Banon Joguidice, P.C.

Celebrating over 50 years of service

January 21, 2013

RECEIVED

Engineers • Environmental Scientists • Planners • Landscape Architects

Mrs. Carla M. Jordan Casella Waste Services of Ontario, LLC Ontario County Landfill 1879 State Routes 5 & 20 Stanley, New York 14561

Division of Materials Management NYSCE: Region 8 Avor.

Re: Chemung County Landfill June 2012 Radionuclide Monitoring Event

File: 574.129.001

Dear Mrs. Jordan:

This letter report summarizes our June 2012 Radionuclide Monitoring event, which was conducted in accordance with the Site EMP Appendix F – Additional Considerations for Radionuclide Sampling. Included as attachments to this letter are the following supporting documents:

- Attachment A Pace Analytical Services, Inc. Report (3080294 & 3074978)
- Table 1 Chemung County Landfill Radionuclide Leachate Data Results
- Table 2 Chemung County Landfill Radionuclide Sediment Data Results

Barton & Loguidice, P.C. (B&L) conducted the required sampling on June 29, 2012. Samples of both filtered and non-filtered media were collected from the Cell IV primary leachate collection system and also a sediment sample was collected from the Leachate Lagoon. The samples were submitted to Pace Analytical Services, Inc. (Pace) located in Greensburg, Pennsylvania for the following analysis in accordance with the EMP:

- Radium-226 per EPA 903.1
- Radium-228 per EPA 904.0
- Total Uranium per EPA 908.0
- Gamma Spectrum per EPA 901.1

In addition to the methods required above, DEC requested additional Radium 226 and Radium 228 analysis by a separate method based on potential method limitations as Method 903.1 and 904.0 are intended for aqueous sample media. The separate methods yielded similar results and we recommend that future sediment samples be analyzed by the methods required in the EMP.

ZABL-Vault/UD/0325000-325999/325562UALAFinal Jone 2012 report (H) 3255620574.129.001 June 2012 Radiouuclide Monitoring Report.docx

29(r) Iwood Davis Road • Box 3107 • Syracuse, New Yorf, 13229 Telephone, M5-455-5200 • Lacsimile, 318-454-0050 • www.Battonandr.opinacescent Telephone, 318-454-540 • Wattonandr.opinacescent Wattonandr.opinacescent Telephone, 318-454-540 • Wattonandr.opinacescent Wattonandr.opinacescent Wattonandr.opinacescent Wattonandr.opinacescent Wattonandr.opinacescent Wattonandr.opinacescent Wattonandr.opinacescent Wattonandr.op

Mrs. Carla M. Jordan Casella Waste Services of Ontario, LLC January 21, 2013 Page 2

Included in Attachment A are the Pace analytical reports. Pace produced two separate reports: one report (3074978) includes the results of the Cell IV primary leachate and the other report (3080294) includes the results of the leachate lagoon sediment.

Included in the attached Table 1 are the results for each leachate monitoring location compared to relevant Nuclear Regulatory Commission (NRC) and DEC effluent and sewer discharge standards. Also included in Table 1 are historical data from the May 2010 sampling event for both the Cell I/II/III and Cell IV primary leachate monitoring locations. Although some of the methods utilized in the May 2010 event do not directly compare with the current requirement set forth by the EMP, this data is considered useful as a historical reference.

Isotopic uranium and isotopic thorium, which are only required to be conducted if special investigation is warranted, were completed during this monitoring event to allow comparison to the May 2010 event and to obtain a baseline dataset for the leachate lagoon sediment location.

The results indicate that radionuclide concentrations for the Cell IV primary leachate have remained generally consistent with historical data. More importantly, the results remain far below applicable effluent and sewer discharge criteria established by the federal Nuclear Regulatory Commission (NRC) and/or NYSDEC. As we conduct further radionuclide monitoring and gain more analytical data from the required monitoring network, we will be better able to assess the data for potential changes/trends over time.

Also included in the attached Table 2 are the results for the leachate lagoon sediment sample. This marks the initial event this location has been sampled. Without any historical data there is no data for comparison purposes.

Please contact me if you have any questions regarding this letter summary report.

Very truly yours,

BARTON & LOGUIDICE, P.C.

Michael R. Brother

Michael R. Brother Senior Managing Hydrogeologist

MRB/akg Attachments cc: Mark Domagala, NYSDEC

Z:\BL-Vail\ID\0\325000 \325999\325562\.M\AFinalJune 2012 report (ID 325562\\574.129.00) June 2012 Radionuclide Monitoring Report.docs

Attachment A

Pace Analytical Services, Inc.



January 08, 2013

Mr. Brian J. McGrath Barton & Loguidice 11 Centre Park, Suite 203 Rochester, NY 14614

RE: Project: Chemung County LF Rad Sample Pace Project No.: 3074978

Dear Mr. McGrath:

Enclosed are the analytical results for sample(s) received by the laboratory on August 08, 2012. 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.

Report reissued 1/9/13 at request of client to revise the Gamma Spec list to delete analytes.

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

Sincerely,

Sa gudgladin

Jacquelyn Collins

jacquelyn.collins@pacelabs.com Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project:

Chemung County LF Rad Sample Pace Project No.: 3074978

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601 ACLASS DOD-ELAP Accreditation #: ADE-1544 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California/TNI Certification #: 04222CA Colorado Certification Connecticut Certification #: PH-0694 Delaware Certification Florida/TNI Certification #: E87683 Guam/PADEP Certification Hawall/PADEP Certification Idawa/IADEP Certification Illinois/PADEP Certification Indiana/PADEP Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: 90133 Louislana/TNI Certification #: LA080002 Louisiana/TNI Certification #: 4086 Maine Certification #: PA0091 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification Missouri Certification #: 235 Montana Certification #: Cert 0082 Nevada Certification New Hampshire/TNI Certification #: 2976 New Jersey/TNI Certification #: PA 051 New Mexico Certification New York/TNI Certification #: 10888 North Carolina Certification #: 42706 Oregon/TNI Certification #: PA200002 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 South Dakota Certification #: TN2867 Texas/TNI Certification #: T104704188 Utah/TNI Certification #: ANTE Virgin Island/PADEP Certification Virginia Certification #: 00112 Virginia/VELAP Certification #: 460198 Washington Certification #: C868 West Virginia Certification #: 143 Wisconsin/PADEP Certification Museria Certification Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Chemung County LF Rad Sample Pace Project No.: 3074978

