Seaway Industrial Development Corp. dr

New York State Department of Environmental Conservation
Division of Solid and Hazardous Materials
Bureau of Radiation & Hazardous Site Management, 8th Floor
625 Broadway, Albany, New York 12233-7252
Phone: (518) 402-8594 FAX: (518) 402-9025
Website: www.dec.state.ny.us

Commissioner

Seaway D1-7
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JAN 25 2002
CONST DEPT

JAN 18 2002

Response also in Tech Memo file
Summary Table

[redacted]

Project Manager, Seaway FUSRAP Site
U. S. Army Engineering District, Buffalo District
1776 Niagara Street
Buffalo, New York 14207-3199

Dear [redacted]

Re: Seaway Landfill FUSRAP Site
Sample Analysis Results from 5 Soil Samples and 2 Leachate Samples

This letter transmits the New York State Department of Environmental Conservation's analytical results from five samples collected in August and September 2001, during the US Army Corps of Engineers' Characterization of the Seaway Site - Areas A, B and C. The first sample was a split sample (SAIC Engineering, Inc sample number SEACOR0001SS060300/ DEC sample # RN900-0803S-081601) and was collected as part of the correlation study called for in the work plan. The remaining four samples were collected and analyzed in-house by SAIC, and then provided to this Department for analysis. DEC submitted those samples for off-site analysis to compare to SAIC's in-house analytical results and to provide additional lab data for developing the correlation data. The SAIC sample numbers are written on the enclosed reports.

Thank you for providing the results from SAIC samples SEAARC 2005 062880, SEAARC 2005 063240, and SEAARC 2005 063480. The agreement between SAIC's analysis and that of our contract lab for thorium-230 appear acceptable. The same is true for the radium-226 results from sample SEAARC 2005 062880, and the uranium-238 results from samples SEAARC 2005 062880 and SEAARC 2005 063480. The other three results are not in agreement, and should be evaluated with the rest of the duplicate analyses performed.

Also enclosed are the analysis results for two leachate split samples. DEC staff collected these samples with Robert Chiodo of Environmental Sampling and Services, Inc., BFI's consultant, on April 6, 2001 and July 24, 2001. We had the laboratory divide the samples into dissolved and suspended aliquots for analysis. The April sample contains above-background uranium concentrations, while the July sample does not. This Department intends to continue to collect quarterly leachate samples to assess the variability of its constituents.

If you have any questions or would like to discuss this further, please contact

Sincerely,

Bureau of Radiation & Hazardous Site Management
Division of Solid & Hazardous Materials

Enclosure

cc: e, USACE (w/o enclosures)
USEPA
NYSDOH
Erie Co. Dept. of Environmental Planning
Seaway Industrial Development Company, Inc.
BFI

Seaway Industrial Development Company, Inc.

EBERLINE SERVICES

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

EBS-OR-15916

October 2, 2001

[redacted]
Lionville Laboratory, Inc.
208 Welsh Pool Road
Lionville, PA 19341-1313

CASE NARRATIVE
Work Order # 01-09013-OR

SAMPLE RECEIPT

This work order contains three soil samples received 09/05/01. All samples were analyzed for Isotopic Thorium, Isotopic Uranium and by Gamma Spectroscopy.

CLIENT ID	LAB ID	
RN9000901S090401	01-09013-04	Seaway SEAARC2005062880
RN9000901S090402	01-09013-05	SEAARC2005063240
RN9000901S090403	01-09013-06	SEAARC2005063480

ANALYTICAL METHODS

Isotopic Thorium was analyzed using Method EML Th-01 modified. Isotopic Uranium was analyzed using Method EML U-02 modified. Gamma Spectroscopy was performed using Method LANL ER-130 modified.

ANALYTICAL DATA

No problems or unusual circumstances were noted during the analytical process.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.

[redacted]

Laboratory Manager

Date: 10/2/2001

EBERLINE SERVICES

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
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October 2, 2001

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Lionville Laboratory, Inc.
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CASE NARRATIVE
Work Order # 01-09013-OR

SAMPLE RECEIPT

This work order contains three soil samples received 09/05/01. All samples were analyzed for Isotopic Thorium, Isotopic Uranium and by Gamma Spectroscopy.

CLIENT ID	LAB ID
RN9000901S090401	01-09013-04
RN9000901S090402	01-09013-05
RN9000901S090403	01-09013-06

ANALYTICAL METHODS

Isotopic Thorium was analyzed using Method EML Th-01 modified. Isotopic Uranium was analyzed using Method EML U-02 modified. Gamma Spectroscopy was performed using Method LANL ER-130 modified.

ANALYTICAL DATA

No problems or unusual circumstances were noted during the analytical process.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.

[redacted]

