



Microbac Laboratories, Inc., Sayre Division

CERTIFICATE OF ANALYSIS

S6F0083

Wellsville Water Treatment Plant

Project Name: Radiologicals

Dana Harris
111 W. State Street
Wellsville, NY 14895

Project / PO Number: N/A
Received: 06/15/2016 17:05
Reported: 07/11/2016 08:21

Narrative

All sample results for this work order are attached to the end of this report as they were subcontracted.

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 6.4°C

Cooler Inspection Checklist

Table with 4 columns: Item, Yes, Item, Yes. Rows include Custody Seals Intact and/or No Evidence of Tampering, COC/Labels Agree, Received on Ice (or not required), Containers Intact, and Preservation Correct (or not required).

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

Reviewed and Approved By:

Handwritten signature of Charlene McSparron

Charlene McSparron
Project Manager
07/11/2016 08:21

Go Green: Contact Charlene McSparron to set up email reporting and invoicing options.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. For any feedback concerning our services, please contact Charlene McSparron, Project Manager at Charlene.McSparron@microbac.com. You may also contact Michael Fifield, Managing Director at michael.fifield@microbac.com or Robert Crookston, President at robert.crookston@microbac.com.



**Microbac Laboratories, Inc., Sayre Division**  
**Chain of Custody**  
**S6F0083**

Client: **Wellsville Water Treatment Plant**  
 Project: **Radiologicals**  
 Project Number: **Radiologicals**

Field Route ID: **SAY-Coudersport II**  
 Tentatively Scheduled: **6/8/2016**

**Report To:**  
 Dana Harris  
 111 W. State Street  
 Wellsville, NY 14895  
 Phone: (585) 593-3333

**Invoice To:**  
 Dana Harris  
 111 W. State Street  
 Wellsville, NY 14895  
 Phone: (585) 593-3333

**TAT 15 days**

**Sample ID:** \_\_\_\_\_

**Lab Sample ID:** **S6F0083-01**  
**Matrix:** Drinking Water  
**Type:** Grab

**Sampled Date & Time:** 06-15-16 0900

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**PWSID:** \_\_\_\_\_ **Point Type:** \_\_\_\_\_ **Compliance Start:** \_\_\_\_\_  
**Sampling Point:** entry **Frequency:** \_\_\_\_\_ **Compliance End:** \_\_\_\_\_  
**Point No:** \_\_\_\_\_ **Num/Frequency:** \_\_\_\_\_ **Sample Location:** entry

Analysis	Method	Container	Hold
200.8 U PCI Group	varies		180
200.8 U	EPA 200.8, Rv 5.4		180
200.8 U PCI	EPA 200.8, Rv 5.4		180
Gross Alpha Beta	EPA 900.0		183
Radium 226 903.0	EPA 903.0		183
Radium 228 904.0	EPA 904.0		183

P-1L Plastic Oblong WM, HNO3

Total Containers: 4

Sampled by: <u>Dana L Harris</u>	Date/Time: <u>06-15-16 0900</u>	Received by:
Printed Name: <u>DANA L HARRIS</u>		Printed Name:
Relinquished by: <u>Dana L Harris</u>	Date/Time: <u>06-15-16 1100</u>	Received by: <u>Joseph Palanza</u>
Printed Name: <u>DANA L HARRIS</u>		Printed Name: <u>JOSEPH PALANZA</u>
Relinquished by: <u>Joseph Palanza</u>	Date/Time: <u>6/15/16 1205</u>	Received by: <u>Michael Field</u>
Printed Name: <u>JOSEPH PALANZA</u>		Printed Name: <u>Michael Field</u>

As Recieved at Laboratory: On Ice?  Yes/ No Temp 6.4 °C Total Bottles 4

Notes:  
 Added via Sampling Kits by TJC 05/25/2016 10:11

July 06, 2016

Charlene McSparron  
Microbac Laboratories, Inc.  
2566 Pennsylvania Ave.  
Sayre, PA 18840

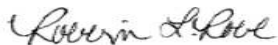
RE: Project: S6F0083  
Pace Project No.: 30187214