Lab ID	Sample ID	Matrix	Date Collected	Date Received
3074978001	Chemung LFCell IV Leach Total	Water		08/08/12 09:30
3074978002	Chemung LFCell IV Leach Dissol	Water	06/29/12 12:15	08/08/12 09:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project:Chemung County LF Rad SamplePace Project No.:3074978

Lab ID	Sample ID	Method	Analysts	Analytes Reported
3074978001	Chemung LFCell IV Leach Total	EPA 901,1m	 АЕН	2
		EPA 903.1	SLA	1
		EPA 904.0	MAW	1
	,	EPA 908.0	LAL	1
		HSL-300m	MBT	6
3074978002	Chemung LFCell IV Leach Dissol.	EPA 901.1m	AEH	2
		EPA 903.1	SLA	· 1
		EPA 904.0	MAW	1
		EPA 908.0	LAL	1
,		HSL-300m	MBT	6

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Chemung County LF Rad Sample

Pace Project No.: 3074978

Method:EPA 901.1mDescription:901.1 Gamma SpecClient:Barton & LoguidleeDate:January 08, 2013

General Information:

2 samples were analyzed for EPA 901.1m. All samples were received in acceptable condition with any exceptions noted below.

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 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: Chemung County LF Rad Sample

Pace Project No.: 3074978

Method:EPA 903.1Description:903.1 Radium 226Client:Barton & LoguidiceDate:January 08, 2013

General Information:

2 samples were analyzed for EPA 903.1. All samples were received in acceptable condition with any exceptions noted below.

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 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

Page 6 of 16

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PROJECT NARRATIVE

Project: Chemung County LF Rad Sample

Pace Project No.: 3074978

Method: EPA 904.0

Description:904.0 Radium 228Client:Barton & LoguidiceDate:January 08, 2013

General Information:

2 samples were analyzed for EPA 904.0. All samples were received in acceptable condition with any exceptions noted below.

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 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: Chemung County LF Rad Sample

Pace Project No.: 3074978

Method:EPA 908.0Description:908.0 Total UraniumClient:Barton & LoguidiceDate:January 08, 2013

General Information:

2 samples were analyzed for EPA 908.0. All samples were received in acceptable condition with any exceptions noted below.

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 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: Chemung County LF Rad Sample

Pace Project No.: 3074978

Method:HSL-300mDescription:HSL300(AS) ActinidesClient:Barton & LoguidiceDate:January 08, 2013

General Information:

2 samples were analyzed for HSL-300m. All samples were received in acceptable condition with any exceptions noted below.

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 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:

Analyte Comments:

QC Batch: RADC/13627

N2: The lab does not hold TNI accreditation for this parameter.

- BLANK (Lab ID: 504351)
 - Thorium-228
 - Thorium-230
 - Thorium-232
 - Uranium-234
 - Uranium-235
 - Uranium-238
- Chemung LFCell IV Leach Dissol (Lab ID: 3074978002)
 - Thorium-228
 - Thorium-230
 - Thorium-232
 - Uranium-234
 - Uranium-235
 - Uranium-238
- Chemung LFCell IV Leach Total (Lab ID: 3074978001)
 - Thorium-228
 - Thorium-230
 - Thorium-232
 - Uranium-234
 - Cranian Lor
 - Uranium-235
 - Uranium-238

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

Project: Chemung County LF Rad Sample

Pace Project No.: 3074978

Sample: Chemung LFCell IV Leach Lab (D: 3074978001 Received: 08/08/12 09:30 Collected: 06/29/12 12:15 Matrix: Water Total PWS: Site ID: Sample Type: Method Parameters Act ± Unc (MDC) Units Analyzed CAS No. Qual Cesium-137 EPA 901.1m pCi/L -0.435 ± 3.35 (4.55) 09/13/12 07:25 10045-97-3 Uranium-235 EPA 901.1m -1.200 ± 47.0 (39.7) pCi/L 09/13/12 07:25 15117-96-1 Radium-226 EPA 903.1 1.04 ± 0.710 (0.916) pCi/L 08/31/12 13:58 13982-63-3 EPA 904.0 Radium-228 7.01 ± 4.92 (9:14) pCi/L 08/28/12 12:42 15262-20-1 EPA 908.0 Total Uranium 0.403 ± 2.75 (5.64) pCi/L 09/10/12 16:06 7440-61-1 HSL-300m Thorium-228 1.012 ± 1.02 (2.33) pCi/L 11/01/12.14:33 14274-82-9 N2 Thorium-230 HSL-300m 1.093 ± 0.669 (1.80) pCi/L 11/01/12 14:33 14269-63-7 N2 HSL-300m Thorium-232 -0.199 ± 0.455 (1.07) pCi/L 11/01/12 14:33 7440-29-1 N2 HSL-300m Uranium-234 11/01/12 14:27 13966-29-5 N2 0.285 ± 0.485 (0.855) pCi/L Uranium-235 HSL-300m 0.093 ± 0.424 (0.252) 11/01/12 14:27 15117-96-1 N2 pCi/L Uranium-238 HSL-300m 0.000 ± 0.325 (0.524) pCI/L 11/01/12 14:27 N2