Laboratory Manager

Date: 10/2/2001

[redacted]
Lionville Laboratories
208 Welsh Pool Road
Lionville, PA 19341-1313

SDG: 0109013
Matrix: Soil

Final Report of Analysis
Date of Report: 10/2/2001

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-09013-01	K KNOWN	09/05/01	09/05/01	09/06/01	0109013	Cobalt-60	LANL ER-130 Modified	207.88	10.19		pCi/g
01-09013-01	K KNOWN	09/05/01	09/05/01	09/06/01	0109013	Cesium-137	LANL ER-130 Modified	132.13	6.21		pCi/g
01-09013-01	S SPIKE	09/05/01	09/05/01	09/06/01	0109013	Cobalt-60	LANL ER-130 Modified	179.50	13.66	0.89	pCi/g
01-09013-01	S SPIKE	09/05/01	09/05/01	09/06/01	0109013	Cesium-137	LANL ER-130 Modified	131.60	14.03	0.89	pCi/g
01-09013-02	B BLANK	09/05/01	09/05/01	09/06/01	0109013	Cobalt-60	LANL ER-130 Modified	0.02	0.03	0.06	pCi/g
01-09013-02	B BLANK	09/05/01	09/05/01	09/06/01	0109013	Cesium-137	LANL ER-130 Modified	-0.02	0.03	0.05	pCi/g
01-09013-02	B BLANK	09/05/01	09/05/01	09/06/01	0109013	Potassium-40	LANL ER-130 Modified	0.58	0.27	0.43	pCi/g
01-09013-02	B BLANK	09/05/01	09/05/01	09/06/01	0109013	Lead-212	LANL ER-130 Modified	0.01	0.04	0.08	pCi/g
01-09013-02	B BLANK	09/05/01	09/05/01	09/06/01	0109013	Lead-214	LANL ER-130 Modified	-0.04	0.05	0.09	pCi/g
01-09013-02	B BLANK	09/05/01	09/05/01	09/06/01	0109013	Radium-226	LANL ER-130 Modified	-0.01	0.06	0.11	pCi/g
01-09013-02	B BLANK	09/05/01	09/05/01	09/06/01	0109013	Thorium-228	LANL ER-130 Modified	-0.01	0.10	0.19	pCi/g
01-09013-02	B BLANK	09/05/01	09/05/01	09/06/01	0109013	Thorium-232	LANL ER-130 Modified	-0.01	0.10	0.19	pCi/g
01-09013-02	B BLANK	09/05/01	09/05/01	09/06/01	0109013	Thallium-208	LANL ER-130 Modified	0.11	0.10	0.17	pCi/g
01-09013-02	B BLANK	09/05/01	09/05/01	09/06/01	0109013	Uranium-238	LANL ER-130 Modified	-0.14	0.50	0.96	pCi/g
01-09013-03	D RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Cobalt-60	LANL ER-130 Modified	-0.06	0.06	0.09	pCi/g
01-09013-03	D RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Cesium-137	LANL ER-130 Modified	0.01	0.05	0.09	pCi/g
01-09013-03	D RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Potassium-40	LANL ER-130 Modified	10.06	1.94	0.88	pCi/g
01-09013-03	D RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Lead-212	LANL ER-130 Modified	0.60	0.17	0.11	pCi/g
01-09013-03	D RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Lead-214	LANL ER-130 Modified	0.80	0.15	0.15	pCi/g
01-09013-03	D RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Radium-226	LANL ER-130 Modified	0.88	0.18	0.16	pCi/g
01-09013-03	D RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Thorium-228	LANL ER-130 Modified	0.66	0.20	0.31	pCi/g
01-09013-03	D RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Thorium-232	LANL ER-130 Modified	0.66	0.20	0.31	pCi/g
01-09013-03	D RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Thallium-208	LANL ER-130 Modified	0.55	0.16	0.24	pCi/g
01-09013-03	D RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Uranium-238	LANL ER-130 Modified	3.08	1.33	1.57	pCi/g

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-09013-04	RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Cobalt-60	LANL ER-130 Modified	0.01	0.06	0.11	pCi/g
01-09013-04	RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Cesium-137	LANL ER-130 Modified	0.06	0.06	0.08	pCi/g
01-09013-04	RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Potassium-40	LANL ER-130 Modified	11.29	2.00	0.42	pCi/g
01-09013-04	RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Lead-212	LANL ER-130 Modified	0.65	0.14	0.13	pCi/g
01-09013-04	RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Lead-214	LANL ER-130 Modified	0.97	0.15	0.15	pCi/g
01-09013-04	RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Radium-226	LANL ER-130 Modified	0.81	0.17	0.16	pCi/g
01-09013-04	RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Thorium-228	LANL ER-130 Modified	0.57	0.22	0.31	pCi/g
01-09013-04	RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Thorium-232	LANL ER-130 Modified	0.57	0.22	0.31	pCi/g
01-09013-04	RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Thallium-208	LANL ER-130 Modified	0.63	0.18	0.24	pCi/g
01-09013-04	RN9000901S090401	08/30/01	09/05/01	09/06/01	0109013	Uranium-238	LANL ER-130 Modified	4.76	1.38	1.58	pCi/g
01-09013-05	RN9000901S090402	08/29/01	09/05/01	09/06/01	0109013	Cobalt-60	LANL ER-130 Modified	0.00	0.06	0.11	pCi/g
01-09013-05	RN9000901S090402	08/29/01	09/05/01	09/06/01	0109013	Cesium-137	LANL ER-130 Modified	0.05	0.05	0.10	pCi/g
01-09013-05	RN9000901S090402	08/29/01	09/05/01	09/06/01	0109013	Potassium-40	LANL ER-130 Modified	13.11	1.90	0.83	pCi/g
01-09013-05	RN9000901S090402	08/29/01	09/05/01	09/06/01	0109013	Lead-212	LANL ER-130 Modified	0.85	0.28	0.21	pCi/g
01-09013-05	RN9000901S090402	08/29/01	09/05/01	09/06/01	0109013	Lead-214	LANL ER-130 Modified	11.12	1.53	0.23	pCi/g
01-09013-05	RN9000901S090402	08/29/01	09/05/01	09/06/01	0109013	Radium-226	LANL ER-130 Modified	9.01	0.69	0.19	pCi/g
01-09013-05	RN9000901S090402	08/29/01	09/05/01	09/06/01	0109013	Thorium-228	LANL ER-130 Modified	0.68	0.32	0.35	pCi/g
01-09013-05	RN9000901S090402	08/29/01	09/05/01	09/06/01	0109013	Thorium-232	LANL ER-130 Modified	0.68	0.32	0.35	pCi/g
01-09013-05	RN9000901S090402	08/29/01	09/05/01	09/06/01	0109013	Thallium-208	LANL ER-130 Modified	0.76	0.34	0.39	pCi/g
01-09013-05	RN9000901S090402	08/29/01	09/05/01	09/06/01	0109013	Uranium-238	LANL ER-130 Modified	10.72	2.74	4.33	pCi/g
01-09013-06	RN9000901S090403	08/29/01	09/05/01	09/06/01	0109013	Cobalt-60	LANL ER-130 Modified	0.00	0.04	0.06	pCi/g
01-09013-06	RN9000901S090403	08/29/01	09/05/01	09/06/01	0109013	Cesium-137	LANL ER-130 Modified	0.02	0.02	0.05	pCi/g
01-09013-06	RN9000901S090403	08/29/01	09/05/01	09/06/01	0109013	Potassium-40	LANL ER-130 Modified	8.82	1.33	0.51	pCi/g
01-09013-06	RN9000901S090403	08/29/01	09/05/01	09/06/01	0109013	Lead-212	LANL ER-130 Modified	0.63	0.19	0.09	pCi/g
01-09013-06	RN9000901S090403	08/29/01	09/05/01	09/06/01	0109013	Lead-214	LANL ER-130 Modified	2.87	0.59	0.10	pCi/g
01-09013-06	RN9000901S090403	08/29/01	09/05/01	09/06/01	0109013	Radium-226	LANL ER-130 Modified	2.47	0.24	0.10	pCi/g
01-09013-06	RN9000901S090403	08/29/01	09/05/01	09/06/01	0109013	Thorium-228	LANL ER-130 Modified	0.82	0.14	0.19	pCi/g
01-09013-06	RN9000901S090403	08/29/01	09/05/01	09/06/01	0109013	Thorium-232	LANL ER-130 Modified	0.82	0.14	0.19	pCi/g
01-09013-06	RN9000901S090403	08/29/01	09/05/01	09/06/01	0109013	Thallium-208	LANL ER-130 Modified	0.52	0.11	0.15	pCi/g
01-09013-06	RN9000901S090403	08/29/01	09/05/01	09/06/01	0109013	Uranium-238	LANL ER-130 Modified	5.01	1.28	1.17	pCi/g

