANALYTE COUNT

Project: RJRT
Pace Project No.: 9296939

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9296939001	**7 PHIPPS**	EPA 200.7	TAP	1	PASI-O
		EPA 200.8	DRS	6	PASI-O
		EPA 300.0	EWS	1	PASI-A

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ANALYTICAL RESULTS

Project: RJRT
Pace Project No.: 9296939

Sample: 7 PHIPPS **Lab ID: 9296939001** Collected: 06/23/11 12:35 Received: 06/23/11 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7							
Iron	ND	ug/L	40.0	1	06/28/11 16:00	06/29/11 15:16	7439-89-6	
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Barium	**64.6**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:04	7440-39-3	
Cadmium	ND	ug/L	0.10	1	06/28/11 16:00	07/01/11 18:04	7440-43-9	
Chromium	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:04	7440-47-3	
Lead	**5.9**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:04	7439-92-1	
Manganese	**1.3**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:04	7439-96-5	
Selenium	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:04	7782-49-2	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**6.4**	mg/L	5.0	1		06/29/11 19:58	14808-79-8	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296939

QC Batch: ICP/4994
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 MET
Associated Lab Samples: 9296939001

METHOD BLANK: 218018
Matrix: Water
Associated Lab Samples: 9296939001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	40.0	06/29/11 14:39	

LABORATORY CONTROL SAMPLE: 218019

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	2500	2580	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218020 218021

Parameter	Units	9296942001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2570	2600	102	104	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218022 218023

Parameter	Units	9296937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2610	2600	104	104	70-130	.2	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296939

QC Batch: ICPM/4993
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Associated Lab Samples: 9296939001

METHOD BLANK: 218008
Matrix: Water
Associated Lab Samples: 9296939001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	1.0	07/01/11 17:36	
Cadmium	ug/L	ND	0.10	07/01/11 17:36	
Chromium	ug/L	ND	1.0	07/01/11 17:36	
Lead	ug/L	ND	1.0	07/01/11 17:36	
Manganese	ug/L	ND	1.0	07/01/11 17:36	
Selenium	ug/L	ND	1.0	07/01/11 17:36	

LABORATORY CONTROL SAMPLE: 218009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	50	51.0	102	85-115	
Cadmium	ug/L	5	4.8	97	85-115	
Chromium	ug/L	50	49.9	100	85-115	
Lead	ug/L	50	49.0	98	85-115	
Manganese	ug/L	50	51.1	102	85-115	
Selenium	ug/L	50	52.5	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218010 218011

Parameter	Units	9296936001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	79.7	50	50	134	133	109	106	70-130	1	20	
Cadmium	ug/L	ND	5	5	4.9	5.0	98	99	70-130	1	20	
Chromium	ug/L	1.3	50	50	50.6	51.5	99	100	70-130	2	20	
Lead	ug/L	2.0	50	50	51.0	52.3	98	101	70-130	2	20	
Manganese	ug/L	1.4	50	50	51.3	52.2	100	102	70-130	2	20	
Selenium	ug/L	ND	50	50	51.1	51.7	102	103	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218012 218013

Parameter	Units	9296936002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	82.9	50	50	134	135	102	104	70-130	1	20	
Cadmium	ug/L	ND	5	5	5.0	4.8	99	96	70-130	3	20	
Chromium	ug/L	2.2	50	50	52.2	52.6	100	101	70-130	.7	20	
Lead	ug/L	2.3	50	50	52.1	53.5	100	102	70-130	3	20	
Manganese	ug/L	1.7	50	50	52.5	53.1	102	103	70-130	1	20	
Selenium	ug/L	ND	50	50	51.6	52.1	103	104	70-130	.9	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296939

QC Batch: WETA/10006
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 9296939001

METHOD BLANK: 626984
Matrix: Water
Associated Lab Samples: 9296939001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	06/29/11 13:38	

LABORATORY CONTROL SAMPLE: 626985

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.4	97	90-110	

MATRIX SPIKE SAMPLE: 626986

Parameter	Units	9296580001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	21.9	94	90-110	

MATRIX SPIKE SAMPLE: 626988

Parameter	Units	9296580002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	22.8	95	90-110	

SAMPLE DUPLICATE: 626987

Parameter	Units	9296580001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 626989

Parameter	Units	9296580002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	ND	ND		20	

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Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: RJRT
Pace Project No.: 9296939

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-O	Pace Analytical Services - Ormond Beach

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Pace Analytical™
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A
Required Client Information:

Company:	ERM NC, Inc
Address:	8000 Corporate Ctr. Dr. Ste. 200
	Charlotte, NC 28226
Email To:	alan.martin@erm.com
Phone: 704-541-8345	Fax:
Requested Due Date/TAT:	Standard

Section B
Required Project Information:

Report To:	Alan Martin
Copy To:	
Purchase Order No.:	103137 Ph. 6
Project Name:	RJRT
Project Number:	103137 Ph. 6

Section C
Invoice Information:

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

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☑ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: NC

Section D
Required Client Information

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

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): SULFATE - 300.0	IRON - 200	MANGANESE - 200	SELENIUM - 200	BARIUM - 200	CHROMIUM - 200	LEAD - 200	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	7 PHIPPS	DW	G			6/23/11	1235	15	2	1		1						X	X	X	X	X	X	X			9296939001
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Drinking Water / NC Public Health Method

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Matt Haine	6/23/11	1635	Jam[illegible] Pace	6/23/11	1635	4.2 (DH)	Y (DH)	n	Y

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Matt Haine		
SIGNATURE of SAMPLER:	Matt Haine	DATE Signed (MM/DD/YY):	6/23/11

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

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

Sample Condition Upon Receipt

Pace Analytical

Client Name: ERM Project # 9296939

Where Received: ☒ Huntersville ☐ Asheville ☐ Eden

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other_____

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

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other_____

Thermometer Used: IR Gun : T1101 **Type of Ice:** (Wet) Blue None ☒ Samples on ice, cooling process has begun

Temp Correction Factor: Add / Subtract 0 °C

Corrected Cooler Temp.: 4.2 C **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: DHW 6/23/2011

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☑No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: Waters		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed
Samples checked for dechlorination:	☑Yes ☐No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: BMH **Date:** 6/23/11 **SRF Review:** [illegible] **Date:** 6/24/11

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)

ERM NC, INC.

8000 Corporate Center Dr.
Suite 200
Charlotte, NC 28226
(704) 541-8345
(704) 541-8416 (fax)

October 7, 2011

Mozelle Stewart
1180 Sixty Five Highway
Rural Hall, NC 27045

Reference: Notification of Water Supply Well Sample Results
1180 Sixty Five Highway
Forsyth County Parcel ID #: 6921-40-2442
Rural Hall, NC

Dear Property Owner:

On behalf of the R.J. Reynolds Tobacco Company, ERM NC, Inc. (ERM) would like to thank you for your cooperation in allowing us to sample your water supply well on June 23, 2011.

As in the summer of 2009, the water sample obtained from your well was analyzed for the compounds noted in the table below. None of the compounds were detected above the applicable North Carolina Ground Water Quality Standards which are also set forth in the table. The table includes summarized data from the laboratory report, a copy of which is enclosed for your information. The laboratory tests were conducted utilizing methods approved by the North Carolina Department of Environment and Natural Resources (NCDENR).

Owner	Mozelle Stewart	
Address	1180 Sixty Five Hwy	NC
Well Use	Potable	Ground Water
Laboratory Sample ID	M Stewart	Standard
Inorganic Laboratory Analyses (µg/L)		
Iron	Not Detected	300
Manganese	Not Detected	50
Selenium	Not Detected	20
Barium	168	700
Cadmium	Not Detected	2.0
Chromium	2.1	10
Lead	Not Detected	15
Sulfates (mg/L)	Not Detected	250
Field Measurements		
pH (Standard Units)	6.2	6.5-8.5
Conductivity (µS/cm)	176	Not Established
Dissolved Oxygen (mg/l)	6.2	Not Established
Oxidation-Reduction Potential (millivolts)	179	Not Established
Turbidity (NTUs)	Not Detected	Not Established
Temperature (degrees Celsius)	17.2	Not Established

µg/L = Micrograms per Liter (equivalent to parts per billion)
mg/L = Milligrams per Liter (equivalent to parts per million)

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205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

July 12, 2011

Mr. Alan Martin
ERM
8000 Corporate Center Drive
Suite 200
Charlotte, NC 28226

RE: Project: RJRT
Pace Project No.: 9296941

Dear Mr. Martin:
Enclosed are the analytical results for sample(s) received by the laboratory on June 23, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Report revised July 12, 2011 to include Cadmium by EPA 200.8.

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

Sincerely,

Kevin Godwin for
Brandon Helton
brandon.helton@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: RJRT
Pace Project No.: 9296941

Ormond Beach Certification IDs
8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Arizona Certification #: AZ0735
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH 0216
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: LA090012
Louisiana Environmental Certificate #: 05007
Maine Certification #: FL1264
Massachusetts Certification #: M-FL1264
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Montana Certification #: Cert 0074
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL765
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Pennsylvania Certification #: 68-547
Puerto Rico Certification #: FL01264
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
Virginia Certification #: 00432
Wyoming Certification: FL NELAC Reciprocity

Asheville Certification IDs
2225 Riverside Dr., Asheville, NC 28804
Connecticut Certification #: PH-0106
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
New Jersey Certification #: NC011
North Carolina Bioassay Certification #: 9
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
Pennsylvania Certification #: 68-03578
South Carolina Bioassay Certification #: 99030002
South Carolina Certification #: 99030001
Virginia Certification #: 00072
West Virginia Certification #: 356

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SAMPLE SUMMARY

Project: RJRT
Pace Project No.: 9296941

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9296941001	**5 MOZELLE STEWART**	Water	06/23/11 11:50	06/23/11 16:35

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SAMPLE ANALYTE COUNT

Project: RJRT
Pace Project No.: 9296941

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9296941001	**5 MOZELLE STEWART**	EPA 200.7	TAP	1	PASI-O
		EPA 200.8	DRS	6	PASI-O
		EPA 300.0	EWS	1	PASI-A

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ANALYTICAL RESULTS

Project: RJRT
Pace Project No.: 9296941

Sample: 5 MOZELLE STEWART **Lab ID: 9296941001** Collected: 06/23/11 11:50 Received: 06/23/11 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7							
Iron	ND	ug/L	40.0	1	06/28/11 16:00	06/29/11 15:43	7439-89-6	
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Barium	**168**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:19	7440-39-3	
Cadmium	ND	ug/L	0.10	1	06/28/11 16:00	07/01/11 18:19	7440-43-9	
Chromium	**2.1**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:19	7440-47-3	
Lead	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:19	7439-92-1	
Manganese	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:19	7439-96-5	
Selenium	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:19	7782-49-2	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	ND	mg/L	5.0	1		06/30/11 03:40	14808-79-8	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296941

QC Batch: ICP/4994
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 MET
Associated Lab Samples: 9296941001

METHOD BLANK: 218018
Matrix: Water
Associated Lab Samples: 9296941001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	40.0	06/29/11 14:39	

LABORATORY CONTROL SAMPLE: 218019

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	2500	2580	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218020 218021

Parameter	Units	9296942001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2570	2600	102	104	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218022 218023

Parameter	Units	9296937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2610	2600	104	104	70-130	.2	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296941

QC Batch: ICPM/4993
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Associated Lab Samples: 9296941001