Sample: Chemung LFCell IV Leac Dissol	h Łab (D: 30749780	02 Collected: 06/29/12 12:15	Received:	08/08/12 09:30	Matrix: Water	
PWS;	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Cesium-137	EPA 901.1m	0.085 ± 2.52 (4.56)	pCi/L	09/13/12 08:27	10045-97-3	
Uranium-235	EPA 901.1m	-4.530 ± 154 (38.4)	pCi/L	09/13/12 08:27	15117-96-1	
Radium-226	EPA 903.1	0.811 ± 0.654 (0.880)	pCi/L	08/31/12 14:13	13982-63-3	
Radium-228	EPA 904.0	4.91 ± 3.02 (5.45)	pCi/L	08/28/12 12:42	15262-20-1	
Total Uranium	EPA 908.0	3.88 ± 3.09 (5.08)	pCi/L	09/10/12 16:06	6 7440-61-1	
Thorium-228	HSL-300m	2.88 ± 2.08 (3.07)	pCi/L	11/01/12 14:33	14274-82-9	N2
Thorium-230	HSL-300m	0.605 ± 0.923 (1.59)	pCi/L	11/01/12 14:33	14269-63-7	N2
Thorium-232	HSL-300m	0.242 ± 0.672 (1.30)	pCi/L	11/01/12 14:33	7440-29-1	N2
Uranium-234	HSL-300m	2.25 ± 1.76 (2.46)	pCi/L	11/01/12 14:27	13966-29-5	N2
Uranium-235	HSL-300m	0.490 ± 1.12 (0.664)	pCi/L	11/01/12 14:27	15117-96-1	N2
Uranium-238	HSL-300m	0.563 ± 0.861 (0.508)	pCi/L	11/01/12 14:27	,	N2

Date: 01/08/2013 05:08 PM

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Chemung Con Pace Project No.: 3074978	unty LF Rad Sample				
QC Batch: RADC/1295	δ A	nalysis Method:	EPA 904.0		
QC Batch Method: EPA 904.0	A	nalysis Description:	904.0 Radium	228	
Associated Lab Samples: 30749	978001, 3074978002				·
		Matrix: Water			
METHOD BLANK: 478145		WEDLIEK. WYEICH	- '		
	978001, 3074978002				
	978001, 3074978002 Act ± Unc (Units	Analyzed	Qualifiers

Date: 01/08/2013 05:08 PM

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project:	Chemung County LF Rad Sample
----------	------------------------------

Pace Project No.: 3074978

	DC/12964	Analysis Method:	EPA 901.1m		
QC Batch Method: EP/	\901.1m	Analysis Description:	901.1 Gamma Spec	>	
Associated Lab Samples:	3074978001, 3074978002				
METHOD BLANK: 4782	11	Matrix: Water			
Associated Lab Samples:	3074978001, 3074978002				

Parameter	ACI ± Unc (MDC)	Units	Analyzed Qualifiers	S
Cesium-137	-0.071 ± 31.2 (4.93)	pCi/L	09/14/12 07:12	
Uranium-235	6.76 ± 9.45 (26.1)	pCi/L	09/14/12 07:12	

Date: 01/08/2013 05:08 PM

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc. 1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

QUALITY CONTROL DATA

Project: Chemung Pace Project No.: 3074978	County LF Rad Sample				
QC Batch: RADC/13	3020	Analysis Method:	EPA 903.1		
QC Batch Method: EPA 903.	.1	Analysis Description:	903.1 Radiu	m-226	
Associated Lab Samples: 30	74978001, 3074978002			•	
METHOD BLANK: 480165		Matrix: Water		,	<u> </u>
Associated Lab Samples: 30	74978001, 3074978002				
Parameter	Act ±	Unc (MDC)	Units	Analyzed	Qualifiers
Radium-226	-0.214 ± 0.551 (0	.912)	pCi/L	08/31/12 13:02	

Date: 01/08/2013 05:08 PM

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project:	Chemung County LF Rad Sa	mple				
Pace Project No.:	3074978 ,					
QC Batch:	RADC/13070	Analysis Method	EPA 908.0		<u> </u>	
QC Batch Method:	EPA 908.0	Analysis Descript	tion: 908.0 Total l	Jranium .		
Associated Lab Sar	nples: 3074978001, 307497	8002				
METHOD BLANK:	481898	Matrix: Wa	ter			
Associated Lab San	nples: 3074978001, 307497	8002				
Parar	neter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers	
Total Uranium	0.414 ± 0.	330 (0.564)	pÇi/L	09/11/12 07:15		

Date: 01/08/2013 05:08 PM

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Chemung County LF Rad Sample

Pace Project No.: 3074978

QC Batch:	RADC/1362	27	Analysis Method:	HSL-300m	
QC Batch Method:	HSL-300m		Analysis Description:	HSL300(AS) Actinides	
Associated Lab Sam	ples: 3074	1978001, 3074978002			

METHOD BLANK: 504351

Matrix: Water

Associated Lab Samples: 3074978001, 3074978002

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Thorium-228	0.478 ± 0.175 (0.161)	pCi/L	11/01/12 14:33	N2
Thorium-230	0.071 ± 0.078 (0.122)	pCi/L	11/01/12 14:33	N2
Thorium-232	0.000 ± 0.046 (0.094)	pCi/L	11/01/12 14:33	N2
Uranium-234	0.063 ± 0.053 (0.071)	pCi/L	11/01/12 14:27	N2
Uranium-235	0.020 ± 0.045 (0.073)	pCi/L	11/01/12 14:27	N2
Uranium-238	0.053 ± 0.045 (0.056)	pCi/L	11/01/12 14:27	N2

Date: 01/08/2013 05:08 PM

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Chemung County LF Rad Sample

Pace Project No .:

3074978

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.

PRL - Pace Reporting Limit.

RL - Reporting 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.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

N2

2 The lab does not hold TNI accreditation for this parameter.

Date: 01/08/2013 05:08 PM

REPORT OF LABORATORY ANALYSIS

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January 08, 2013

Mr. Brian J. McGrath Barton & Loguidice 11 Centre Park, Suite 203 Rochester, NY 14614

RE: Project: Chemung County LF Rad Sample Pace Project No.: 3080294

Dear Mr. McGrath:

Enclosed are the analytical results for sample(s) received by the laboratory between August 08, 2012 and August 17, 2012. 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.