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

[redacted]
Lionville Laboratories
208 Welsh Pool Road
Lionville, PA 19341-1313

SDG: 0109013
Matrix: Soil

Final Report of Analysis
Date of Report: 10/2/2001

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-09013-01	K KNOWN	09/05/01	09/05/01	09/18/01	0109013	Thorium-228	EML Th-01 Modified	4.73	0.17		pCi/g
01-09013-01	S SPIKE	09/05/01	09/05/01	09/18/01	0109013	Thorium-228	EML Th-01 Modified	5.59	1.27	0.16	pCi/g
01-09013-02	B BLANK	09/05/01	09/05/01	09/18/01	0109013	Thorium-228	EML Th-01 Modified	0.02	0.06	0.16	pCi/g
01-09013-03	D RN9000901S090401	08/30/01	09/05/01	09/18/01	0109013	Thorium-228	EML Th-01 Modified	0.82	0.28	0.09	pCi/g
01-09013-04	RN9000901S090401	08/30/01	09/05/01	09/18/01	0109013	Thorium-228	EML Th-01 Modified	1.10	0.35	0.13	pCi/g
01-09013-05	RN9000901S090402	08/29/01	09/05/01	09/18/01	0109013	Thorium-228	EML Th-01 Modified	1.29	0.39	0.16	pCi/g
01-09013-06	RN9000901S090403	08/29/01	09/05/01	09/18/01	0109013	Thorium-228	EML Th-01 Modified	1.20	0.41	0.16	pCi/g
01-09013-01	K KNOWN	09/05				Thorium-230	EML Th-01 Modified	5.41	0.15		pCi/g
01-09013-01	S SPIKE	09/05				Thorium-230	EML Th-01 Modified	6.00	1.35	0.15	pCi/g
01-09013-02	B BLANK	09/05				Thorium-230	EML Th-01 Modified	0.16	0.12	0.16	pCi/g
01-09013-03	D RN9000901S090401	08/30				Thorium-230	EML Th-01 Modified	13.79	2.74	0.19	pCi/g
01-09013-04	RN9000901S090401	08/30				Thorium-230	EML Th-01 Modified	14.68	2.94	0.17	pCi/g
01-09013-05	RN9000901S090402	08/29				Thorium-230	EML Th-01 Modified	465.50	87.47	0.12	pCi/g
01-09013-06	RN9000901S090403	08/29				Thorium-230	EML Th-01 Modified	105.50	21.04	0.28	pCi/g
01-09013-01	K KNOWN	09/05				Thorium-232	EML Th-01 Modified	4.73	0.17		pCi/g
01-09013-01	S SPIKE	09/05				Thorium-232	EML Th-01 Modified	5.61	1.27	0.12	pCi/g
01-09013-02	B BLANK	09/05				Thorium-232	EML Th-01 Modified	0.01	0.04	0.11	pCi/g
01-09013-03	D RN9000901S090401	08/30				Thorium-232	EML Th-01 Modified	0.89	0.30	0.14	pCi/g
01-09013-04	RN9000901S090401	08/30				Thorium-232	EML Th-01 Modified	0.78	0.28	0.13	pCi/g
01-09013-05	RN9000901S090402	08/29				Thorium-232	EML Th-01 Modified	3.09	0.75	0.10	pCi/g
01-09013-06	RN9000901S090403	08/29				Thorium-232	EML Th-01 Modified	2.10	0.60	0.17	pCi/g
01-09013-01	K KNOWN	09/05				Uranium-234	EML U-02 Modified	8.11	0.29		pCi/g
01-09013-01	S SPIKE	09/05				Uranium-234	EML U-02 Modified	7.64	1.64	0.13	pCi/g
01-09013-02	B BLANK	09/05				Uranium-234	EML U-02 Modified	0.31	0.16	0.14	pCi/g
01-09013-03	D RN9000901S090401	08/30/01	09/05/01	09/17/01	0109013	Uranium-234	EML U-02 Modified	48.85	9.55	0.25	pCi/g
01-09013-04	RN9000901S090401	08/30/01	09/05/01	09/17/01	0109013	Uranium-234	EML U-02 Modified	43.21	8.32	0.18	pCi/g
01-09013-05	RN9000901S090402	08/29/01	09/05/01	09/17/01	0109013	Uranium-234	EML U-02 Modified	48.23	10.50	0.19	pCi/g
01-09013-06	RN9000901S090403	08/29/01	09/05/01	09/17/01	0109013	Uranium-234	EML U-02 Modified	6.81	1.45	0.20	pCi/g