Dear Charlene McSparron:

Enclosed are the analytical results for sample(s) received by the laboratory on June 21, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Robbin Robl  
robbin.robl@pacelabs.com  
Project Manager

Enclosures

cc: Microbac Sayre, Microbac Laboratories, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: S6F0083

Pace Project No.: 30187214

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: S6F0083  
Pace Project No.: 30187214

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30187214001	S6F0083-01	Drinking Water	06/08/16 09:00	06/21/16 10:10

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### SAMPLE ANALYTE COUNT

Project: S6F0083  
Pace Project No.: 30187214

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30187214001	S6F0083-01	EPA 900.0	NEG	2	PASI-PA
		EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	JLW	1	PASI-PA
		ASTM D5174-97	RMK	1	PASI-PA

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## PROJECT NARRATIVE

Project: S6F0083  
Pace Project No.: 30187214

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**Method:** EPA 900.0  
**Description:** 900.0 Gross Alpha/Beta  
**Client:** Microbac Laboratories, Inc.-Sayre  
**Date:** July 06, 2016

**General Information:**

1 sample was analyzed for EPA 900.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: S6F0083  
Pace Project No.: 30187214

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**Method:** EPA 903.1  
**Description:** 903.1 Radium 226  
**Client:** Microbac Laboratories, Inc.-Sayre  
**Date:** July 06, 2016

**General Information:**

1 sample was analyzed for EPA 903.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: S6F0083  
Pace Project No.: 30187214

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**Method:** EPA 904.0  
**Description:** 904.0 Radium 228  
**Client:** Microbac Laboratories, Inc.-Sayre  
**Date:** July 06, 2016

**General Information:**

1 sample was analyzed for EPA 904.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: S6F0083  
Pace Project No.: 30187214

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**Method:** ASTM D5174-97  
**Description:** D517497 Total Uranium KPA  
**Client:** Microbac Laboratories, Inc.-Sayre  
**Date:** July 06, 2016

**General Information:**

1 sample was analyzed for ASTM D5174-97. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: S6F0083

Pace Project No.: 30187214

**Sample: S6F0083-01**      **Lab ID: 30187214001**      Collected: 06/08/16 09:00      Received: 06/21/16 10:10      Matrix: Drinking Water  
PWS:      Site ID:      Sample Type:

Comments: • The sampler's name and signature were not listed on the COC.  
• The preservative type is not listed on the COC.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	<b>-0.128 ± 0.555 (1.62)</b> C:NA T:NA	pCi/L	06/27/16 08:08	12587-46-1	
Gross Beta	EPA 900.0	<b>0.577 ± 0.862 (1.90)</b> C:NA T:NA	pCi/L	06/27/16 08:08	12587-47-2	
Radium-226	EPA 903.1	<b>0.000 ± 0.227 (0.539)</b> C:NA T:92%	pCi/L	07/06/16 12:35	13982-63-3	
Radium-228	EPA 904.0	<b>1.59 ± 0.510 (0.890)</b> C:79% T:80%	pCi/L	07/05/16 19:47	15262-20-1	
Total Uranium	ASTM D5174-97	<b>0.057 ± 0.002 (0.193)</b> C:NA T:NA	ug/L	07/05/16 15:37	7440-61-1	

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: S6F0083

Pace Project No.: 30187214

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QC Batch:	RADC/30031	Analysis Method:	ASTM D5174-97
QC Batch Method:	ASTM D5174-97	Analysis Description:	D5174.97 Total Uranium KPA
Associated Lab Samples:	30187214001		

---

METHOD BLANK:	1096887	Matrix:	Water
Associated Lab Samples:	30187214001		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Total Uranium	0.035 ± 0.001 (0.193) C:NA T:NA	ug/L	06/29/16 16:46	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: S6F0083  
Pace Project No.: 30187214

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QC Batch:	RADC/30059	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228
Associated Lab Samples:	30187214001		

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METHOD BLANK:	1096916	Matrix:	Water
Associated Lab Samples:	30187214001		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.272 ± 0.387 (0.831) C:79% T:77%	pCi/L	07/05/16 19:45	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: S6F0083