METHOD BLANK: 218008
Matrix: Water
Associated Lab Samples: 9296941001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	1.0	07/01/11 17:36	
Cadmium	ug/L	ND	0.10	07/01/11 17:36	
Chromium	ug/L	ND	1.0	07/01/11 17:36	
Lead	ug/L	ND	1.0	07/01/11 17:36	
Manganese	ug/L	ND	1.0	07/01/11 17:36	
Selenium	ug/L	ND	1.0	07/01/11 17:36	

LABORATORY CONTROL SAMPLE: 218009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	50	51.0	102	85-115	
Cadmium	ug/L	5	4.8	97	85-115	
Chromium	ug/L	50	49.9	100	85-115	
Lead	ug/L	50	49.0	98	85-115	
Manganese	ug/L	50	51.1	102	85-115	
Selenium	ug/L	50	52.5	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218010 218011

Parameter	Units	9296936001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	79.7	50	50	134	133	109	106	70-130	1	20	
Cadmium	ug/L	ND	5	5	4.9	5.0	98	99	70-130	1	20	
Chromium	ug/L	1.3	50	50	50.6	51.5	99	100	70-130	2	20	
Lead	ug/L	2.0	50	50	51.0	52.3	98	101	70-130	2	20	
Manganese	ug/L	1.4	50	50	51.3	52.2	100	102	70-130	2	20	
Selenium	ug/L	ND	50	50	51.1	51.7	102	103	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218012 218013

Parameter	Units	9296936002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	82.9	50	50	134	135	102	104	70-130	1	20	
Cadmium	ug/L	ND	5	5	5.0	4.8	99	96	70-130	3	20	
Chromium	ug/L	2.2	50	50	52.2	52.6	100	101	70-130	.7	20	
Lead	ug/L	2.3	50	50	52.1	53.5	100	102	70-130	3	20	
Manganese	ug/L	1.7	50	50	52.5	53.1	102	103	70-130	1	20	
Selenium	ug/L	ND	50	50	51.6	52.1	103	104	70-130	.9	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296941

QC Batch: WETA/10007
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 9296941001

METHOD BLANK: 626997
Matrix: Water
Associated Lab Samples: 9296941001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	06/29/11 21:06	

LABORATORY CONTROL SAMPLE: 626998

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.0	95	90-110	

MATRIX SPIKE SAMPLE: 626999

Parameter	Units	9296942001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5.1	20	25.2	101	90-110	

MATRIX SPIKE SAMPLE: 627001

Parameter	Units	9296943001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	20.4	92	90-110	

SAMPLE DUPLICATE: 627000

Parameter	Units	9296942001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	5.1	5.1	1	20	

SAMPLE DUPLICATE: 627002

Parameter	Units	9296943001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	ND	ND		20	

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(704)875-9092

QUALIFIERS

Project: RJRT
Pace Project No.: 9296941

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-O	Pace Analytical Services - Ormond Beach

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A
Required Client Information:

Company:	ERM NC, Inc
Address:	8000 Corporate Ctr. Dr. Ste. 200
	Charlotte, NC 28226
Email To:	alan.martin@erm.com
Phone: 704-541-8345	Fax:
Requested Due Date/TAT:	Standard

Section B
Required Project Information:

Report To:	Alan Martin
Copy To:	
Purchase Order No.:	103137 Ph. 6
Project Name:	RJRT
Project Number:	103137 Ph. 6

Section C
Invoice Information:

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

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☑ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: NC

Section D
Required Client Information

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

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): SULFATE - 300.0	IRON - 200	MANGANESE - 200	SELENIUM - 200	BARIUM - 200	CHROMIUM - 200	LEAD - 200	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	5 MOZELLE STEWART	DW	G			6/23/11	1150		2	1		1						X	X	X	X	X	X	X		92969410 01
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Drinking Water / NC Public Health Method

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Matt Lavine	6/23/11	1635	Jamal Cloud Pace	6/23/11	1635	4.2	Y	n	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Matt Lavine

SIGNATURE of SAMPLER: Matt Lavine

DATE Signed (MM/DD/YY): 6/23/11

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

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

Sample Condition Upon Receipt

Pace Analytical

Client Name: ERM Project # 9296941

Where Received: ☒ Huntersville ☐ Asheville ☐ Eden

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other_____

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

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other_____

Thermometer Used: IR Gun : T1101 **Type of Ice:** (Wet) Blue None ☒ Samples on ice, cooling process has begun

Temp Correction Factor: Add / Subtract 0 °C

Corrected Cooler Temp.: 4/C C **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: DHW 6/23/2011

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☑No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: Waters		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed
Samples checked for dechlorination:	☑Yes ☐No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: BMH **Date:** 6/23/11 **SRF Review:** [illegible] **Date:** 6/24/11

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)

Barium and chromium are naturally present in ground water within the Piedmont Region of North Carolina. The detections of these compounds in the water sample are typical of levels that are naturally present. The pH of the water sample was also within the natural range of pH for ground water in the Piedmont Region. Again, none of these levels were above the applicable North Carolina Ground Water Quality Standards.

These results will be submitted to the NCDENR and Forsyth County Health Department for their records.

If you have any questions, please contact me at 704-541-8345. Thank you for your assistance.

Sincerely,

Alan D. Martin

Alan Martin
Project Manager

Attachment

cc: Jackie Drummond – NCDENR
Brock Turner – Forsyth County Health Department

ERM NC, INC.

8000 Corporate Center Dr.
Suite 200
Charlotte, NC 28226
(704) 541-8345
(704) 541-8416 (fax)

October 7, 2011

Ken Stewart
1234 Sixty Five Highway
Rural Hall, NC 27045

Reference: Notification of Water Supply Well Sample Results
1234 Sixty Five Highway
Forsyth County Parcel ID #: 6921-40-6606
Rural Hall, NC

Dear Mr. Stewart:

On behalf of the R.J. Reynolds Tobacco Company, ERM NC, Inc. (ERM) would like to thank you for your cooperation in allowing us to sample your water supply well on June 23, 2011.

As in the summer of 2009, the water sample obtained from your well was analyzed for the compounds noted in the table below. None of the compounds were detected above the applicable North Carolina Ground Water Quality Standards which are also set forth in the table. The table includes summarized data from the laboratory report, a copy of which is enclosed for your information. The laboratory tests were conducted utilizing methods approved by the North Carolina Department of Environment and Natural Resources (NCDENR).

Owner	Ken Stewart	
Address	1234 Sixty Five Hwy	NC
Well Use	Potable	Ground Water
Laboratory Sample ID	Ken Stewart	Standard
Inorganic Laboratory Analyses (µg/L)		
Iron	Not Detected	300
Manganese	1.6	50
Selenium	Not Detected	20
Barium	82.5	700
Cadmium	Not Detected	2.0
Chromium	2.1	10
Lead	1.6	15
Sulfates (mg/L)	Not Detected	250
Field Measurements		
pH (Standard Units)	6.9	6.5-8.5
Conductivity (µS/cm)	157	Not Established
Dissolved Oxygen (mg/l)	5.8	Not Established
Oxidation-Reduction Potential (millivolts)	142	Not Established
Turbidity (NTUs)	Not Detected	Not Established
Temperature (degrees Celsius)	17.6	Not Established

µg/L = Micrograms per Liter (equivalent to parts per billion)
mg/L = Milligrams per Liter (equivalent to parts per million)

Manganese, barium, chromium and lead are naturally present in ground water within the Piedmont Region of North Carolina. The detections of these compounds in the water sample are typical of levels that are naturally present. The pH of the water sample was also within the natural range of pH for ground water in the Piedmont Region. Again, none of these levels were above the applicable North Carolina Ground Water Quality Standards.

These results will be submitted to the NCDENR and Forsyth County Health Department for their records.

If you have any questions, please contact me at 704-541-8345. Thank you for your assistance.

Sincerely,

Alan D. Martin

Alan Martin
Project Manager

Attachment

cc: Jackie Drummond – NCDENR
Brock Turner – Forsyth County Health Department

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July 12, 2011

Mr. Alan Martin
ERM
8000 Corporate Center Drive
Suite 200
Charlotte, NC 28226

RE: Project: RJRT
Pace Project No.: 9296940

Dear Mr. Martin:
Enclosed are the analytical results for sample(s) received by the laboratory on June 23, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Report revised July 12, 2011 to include Cadmium by EPA 200.8.

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

Sincerely,

Kevin Godwin for
Brandon Helton
brandon.helton@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: RJRT
Pace Project No.: 9296940

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Arizona Certification #: AZ0735
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH 0216
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: LA090012
Louisiana Environmental Certificate #: 05007
Maine Certification #: FL1264
Massachusetts Certification #: M-FL1264
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Montana Certification #: Cert 0074
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL765
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Pennsylvania Certification #: 68-547
Puerto Rico Certification #: FL01264
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
Virginia Certification #: 00432
Wyoming Certification: FL NELAC Reciprocity

Asheville Certification IDs

2225 Riverside Dr., Asheville, NC 28804
Connecticut Certification #: PH-0106
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
New Jersey Certification #: NC011
North Carolina Bioassay Certification #: 9
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
Pennsylvania Certification #: 68-03578
South Carolina Bioassay Certification #: 99030002
South Carolina Certification #: 99030001
Virginia Certification #: 00072
West Virginia Certification #: 356

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205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: RJRT
Pace Project No.: 9296940

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9296940001	**6 KEN STEWART**	Water	06/23/11 09:50	06/23/11 16:35

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(704)875-9092

SAMPLE ANALYTE COUNT

Project: RJRT
Pace Project No.: 9296940

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9296940001	**6 KEN STEWART**	EPA 200.7	TAP	1	PASI-O
		EPA 200.8	DRS	6	PASI-O
		EPA 300.0	EWS	1	PASI-A

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ANALYTICAL RESULTS

Project: RJRT
Pace Project No.: 9296940

Sample: 6 KEN STEWART **Lab ID: 9296940001** Collected: 06/23/11 09:50 Received: 06/23/11 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7							
Iron	ND	ug/L	40.0	1	06/28/11 16:00	06/29/11 15:19	7439-89-6	
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Barium	**82.5**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:07	7440-39-3	
Cadmium	ND	ug/L	0.10	1	06/28/11 16:00	07/01/11 18:07	7440-43-9	
Chromium	**2.1**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:07	7440-47-3	
Lead	**1.6**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:07	7439-92-1	
Manganese	**1.6**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:07	7439-96-5	
Selenium	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:07	7782-49-2	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	ND	mg/L	5.0	1		06/29/11 20:12	14808-79-8	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296940

QC Batch: ICP/4994
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 MET
Associated Lab Samples: 9296940001

METHOD BLANK: 218018
Matrix: Water
Associated Lab Samples: 9296940001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	40.0	06/29/11 14:39	

LABORATORY CONTROL SAMPLE: 218019

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	2500	2580	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218020 218021

Parameter	Units	9296942001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2570	2600	102	104	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218022 218023

Parameter	Units	9296937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2610	2600	104	104	70-130	.2	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296940

QC Batch: ICPM/4993
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Associated Lab Samples: 9296940001

METHOD BLANK: 218008
Matrix: Water
Associated Lab Samples: 9296940001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	1.0	07/01/11 17:36	
Cadmium	ug/L	ND	0.10	07/01/11 17:36	
Chromium	ug/L	ND	1.0	07/01/11 17:36	
Lead	ug/L	ND	1.0	07/01/11 17:36	
Manganese	ug/L	ND	1.0	07/01/11 17:36	
Selenium	ug/L	ND	1.0	07/01/11 17:36	