16.33 ± 5.06
546.9 ± 55.36
63.05 ± 10

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

[redacted]
Lionville Laboratories
208 Welsh Pool Road
Lionville, PA 19341-1313

SDG: 0109013
Matrix: Soil

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-09013-01	K KNOWN	09/05/01	09/05/01	09/17/01	0109013	Uranium-235	EML U-02 Modified	0.37	0.01		pCi/g
01-09013-01	S SPIKE	09/05/01	09/05/01	09/17/01	0109013	Uranium-235	EML U-02 Modified	0.31	0.17	0.10	pCi/g
01-09013-02	B BLANK	09/05/01	09/05/01	09/17/01	0109013	Uranium-235	EML U-02 Modified	0.06	0.07	0.10	pCi/g
01-09013-03	D RN9000901S090401	08/30/01	09/05/01	09/17/01	0109013	Uranium-235	EML U-02 Modified	1.35	0.45	0.20	pCi/g
01-09013-04	RN9000901S090401	08/30/01	09/05/01	09/17/01	0109013	Uranium-235	EML U-02 Modified	1.24	0.41	0.14	pCi/g
01-09013-05	RN9000901S090402	08/29/01	09/05/01	09/17/01	0109013	Uranium-235	EML U-02 Modified	1.71	0.63	0.21	pCi/g
01-09013-06	RN9000901S090403	08/29/01	09/05/01	09/17/01	0109013	Uranium-235	EML U-02 Modified	0.21	0.15	0.12	pCi/g
01-09013-01	K KNOWN	09/05/01	09/05/01	09/17/01	0109013	Uranium-238	EML U-02 Modified	7.90	0.28		pCi/g
01-09013-01	S SPIKE	09/05/01	09/05/01	09/17/01	0109013	Uranium-238	EML U-02 Modified	7.61	1.63	0.10	pCi/g
01-09013-02	B BLANK	09/05/01	09/05/01	09/17/01	0109013	Uranium-238	EML U-02 Modified	0.04	0.06	0.10	pCi/g
01-09013-03	D RN9000901S090401	08/30/01	09/05/01	09/17/01	0109013	Uranium-238	EML U-02 Modified	12.10	2.52	0.20	pCi/g
01-09013-04	RN9000901S090401	08/30/01	09/05/01	09/17/01	0109013	Uranium-238	EML U-02 Modified	11.67	2.39	0.11	pCi/g
01-09013-05	RN9000901S090402	08/29/01	09/05/01	09/17/01	0109013	Uranium-238	EML U-02 Modified	37.46	8.22	0.15	pCi/g
01-09013-06	RN9000901S090403	08/29/01	09/05/01	09/17/01	0109013	Uranium-238	EML U-02 Modified	6.43	1.37	0.15	pCi/g

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

EBS-OR-16041

October 25, 2001

[redacted]
Lionville Laboratory, Inc.
208 Welsh Pool Road
Lionville, PA 19341-1313

EBERLINE SERVICES
Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

Nysdec
01092920

CASE NARRATIVE
Work Order # 01-09125-OR

SAMPLE RECEIPT

This work order contains seven soil samples received 09/24/01. All samples were analyzed for Isotopic Thorium, Isotopic Uranium and by Gamma Spectroscopy.

CLIENT ID	LAB ID	
RN9000805S083101	01-09125-04	Ashland 1 SU7 Stake 1
RN9000805S083102	01-09125-05	Stake 11
RN9000901S090601	01-09125-06	Seaway ARB 2001 25' interval
RN9000902S091201	01-09125-07	Ashland 1 SU7 0-6"
RN9000902S091202	01-09125-08	6-12"
RN9000902S091203	01-09125-09	12-18"
RN9000902S091204	01-09125-10	18-24 ½ (End)

ANALYTICAL METHODS

Isotopic Thorium was analyzed using Method EML Th-01 modified. Isotopic Uranium was analyzed using Method EML U-02 modified. Gamma Spectroscopy was performed using Method LANL ER-130 modified.

ANALYTICAL RESULTS

Samples demonstrated background equivalent to slightly positive results for Uranium-234, Uranium-235 and Uranium-238 activity. Sample number RN9000902S091202 demonstrated a slightly high analytical tracer recovery. Sample number RN9000901S090601 demonstrated slightly positive results for Thorium-230 activity. This sample appears to contain dis-equilibrated Thorium-230 activity when compared to Uranium-238, Uranium-234 and Radium-226.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.

[redacted]

Laboratory Manager Date: 10/25/2001

EBS-OR-16041

October 25, 2001

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Phone (865) 481-0683
Fax (865) 483-4621

Nysdec
01091928

CASE NARRATIVE
Work Order # 01-09125-OR

SAMPLE RECEIPT

This work order contains seven soil samples received 09/24/01. All samples were analyzed for Isotopic Thorium, Isotopic Uranium and by Gamma Spectroscopy.

CLIENT ID	LAB ID
RN9000805S083101	01-09125-04
RN9000805S083102	01-09125-05
RN9000901S090601	01-09125-06
RN9000902S091201	01-09125-07
RN9000902S091202	01-09125-08
RN9000902S091203	01-09125-09
RN9000902S091204	01-09125-10

ANALYTICAL METHODS

Isotopic Thorium was analyzed using Method EML Th-01 modified. Isotopic Uranium was analyzed using Method EML U-02 modified. Gamma Spectroscopy was performed using Method LANL ER-130 modified.

ANALYTICAL RESULTS

Samples demonstrated background equivalent to slightly positive results for Uranium-234, Uranium-235 and Uranium-238 activity. Sample number RN9000902S091202 demonstrated a slightly high analytical tracer recovery. Sample number RN9000901S090601 demonstrated slightly positive results for Thorium-230 activity. This sample appears to contain dis-equilibrated Thorium-230 activity when compared to Uranium-238, Uranium-234 and Radium-226.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.

[redacted]