Report reissued 1/9/13 at request of client to revise the Gamma Spec list to delete analytes.

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

Sincerely,

Jacquelyn Collins

jacquelyn.collins@pacelabs.com Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project:

Chemung County LF Rad Sample Pace Project No.: 3080294

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601 ACLASS DOD-ELAP Accreditation #: ADE-1544 Alabama Certification #: 41590 Arizona Certification #: AZ0734 Arkansas Certification California/TNI Certification #: 04222CA Colorado Certification Connecticut Certification #: PH-0694-Delaware Certification Florida/TNI Certification #: E87683 Guam/PADEP Certification Hawaii/PADEP Certification Idaho Certification Illinois/PADEP Certification Indiana/PADEP Certification Iowa Certification #: 391 Kansas/TNI Certification #: E-10358 Kentucky Certification #: 90133 Louisiana/TNI Certification #: LA080002 Louisiana/TNI Certification #: 4086 Maine Certification #: PA0091 Maryland Certification #: 308 Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification Missouri Certification #: 235 Montana Certification #: Cert 0082 Nevada Certification New Hampshire/TNI Certification #: 2976 New Jersey/TNI Certification #: PA 051 New Mexico Certification New York/TNI Certification #: 10888 North Carolina Certification #: 42706 Oregon/TNI Certification #: PA200002 Pennsylvania/TNI Certification #: 65-00282 Puerto Rico Certification #: PA01457 South Dakota Certification Souri Dakota Certification Tennessee Certification #: TN2867 Texas/TNI Certification #: T104704188 Utah/TNI Certification #: ANTE Virgin Istand/PADEP Certification Virginia Certification #: 00112 Virginia/VELAP Certification #: 460198 Washington Certification #: 460198 Washington Certification #: C868 West Virginia Certification #: 143 Wisconsin/PADEP Certification Wyoming Certification #: 8TMS-Q

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

 Project:
 Chemung County LF Rad Sample

 Pace Project No.:
 3080294

Lab ID	Sample ID	Matrix	Date Collected	Date Received
3074978003	Chemung LF Leachate Lagoon Sed	Solid	06/29/12 11:43	08/17/12 09:58
3074978004	Chemung LF Leachate Lagoon Sed	Water	06/29/12 11:43	08/08/12 11:13

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Chemung County LF Rad Sample Pace Project No.: 3080294

Lab ID	Sample ID	Method	Analysts	Analytes Reported
3074978003	Chemung LF Leachate Lagoon Sed	EPA 901.1m	AEH	4
		' EPA 903.1m	SLA	1
		EPA 9320	MAW	1
		HSL-300m	LAL, MBT	6
3074978004	Chemung LF Leachate Lagoon Sed	EPA 908.0	LAL	1

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Chemung County LF Rad Sample

Pace Project No.: 3080294

Method: EPA 901.1m

Description:901.1 Gamma SpecClient:Barton & LoguidiceDate:January 08, 2013

General Information:

1 sample was analyzed for EPA 901.1m. All samples were received in acceptable condition with any exceptions noted below.

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 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:	Chemung County LF Rad Sample
Description: 903.1 Client: Barto	3080294 903.1m Radium 226 n & Loguidice ary 08, 2013
General Information	on: rzed for EPA 903.1m. All samples were received in acceptable condition with any exceptions noted below.
Hold Time: The samples were a	analyzed within the method required hold times with any exceptions noted below.
Method Blank: Ali analytes were be	elow the report limit in the method blank with any exceptions noted below.
Laboratory Contro All laboratory contro	I Spike: I spike compounds were within QC limits with any exceptions noted below.
Matrix Spikes: All percent recoveri	es and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: RADC/13025

N2: The lab does not hold TNI accreditation for this parameter.

• BLANK (Lab ID: 480183)

- Radium-226
- Chemung LF Leachate Lagoon Sed (Lab ID: 3074978003) .• Radium-226

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project:	Chemung County LF Rad Sample
	enoming county in rule comple

Pace Project No.: 3080294

Method:EPA 908.0Description:908.0 Total UraniumClient:Barton & LoguidiceDate:January 08, 2013

General Information:

1 sample was analyzed for EPA 908.0. All samples were received in acceptable condition with any exceptions noted below.

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 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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°ace Analytical www.pacelabs.com

PROJECT NARRATIVE

Project:		Chemung County LF Rad Sa	mple
			•

Pace Project No.: 3080294

Method:EPA 9320Description:9320 Radium 226Client:Barton & LoguidiceDate:January 08, 2013

General Information:

1 sample was analyzed for EPA 9320. All samples were received in acceptable condition with any exceptions noted below.

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 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:	Chemung County LF	Rad Sample

Pace Project No.: 3080294

Method: HSL-300m

Description:HSL300(AS) ActinidesClient:Barton & LoguidiceDate:January 08, 2013

General Information:

1 sample was analyzed for HSL-300m. All samples were received in acceptable condition with any exceptions noted below.

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 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:

Analyte Comments:

QC Batch: RADC/13063

N2: The lab does not hold TNI accreditation for this parameter.

- BLANK (Lab ID: 481877)
 - Uranium-234
 - Uranium-235
 - Uranium-238
- Chemung LF Leachate Lagoon Sed (Lab ID: 3074978003)
 - Uranium-234
 - Uranium-235
 - Uranium-238

QC Batch: RADC/13629

N2: The lab does not hold TNI accreditation for this parameter.