LABORATORY CONTROL SAMPLE: 218009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	50	51.0	102	85-115	
Cadmium	ug/L	5	4.8	97	85-115	
Chromium	ug/L	50	49.9	100	85-115	
Lead	ug/L	50	49.0	98	85-115	
Manganese	ug/L	50	51.1	102	85-115	
Selenium	ug/L	50	52.5	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218010 218011

Parameter	Units	9296936001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	79.7	50	50	134	133	109	106	70-130	1	20	
Cadmium	ug/L	ND	5	5	4.9	5.0	98	99	70-130	1	20	
Chromium	ug/L	1.3	50	50	50.6	51.5	99	100	70-130	2	20	
Lead	ug/L	2.0	50	50	51.0	52.3	98	101	70-130	2	20	
Manganese	ug/L	1.4	50	50	51.3	52.2	100	102	70-130	2	20	
Selenium	ug/L	ND	50	50	51.1	51.7	102	103	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218012 218013

Parameter	Units	9296936002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	82.9	50	50	134	135	102	104	70-130	1	20	
Cadmium	ug/L	ND	5	5	5.0	4.8	99	96	70-130	3	20	
Chromium	ug/L	2.2	50	50	52.2	52.6	100	101	70-130	.7	20	
Lead	ug/L	2.3	50	50	52.1	53.5	100	102	70-130	3	20	
Manganese	ug/L	1.7	50	50	52.5	53.1	102	103	70-130	1	20	
Selenium	ug/L	ND	50	50	51.6	52.1	103	104	70-130	.9	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296940

QC Batch: WETA/10006
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 9296940001

METHOD BLANK: 626984
Matrix: Water
Associated Lab Samples: 9296940001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	06/29/11 13:38	

LABORATORY CONTROL SAMPLE: 626985

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.4	97	90-110	

MATRIX SPIKE SAMPLE: 626986

Parameter	Units	9296580001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	21.9	94	90-110	

MATRIX SPIKE SAMPLE: 626988

Parameter	Units	9296580002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	22.8	95	90-110	

SAMPLE DUPLICATE: 626987

Parameter	Units	9296580001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 626989

Parameter	Units	9296580002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	ND	ND		20	

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Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: RJRT
Pace Project No.: 9296940

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-O	Pace Analytical Services - Ormond Beach

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A
Required Client Information:

Company:	ERM NC, Inc
Address:	8000 Corporate Ctr. Dr. Ste. 200
	Charlotte, NC 28226
Email To:	alan.martin@erm.com
Phone: 704-541-8345	Fax:
Requested Due Date/TAT:	Standard

Section B
Required Project Information:

Report To:	Alan Martin
Copy To:	
Purchase Order No.:	103137 Ph. 6
Project Name:	RJRT
Project Number:	103137 Ph. 6

Section C
Invoice Information:

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

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☑ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: NC

Section D
Required Client Information

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

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): SULFATE - 300.0	IRON - 200	MANGANESE - 200	SELENIUM - 200	BARIUM - 200	CHROMIUM - 200	LEAD - 200	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	6 KEN STEWART	DW	G			6/23/11	0950	17	2	1		1						X	X	X	X	X	X	X		9296940001
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Drinking Water / NC Public Health Method

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Matt Doring	6/23/11	1635	Jamelle Chard Pace	6/23/11	1635

SAMPLE CONDITIONS			
Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
4.2	Y	n	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Matt Doring

SIGNATURE of SAMPLER: Matt Doring

DATE Signed (MM/DD/YY): 6/23/11

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

Sample Condition Upon Receipt

Pace Analytical

Client Name: ERM Project # 926640

Where Received: ☒ Huntersville ☐ Asheville ☐ Eden

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other_____

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

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other_____

Thermometer Used: IR Gun : T1101 **Type of Ice:** (Wet) Blue None ☒ Samples on ice, cooling process has begun

Temp Correction Factor: Add / Subtract 0 °C

Corrected Cooler Temp.: 4/2 C **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: DHW 6/23/2011

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☑No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: Waters				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed
Samples checked for dechlorination:	☑Yes	☐No	☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):_____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: BMH **Date:** 6/23/11 **SRF Review:** DES **Date:** 6/24/11

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)

Manganese, barium, chromium and lead are naturally present in ground water within the Piedmont Region of North Carolina. The detections of these compounds in the water sample are typical of levels that are naturally present. The pH of the water sample was also within the natural range of pH for ground water in the Piedmont Region. Again, none of these levels were above the applicable North Carolina Ground Water Quality Standards.

These results will be submitted to the NCDENR and Forsyth County Health Department for their records.

If you have any questions, please contact me at 704-541-8345. Thank you for your assistance.

Sincerely,

Alan D. Martin

Alan Martin
Project Manager

Attachment

cc: Jackie Drummond – NCDENR
Brock Turner – Forsyth County Health Department

ERM NC, INC.

8000 Corporate Center Dr.
Suite 200
Charlotte, NC 28226
(704) 541-8345
(704) 541-8416 (fax)

October 7, 2011

Grady & Mary Hawks
P.O. Box 651
Rural Hall, NC 27045

Reference: Notification of Water Supply Well Sample Results
810 Sixty Five Highway
Forsyth County Parcel ID #: 6921-20-5455
Rural Hall, NC

Dear Mr. and Mrs. Hawks:

On behalf of the R.J. Reynolds Tobacco Company, ERM NC, Inc. (ERM) would like to thank you for your cooperation in allowing us to sample your water supply well on June 22, 2011.

As in the summer of 2009, the water sample obtained from your well was analyzed for the compounds noted in the table below. None of the compounds were detected above the applicable North Carolina Ground Water Quality Standards which are also set forth in the table. The table includes summarized data from the laboratory report, a copy of which is enclosed for your information. The laboratory tests were conducted utilizing methods approved by the North Carolina Department of Environment and Natural Resources (NCDENR).

Owner	Hawks	
Address	810 Sixty Five Hwy	NC
Well Use	Potable	Ground Water
Laboratory Sample ID	Hawks	Standard
Inorganic Laboratory Analyses (µg/L)		
Iron	Not Detected	300
Manganese	2.5	50
Selenium	Not Detected	20
Barium	39.9	700
Cadmium	Not Detected	2.0
Chromium	Not Detected	10
Lead	1.4	15
Sulfates (mg/L)	5.1	250
Field Measurements		
pH (Standard Units)	7.9	6.5-8.5
Conductivity (µS/cm)	240	Not Established
Dissolved Oxygen (mg/l)	0.69	Not Established
Oxidation-Reduction Potential (millivolts)	13.3	Not Established
Turbidity (NTUs)	Not Detected	Not Established
Temperature (degrees Celsius)	21.1	Not Established

µg/L = Micrograms per Liter (equivalent to parts per billion)
mg/L = Milligrams per Liter (equivalent to parts per million)

Manganese, barium, lead and sulfates are naturally present in ground water within the Piedmont Region of North Carolina. The detections of these compounds in the water sample are typical of levels that are naturally present. The pH of the water sample was also within the natural range of pH for ground water in the Piedmont Region. Again, none of these levels were above the applicable North Carolina Ground Water Quality Standards.

These results will be submitted to the NCDENR and Forsyth County Health Department for their records.

If you have any questions, please contact me at 704-541-8345. Thank you for your assistance.

Sincerely,

Alan Martin
Project Manager

Attachment

cc: Jackie Drummond – NCDENR
Brock Turner – Forsyth County Health Department

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July 12, 2011

Mr. Alan Martin
ERM
8000 Corporate Center Drive
Suite 200
Charlotte, NC 28226

RE: Project: RJRT
Pace Project No.: 9296942

Dear Mr. Martin:
Enclosed are the analytical results for sample(s) received by the laboratory on June 23, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Report revised July 12, 2011 to include Cadmium by EPA 200.8.

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

Sincerely,

Kevin Godwin for
Brandon Helton
brandon.helton@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

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Pace Project No.: 9296942

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Connecticut Certification #: PH 0216
Florida Certification #: E83079
Georgia Certification #: 955
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Asheville Certification IDs

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North Carolina Wastewater Certification #: 40
Pennsylvania Certification #: 68-03578
South Carolina Bioassay Certification #: 99030002
South Carolina Certification #: 99030001
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Asheville, NC 28804
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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: RJRT
Pace Project No.: 9296942

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9296942001	**2A HAWKS**	Water	06/22/11 13:30	06/23/11 16:35

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SAMPLE ANALYTE COUNT

Project: RJRT
Pace Project No.: 9296942

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9296942001	**2A HAWKS**	EPA 200.7	TAP	1	PASI-O
		EPA 200.8	DRS	6	PASI-O
		EPA 300.0	EWS	1	PASI-A

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ANALYTICAL RESULTS

Project: RJRT
Pace Project No.: 9296942

Sample: 2A HAWKS **Lab ID: 9296942001** Collected: 06/22/11 13:30 Received: 06/23/11 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7							
Iron	ND	ug/L	40.0	1	06/28/11 16:00	06/29/11 14:56	7439-89-6	
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Barium	**39.9**	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:55	7440-39-3	
Cadmium	ND	ug/L	0.10	1	06/28/11 16:00	07/01/11 17:55	7440-43-9	
Chromium	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:55	7440-47-3	
Lead	**1.4**	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:55	7439-92-1	
Manganese	**2.5**	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:55	7439-96-5	
Selenium	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:55	7782-49-2	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**5.1**	mg/L	5.0	1		06/29/11 21:33	14808-79-8	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296942

QC Batch: ICP/4994
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 MET
Associated Lab Samples: 9296942001

METHOD BLANK: 218018
Matrix: Water
Associated Lab Samples: 9296942001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	40.0	06/29/11 14:39	

LABORATORY CONTROL SAMPLE: 218019

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	2500	2580	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218020 218021

Parameter	Units	9296942001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2570	2600	102	104	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218022 218023

Parameter	Units	9296937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2610	2600	104	104	70-130	.2	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296942

QC Batch: ICPM/4993
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Associated Lab Samples: 9296942001

METHOD BLANK: 218008
Matrix: Water
Associated Lab Samples: 9296942001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	1.0	07/01/11 17:36	
Cadmium	ug/L	ND	0.10	07/01/11 17:36	
Chromium	ug/L	ND	1.0	07/01/11 17:36	
Lead	ug/L	ND	1.0	07/01/11 17:36	
Manganese	ug/L	ND	1.0	07/01/11 17:36	
Selenium	ug/L	ND	1.0	07/01/11 17:36	

LABORATORY CONTROL SAMPLE: 218009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	50	51.0	102	85-115	
Cadmium	ug/L	5	4.8	97	85-115	
Chromium	ug/L	50	49.9	100	85-115	
Lead	ug/L	50	49.0	98	85-115	
Manganese	ug/L	50	51.1	102	85-115	
Selenium	ug/L	50	52.5	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218010 218011

Parameter	Units	9296936001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	79.7	50	50	134	133	109	106	70-130	1	20	
Cadmium	ug/L	ND	5	5	4.9	5.0	98	99	70-130	1	20	
Chromium	ug/L	1.3	50	50	50.6	51.5	99	100	70-130	2	20	
Lead	ug/L	2.0	50	50	51.0	52.3	98	101	70-130	2	20	
Manganese	ug/L	1.4	50	50	51.3	52.2	100	102	70-130	2	20	
Selenium	ug/L	ND	50	50	51.1	51.7	102	103	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218012 218013