Laboratory Manager Date: 10/25/2001

[redacted]
Lionville Laboratories
208 Welsh Pool Road
Lionville, PA 19341-1313

SDG: 0109125
Matrix: Soil

Final Report of Analysis
Date of Report: 10/25/2001

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-09125-01	K KNOWN	09/24/01	09/24/01	09/26/01	0109125	Cobalt-60	LANL ER-130 Modified	207.88	10.19		pCi/g
01-09125-01	K KNOWN	09/24/01	09/24/01	09/26/01	0109125	Cesium-137	LANL ER-130 Modified	132.13	6.21		pCi/g
01-09125-01	S SPIKE	09/24/01	09/24/01	09/26/01	0109125	Cobalt-60	LANL ER-130 Modified	700.40	53.20	2.74	pCi/g
01-09125-01	S SPIKE	09/24/01	09/24/01	09/26/01	0109125	Cesium-137	LANL ER-130 Modified	172.10	18.36	0.89	pCi/g
01-09125-02	B BLANK	09/24/01	09/24/01	09/26/01	0109125	Actinium-228	LANL ER-130 Modified	-0.08	0.10	0.18	pCi/g
01-09125-02	B BLANK	09/24/01	09/24/01	09/26/01	0109125	Cobalt-60	LANL ER-130 Modified	0.02	0.03	0.07	pCi/g
01-09125-02	B BLANK	09/24/01	09/24/01	09/26/01	0109125	Cesium-137	LANL ER-130 Modified	0.01	0.04	0.07	pCi/g
01-09125-02	B BLANK	09/24/01	09/24/01	09/26/01	0109125	Potassium-40	LANL ER-130 Modified	0.30	0.36	0.13	pCi/g
01-09125-02	B BLANK	09/24/01	09/24/01	09/26/01	0109125	Lead-212	LANL ER-130 Modified	-0.01	0.05	0.08	pCi/g
01-09125-02	B BLANK	09/24/01	09/24/01	09/26/01	0109125	Lead-214	LANL ER-130 Modified	-0.02	0.06	0.12	pCi/g
01-09125-02	B BLANK	09/24/01	09/24/01	09/26/01	0109125	Radium-226	LANL ER-130 Modified	-0.02	0.06	0.11	pCi/g
01-09125-02	B BLANK	09/24/01	09/24/01	09/26/01	0109125	Thorium-232	LANL ER-130 Modified	-0.08	0.10	0.18	pCi/g
01-09125-02	B BLANK	09/24/01	09/24/01	09/26/01	0109125	Thallium-208	LANL ER-130 Modified	0.01	0.08	0.16	pCi/g
01-09125-02	B BLANK	09/24/01	09/24/01	09/26/01	0109125	Uranium-238	LANL ER-130 Modified	-0.24	0.44	0.81	pCi/g
01-09125-03	D RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Actinium-228	LANL ER-130 Modified	0.78	0.20	0.23	pCi/g
01-09125-03	D RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Cobalt-60	LANL ER-130 Modified	-0.02	0.04	0.08	pCi/g
01-09125-03	D RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Cesium-137	LANL ER-130 Modified	-0.01	0.04	0.06	pCi/g
01-09125-03	D RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Potassium-40	LANL ER-130 Modified	17.80	2.41	0.46	pCi/g
01-09125-03	D RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Lead-212	LANL ER-130 Modified	0.96	0.23	0.08	pCi/g
01-09125-03	D RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Lead-214	LANL ER-130 Modified	0.69	0.15	0.11	pCi/g
01-09125-03	D RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Radium-226	LANL ER-130 Modified	0.60	0.14	0.12	pCi/g
01-09125-03	D RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Thorium-232	LANL ER-130 Modified	0.78	0.20	0.23	pCi/g
01-09125-03	D RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Thallium-208	LANL ER-130 Modified	0.72	0.16	0.17	pCi/g
01-09125-03	D RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Uranium-238	LANL ER-130 Modified	1.11	1.21	1.22	pCi/g

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

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SDG: 0109125
Matrix: Soil

Final Report of Analysis
Date of Report: 10/25/2001

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-09125-04	RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Actinium-228	LANL ER-130 Modified	0.77	0.20	0.21	pCi/g
01-09125-04	RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Cobalt-60	LANL ER-130 Modified	0.02	0.05	0.09	pCi/g
01-09125-04	RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Cesium-137	LANL ER-130 Modified	-0.01	0.03	0.06	pCi/g
01-09125-04	RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Potassium-40	LANL ER-130 Modified	17.81	2.47	0.54	pCi/g
01-09125-04	RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Lead-212	LANL ER-130 Modified	0.89	0.23	0.09	pCi/g
01-09125-04	RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Lead-214	LANL ER-130 Modified	0.65	0.14	0.12	pCi/g
01-09125-04	RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Radium-226	LANL ER-130 Modified	0.56	0.12	0.11	pCi/g
01-09125-04	RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Thorium-232	LANL ER-130 Modified	0.77	0.20	0.21	pCi/g
01-09125-04	RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Thallium-208	LANL ER-130 Modified	0.67	0.15	0.17	pCi/g
01-09125-04	RN9000805S083101	08/31/01	09/24/01	09/26/01	0109125	Uranium-238	LANL ER-130 Modified	1.81	1.32	1.23	pCi/g
01-09125-05	RN9000805S083102	08/31/01	09/24/01	09/26/01	0109125	Actinium-228	LANL ER-130 Modified	0.88	0.26	0.30	pCi/g
01-09125-05	RN9000805S083102	08/31/01	09/24/01	09/26/01	0109125	Cobalt-60	LANL ER-130 Modified	-0.06	0.07	0.12	pCi/g
01-09125-05	RN9000805S083102	08/31/01	09/24/01	09/26/01	0109125	Cesium-137	LANL ER-130 Modified	0.01	0.06	0.11	pCi/g
01-09125-05	RN9000805S083102	08/31/01	09/24/01	09/26/01	0109125	Potassium-40	LANL ER-130 Modified	16.29	2.76	0.92	pCi/g
01-09125-05	RN9000805S083102	08/31/01	09/24/01	09/26/01	0109125	Lead-212	LANL ER-130 Modified	0.70	0.19	0.13	pCi/g
01-09125-05	RN9000805S083102	08/31/01	09/24/01	09/26/01	0109125	Lead-214	LANL ER-130 Modified	0.48	0.16	0.16	pCi/g
01-09125-05	RN9000805S083102	08/31/01	09/24/01	09/26/01	0109125	Radium-226	LANL ER-130 Modified	0.50	0.16	0.17	pCi/g
01-09125-05	RN9000805S083102	08/31/01	09/24/01	09/26/01	0109125	Thorium-232	LANL ER-130 Modified	0.88	0.26	0.30	pCi/g
01-09125-05	RN9000805S083102	08/31/01	09/24/01	09/26/01	0109125	Thallium-208	LANL ER-130 Modified	0.99	0.26	0.49	pCi/g
01-09125-05	RN9000805S083102	08/31/01	09/24/01	09/26/01	0109125	Uranium-238	LANL ER-130 Modified	0.45	0.90	1.60	pCi/g
01-09125-06	RN9000901S090601	09/06/01	09/24/01	09/27/01	0109125	Actinium-228	LANL ER-130 Modified	0.43	0.29	0.34	pCi/g
01-09125-06	RN9000901S090601	09/06/01	09/24/01	09/27/01	0109125	Cobalt-60	LANL ER-130 Modified	0.01	0.06	0.10	pCi/g
01-09125-06	RN9000901S090601	09/06/01	09/24/01	09/27/01	0109125	Cesium-137	LANL ER-130 Modified	0.02	0.06	0.10	pCi/g
01-09125-06	RN9000901S090601	09/06/01	09/24/01	09/27/01	0109125	Potassium-40	LANL ER-130 Modified	3.81	1.77	0.95	pCi/g
01-09125-06	RN9000901S090601	09/06/01	09/24/01	09/27/01	0109125	Lead-212	LANL ER-130 Modified	0.57	0.23	0.17	pCi/g
01-09125-06	RN9000901S090601	09/06/01	09/24/01	09/27/01	0109125	Lead-214	LANL ER-130 Modified	10.07	2.05	0.18	pCi/g
01-09125-06	RN9000901S090601	09/06/01	09/24/01	09/27/01	0109125	Radium-226	LANL ER-130 Modified	8.86	0.66	0.17	pCi/g
01-09125-06	RN9000901S090601	09/06/01	09/24/01	09/27/01	0109125	Thorium-232	LANL ER-130 Modified	0.43	0.29	0.34	pCi/g
01-09125-06	RN9000901S090601	09/06/01	09/24/01	09/27/01	0109125	Thallium-208	LANL ER-130 Modified	0.38	0.19	0.26	pCi/g
01-09125-06	RN9000901S090601	09/06/01	09/24/01	09/27/01	0109125	Uranium-238	LANL ER-130 Modified	2.93	2.51	2.46	pCi/g