Pace Project No.: 30187214

QC Batch: RADC/30037

Analysis Method: EPA 903.1

QC Batch Method: EPA 903.1

Analysis Description: 903.1 Radium-226

Associated Lab Samples: 30187214001

METHOD BLANK: 1096893

Matrix: Water

Associated Lab Samples: 30187214001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.162 ± 0.382 (0.708) C:NA T:101%	pCi/L	07/06/16 12:12	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: S6F0083  
Pace Project No.: 30187214

### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

### LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

## REPORT OF LABORATORY ANALYSIS

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**SENDING LABORATORY:**

Microbac Laboratories, Inc., Sayre Division  
2566 Pennsylvania Ave  
Sayre, PA 18840  
Phone: 570-888-0169  
Project Manager: Charlene McSparron

**RECEIVING LABORATORY:**

Pace Analytical - Pittsburgh  
1638 Roseytown Road, Suites 2,3,4  
Greensburg, PA 15601  
Phone: (724) 850-5600

**Project Info:**

Project Type: Env-NY-Drinking Water      Report TAT: 15  
Project Location: New York                      Due: 07/08/2016 17:00

**Sample ID: S6F0083-01**

**Matrix: Drinking Water**

**Sampled: 06/08/2016 00:00**

PWSID:  
Point:  
Point No:

Sample Description:  
Type:  
Frequency:

Analysis	Method	Analysis Due	Expires
200.8 U Uranium	EPA 200.8, Rv 5.4 0.5 ug/L	06/27/2016 16:00	12/05/2016 00:00
200.8 U PCI Uranium (Activity, Calc)	EPA 200.8, Rv 5.4 0.067 pCi/L	06/27/2016 16:00	12/05/2016 00:00
Gross Alpha Beta Gross alpha	EPA 900.0 pCi/L      Gross beta	06/23/2016 16:00	12/08/2016 00:00
Radium 226 903.0 Radium-226	EPA 903.0 pCi/L      Carrier Recovery(Surr)	07/07/2016 16:00	12/08/2016 00:00
Radium 228 904.0 Radium-228 Carrier Recovery(Surr)	EPA 904.0 pCi/L      Barium Carrier Recovery(Surr) Yttrium Carrier Recovery(Surr)	07/07/2016 16:00	12/08/2016 00:00

001

Released By: *Doree Laf*      Date: *6/20/16 1230*      Received By: *Whiting Rose/Pace*      Date: *6-21-16/1010*

# Sample Condition Upon Receipt Pittsburgh

30187214



Client Name: MicroBac

Project # \_\_\_\_\_

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace Other \_\_\_\_\_

Tracking #: 1Z A48 10A 9395 2003

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

Thermometer Used N/A Type of Ice: Wet Blue None

Cooler Temperature Observed Temp \_\_\_\_\_ °C Correction Factor: \_\_\_\_\_ °C Final Temp: \_\_\_\_\_ °C  
Temp should be above freezing to 6°C

Date and initials of person examining contents: DCM 6-21-16

Comments:	Yes	No	N/A	
Chain of Custody Present:	X			1.
Chain of Custody Filled Out:	X			2.
Chain of Custody Relinquished:	X			3.
Sampler Name & Signature on COC:		X		4.
Sample Labels match COC:		X		5. Time on samples is 0900
-Includes date/time/ID/Analysis Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used:		X		
Containers Intact:	X			11.
Filtered volume received for Dissolved tests			X	12.
All containers needing preservation have been checked.	X			13. PHL2
All containers needing preservation are found to be in compliance with EPA recommendation.	X			
exceptions: VOA, coliform, TOC, O&G, Phenolics				Initial when completed <u>DCM</u> Date/time of preservation _____
				Lot # of added preservative _____
Headspace in VOA Vials (>6mm):			X	14.
Trip Blank Present:		X		15.
Trip Blank Custody Seals Present			X	

**Client Notification/ Resolution:**

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted By: \_\_\_\_\_

Comments/ Resolution: \_\_\_\_\_

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)