Parameter	Units	9296936002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	82.9	50	50	134	135	102	104	70-130	1	20	
Cadmium	ug/L	ND	5	5	5.0	4.8	99	96	70-130	3	20	
Chromium	ug/L	2.2	50	50	52.2	52.6	100	101	70-130	.7	20	
Lead	ug/L	2.3	50	50	52.1	53.5	100	102	70-130	3	20	
Manganese	ug/L	1.7	50	50	52.5	53.1	102	103	70-130	1	20	
Selenium	ug/L	ND	50	50	51.6	52.1	103	104	70-130	.9	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296942

QC Batch: WETA/10007
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 9296942001

METHOD BLANK: 626997
Matrix: Water
Associated Lab Samples: 9296942001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	06/29/11 21:06	

LABORATORY CONTROL SAMPLE: 626998

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.0	95	90-110	

MATRIX SPIKE SAMPLE: 626999

Parameter	Units	9296942001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5.1	20	25.2	101	90-110	

MATRIX SPIKE SAMPLE: 627001

Parameter	Units	9296943001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	20.4	92	90-110	

SAMPLE DUPLICATE: 627000

Parameter	Units	9296942001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	5.1	5.1	1	20	

SAMPLE DUPLICATE: 627002

Parameter	Units	9296943001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	ND	ND		20	

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QUALIFIERS

Project: RJRT
Pace Project No.: 9296942

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-O	Pace Analytical Services - Ormond Beach

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A — **Required** Client Information:

Company:	ERM NC, Inc
Address:	8000 Corporate Ctr. Dr. Ste. 200
	Charlotte, NC 28226
Email To:	alan.martin@erm.com
Phone: 704-541-8345	Fax:
Requested Due Date/TAT:	Standard

Section B — **Required** Project Information:

Report To:	Alan Martin
Copy To:	
Purchase Order No.:	103137 Ph. 6
Project Name:	RJRT
Project Number:	103137 Ph. 6

Section C — Invoice Information:

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

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☑ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: NC

Section D — **Required** Client Information

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

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/GRAB DATE	COLLECTED Composite End/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): SULFATE - 300.0	IRON - 200	MANGANESE - 200	SELENIUM - 200	BARIUM - 200	CHROMIUM - 200	LEAD - 200	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	2A Hawks	DW	G			6/22/11	1330	21	2	1		1						X	X	X	X	X	X	X		9296942001
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Drinking Water NC Public Health Method

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Matt Horine	6/23/11	1635	Jonathan Cloud Pace	6/23/11	1635	4.2	Y	N	Y

SAMPLER NAME AND SIGNATURE		
PRINT Name of SAMPLER:	Matt Horine	
SIGNATURE of SAMPLER:	Matt Horine	DATE Signed (MM/DD/YY): 6/23/11

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

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

Sample Condition Upon Receipt

Pace Analytical

Client Name: ERM Project # 9296942

Where Received: ☒ Huntersville ☐ Asheville ☐ Eden

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other_____

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

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other_____

Thermometer Used: IR Gun : T1101 **Type of Ice:** (Wet) Blue None ☒ Samples on ice, cooling process has begun

Temp Correction Factor: Add / Subtract 0 °C

Corrected Cooler Temp.: 4/2 C **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: DHW 6/23/2011

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☑No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: Waters				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☑No		Initial when completed
Samples checked for dechlorination:	☑Yes	☐No	☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if purchased):_____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: BMH **Date:** 6/23/11 **SRF Review:** RLS **Date:** 6/24/11

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)

ERM NC, INC.

8000 Corporate Center Dr.
Suite 200
Charlotte, NC 28226
(704) 541-8345
(704) 541-8416 (fax)

October 7, 2011

Jack Guthrie
5340 Seward Circle
Pfafftown, NC 27040

Reference: Notification of Water Supply Well Sample Results
8420 Crestbrook Road
Forsyth County Parcel ID #: 6921-42-6412
Rural Hall, NC

Dear Mr. Guthrie:

On behalf of the R.J. Reynolds Tobacco Company, ERM NC, Inc. (ERM) would like to thank you for your cooperation in allowing us to sample your water supply well on June 22, 2011.

As in the summer of 2009, the water sample obtained from your well was analyzed for the compounds noted in the table below. None of the compounds were detected above the applicable North Carolina Ground Water Quality Standards which are also set forth in the table. The table includes summarized data from the laboratory report, a copy of which is enclosed for your information. The laboratory tests were conducted utilizing methods approved by the North Carolina Department of Environment and Natural Resources (NCDENR).

Owner Address Well Use Laboratory Sample ID	Guthrie 8420 Crestbrook Potable Guthrie	NC Ground Water Standard
Inorganic Laboratory Analyses (µg/L)		
Iron	Not Detected	300
Manganese	1.6	50
Selenium	Not Detected	20
Barium	84.1	700
Cadmium	Not Detected	2.0
Chromium	1.3	10
Lead	1.3	15
Sulfates (mg/L)	Not Detected	250
Field Measurements		
pH (Standard Units)	6.2	6.5-8.5
Conductivity (µS/cm)	165	Not Established
Dissolved Oxygen (mg/l)	5.3	Not Established
Oxidation-Reduction Potential (millivolts)	175	Not Established
Turbidity (NTUs)	Not Detected	Not Established
Temperature (degrees Celsius)	24.2	Not Established

µg/L = Micrograms per Liter (equivalent to parts per billion)
mg/L = Milligrams per Liter (equivalent to parts per million)

Manganese, barium, chromium and lead are naturally present in ground water within the Piedmont Region of North Carolina. The detections of these compounds in the water sample are typical of levels that are naturally present. The pH of the water sample was also within the natural range of pH for ground water in the Piedmont Region. Again, none of these levels were above the applicable North Carolina Ground Water Quality Standards.

These results will be submitted to the NCDENR and Forsyth County Health Department for their records.

If you have any questions, please contact me at 704-541-8345. Thank you for your assistance.

Sincerely,

Alan D. Martin

Alan Martin
Project Manager

Attachment

cc: Jackie Drummond – NCDENR
Brock Turner – Forsyth County Health Department

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July 12, 2011

Mr. Alan Martin
ERM
8000 Corporate Center Drive
Suite 200
Charlotte, NC 28226

RE: Project: RJRT
Pace Project No.: 9296937

Dear Mr. Martin:
Enclosed are the analytical results for sample(s) received by the laboratory on June 23, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Report revised July 12, 2011 to include Cadmium by EPA 200.8.

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

Sincerely,

Kevin Godwin for
Brandon Helton
brandon.helton@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: RJRT
Pace Project No.: 9296937

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Arizona Certification #: AZ0735
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH 0216
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
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Kentucky Certification #: 90050
Louisiana Certification #: LA090012
Louisiana Environmental Certificate #: 05007
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North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
Pennsylvania Certification #: 68-03578
South Carolina Bioassay Certification #: 99030002
South Carolina Certification #: 99030001
Virginia Certification #: 00072
West Virginia Certification #: 356

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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: RJRT
Pace Project No.: 9296937

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9296937001	**9 GUTHRIE**	Water	06/23/11 10:40	06/23/11 16:35

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SAMPLE ANALYTE COUNT

Project: RJRT
Pace Project No.: 9296937

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9296937001	**9 GUTHRIE**	EPA 200.7	TAP	1	PASI-O
		EPA 200.8	DRS	6	PASI-O
		EPA 300.0	EWS	1	PASI-A

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ANALYTICAL RESULTS

Project: RJRT
Pace Project No.: 9296937

Sample: 9 GUTHRIE **Lab ID: 9296937001** Collected: 06/23/11 10:40 Received: 06/23/11 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7							
Iron	ND	ug/L	40.0	1	06/28/11 16:00	06/29/11 15:06	7439-89-6	
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Barium	**84.1**	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:57	7440-39-3	
Cadmium	ND	ug/L	0.10	1	06/28/11 16:00	07/01/11 17:57	7440-43-9	
Chromium	**1.3**	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:57	7440-47-3	
Lead	**1.3**	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:57	7439-92-1	
Manganese	**1.6**	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:57	7439-96-5	
Selenium	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:57	7782-49-2	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	ND	mg/L	5.0	1		06/29/11 19:31	14808-79-8	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296937

QC Batch: ICP/4994
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 MET
Associated Lab Samples: 9296937001

METHOD BLANK: 218018
Matrix: Water
Associated Lab Samples: 9296937001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	40.0	06/29/11 14:39	

LABORATORY CONTROL SAMPLE: 218019

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	2500	2580	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218020 218021

Parameter	Units	9296942001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2570	2600	102	104	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218022 218023

Parameter	Units	9296937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2610	2600	104	104	70-130	.2	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296937

QC Batch: ICPM/4993
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Associated Lab Samples: 9296937001

METHOD BLANK: 218008
Matrix: Water
Associated Lab Samples: 9296937001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	1.0	07/01/11 17:36	
Cadmium	ug/L	ND	0.10	07/01/11 17:36	
Chromium	ug/L	ND	1.0	07/01/11 17:36	
Lead	ug/L	ND	1.0	07/01/11 17:36	
Manganese	ug/L	ND	1.0	07/01/11 17:36	
Selenium	ug/L	ND	1.0	07/01/11 17:36	

LABORATORY CONTROL SAMPLE: 218009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	50	51.0	102	85-115	
Cadmium	ug/L	5	4.8	97	85-115	
Chromium	ug/L	50	49.9	100	85-115	
Lead	ug/L	50	49.0	98	85-115	
Manganese	ug/L	50	51.1	102	85-115	
Selenium	ug/L	50	52.5	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218010 218011

Parameter	Units	9296936001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	79.7	50	50	134	133	109	106	70-130	1	20	
Cadmium	ug/L	ND	5	5	4.9	5.0	98	99	70-130	1	20	
Chromium	ug/L	1.3	50	50	50.6	51.5	99	100	70-130	2	20	
Lead	ug/L	2.0	50	50	51.0	52.3	98	101	70-130	2	20	
Manganese	ug/L	1.4	50	50	51.3	52.2	100	102	70-130	2	20	
Selenium	ug/L	ND	50	50	51.1	51.7	102	103	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218012 218013

Parameter	Units	9296936002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	82.9	50	50	134	135	102	104	70-130	1	20	
Cadmium	ug/L	ND	5	5	5.0	4.8	99	96	70-130	3	20	
Chromium	ug/L	2.2	50	50	52.2	52.6	100	101	70-130	.7	20	
Lead	ug/L	2.3	50	50	52.1	53.5	100	102	70-130	3	20	
Manganese	ug/L	1.7	50	50	52.5	53.1	102	103	70-130	1	20	
Selenium	ug/L	ND	50	50	51.6	52.1	103	104	70-130	.9	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296937

QC Batch: WETA/10006
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 9296937001

METHOD BLANK: 626984
Matrix: Water
Associated Lab Samples: 9296937001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	06/29/11 13:38	

LABORATORY CONTROL SAMPLE: 626985

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.4	97	90-110	

MATRIX SPIKE SAMPLE: 626986

Parameter	Units	9296580001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	21.9	94	90-110	

MATRIX SPIKE SAMPLE: 626988

Parameter	Units	9296580002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	22.8	95	90-110	

SAMPLE DUPLICATE: 626987

Parameter	Units	9296580001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 626989

Parameter	Units	9296580002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	ND	ND		20	

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QUALIFIERS

Project: RJRT
Pace Project No.: 9296937

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-O	Pace Analytical Services - Ormond Beach

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A
Required Client Information:

Company:	ERM NC, Inc
Address:	8000 Corporate Ctr. Dr. Ste. 200
	Charlotte, NC 28226
Email To:	alan.martin@erm.com
Phone: 704-541-8345	Fax:
Requested Due Date/TAT:	Standard

Section B
Required Project Information:

Report To:	Alan Martin
Copy To:	
Purchase Order No.:	103137 Ph. 6
Project Name:	RJRT
Project Number:	103137 Ph. 6

Section C
Invoice Information:

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

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☑ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: NC

Section D
Required Client Information

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

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): SULFATE - 300.0	IRON - 200	MANGANESE - 200	SELENIUM - 200	BARIUM - 200	CHROMIUM - 200	LEAD - 200	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	9 GUTHRIE	DW	G			6/23/11	1040	24	2	1		1						X	X	X	X	X	X	X		9296937001
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Drinking Water/ NC Public Health Method

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Matt Devine	6/23/11	1635	Jamell Ford Pace	6/23/11	1635	4.2	Y	N	Y

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Matt Devine		
SIGNATURE of SAMPLER:	Matt Devine	DATE Signed (MM/DD/YY):	6/23/11

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

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

Sample Condition Upon Receipt

Pace Analytical

Client Name: ERM Project # 9296937

Where Received: ☒ Huntersville ☐ Asheville ☐ Eden

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other_____

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

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other_____

Thermometer Used: IR Gun : T1101 **Type of Ice:** (Wet) Blue None ☒ Samples on ice, cooling process has begun

Temp Correction Factor: Add / Subtract 0 °C

Corrected Cooler Temp.: 4/2 C **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: DHW 6/23/2011

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☑No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: Waters		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed
Samples checked for dechlorination:	☑Yes ☐No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: BMH **Date:** 6/23/11 **SRF Review:** LS **Date:** 6/23/11

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)

ERM NC, INC.