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

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SDG: 0109125
Matrix: Soil

Lab ID		Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-09125-01	K	KNOWN	09/24/01	09/24/01	10/19/01	0109125	Thorium-230	EML Th-01 Modified	5.37	0.14		pCi/g
01-09125-01	S	SPIKE	09/24/01	09/24/01	10/19/01	0109125	Thorium-230	EML Th-01 Modified	5.35	1.22	0.11	pCi/g
01-09125-02	B	BLANK	09/24/01	09/24/01	10/19/01	0109125	Thorium-230	EML Th-01 Modified	0.10	0.11	0.15	pCi/g
01-09125-03	D	RN9000805S083101	08/31/01	09/24/01	10/19/01	0109125	Thorium-230	EML Th-01 Modified	1.56	0.45	0.05	pCi/g
01-09125-04		RN9000805S083101	08/31/01	09/24/01	10/19/01	0109125	Thorium-230	EML Th-01 Modified	1.40	0.40	0.12	pCi/g
01-09125-05		RN9000805S083102	08/31/01	09/24/01	10/19/01	0109125	Thorium-230	EML Th-01 Modified	1.36	0.40	0.14	pCi/g
01-09125-06		RN9000901S090601	09/06/01	09/24/01	10/19/01	0109125	Thorium-230	EML Th-01 Modified	355.70	66.76	0.22	pCi/g
01-09125-07		RN9000902S091201	09/12/01	09/24/01	10/19/01	0109125	Thorium-230	EML Th-01 Modified	6.10	1.36	0.13	pCi/g
01-09125-08		RN9000902S091202	09/12/01	09/24/01	10/22/01	0109125	Thorium-230	EML Th-01 Modified	1.98	0.57	0.23	pCi/g
01-09125-09		RN9000902S091203	09/12/01	09/24/01	10/22/01	0109125	Thorium-230	EML Th-01 Modified	2.86	0.72	0.22	pCi/g
01-09125-10		RN9000902S091204	09/12/01	09/24/01	10/22/01	0109125	Thorium-230	EML Th-01 Modified	1.49	0.43	0.15	pCi/g
01-09125-01	K	KNOWN	09/24/01	09/24/01	10/19/01	0109125	Thorium-232	EML Th-01 Modified	4.66	0.17		pCi/g
01-09125-01	S	SPIKE	09/24/01	09/24/01	10/19/01	0109125	Thorium-232	EML Th-01 Modified	4.80	1.11	0.16	pCi/g
01-09125-02	B	BLANK	09/24/01	09/24/01	10/19/01	0109125	Thorium-232	EML Th-01 Modified	0.07	0.08	0.11	pCi/g
01-09125-03	D	RN9000805S083101	08/31/01	09/24/01	10/19/01	0109125	Thorium-232	EML Th-01 Modified	1.11	0.36	0.12	pCi/g
01-09125-04		RN9000805S083101	08/31/01	09/24/01	10/19/01	0109125	Thorium-232	EML Th-01 Modified	1.01	0.32	0.12	pCi/g
01-09125-05		RN9000805S083102	08/31/01	09/24/01	10/19/01	0109125	Thorium-232	EML Th-01 Modified	1.01	0.33	0.09	pCi/g
01-09125-06		RN9000901S090601	09/06/01	09/24/01	10/19/01	0109125	Thorium-232	EML Th-01 Modified	3.54	0.87	0.22	pCi/g
01-09125-07		RN9000902S091201	09/12/01	09/24/01	10/19/01	0109125	Thorium-232	EML Th-01 Modified	0.97	0.33	0.05	pCi/g
01-09125-08		RN9000902S091202	09/12/01	09/24/01	10/22/01	0109125	Thorium-232	EML Th-01 Modified	1.06	0.37	0.20	pCi/g
01-09125-09		RN9000902S091203	09/12/01	09/24/01	10/22/01	0109125	Thorium-232	EML Th-01 Modified	1.10	0.36	0.17	pCi/g
01-09125-10		RN9000902S091204	09/12/01	09/24/01	10/22/01	0109125	Thorium-232	EML Th-01 Modified	0.94	0.32	0.12	pCi/g

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

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Final Report of Analysis
Date of Report: 10/25/2001