- BLANK (Lab ID: 504357)
 - Thonum-228
 - Thorium-230
 - Thorium-232
- Chemung LF Leachate Lagoon Sed (Lab ID: 3074978003)
 - Thorium-228
 - Thorium-230
 - Thorium-232

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

REPORT OF LABORATORY ANALYSIS

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09/11/12 07:15 7440-61-1

ANALYTICAL RESULTS

Project: Chemung County LF Rad Sample

EPA 908.0

Pace Project No.:	3080294
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Sample: Chemung LF Leachate Lagoon Sed	Lab ID: 3074978003	Collected: 06/29/12 11:4	3 Received:	08/17/12 09:58	Matrix: Solid	
PWS:	Site ID:	Sample Type:				
Results reported on a "dry-weigh	ıt" basis					
Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Cesium-137	EPA 901.1m -0.	005±0.037 (0.063)	pCi/g	09/13/12 09:55	5 10045-97-3	
Radium-226		1 ± 0.278 (0.133)	pCi/g	09/13/12 09:55	5 13982-63-3	
Radium-228	EPA 901.1m 2.6	9 ± 0.364 (0.197)	pCi/g	09/13/12 09:55	5 15262-20-1	,
Uranium-235	EPA 901.1m 0.1	172 ± 0.0697 (0.0763)	pCi/g	09/13/12 09:55	5 15117-96-1	
Radium-226	EPA 903.1m 2.3	27 ± 0.782 (0.526)	pCi/g	09/18/12 12:39	13982-63-3	N2
Radium-228	EPA 9320 2.6	02±0.718 (0.991)	pCi/g	09/13/12 12:07	7 15262-20-1	
Thorium-228	HSL-300m 1.1	2 ± 0.434 (0.324)	pCi/g	11/02/12 12:44	14274-82-9	N2
Thorium-230	HSL-300m 0.0	98 ± 0.120 (0.200)	pCi/g	11/02/12 12:44	14269-63-7	N2
Thorium-232	HSL-300m 0.3	300 ± 0.192 (0.081)	pCi/g	11/02/12 12:44	7440-29-1	N2
Uranium-234	HSL-300m 0.1	265 ± 0.132 (0.105)	pCi/g	09/07/12 08:32	2 13966-29-5	N2
Uranium-235	HSL-300m 0.6	027 ± 0.071 (0.121)	pCi/g	09/07/12 08:32	2 15117-96-1	N2
Uranium-238	HSL-300m 0.3	34 ± 0.151 (0.114)	pCi/g	09/07/12 08:32	2	N2
Sample: Chemung LF Leachate Lagoon Sed	Lab ID: 3074978004	Collected: 06/29/12 11:4	13 Received:	08/08/12 11:13	Matrix: Water	
PWS:	Site ID:	Sample Type:				
Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual

0.806 ± 0.388 (0.462)

pCi/L

Date: 01/08/2013 05:00 PM

Total Uranium

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Chemung County LF Rad Sample

Pace Project No.: 3080294

 QC Batch:
 RADC/12988
 Analysis Method:
 EPA 901.1m

 QC Batch Method:
 EPA 901.1m
 Analysis Description:
 901.1 Gamma Spec

 Associated Lab Samples:
 3074978003
 Matrix: Solid

 METHOD BLANK:
 479126
 Matrix: Solid

 Associated Lab Samples:
 3074978003

Paraméter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Cesium-137	-0.011 ± 0.025 (0.043)	pCi/g	09/13/12 15:42	
Radium-226	0.0245 ± 0.0621 (0.116)	pCi/g	09/13/12 15:42	
Radium-228	-0.103 ± 1.18 (0.149)	pCi/g	09/13/12 15:42	
Uranium-235	0.00703 ± 0.0136 (0.0540)	pCi/g	09/13/12 15:42	

Date: 01/08/2013 05:00 PM

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

	Chemung County LF Rad Sam 3080294	pie				
QC Batch:	RADC/13024	Analysis Met			· · · · · · · · · · · · · · · · · · ·	· <u> </u>
QC Batch Method: Associated Lab Samp	EPA 9320 bles: 3074978003	Analysis Des	cription: 9320 Radiu	ım 228		
METHOD BLANK: 4	180180	Matrix:	Solid		n	
Associated Lab Samp	oles: 3074978003			•		
Parame	ler	Act ± Unc (MDC)	Units	Analyzed	Qualifiers	
Radium-228	1.02 ± 0.614	(1.02)	pCi/g	09/13/12 12:11		
						•
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•						
		•				

· · · ·

Date: 01/08/2013 05:00 PM

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Pace Project No.:	Chemung County LF Rad Sat 3080294	nple			
QC Batch:	RADC/13025	Analysis Method:	EPA 903.1m	<u> </u>	
QC Batch Method:	EPA 903.1m	Analysis Description:	903.1 Radiu	m-22 6	
Associated Lab Sar	nples: 3074978003				
METHOD BLANK:	480183	Matrix: Solid	<u></u>		· · · ·
Associated Lab San	nples: 3074978003				
Parar	neter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-226	0.288 ± 0.4	08 (0.691)	oCi/g	09/18/12 12:39	N2

Date: 01/08/2013 05:00 PM

REPORT OF LABORATORY ANALYSIS

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Uranium-238

QUALITY CONTROL DATA

Project: Pace Project No.:	Chemung County LF Rad S 3080294	ample				
QC Batch:	RADC/13063	Analysis Metho	d: HSL-300m		<u>a</u>	
QC Batch Method: HSL-300m		Analysis Descri	ption: HSL300(AS	HSL300(AS) Actinides		
Associated Leb San	nples: 3074978003					
METHOD BLANK:	481877	Matrix: S	oliđ			
Associated Lab San	nples: 3074978003					
Paran	neter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers	
Uranium-234	0.048 ± ().054 (0.087)	pCi/g	09/07/12 08:32	N2	
Uranium-235	0.011 ± (0.058 (0.083)	pCi/g	09/07/12 08:32	N2	

pCi/g

09/07/12 08:32 N2

0.012 ± 0.045 (0.033)

Date: 01/08/2013 05:00 PM

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project:	Chemung County LF Rad San	iple				
Pace Project No.:	3080294			· •		
QC Batch:	RADC/13070	Analysis Method:	EPA 908.0			
QC Batch Method:	EPA 908.0	Analysis Description	: 908.0 Total (Uranium		•
Associated Lab Sar	mples: 3074978004		3			
METHOD BLANK:	481898	Matrix: Water				
Associated Lab Sar	nples: 3074978004					
Parar	neter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers	
Total Uranium	0.414 ± 0.3	30 (0.564)	pCi/L	09/11/12 07:15		

Date: 01/08/2013 05:00 PM

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Chemung County LF Rad Sample

Pace Project No.:

3080294

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.