8000 Corporate Center Dr.
Suite 200
Charlotte, NC 28226
(704) 541-8345
(704) 541-8416 (fax)

October 7, 2011

Joshua & Tasha Freeman
8450 Crestbrook Road
Rural Hall, NC 27045

Reference: Notification of Water Supply Well Sample Results
8450 Crestbrook Road
Forsyth County Parcel ID #: 6921-41-8950
Rural Hall, NC

Dear Mr. & Mrs. Freeman:

On behalf of the R.J. Reynolds Tobacco Company, ERM NC, Inc. (ERM) would like to thank you for your cooperation in allowing us to sample your water supply well on June 22, 2011.

As in the summer of 2009, the water sample obtained from your well was analyzed for the compounds noted in the table below. None of the compounds were detected above the applicable North Carolina Ground Water Quality Standards which are also set forth in the table. The table includes summarized data from the laboratory report, a copy of which is enclosed for your information. The laboratory tests were conducted utilizing methods approved by the North Carolina Department of Environment and Natural Resources (NCDENR).

Owner	Freeman	
Address	8450 Crestbrook	NC
Well Use	Potable	Ground Water
Laboratory Sample ID	Freeman	Standard
Inorganic Laboratory Analyses (µg/L)		
Iron	132	300
Manganese	3.6	50
Selenium	Not Detected	20
Barium	49.8	700
Cadmium	Not Detected	2.0
Chromium	1.6	10
Lead	Not Detected	15
Sulfates (mg/L)	Not Detected	250
Field Measurements		
pH (Standard Units)	6.3	6.5-8.5
Conductivity (µS/cm)	119	Not Established
Dissolved Oxygen (mg/l)	5.9	Not Established
Oxidation-Reduction Potential (millivolts)	118	Not Established
Turbidity (NTUs)	1.3	Not Established
Temperature (degrees Celsius)	21.0	Not Established

µg/L = Micrograms per Liter (equivalent to parts per billion)
mg/L = Milligrams per Liter (equivalent to parts per million)

Iron, manganese, barium, and chromium are naturally present in ground water within the Piedmont Region of North Carolina. The detections of these compounds in the water sample are typical of levels that are naturally present. The pH of the water sample was also within the natural range of pH for ground water in the Piedmont Region. Again, none of these levels were above the applicable North Carolina Ground Water Quality Standards.

These results will be submitted to the NCDENR and Forsyth County Health Department for their records.

If you have any questions, please contact me at 704-541-8345. Thank you for your assistance.

Sincerely,

Alan Martin
Project Manager

Attachment

cc: Jackie Drummond – NCDENR
Brock Turner – Forsyth County Health Department

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July 12, 2011

Mr. Alan Martin
ERM
8000 Corporate Center Drive
Suite 200
Charlotte, NC 28226

RE: Project: RJRT
Pace Project No.: 9296944

Dear Mr. Martin:
Enclosed are the analytical results for sample(s) received by the laboratory on June 23, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Report revised July 12, 2011 to include Cadmium by EPA 200.8.

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

Sincerely,

Kevin Godwin for
Brandon Helton
brandon.helton@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: RJRT
Pace Project No.: 9296944

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Arizona Certification #: AZ0735
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH 0216
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: LA090012
Louisiana Environmental Certificate #: 05007
Maine Certification #: FL1264
Massachusetts Certification #: M-FL1264
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Montana Certification #: Cert 0074
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL765
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Pennsylvania Certification #: 68-547
Puerto Rico Certification #: FL01264
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
Virginia Certification #: 00432
Wyoming Certification: FL NELAC Reciprocity

Asheville Certification IDs

2225 Riverside Dr., Asheville, NC 28804
Connecticut Certification #: PH-0106
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
New Jersey Certification #: NC011
North Carolina Bioassay Certification #: 9
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
Pennsylvania Certification #: 68-03578
South Carolina Bioassay Certification #: 99030002
South Carolina Certification #: 99030001
Virginia Certification #: 00072
West Virginia Certification #: 356

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SAMPLE SUMMARY

Project: RJRT
Pace Project No.: 9296944

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9296944001	**10 FREEMAN**	Water	06/22/11 12:30	06/23/11 16:35

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SAMPLE ANALYTE COUNT

Project: RJRT
Pace Project No.: 9296944

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9296944001	**10 FREEMAN**	EPA 200.7	TAP	1	PASI-O
		EPA 200.8	DRS	6	PASI-O
		EPA 300.0	EWS	1	PASI-A

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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: RJRT
Pace Project No.: 9296944

Sample: 10 FREEMAN **Lab ID: 9296944001** Collected: 06/22/11 12:30 Received: 06/23/11 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7							
Iron	**132**	ug/L	40.0	1	06/28/11 16:00	06/29/11 15:40	7439-89-6	
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Barium	**49.8**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:16	7440-39-3	
Cadmium	ND	ug/L	0.10	1	06/28/11 16:00	07/01/11 18:16	7440-43-9	
Chromium	**1.6**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:16	7440-47-3	
Lead	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:16	7439-92-1	
Manganese	**3.6**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:16	7439-96-5	
Selenium	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:16	7782-49-2	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	ND	mg/L	5.0	1		06/29/11 23:08	14808-79-8	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296944

QC Batch: ICP/4994
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 MET
Associated Lab Samples: 9296944001

METHOD BLANK: 218018
Matrix: Water
Associated Lab Samples: 9296944001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	40.0	06/29/11 14:39	

LABORATORY CONTROL SAMPLE: 218019

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	2500	2580	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218020 218021

Parameter	Units	9296942001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2570	2600	102	104	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218022 218023

Parameter	Units	9296937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2610	2600	104	104	70-130	.2	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296944

QC Batch: ICPM/4993
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Associated Lab Samples: 9296944001

METHOD BLANK: 218008
Matrix: Water
Associated Lab Samples: 9296944001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	1.0	07/01/11 17:36	
Cadmium	ug/L	ND	0.10	07/01/11 17:36	
Chromium	ug/L	ND	1.0	07/01/11 17:36	
Lead	ug/L	ND	1.0	07/01/11 17:36	
Manganese	ug/L	ND	1.0	07/01/11 17:36	
Selenium	ug/L	ND	1.0	07/01/11 17:36	

LABORATORY CONTROL SAMPLE: 218009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	50	51.0	102	85-115	
Cadmium	ug/L	5	4.8	97	85-115	
Chromium	ug/L	50	49.9	100	85-115	
Lead	ug/L	50	49.0	98	85-115	
Manganese	ug/L	50	51.1	102	85-115	
Selenium	ug/L	50	52.5	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218010 218011

Parameter	Units	9296936001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	79.7	50	50	134	133	109	106	70-130	1	20	
Cadmium	ug/L	ND	5	5	4.9	5.0	98	99	70-130	1	20	
Chromium	ug/L	1.3	50	50	50.6	51.5	99	100	70-130	2	20	
Lead	ug/L	2.0	50	50	51.0	52.3	98	101	70-130	2	20	
Manganese	ug/L	1.4	50	50	51.3	52.2	100	102	70-130	2	20	
Selenium	ug/L	ND	50	50	51.1	51.7	102	103	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218012 218013

Parameter	Units	9296936002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	82.9	50	50	134	135	102	104	70-130	1	20	
Cadmium	ug/L	ND	5	5	5.0	4.8	99	96	70-130	3	20	
Chromium	ug/L	2.2	50	50	52.2	52.6	100	101	70-130	.7	20	
Lead	ug/L	2.3	50	50	52.1	53.5	100	102	70-130	3	20	
Manganese	ug/L	1.7	50	50	52.5	53.1	102	103	70-130	1	20	
Selenium	ug/L	ND	50	50	51.6	52.1	103	104	70-130	.9	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296944

QC Batch: WETA/10007
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 9296944001

METHOD BLANK: 626997
Matrix: Water
Associated Lab Samples: 9296944001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	06/29/11 21:06	

LABORATORY CONTROL SAMPLE: 626998

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.0	95	90-110	

MATRIX SPIKE SAMPLE: 626999

Parameter	Units	9296942001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5.1	20	25.2	101	90-110	

MATRIX SPIKE SAMPLE: 627001

Parameter	Units	9296943001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	20.4	92	90-110	

SAMPLE DUPLICATE: 627000

Parameter	Units	9296942001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	5.1	5.1	1	20	

SAMPLE DUPLICATE: 627002

Parameter	Units	9296943001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	ND	ND		20	

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QUALIFIERS

Project: RJRT
Pace Project No.: 9296944

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-O	Pace Analytical Services - Ormond Beach

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	ERM NC, Inc	Report To:	Alan Martin	Attention:	
Address:	8000 Corporate Ctr. Dr. Ste. 200	Copy To:		Company Name:	
	Charlotte, NC 28226			Address:	
Email To:	alan.martin@erm.com	Purchase Order No.:	103137 Ph. 6	Pace Quote Reference:	
Phone: 704-541-8345	Fax:	Project Name:	RJRT	Pace Project Manager:	
Requested Due Date/TAT:	Standard	Project Number:	103137 Ph. 6	Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☑ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: NC

Section D Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): SULFATE - 300.0	IRON - 200	MANGANESE - 200	SELENIUM - 200	BARIUM - 200	CHROMIUM - 200	LEAD - 200	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	10 FREEMAN	DW	G			6/22/11	1230	21	2	1		1						X	X	X	X	X	X	X		9296944001
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Drinking Water/ Public Health NC Method

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Matt Haine	6/23/11	1635	Michelle Cloud Pace	6/23/11	1635

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Matt Haine

SIGNATURE of SAMPLER: Matt Haine

DATE Signed (MM/DD/YY): 6/23/11

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

ERM NC, INC.

8000 Corporate Center Dr.
Suite 200
Charlotte, NC 28226
(704) 541-8345
(704) 541-8416 (fax)

October 7, 2011

Freedom Baptist Church – Attn: Jerry Beeson
PO Box 159, 1000 Sixty Five Highway
Rural Hall, NC 27045

Reference: Notification of Water Supply Well Sample Results
1000 Sixty Five Highway
Forsyth County Parcel ID #: 6921-30-2220
Rural Hall, NC

Dear Property Owner:

On behalf of the R.J. Reynolds Tobacco Company, ERM NC, Inc. (ERM) would like to thank you for your cooperation in allowing us to sample your water supply wells on June 22, 2011.