Lab ID		Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-09125-01	K	KNOWN	09/24/01	09/24/01	10/23/01	0109125	Uranium-234	EML U-02 Modified	7.93	0.29		pCi/g
01-09125-01	S	SPIKE	09/24/01	09/24/01	10/23/01	0109125	Uranium-234	EML U-02 Modified	7.24	1.84	0.19	pCi/g
01-09125-02	B	BLANK	09/24/01	09/24/01	10/23/01	0109125	Uranium-234	EML U-02 Modified	1.42	0.55	0.30	pCi/g
01-09125-03	D	RN9000805S083101	08/31/01	09/24/01	10/23/01	0109125	Uranium-234	EML U-02 Modified	1.30	0.39	0.22	pCi/g
01-09125-04		RN9000805S083101	08/31/01	09/24/01	10/23/01	0109125	Uranium-234	EML U-02 Modified	1.52	0.42	0.16	pCi/g
01-09125-05		RN9000805S083102	08/31/01	09/24/01	10/23/01	0109125	Uranium-234	EML U-02 Modified	1.58	0.43	0.10	pCi/g
01-09125-06		RN9000901S090601	09/06/01	09/24/01	10/23/01	0109125	Uranium-234	EML U-02 Modified	19.82	4.98	1.81	pCi/g
01-09125-07		RN9000902S091201	09/12/01	09/24/01	10/23/01	0109125	Uranium-234	EML U-02 Modified	23.45	5.86	0.99	pCi/g
01-09125-08		RN9000902S091202	09/12/01	09/24/01	10/23/01	0109125	Uranium-234	EML U-02 Modified	22.29	5.32	0.90	pCi/g
01-09125-09		RN9000902S091203	09/12/01	09/24/01	10/23/01	0109125	Uranium-234	EML U-02 Modified	20.04	3.70	0.08	pCi/g
01-09125-10		RN9000902S091204	09/12/01	09/24/01	10/23/01	0109125	Uranium-234	EML U-02 Modified	17.54	3.28	0.11	pCi/g
01-09125-01	K	KNOWN	09/24/01	09/24/01	10/23/01	0109125	Uranium-235	EML U-02 Modified	0.36	0.01		pCi/g
01-09125-01	S	SPIKE	09/24/01	09/24/01	10/23/01	0109125	Uranium-235	EML U-02 Modified	0.25	0.21	0.21	pCi/g
01-09125-02	B	BLANK	09/24/01	09/24/01	10/23/01	0109125	Uranium-235	EML U-02 Modified	0.09	0.15	0.30	pCi/g
01-09125-03	D	RN9000805S083101	08/31/01	09/24/01	10/23/01	0109125	Uranium-235	EML U-02 Modified	0.04	0.08	0.16	pCi/g
01-09125-04		RN9000805S083101	08/31/01	09/24/01	10/23/01	0109125	Uranium-235	EML U-02 Modified	0.01	0.04	0.13	pCi/g
01-09125-05		RN9000805S083102	08/31/01	09/24/01	10/23/01	0109125	Uranium-235	EML U-02 Modified	0.00	0.04	0.15	pCi/g
01-09125-06		RN9000901S090601	09/06/01	09/24/01	10/23/01	0109125	Uranium-235	EML U-02 Modified	0.75	0.83	1.27	pCi/g
01-09125-07		RN9000902S091201	09/12/01	09/24/01	10/23/01	0109125	Uranium-235	EML U-02 Modified	1.19	1.03	1.23	pCi/g
01-09125-08		RN9000902S091202	09/12/01	09/24/01	10/23/01	0109125	Uranium-235	EML U-02 Modified	0.13	0.32	0.73	pCi/g
01-09125-09		RN9000902S091203	09/12/01	09/24/01	10/23/01	0109125	Uranium-235	EML U-02 Modified	0.87	0.31	0.10	pCi/g
01-09125-10		RN9000902S091204	09/12/01	09/24/01	10/23/01	0109125	Uranium-235	EML U-02 Modified	0.70	0.28	0.15	pCi/g

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

[redacted]
Lionville Laboratories
208 Welsh Pool Road
Lionville, PA 19341-1313

SDG: 0109125
Matrix: Soil

Final Report of Analysis
Date of Report: 10/25/2001

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-09125-01	K KNOWN	09/24/01	09/24/01	10/23/01	0109125	Uranium-238	EML U-02 Modified	7.73	0.28		pCi/g
01-09125-01	S SPIKE	09/24/01	09/24/01	10/23/01	0109125	Uranium-238	EML U-02 Modified	6.90	1.77	0.25	pCi/g
01-09125-02	B BLANK	09/24/01	09/24/01	10/23/01	0109125	Uranium-238	EML U-02 Modified	0.69	0.35	0.24	pCi/g
01-09125-03	D RN9000805S083101	08/31/01	09/24/01	10/23/01	0109125	Uranium-238	EML U-02 Modified	1.76	0.48	0.14	pCi/g
01-09125-04	RN9000805S083101	08/31/01	09/24/01	10/23/01	0109125	Uranium-238	EML U-02 Modified	1.42	0.40	0.10	pCi/g
01-09125-05	RN9000805S083102	08/31/01	09/24/01	10/23/01	0109125	Uranium-238	EML U-02 Modified	1.45	0.40	0.13	pCi/g
01-09125-06	RN9000901S090601	09/06/01	09/24/01	10/23/01	0109125	Uranium-238	EML U-02 Modified	19.55	4.89	0.88	pCi/g
01-09125-07	RN9000902S091201	09/12/01	09/24/01	10/23/01	0109125	Uranium-238	EML U-02 Modified	26.00	6.35	0.70	pCi/g
01-09125-08	RN9000902S091202	09/12/01	09/24/01	10/23/01	0109125	Uranium-238	EML U-02 Modified	21.19	5.10	0.84	pCi/g
01-09125-09	RN9000902S091203	09/12/01	09/24/01	10/23/01	0109125	Uranium-238	EML U-02 Modified	19.38	3.58	0.09	pCi/g
01-09125-10	RN9000902S091204	09/12/01	09/24/01	10/23/01	0109125	Uranium-238	EML U-02 Modified	17.52	3.28	0.08	pCi/g

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

EBERLINE SERVICES

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

EBS-OR-15786

September 10, 2001

[redacted]
Lionville Laboratory, Inc.
208 Welsh Pool Road
Lionville, PA 19341-1313

LVL 0108L575

CASE NARRATIVE
Work Order # 01-08066-OR

SAMPLE RECEIPT

This work order contains two water samples received 08/13/01. Both samples were analyzed as dissolved and suspended for Isotopic Thorium, Isotopic Uranium and by Gamma Spectroscopy. Both samples were analyzed as dissolved for Gross Alpha/Beta and Radium-226/228.