PRL - Pace Reporting Limit.

RL - Reporting 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.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

N2 The lab does not hold TNI accreditation for this parameter.

Date: 01/08/2013 05:00 PM

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

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

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Important Note: By signing this form you are according Pera's NET 31 day payment larms and agreeing to late cherges of 1.5% per month for any investes not paid within 30 days.

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

\sim	San	nple Condi	tion	Upon R	eceipt		
Pace Analytical	Client Name:	Bart	<u>n</u> t	-Logi	dice	Project #	
Courler: Pred Ex DUPS Tracking #: - 80075620 Custody Seal on Cooler/Box P	USPS Client 18473 8007 resent 1478	t Commer 9620850	cial B Seals i	🔲 Pace	Other	Optional Proj. Due C Proj. Name	승규는 집에 가지 않는 것 같은 것 같은 것은 것을 가지 않는 것 같이 없다.
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Cooler Temperature Temp should be above freezing to 6		Biological Ti		s Frozen: Comments		Date and Initials o contents: 1977	f person exemining
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All containers needing preservation ha	ve been checked.	Dies 🗆 No 🛛		13.			
All containers needing preservation a compliance with EPA recommendation		DYes Die i			·		-
exceptions: VOA, coliform, TOC, O&G, V	/ WHORD (water)	QYes Que		initial when completed	VIEN	Lot # of added preservative	
Samples checked for dechlorina							,
Headspace in VOA Vials (>6mn		DYes DNo	- 71			· · ·	
Trip Blank Present:			71				
Trip Blank Custody Seals Prese	nt	⊡Yes ⊡No 4	ENVA				
Pace Trip Blank Lot # (if purchas				,			
Client Notification/ Resolution						Field Data Required?	Y / N
Person Contacted:		l	Date/T	ime:	_		
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Project Manager Review:		ARC	-	al.	Ľì.	Date:	818/12
Nole: Whenever there is a discrepa	now attention North Co	arolina comolian	CD 580		of this form		Catolina DEHNR

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Note: Whenever there is a discrepancy allecting porth Carolina compliance samples, a copy of this form will be sold to be re-Certification Office (i.e. out of hold, incorrect preservative, out of lemp, incorrect containers)

1

F-ALL-C003-6 SCURF front 2April2012.xis

														7
										53	87	8	Item No.	FaceA
										57	R	NA.	Matrix Code	Pace Analytical
										R			Glass Jar (120 / 250 / 600 / 1L)	
													Soil kit (2 SB, 1M, soil jar)	
													Chemistry (250 / 500 / 1L)	
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			 		· ·	 	 		<u> </u>	ļ			TPH (1L)	
				. 	, 			ļ		·			VOA (40 ml 30 ml)	page 2
				ļ	ļ		ļ			ļ		 	Cyanidə (250 ml)	-
						}			ļ	 		 +	Sulfide (500 ml)	Project Number Cilent Name:
				<u> </u>	<u> </u>	 		<u> </u>			<u> </u>		Bacteria (120 ml)	oject Number Client Name:
			. 		 	 	ļ,	ļ	. 	-	<u> </u>	 	Wipes / swipe/ smear/ filter	
SCU	 		 	ļ	<u> </u>						4	04	Radohem Nalgene (125 / 250 / 500 (11).	Aou
IRF Back		ļ				ļ			ļ	ļ	<u> </u>		Radchem Nalgene (1/2 gal. / 1 gal.L)	4
- (CO)16-	 					. 	 		 		<u> </u>	 	Cubitainer (500 ml / 4L)	Barton + Loguidice
15Mayo	 		<u> </u>	<u></u>	<u> </u>	ļ.,		<u> </u>	ļ		<u> </u>	ļ	Ziploc	<u>nidi</u>
SCURF Back (C016-4 15May2012).xls		ļ		<u> </u>	 	ļ			ļ				Other	6
		}				<u> </u> .		}	}	{			Other	