As in the summer of 2009, the water samples obtained from your wells were analyzed for the compounds noted in the table below. None of the compounds were detected above the applicable North Carolina Ground Water Quality Standards which are also set forth in the table. The table includes summarized data from the laboratory report, a copy of which is enclosed for your information. The laboratory tests were conducted utilizing methods approved by the North Carolina Department of Environment and Natural Resources (NCDENR).

Owner	Freedom Baptist Church		
Location	Well House	Yard	NC Ground Water Standard
Well Use	Potable	Potable	
Laboratory Sample ID	Freedom A	Freedom B	
Inorganic Laboratory Analyses (µg/L)			
Iron	Not Detected	Not Detected	300
Manganese	1.4	1.7	50
Selenium	Not Detected	Not Detected	20
Barium	79.7	82.9	700
Cadmium	Not Detected	Not Detected	2.0
Chromium	1.3	2.2	10
Lead	2.0	2.3	15
Sulfates (mg/L)	Not Detected	Not Detected	250
Field Measurements			
pH (Standard Units)	6.12	6.1	6.5-8.5
Conductivity (µS/cm)	142	140	Not Established
Dissolved Oxygen (mg/l)	5.15	5.3	Not Established
Oxidation-Reduction Potential (millivolts)	140	137	Not Established
Turbidity (NTUs)	Not Detected	Not Detected	Not Established
Temperature (degrees Celsius)	22.0	22.0	Not Established

µg/L = Micrograms per Liter (equivalent to parts per billion)
mg/L = Milligrams per Liter (equivalent to parts per million)

Manganese, barium, chromium and lead are naturally present in ground water within the Piedmont Region of North Carolina. The detections of these compounds in the water sample are typical of levels that are naturally present. The pH of the water sample was also within the natural range of pH for ground water in the Piedmont Region. Again, none of these levels were above the applicable North Carolina Ground Water Quality Standards.

These results will be submitted to the NCDENR and Forsyth County Health Department for their records.

If you have any questions, please contact me at 704-541-8345. Thank you for your assistance.

Sincerely,

Alan D. Martin

Alan Martin
Project Manager

Attachment

cc: Jackie Drummond – NCDENR
Brock Turner – Forsyth County Health Department

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July 14, 2011

Mr. Alan Martin
ERM
8000 Corporate Center Drive
Suite 200
Charlotte, NC 28226

RE: Project: RJRT
Pace Project No.: 9296936

Dear Mr. Martin:
Enclosed are the analytical results for sample(s) received by the laboratory on June 22, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Report revised July 14, 2011 to remove arsenic/nickel from sample 3B and report barium/manganese in their place.

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

Sincerely,

Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: RJRT
Pace Project No.: 9296936

Ormond Beach Certification IDs
8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Arizona Certification #: AZ0735
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH 0216
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: LA090012
Louisiana Environmental Certificate #: 05007
Maine Certification #: FL1264
Massachusetts Certification #: M-FL1264
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Montana Certification #: Cert 0074
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL765
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Pennsylvania Certification #: 68-547
Puerto Rico Certification #: FL01264
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
Virginia Certification #: 00432
Wyoming Certification: FL NELAC Reciprocity

Asheville Certification IDs
2225 Riverside Dr., Asheville, NC 28804
Connecticut Certification #: PH-0106
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
New Jersey Certification #: NC011
North Carolina Bioassay Certification #: 9
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
Pennsylvania Certification #: 68-03578
South Carolina Bioassay Certification #: 99030002
South Carolina Certification #: 99030001
Virginia Certification #: 00072
West Virginia Certification #: 356

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SAMPLE SUMMARY

Project: RJRT
Pace Project No.: 9296936

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9296936001	**3A FREEDOM CHURCH**	Water	06/22/11 15:00	06/22/11 16:35
9296936002	**3B FREEDOM CHURCH**	Water	06/22/11 15:35	06/22/11 16:35

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SAMPLE ANALYTE COUNT

Project: RJRT
Pace Project No.: 9296936

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9296936001	**3A FREEDOM CHURCH**	EPA 200.7	TAP	1	PASI-O
		EPA 200.8	DRS	6	PASI-O
		EPA 300.0	EWS	1	PASI-A
9296936002	**3B FREEDOM CHURCH**	EPA 200.7	TAP	1	PASI-O
		EPA 200.8	DRS	6	PASI-O
		EPA 300.0	EWS	1	PASI-A

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ANALYTICAL RESULTS

Project: RJRT
Pace Project No.: 9296936

Sample: 3A FREEDOM CHURCH **Lab ID: 9296936001** Collected: 06/22/11 15:00 Received: 06/22/11 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7							
Iron	ND	ug/L	40.0	1	06/28/11 16:00	06/29/11 14:46	7439-89-6	
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Barium	**79.7**	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:40	7440-39-3	
Cadmium	ND	ug/L	0.10	1	06/28/11 16:00	07/01/11 17:40	7440-43-9	
Chromium	**1.3**	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:40	7440-47-3	
Lead	**2.0**	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:40	7439-92-1	
Manganese	**1.4**	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:40	7439-96-5	
Selenium	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:40	7782-49-2	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	ND	mg/L	5.0	1		06/28/11 06:00	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT
Pace Project No.: 9296936

Sample: 3B FREEDOM CHURCH **Lab ID: 9296936002** Collected: 06/22/11 15:35 Received: 06/22/11 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7							
Iron	ND	ug/L	40.0	1	07/07/11 08:00	07/07/11 17:40	7439-89-6	
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Barium	**82.9**	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:48	7440-39-3	
Cadmium	ND	ug/L	0.10	1	06/28/11 16:00	07/01/11 17:48	7440-43-9	
Chromium	**2.2**	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:48	7440-47-3	
Lead	**2.3**	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:48	7439-92-1	
Manganese	**1.7**	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:48	7439-96-5	
Selenium	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 17:48	7782-49-2	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	ND	mg/L	5.0	1		06/28/11 06:14	14808-79-8	

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Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296936

QC Batch: ICP/4994
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 MET
Associated Lab Samples: 9296936001

METHOD BLANK: 218018
Matrix: Water
Associated Lab Samples: 9296936001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	40.0	06/29/11 14:39	

LABORATORY CONTROL SAMPLE: 218019

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	2500	2580	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218020 218021

Parameter	Units	9296942001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2570	2600	102	104	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218022 218023

Parameter	Units	9296937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2610	2600	104	104	70-130	.2	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296936

QC Batch: ICP/5045
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 MET
Associated Lab Samples: 9296936002

METHOD BLANK: 219987
Matrix: Water
Associated Lab Samples: 9296936002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	40.0	07/07/11 17:33	

LABORATORY CONTROL SAMPLE: 219988

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	2500	2700	108	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 220011 220012

Parameter	Units	3532934002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	0.063 mg/L	2500	2500	2800	2830	109	111	70-130	1	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296936

QC Batch: ICPM/4993 — Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 — Analysis Description: 200.8 MET
Associated Lab Samples: 9296936001, 9296936002

METHOD BLANK: 218008 — Matrix: Water
Associated Lab Samples: 9296936001, 9296936002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	1.0	07/01/11 17:36	
Cadmium	ug/L	ND	0.10	07/01/11 17:36	
Chromium	ug/L	ND	1.0	07/01/11 17:36	
Lead	ug/L	ND	1.0	07/01/11 17:36	
Manganese	ug/L	ND	1.0	07/01/11 17:36	
Selenium	ug/L	ND	1.0	07/01/11 17:36	

LABORATORY CONTROL SAMPLE: 218009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	50	51.0	102	85-115	
Cadmium	ug/L	5	4.8	97	85-115	
Chromium	ug/L	50	49.9	100	85-115	
Lead	ug/L	50	49.0	98	85-115	
Manganese	ug/L	50	51.1	102	85-115	
Selenium	ug/L	50	52.5	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218010 218011

Parameter	Units	9296936001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	79.7	50	50	134	133	109	106	70-130	1	20	
Cadmium	ug/L	ND	5	5	4.9	5.0	98	99	70-130	1	20	
Chromium	ug/L	1.3	50	50	50.6	51.5	99	100	70-130	2	20	
Lead	ug/L	2.0	50	50	51.0	52.3	98	101	70-130	2	20	
Manganese	ug/L	1.4	50	50	51.3	52.2	100	102	70-130	2	20	
Selenium	ug/L	ND	50	50	51.1	51.7	102	103	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218012 218013

Parameter	Units	9296936002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	82.9	50	50	134	135	102	104	70-130	1	20	
Cadmium	ug/L	ND	5	5	5.0	4.8	99	96	70-130	3	20	
Chromium	ug/L	2.2	50	50	52.2	52.6	100	101	70-130	.7	20	
Lead	ug/L	2.3	50	50	52.1	53.5	100	102	70-130	3	20	
Manganese	ug/L	1.7	50	50	52.5	53.1	102	103	70-130	1	20	
Selenium	ug/L	ND	50	50	51.6	52.1	103	104	70-130	.9	20	

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(704)875-9092

QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296936

QC Batch: WETA/9997
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 9296936001, 9296936002

METHOD BLANK: 626567
Matrix: Water
Associated Lab Samples: 9296936001, 9296936002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	06/27/11 23:40	

LABORATORY CONTROL SAMPLE: 626568

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.3	97	90-110	

MATRIX SPIKE SAMPLE: 626569

Parameter	Units	9296565009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	7.3	20	26.5	96	90-110	

MATRIX SPIKE SAMPLE: 626571

Parameter	Units	9296565010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	22.0	94	90-110	

SAMPLE DUPLICATE: 626570

Parameter	Units	9296565009 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	7.3	7.3	0	20	

SAMPLE DUPLICATE: 626572

Parameter	Units	9296565010 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	ND	ND		20	

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QUALIFIERS

Project: RJRT
Pace Project No.: 9296936

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-O	Pace Analytical Services - Ormond Beach

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:

Company:	ERM NC, Inc
Address:	8000 Corporate Ctr. Dr. Ste. 200
	Charlotte, NC 28226
Email To:	alan.martin@erm.com
Phone: 704-541-8345	Fax:
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Alan Martin
Copy To:	
Purchase Order No.:	103137 Ph. 6
Project Name:	RJRT
Project Number:	103137 Ph. 6

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	1940-3

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☑ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NC

Section D Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): SULFATE - 300.0	IRON - 200	MANGANESE - 200	SELENIUM - 200	BARIUM - 200	CHROMIUM - 200	LEAD - 200	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	3A FREEDOM CHURCH	DW	G			6/22/11	1500		2	1		1						X	X	X	X	X	X	X		92969360001
2	3B FREEDOM CHURCH	DW	G			6/22/11	1535		2	1		1						X	X	X	X	X	X	X		↓ 002
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Drinking Water/ NC Public Health Method

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Matt Horine	6/23/11	1635	[signature] Pace	6/23/11	1635	4.2	Y	N	Y

SAMPLER NAME AND SIGNATURE			Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Matt Horine					
SIGNATURE of SAMPLER:	Matt Horine	DATE Signed (MM/DD/YY): 6/23/11				

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

Sample Condition Upon Receipt

Pace Analytical

Client Name: ERM Project # 9796936

Where Received: ☒ Huntersville ☐ Asheville ☐ Eden

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other_____

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

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other_____

Thermometer Used: IR Gun : T1101 **Type of Ice:** (Wet) Blue None ☒ Samples on ice, cooling process has begun

Temp Correction Factor: Add / Subtract 0 °C

Corrected Cooler Temp.: 4/2 C **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: DHW 6/23/2011

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☑No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: Waters		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed
Samples checked for dechlorination:	☑Yes ☐No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: BMH **Date:** 6/23/11 **SRF Review:** RCS **Date:** 6/24/11

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)

ERM NC, Inc.