page 2

Table 1

Chemung County Landfill Radionuclide Leachate Data Results

																	Page 1 of	2	
					Ta	ble 1	- Cher	nung Co	unty	andfill	Radionu	clide	Leacha	ate Data I	Resul	ts			,
		Cesium		Total	Radium		Total	Radium		Total	Uranium		Total	Uranium		Total	Uranium		Tota
		137 (pCi/L)	Qual.	uncert.	226 (pCi/L)	Qual.	uncert.	228 (pCi/L)	Qual.	uncert.	234 (pCi/L)	Qual.	uncert.	235 (pCi/L)	Qual.	uncert.	235 (pCi/L)	Qual,	uncer
NRC/DEC	effluent limit	1000			60			60	· · · ·		300			300			300		u
NRC/DEC	sewer limit	10000			600			600			3000			3000			3000		
RL		20.0			~ 1.00			1.0			1.00			1.00			1.00		
EPA Method		901.1			903.1			904.0	·		HSL-300			901.1			HSL-300		
Leachate Monitoring Location	Total Vs. Filtered																		
Celf I/II/III											•								
13-May-10	Total	-		-	3.3		1.8	12.3		7.2	1.6	U	1.3-	-		-	-0.22	Ų	0.22
31-Jan-12	Total	<20	U	4.9	1.72		0.55	1.4		1.3	-		-	-		-	-		-
31-Jan-12	Total - Dupe		Ų	7.9	-		-	-		- 1	-		-	-		•			•
31-Jan-12	Filtered	<20	Ņ	2.4	1.59		0.46	1.76		0.99	-		-	-		-	-		-
Celi IV																ĺ			
13-May-10	Total	-		-		J	0.22	0.74	J	0.42	0.73	J	0.28	-		-	0.042	υ	0.08
31-Jan-12	Total	1,1	U	7.2	2.43		0.68	1.8	U	1.5	-		-	-		-	-		-
31-Jan-12	Filtered	2.8	U	8.0	1.80		0.48	1.91		0.94			-	-					-
29-Jun-12	Total	-0.435		3.35	1.04		0,71	7.01		4.92	15.7 2.25		281	-1.2 -4.53		47 154	0.093		0.42
29-Jun-12	Filtered	0.085		2.52	0.811	-	0.654	4.91		3.02	6.20		1.76	-4.53		104	0.490		1.12
Leachate Lagoon							i										l		
31-Jan-12	Total	1	U	6.0	0.74		0.21		U	0.46	-		-	-		•	-		•
31-Jan-12	Total - Dupe			-	0.59		0.2		U	0.57	-		-	-		•	-		-
31-Jan-12	Filtered	-1.6	υ	7.0	0.39		0.16	0.77		0.5	-		-	•		-	-		-
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				1															
Notes:	Qua!	=	Qualit																
	U	=			than detec	stion I	mit				:								
	J	=			d result				1 . 1 .										
	В	=	Lap e	stimate	d result; re	sult is	less tha	n reporting	limit										

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- Total Uncert.
- = Total uncertainty (2 σ +/-)

Version 238 Qualt uncent (pC/L) Uranium (pC/L) Qualt uncent (pC/L) 230 Qualt uncent (pC/L) Qualt Qua														Page 2 of	2	
238 Qual. uncert. Uranium Qual. uncert. 228 Qual. uncert. 230 Qual. uncert. 230 Qual. uncert. 230 Qual. uncert. 232 Qual. uncert. (pCill.)			[Tab	e 1 - Cher	nung Cour	ty Landfi	II Rad	dionuc	ide Leac	hate	Data R	esults		
238 Qual. uranium Qual. Qual. uranium Qual. Qual. uranium Qual. Qual. uranium Qual.	s					-		771								i
Image: constraint of the state of					Total					Total		3	Total	1		Tolaí
NRC(DEC ender limit 300 - 200 100 30 RL 1.00 - 2000 1000 300 - EPA Method HSL-300 908.0 HSL-300 HSL-300 HSL-300 HSL-300 Leachate Monitoring Location Total VS. Filtered - - 1.34 3.73 - <			238	Q	ual, uncert.	Uranium	Qual. uncert.	228	Qual,	uncert.	230	Qual.	uncert.	232	Qual	uncert.
NRC/DEC effluent limit 300 - 200 100 30 RL 4.00 - 200 100 300 - EPA Method HSL-300 908.0 HSL-300 HSL-300 HSL-300 HSL-300 Leachate Monitoring Location Total 0.33 U 0.67 - 0.18 U 0.41 0.68 U 0.7 0.0 U 0.17 13-May-10 Total 0.33 U 0.67 - 0.18 U 0.41 0.68 U 0.7 0.0 U 0.17 13-Jan-12 Total 0.33 U 0.67 -				.)		pCi/L		(pCi/L)			(pCi/L)			(pCi/L)		
Rl 1.00 1.00 1.00 1.00 EPA Method HSL-300 908.0 HSL-300	NRC/DEC	effluent limit				-								30		
EPA Method HSL-300 908.0 HSL-300 <		sewer limit														
Leachate Monitoring Location Total Vs. Filtered Total Vs. Filtered Output of the second of the second of the s																
Location Filtered Cell MMMi Total 0.33 0 0.67 - 0.18 0 0.41 0.68 0 0.7 0.0 0 0.7 31-Jan-12 Total -			HSL-3	00		908.0		HSL-300			HSL-300)		HSL-300		
Cell I/IVIII Total 0.33 U 0.67 0.18 U 0.41 0.68 U 0.7 0.0 U 0.71 31-Jan-12 Total - <t< td=""><td></td><td></td><td>ļ</td><td></td><td></td><td>ļ</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>			ļ			ļ										
Ceil IV/III Total 0.33 U 0.67 - 0.18 U 0.41 0.68 U 0.7 0.0 U 0.7 31-Jan-12 Total -	Location	Filtered														
13-May-10 Total 0.33 0 0.67 - 0.18 0 0.47 0.68 0 0.7 0.0 0 0.47 31-Jan-12 Total -	,]										
31-Jan-12 Total - <			ł			1					1					
31-Jan-12 Total - Dupe Filtered - <t< td=""><td></td><td></td><td>0.33</td><td>U</td><td>0.67</td><td>-</td><td></td><td>0.18</td><td>U</td><td>0.41</td><td>0.68</td><td>U</td><td>0.7</td><td>0.0</td><td>υ</td><td>0.12</td></t<>			0.33	U	0.67	-		0.18	U	0.41	0.68	U	0.7	0.0	υ	0.12
31-Jan-12 Filtered - - 3.65 3.52 - <td></td> <td></td> <td>- 1</td> <td></td> <td>-</td> <td>-1.34</td> <td>3.73</td> <td>-</td> <td></td> <td>-</td> <td>-</td> <td></td> <td>•</td> <td>-</td> <td></td> <td>-</td>			- 1		-	-1.34	3.73	-		-	-		•	-		-
Ceil IV Total 0.46 J 0.22 - -0.008 U 0.012 0.081 J 0.085 0.0 U 0.0 U 0.012 0.081 J 0.085 0.0 U 0.012 0.012 0.081 J 0.085 0.0 U 0.012 0.012 1.012 1.012 1.021 1.021 1.021 1.022 1.093 0.669 0.0199 0.442 0.615 Leachate Lagoon 31-Jan-12 Total - - 1.34 3.08 -		,	-		-	-		-		-	- 1		-	-		-
13-May-10 Total 0.46 J 0.22 - -0.008 U 0.012 0.081 J 0.085 0.0 U 0.07 31-Jan-12 Total - - 1.65 3.03 -	31-Jan-12	Filtered	-		-	3.65	3.52	-		-	-		-	-		•
13-May-10 Total 0.46 J 0.22 - -0.008 U 0.012 0.081 J 0.085 0.0 U 0.0 31-Jan-12 Total - - 1.65 3.03 -	A 11 11		1			l .										
31-Jan-12 Total - - 1.65 3.03 -		Tetel	0.46		0.00			0.009	11	0.012	0.081		0.085	0.0	D	0.019
31-Jan-12 Filtered -				J	0.22	1 65	3.03		0			v			0	0.013
30-041-12 Total 0.000 0.325 0.403 2.75 1.012 1.02 1.093 0.669 -0.199 0.443 29-Jun-12 Filtered 0.563 0.861 3.88 3.09 2.88 2.08 0.605 0.923 0.242 0.61 Leachate Lagoon 31-Jan-12 Total - - 1.34 3.08 -					-					-	l .		-	-		-
29-Jun-12 Filtered 0.563 0.867 3.88 3.09 2.88 2.08 0.605 0.923 0.242 0.61 Leachate Lagoon 31-Jan-12 Total - - 1.34 3.08 - </td <td></td> <td></td> <td></td> <td>)</td> <td>0.325</td> <td></td> <td></td> <td></td> <td></td> <td>1.02</td> <td>1.093</td> <td></td> <td>0.669</td> <td>-0.199</td> <td></td> <td>0.455</td>)	0.325					1.02	1.093		0.669	-0.199		0.455
Leachate Lagoon 31-Jan-12 Total - - 1.34 3.08 -											•					0.672
31-Jan-12 Total - - 1.34 3.08 -	Et ban 12]					
31Jan-12 Total - Dupe - <td< td=""><td>Leachate Lagoon</td><td></td><td>1</td><td></td><td></td><td>ì</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Leachate Lagoon		1			ì										
31-Jan-12 Filtered - 2.75 3.47 -			-		-	1.34	3.08	•		-	-		-	-		- (
Notes; Qual. = Qualifer			- 1		-	l-		-		-	- 1		-	-		-
	31-Jan-12	Filtered	-		•	2.75	3.47	-		-	-		-	-		- `
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the second term descendence descendence in the line is a second	Notes;	Qual.					<u> </u>									
		U	=	Re	esult is less	s than detec	tion limit									
J = Lab estimated result		J	=													
B = Lab estimated result; result is less than reporting limit	1	В	Ŧ	La	ab estimate	d result; res	ult is less the	n reporting	limit							

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Table 2

Chemung County Landfill Radionuclide Sediment Data Results

[]			Table	e 2 - Chemi	ing Cour	nty Landfill I	Radionu	clide Sedime	ent Data	Results		Page 1 of 3		_
	Bismuth 212 (pCi/g)	Total Qual. uncert.	(pCi/g)	Total Qual. uncert.	(pCi/g)	Totat Qual. uncert.	_ (pCi/g)	Qual. uncert.	Lead 214 (pCi/g)	Quai. u		Potassium 40 (pCi/g)	Totat Qual. uncert.	
EPA Method Leachate MonitorIng Location	901.1		901.1		901.1		901.1		901.1			901.1		
Leachate Lagoon Sediment 29-Jun-12	2.11	0.837	2.23	0.28	-0.005	0.037	1.26	0.163	2.49	C	.303	8.3	1.18	
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Notes:	Qual, U J B Total Uncerf.	= Lablesti ≂ Lablesti	s less than mated resu mated resu	ult; result is le		porting limit								
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				Table	2 - Chemung	County	Landfill F	Radionuclide	e Sedimer	nt Data Res	sults		······	
	Radium 226	Total Qual, uncert.	Radium 226	Total Qual, uncert.		Totat II. <i>uncert</i> .	Radium 228	Total Qual. uncert.	Uranium 234	Tolat Qual. uncert.	4 .	Total Qual. uncert.		To Qual. unc
EPA Method	(pCi/g) 903.1		(pCi/g) 901.1		(pCi/g) 904.0		(pCi/g) 901.1		(pCi/g) HSL-300		(pCi/g) 901.1		(pCi/g) HSL-300	
Leachate Monitoring Location	-								1.02.000				1102-000	
Leachate Lagoon Sediment 29-Jun-12	2.27	0.782	2.41	0.278	2.02	0.718	2.69	0.364	0.265	0.132	0.172	0.0697	0.027	0.07
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Notes:	Qual. U J B	= Lab esti	s less than d mated result		than reporting I	imit	·	· ·					<u> </u>	

Total Uncert. = Total uncertainty (2 σ +/-)

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L	Jranium 238	Total Qual. uncert.	Thalllum 208	Qual,	Total uncert.	Total Uranium	Qual.	Total uncert.	Thorium 234	Total Qual, uncert.	Thorium 228	Qual.	Total	Thorium 230	Total Qual. uncert.	Thorium 232	Qual. (То
	(pCi/g)		(pCi/g)			(pCi/g)			(pCi/g)		(pCi/g)			(pCi/g)	Guan, Dhoen.	(pCi/g)	woar. i	unc
	ISL-300		901.1			908.0			901.1		HSL-300			HSL-300		HSL-300		
Leachate Monitoring Location																		
eachate Lagoon Sediment 29-Jun-12	0.334	0.151	0.43	*	0.0871	0.806	. 0).388	0.388	2.17	1.12	C).434	0.098	0.120	0.300	Ó	7.11
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= Lab estimated result; result is less than reporting limit

Total Uncert. = Total uncertainty (2 o +/-)

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