8000 Corporate Center Dr.
Suite 200
Charlotte, NC 28226
(704) 541-8345
(704) 541-8416 (fax)

October 7, 2011

Reference: Notification of Water Supply Well Sample Results
1160 Sixty Five Highway
Forsyth County Parcel ID #: 6921-40-1108 & 6921-30-9647
Rural Hall, NC

Mr. Don Stewart
1160 Sixty Five Highway
Rural Hall, NC 27045

Dear Mr. Stewart:

On behalf of the R.J. Reynolds Tobacco Company, ERM NC, Inc. (ERM) would like to thank you for your cooperation in allowing us to sample your water supply wells on June 23 and August 2, 2011.

As in the summer of 2009, the water samples obtained from your residential well and livestock well on June 23 were analyzed for the compounds noted in the table below. The table includes the applicable North Carolina Ground Water Standards and summarized data from the laboratory report, a copy of which is enclosed for your information. The laboratory analyses utilized methods approved by the North Carolina Department of Environment and Natural Resources (NCDENR).

Owner	D. Stewart – 1160 Sixty Five Highway		
Sample Date	June 23	June 23	NC
Sample Location	Residence – Front Spigot	Barn – Well Head	Ground Water
Laboratory Sample ID	Residence	Livestock	Standard
Inorganic Laboratory Analyses (µg/L)			
Iron	Not Detected	126	300
Manganese	Not Detected	**226**	50
Selenium	Not Detected	Not Detected	20
Barium	151	34	700
Cadmium	Not Detected	Not Detected	2
Chromium	1.8	Not Detected	10
Lead	2.3	3.0	15
Sulfates (mg/L)	Not Detected	52.8	250
Field Measurements			
pH (Standard Units)	6.0	7.9	6.5 - 8.5
Conductivity (mS/cm)	0.14	0.34	Not Established
Dissolved Oxygen (mg/l)	7.03	0.19	Not Established
Oxidation-Reduction Potential (millivolts)	174	-23	Not Established
Turbidity (NTUs)	<0.1	0.91	Not Established
Temperature (degrees Celsius)	22.3	18.8	Not Established

µg/L = Micrograms per Liter (equivalent to parts per billion)
mg/L = Milligrams per Liter (equivalent to parts per million)

RESIDENTIAL WELL RESULTS

Barium, chromium, and lead are naturally present in groundwater within the Piedmont Region of North Carolina. The detections of these compounds in the water sample from the residential well are below the applicable North Carolina Ground Water Quality Standards and typical of levels that naturally occur. The pH of the water sample was also within the natural range of pH for ground water in the Piedmont Region.

LIVESTOCK WELL RESULTS

Iron, manganese, barium, lead, and sulfates naturally occur in ground water within the Piedmont Region of North Carolina. The levels of iron, barium, lead, and sulfates are below the North Carolina Ground Water Quality Standards (NCGWQS). However, manganese was detected in the June 23 water sample from the livestock well at 226 µg/L which is above the applicable NCGWQS of 50 µg/L.

As agreed upon during our July 29, 2011 telephone discussion of this information, your livestock well water was re-sampled on August 2, 2011. Copies of the laboratory report from the re-sampling are enclosed and the results are summarized below.

Owner	D. Stewart – 1160 Sixty-Five Highway	
Sample Date	August 2	NC
Sample Location	Barn – Well Head	Ground Water
Laboratory Sample ID	Livestock	Standard
Inorganic Laboratory Analyses (µg/L)		
Iron	**310**	300
Manganese	**270**	50
Selenium	Not Detected	20
Barium	33	700
Cadmium	Not Detected	2
Chromium	1.0	10
Lead	5.8	15
Sulfates (mg/L)	60.6	250
Field Measurements		
pH (Standard Units)	8.6	6.5 - 8.5
Conductivity (mS/cm)	0.34	Not Established
Dissolved Oxygen (mg/l)	2.32	Not Established
Oxidation-Reduction Potential (millivolts)	-121	Not Established
Turbidity (NTUs)	7.8	Not Established
Temperature (degrees Celsius)	17.9	Not Established

µg/L = Micrograms per Liter (equivalent to parts per billion)
mg/L = Milligrams per Liter (equivalent to parts per million)

As we discussed on August 26, 2011, the results from this re-sampling indicate that the manganese level is comparable to the manganese results for the sample collected on June 23. Additionally, the iron level in the August 2 sample was found to be higher than the

June 23 sample and exceeded the North Carolina Ground Water Quality Standard of 300 µg/L.

ERM will submit the recent analytical results to the NCDENR and the Forsyth County Health Department for their records. The Forsyth County Health Department can provide information concerning recommendations for water use from the livestock well. Brock Turner, at 336-703-3225, is a contact at the Forsyth County Health Department.

As agreed upon during our August 26 conversation, additional sampling of your livestock well will be conducted to monitor water quality conditions. Sampling of the livestock well will be conducted quarterly for one year at which time the sample frequency will be reevaluated. Sample results will be provided to you, NCDENR and the Forsyth County Health Department following each sample event. The next samples from your livestock well will be collected in October 2011. We will contact you in advance to coordinate the sampling.

If you have any questions, please contact me at 704-541-8345. Thank you for your assistance.

Sincerely,

Alan D. Martin

Alan Martin
Project Manager

Attachment

cc: Jackie Drummond – NCDENR
Brock Turner – Forsyth County Health Department

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July 12, 2011

Mr. Alan Martin
ERM
8000 Corporate Center Drive
Suite 200
Charlotte, NC 28226

RE: Project: RJRT
Pace Project No.: 9296943

Dear Mr. Martin:
Enclosed are the analytical results for sample(s) received by the laboratory on June 23, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Report revised July 12, 2011 to include Cadmium by EPA 200.8.

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

Sincerely,

Kevin Godwin for
Brandon Helton
brandon.helton@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: RJRT
Pace Project No.: 9296943

Ormond Beach Certification IDs
8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Arizona Certification #: AZ0735
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH 0216
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: LA090012
Louisiana Environmental Certificate #: 05007
Maine Certification #: FL1264
Massachusetts Certification #: M-FL1264
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Montana Certification #: Cert 0074
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL765
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Pennsylvania Certification #: 68-547
Puerto Rico Certification #: FL01264
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
Virginia Certification #: 00432
Wyoming Certification: FL NELAC Reciprocity

Asheville Certification IDs
2225 Riverside Dr., Asheville, NC 28804
Connecticut Certification #: PH-0106
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
New Jersey Certification #: NC011
North Carolina Bioassay Certification #: 9
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
Pennsylvania Certification #: 68-03578
South Carolina Bioassay Certification #: 99030002
South Carolina Certification #: 99030001
Virginia Certification #: 00072
West Virginia Certification #: 356

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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: RJRT
Pace Project No.: 9296943

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9296943001	**4A DON STEWART**	Water	06/23/11 13:20	06/23/11 16:35
9296943002	**4B DON STEWART**	Water	06/23/11 14:05	06/23/11 16:35

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SAMPLE ANALYTE COUNT

Project: RJRT
Pace Project No.: 9296943

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9296943001	**4A DON STEWART**	EPA 200.7	TAP	1	PASI-O
		EPA 200.8	DRS	6	PASI-O
		EPA 300.0	EWS	1	PASI-A
9296943002	**4B DON STEWART**	EPA 200.7	TAP	1	PASI-O
		EPA 200.8	DRS	6	PASI-O
		EPA 300.0	EWS	1	PASI-A

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ANALYTICAL RESULTS

Project: RJRT
Pace Project No.: 9296943

Sample: 4A DON STEWART **Lab ID: 9296943001** Collected: 06/23/11 13:20 Received: 06/23/11 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7							
Iron	ND	ug/L	40.0	1	06/28/11 16:00	06/29/11 15:26	7439-89-6	
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Barium	**151**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:11	7440-39-3	
Cadmium	ND	ug/L	0.10	1	06/28/11 16:00	07/01/11 18:11	7440-43-9	
Chromium	**1.8**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:11	7440-47-3	
Lead	**2.3**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:11	7439-92-1	
Manganese	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:11	7439-96-5	
Selenium	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:11	7782-49-2	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	ND	mg/L	5.0	1		06/29/11 22:14	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT
Pace Project No.: 9296943

Sample: 4B DON STEWART **Lab ID: 9296943002** Collected: 06/23/11 14:05 Received: 06/23/11 16:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7							
Iron	**126**	ug/L	40.0	1	06/28/11 16:00	06/29/11 15:36	7439-89-6	
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Barium	**34.2**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:14	7440-39-3	
Cadmium	ND	ug/L	0.10	1	06/28/11 16:00	07/01/11 18:14	7440-43-9	
Chromium	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:14	7440-47-3	
Lead	**3.0**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:14	7439-92-1	
Manganese	**226**	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:14	7439-96-5	
Selenium	ND	ug/L	1.0	1	06/28/11 16:00	07/01/11 18:14	7782-49-2	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**52.8**	mg/L	20.0	4		06/30/11 10:54	14808-79-8	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296943

QC Batch: ICP/4994
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 MET
Associated Lab Samples: 9296943001, 9296943002

METHOD BLANK: 218018
Matrix: Water
Associated Lab Samples: 9296943001, 9296943002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	40.0	06/29/11 14:39	

LABORATORY CONTROL SAMPLE: 218019

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	2500	2580	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218020 218021

Parameter	Units	9296942001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2570	2600	102	104	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218022 218023

Parameter	Units	9296937001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	2500	2500	2610	2600	104	104	70-130	.2	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296943

QC Batch: ICPM/4993 | Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 | Analysis Description: 200.8 MET
Associated Lab Samples: 9296943001, 9296943002

METHOD BLANK: 218008 | Matrix: Water
Associated Lab Samples: 9296943001, 9296943002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	1.0	07/01/11 17:36	
Cadmium	ug/L	ND	0.10	07/01/11 17:36	
Chromium	ug/L	ND	1.0	07/01/11 17:36	
Lead	ug/L	ND	1.0	07/01/11 17:36	
Manganese	ug/L	ND	1.0	07/01/11 17:36	
Selenium	ug/L	ND	1.0	07/01/11 17:36	

LABORATORY CONTROL SAMPLE: 218009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	50	51.0	102	85-115	
Cadmium	ug/L	5	4.8	97	85-115	
Chromium	ug/L	50	49.9	100	85-115	
Lead	ug/L	50	49.0	98	85-115	
Manganese	ug/L	50	51.1	102	85-115	
Selenium	ug/L	50	52.5	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218010 218011

Parameter	Units	9296936001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	79.7	50	50	134	133	109	106	70-130	1	20	
Cadmium	ug/L	ND	5	5	4.9	5.0	98	99	70-130	1	20	
Chromium	ug/L	1.3	50	50	50.6	51.5	99	100	70-130	2	20	
Lead	ug/L	2.0	50	50	51.0	52.3	98	101	70-130	2	20	
Manganese	ug/L	1.4	50	50	51.3	52.2	100	102	70-130	2	20	
Selenium	ug/L	ND	50	50	51.1	51.7	102	103	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218012 218013

Parameter	Units	9296936002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	82.9	50	50	134	135	102	104	70-130	1	20	
Cadmium	ug/L	ND	5	5	5.0	4.8	99	96	70-130	3	20	
Chromium	ug/L	2.2	50	50	52.2	52.6	100	101	70-130	.7	20	
Lead	ug/L	2.3	50	50	52.1	53.5	100	102	70-130	3	20	
Manganese	ug/L	1.7	50	50	52.5	53.1	102	103	70-130	1	20	
Selenium	ug/L	ND	50	50	51.6	52.1	103	104	70-130	.9	20	

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QUALITY CONTROL DATA

Project: RJRT
Pace Project No.: 9296943

QC Batch: WETA/10007
Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 9296943001, 9296943002

METHOD BLANK: 626997
Matrix: Water
Associated Lab Samples: 9296943001, 9296943002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	06/29/11 21:06	

LABORATORY CONTROL SAMPLE: 626998

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.0	95	90-110	

MATRIX SPIKE SAMPLE: 626999

Parameter	Units	9296942001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	5.1	20	25.2	101	90-110	

MATRIX SPIKE SAMPLE: 627001

Parameter	Units	9296943001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	20.4	92	90-110	

SAMPLE DUPLICATE: 627000

Parameter	Units	9296942001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	5.1	5.1	1	20	

SAMPLE DUPLICATE: 627002

Parameter	Units	9296943001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	ND	ND		20	

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QUALIFIERS

Project: RJRT
Pace Project No.: 9296943

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-O	Pace Analytical Services - Ormond Beach

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A — **Required** Client Information:

Company:	ERM NC, Inc
Address:	8000 Corporate Ctr. Dr. Ste. 200
	Charlotte, NC 28226
Email To:	alan.martin@erm.com
Phone: 704-541-8345	Fax:
Requested Due Date/TAT:	Standard

Section B — **Required** Project Information:

Report To:	Alan Martin
Copy To:	
Purchase Order No.:	103137 Ph. 6
Project Name:	RJRT
Project Number:	103137 Ph. 6

Section C — Invoice Information:

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

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☑ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: NC

Section D — **Required** Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): SULFATE - 300.0	IRON - 200	MANGANESE - 200	SELENIUM - 200	BARIUM - 200	CHROMIUM - 200	LEAD - 200	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	4A DON STEWART	DW	G			6/23/11	1320	22	2	1		1						X	X	X	X	X	X	X		92969430 01
2	4B DON STEWART	DW	G			6/23/11	1405	18	2	1		1						X	X	X	X	X	X	X		↓ 002
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Drinking Water/ NC Public Health Method

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Matt Horine	6/23/11	1635	Kimell Cloud Pace	6/23/11	1635	4.2	Y	n	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Matt Horine

SIGNATURE of SAMPLER: Matt Horine

DATE Signed (MM/DD/YY): 6/23/11

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

Sample Condition Upon Receipt

Pace Analytical

Client Name: ERM Project # 9296943

Where Received: ☒ Huntersville ☐ Asheville ☐ Eden

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Commercial ☐ Pace Other_____

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

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other_____

Thermometer Used: IR Gun : T1101 **Type of Ice:** (Wet) Blue None ☒ Samples on ice, cooling process has begun

Temp Correction Factor: Add / Subtract 0 °C

Corrected Cooler Temp.: 4/2 C **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: DHW 6/23/2011

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☑No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: Waters		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☑No	Initial when completed
Samples checked for dechlorination:	☑Yes ☐No ☐N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: BMH **Date:** 6/23/11 **SRF Review:** JL **Date:** 6/24/11

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)

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August 11, 2011

Mr. Alan Martin
ERM
8000 Corporate Center Drive
Suite 200
Charlotte, NC 28226

RE: Project: RJRT 103137 PH 6
Pace Project No.: 9299651

Dear Mr. Martin:
Enclosed are the analytical results for sample(s) received by the laboratory on August 03, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

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

Sincerely,

Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: RJRT 103137 PH 6
Pace Project No.: 9299651

Ormond Beach Certification IDs
8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Arizona Certification #: AZ0735
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH 0216
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: LA090012
Louisiana Environmental Certificate #: 05007
Maine Certification #: FL1264
Massachusetts Certification #: M-FL1264
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Montana Certification #: Cert 0074
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL765
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Pennsylvania Certification #: 68-547
Puerto Rico Certification #: FL01264
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
Virginia Certification #: 00432
Wyoming Certification: FL NELAC Reciprocity

Asheville Certification IDs
2225 Riverside Dr., Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Bioassay Certification #: 9
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia Certification #: 00072
West Virginia Certification #: 356
Virgina/VELAP Certification #: 460147

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SAMPLE SUMMARY

Project: RJRT 103137 PH 6
Pace Project No.: 9299651

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9299651001	**4B-DAN STEWART**	Water	08/02/11 16:15	08/03/11 15:55

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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: RJRT 103137 PH 6
Pace Project No.: 9299651

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9299651001	**4B-DAN STEWART**	EPA 200.7	TAP	1	PASI-O
		EPA 200.8	DRS	6	PASI-O
		EPA 300.0	SAJ	1	PASI-A

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ANALYTICAL RESULTS

Project: RJRT 103137 PH 6
Pace Project No.: 9299651

Sample: 4B-DAN STEWART **Lab ID: 9299651001** Collected: 08/02/11 16:15 Received: 08/03/11 15:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7							
Iron	**0.31**	mg/L	0.040	1	08/05/11 12:20	08/10/11 15:47	7439-89-6	
200.8 MET ICPMS	Analytical Method: EPA 200.8							
Barium	**0.033**	mg/L	0.0010	1	08/05/11 12:20	08/09/11 11:13	7440-39-3	
Cadmium	ND	ug/L	0.10	1	08/05/11 12:20	08/09/11 11:13	7440-43-9	
Chromium	**0.0010**	mg/L	0.0010	1	08/05/11 12:20	08/09/11 11:13	7440-47-3	
Lead	**0.0058**	mg/L	0.0010	1	08/05/11 12:20	08/09/11 11:13	7439-92-1	
Manganese	**0.27**	mg/L	0.0010	1	08/05/11 12:20	08/09/11 11:13	7439-96-5	
Selenium	ND	mg/L	0.0010	1	08/05/11 12:20	08/09/11 11:13	7782-49-2	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**60.6**	mg/L	20.0	4		08/08/11 17:08	14808-79-8	

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QUALITY CONTROL DATA

Project: RJRT 103137 PH 6
Pace Project No.: 9299651

QC Batch: ICP/5326
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 MET
Associated Lab Samples: 9299651001

METHOD BLANK: 233060
Matrix: Water
Associated Lab Samples: 9299651001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	mg/L	ND	0.040	08/10/11 15:37	

LABORATORY CONTROL SAMPLE: 233061

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	mg/L	2.5	2.5	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 233062 233063

Parameter	Units	3534784001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	mg/L	0.020U	2.5	2.5	2.6	2.6	106	105	70-130	.4	20	

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QUALITY CONTROL DATA

Project: RJRT 103137 PH 6
Pace Project No.: 9299651

QC Batch: ICPM/5325
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Associated Lab Samples: 9299651001

METHOD BLANK: 233056
Matrix: Water
Associated Lab Samples: 9299651001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	mg/L	ND	0.0010	08/09/11 10:55	
Cadmium	ug/L	ND	0.10	08/09/11 10:55	
Chromium	mg/L	ND	0.0010	08/09/11 10:55	
Lead	mg/L	ND	0.0010	08/09/11 10:55	
Manganese	mg/L	ND	0.0010	08/09/11 10:55	
Selenium	mg/L	ND	0.0010	08/09/11 10:55	

LABORATORY CONTROL SAMPLE: 233057

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	mg/L	.05	0.049	98	85-115	
Cadmium	ug/L	5	5.0	101	85-115	
Chromium	mg/L	.05	0.050	99	85-115	
Lead	mg/L	.05	0.049	99	85-115	
Manganese	mg/L	.05	0.050	99	85-115	
Selenium	mg/L	.05	0.054	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 233058 233059

Parameter	Units	3534784001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	12.0	.05	.05	0.061	0.062	98	100	70-130	1	20	
Cadmium	ug/L	0.050U	5	5	4.5	5.1	89	101	70-130	13	20	
Chromium	mg/L	0.50U	.05	.05	0.049	0.050	98	100	70-130	2	20	
Lead	mg/L	0.00050 U	.05	.05	0.050	0.051	100	102	70-130	2	20	
Manganese	mg/L	0.69U	.05	.05	0.048	0.049	96	99	70-130	2	20	
Selenium	mg/L	0.00050 U	.05	.05	0.048	0.049	96	98	70-130	3	20	

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QUALITY CONTROL DATA

Project: RJRT 103137 PH 6
Pace Project No.: 9299651

QC Batch: WETA/10276
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 9299651001

METHOD BLANK: 643492
Matrix: Water
Associated Lab Samples: 9299651001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	08/08/11 16:09	

LABORATORY CONTROL SAMPLE: 643493

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.2	96	90-110	

MATRIX SPIKE SAMPLE: 643494

Parameter	Units	9299651001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	60.6	20	92.1	157	90-110	M1

MATRIX SPIKE SAMPLE: 643496

Parameter	Units	9299494030 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	13.5	20	33.6	100	90-110	

SAMPLE DUPLICATE: 643495

Parameter	Units	9299651001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	60.6	60.7	0	20	

SAMPLE DUPLICATE: 643497

Parameter	Units	9299494030 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	13.5	13.7	2	20	

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QUALIFIERS

Project: RJRT 103137 PH 6
Pace Project No.: 9299651

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

1510714

Section A Required Client Information:

Company: ERM NC, Inc
Address: 8000 Corp Ctr Dr. Ste #200 Charlotte, NC 28226
Email To: alan.martin@erm.com
Phone: 704-541-8245 Fax:
Requested Due Date/TAT: 2 day

Section B Required Project Information:

Report To: Alan Martin
Copy To:
Purchase Order No.: 103137 ph 6
Project Name: RJRT
Project Number: 103137 ph 6

Section C Invoice Information:

Attention:
Company Name: SAME
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #: 1940-3

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☒ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NC

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): Sulfate	Iron	Manganese	Selenium	Barium	Chromium	Lead	Cadmium	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	4B- Don Stewart	DW	G			8/2/11	1615		2	1		1						X	X	X	X	X	X	X	X		92996051
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Drinking Water NC Public Health Method

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Alan informed 5 day	Matt Horine	8/3/11	0630	S Moody - Pace	8-3-11	13:15
TAT ok. KG 8/3/11	S Moody	8-3-11	15:55	Jmoore Pace	8/3/11	1555

SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
3.6	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Matt Horine
SIGNATURE of SAMPLER: Matt Horine DATE Signed (MM/DD/YY): 8/3/11

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

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

Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: July 29, 2011 Page 1 of 2
	Document Number: **F-CHR-CS-03-rev.05**	Issuing Authority: Pace Huntersville Quality Office

Client Name: Erm Project # 9299657

Where Received: ☑ Huntersville ☐ Asheville ☐ Eden

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other_____

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

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ None ☐ Other_____

Thermometer Used: IR Gun T1102 **Type of Ice:** Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor Add / Subtract _____ °C

Corrected Cooler Temp.: 3.0 °C **Biological Tissue is Frozen:** Yes No N/A

Date and Initials of person examining contents: Erm BB

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: JJ **Date:** 8/3/11 **SRF Review:** RS **Date:** 8/3/11

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)