CLIENT ID	RFW #		LAB ID	
RN9000802W080901 D	0108L575	Seaway Leachate	01-08066-04	collected 7/24/01
RN9000802W080901 S	0108L575		01-08066-05	
RN9000802W080902 D	0108L575	Town of Tonawanda Groundwater from Geoprobe	01-08066-06	
RN9000802W080902 S	0108L575		01-08066-07	

ANALYTICAL METHODS

Gross Alpha/Beta was performed by gas-flow proportional counting using EPA Method 900.0 modified. Radium-226 was analyzed using EPA Method 903.0 modified. Radium-228 was analyzed using EPA Method 904.0 modified. Isotopic Thorium was analyzed using Method EML Th-01 modified. Isotopic Uranium was analyzed using Method EML U-02 modified. Gamma Spectroscopy was performed using EPA Method 901.1 modified.

ANALYTICAL DATA

NOTED EXCEPTIONS

The Gross Alpha and Gross Beta replicates both had elevated normalized differences and relative percent differences.

GROSS ALPHA / BETA

Gross Alpha / Beta samples for water were prepared by evaporation of an acidified aliquot of the sample and transfer of the reduced sample to a steel planchet for final evaporation to dryness. The samples were then counted by use of a gas proportional counter.

Some or all of the samples in this work order all had detection limits that were higher than normally seen for this analysis. This situation was the result of the high level of suspended and/or dissolved solids present in the samples. Based on the maximum energies of alpha particles, it is only practical to self-absorption correct samples up to a final deposited mass of about 120 milligrams on a two-inch planchet

EBS-OR-15786

September 10, 2001

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

[redacted]
Lionville Laboratory, Inc.
208 Welsh Pool Road
Lionville, PA 19341-1313

LvL 0108L575

CASE NARRATIVE
Work Order # 01-08066-OR

SAMPLE RECEIPT

This work order contains two water samples received 08/13/01. Both samples were analyzed as dissolved and suspended for Isotopic Thorium, Isotopic Uranium and by Gamma Spectroscopy. Both samples were analyzed as dissolved for Gross Alpha/Beta and Radium-226/228.

CLIENT ID	RFW #	LAB ID
RN9000802W080901 D	0108L575	01-08066-04
RN9000802W080901 S	0108L575	01-08066-05
RN9000802W080902 D	0108L575	01-08066-06
RN9000802W080902 S	0108L575	01-08066-07

ANALYTICAL METHODS

Gross Alpha/Beta was performed by gas-flow proportional counting using EPA Method 900.0 modified. Radium-226 was analyzed using EPA Method 903.0 modified. Radium-228 was analyzed using EPA Method 904.0 modified. Isotopic Thorium was analyzed using Method EML Th-01 modified. Isotopic Uranium was analyzed using Method EML U-02 modified. Gamma Spectroscopy was performed using EPA Method 901.1 modified.

ANALYTICAL DATA

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GROSS ALPHA / BETA

Gross Alpha / Beta samples for water were prepared by evaporation of an acidified aliquot of the sample and transfer of the reduced sample to a steel planchet for final evaporation to dryness. The samples were then counted by use of a gas proportional counter.

Some or all of the samples in this work order all had detection limits that were higher than normally seen for this analysis. This situation was the result of the high level of suspended and/or dissolved solids present in the samples. Based on the maximum energies of alpha particles, it is only practical to self-absorption correct samples up to a final deposited mass of about 120 milligrams on a two-inch planchet

ANALYTICAL DATA CONTINUED

GROSS ALPHA / BETA

(EPA method 900.0). In order to stay within this calibration limit, it was necessary to use aliquots for these samples that were substantially reduced from those normally used in this determination. Additionally, the high deposited mass required the use of a significant self-absorption factor in the calculation of the results, uncertainties, and detection limits. These two factors resulted in elevation of the detection limits above what is normally seen for this analysis. Though the detection limits could be lowered through longer counting times, the inverse-square relationship between count time and detection limits (a four times longer count to lower the detection limit by half) dictates that impractically long count times would be required to produce "normal" detection limits. We feel that the data as presented represents the best compromise between the desired detection limits and the problems inherent in the sample matrix.

The Gross Alpha and Gross Beta analysis results ranged from equal to, to somewhat elevated above, their respective sample detection limits. The Gross Beta laboratory control standard had an acceptable percent recovery and normalized difference. The Gross Alpha laboratory control standard had an elevated normalized difference but the percent recovery was acceptable. The blank results were both less than their respective sample detection limits. The Gross Alpha and Gross Beta replicates both had elevated relative percent differences and normalized differences. This result was most likely due to the extremely high level of total solids found in these samples.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.

[redacted]

Laboratory Manager

Date: 9/10/2001

[redacted]
Lionville Laboratories
208 Welsh Pool Road
Lionville, PA 19341-1313

SDG: 0108066
Matrix: Water

Final Report of Analysis
Date of Report: 9/10/2001

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-08066-01	K KNOWN	08/13/01	08/13/01	08/14/01	0108066	Gross Alpha	EPA 900.0 Modified	240.72	10.35		pCi/l
01-08066-01	S SPIKE	08/13/01	08/13/01	08/14/01	0108066	Gross Alpha	EPA 900.0 Modified	266.62	8.21	0.62	pCi/l
01-08066-02	B BLANK	08/13/01	08/13/01	08/14/01	0108066	Gross Alpha	EPA 900.0 Modified	0.19	0.32	0.62	pCi/l
01-08066-03	D RN9000802W080901 D	07/24/01	08/13/01	08/14/01	0108066	Gross Alpha	EPA 900.0 Modified	12.41	14.70	14.92	pCi/l
01-08066-04	RN9000802W080901 D	07/24/01	08/13/01	08/14/01	0108066	Gross Alpha	EPA 900.0 Modified	45.85	17.37	15.10	pCi/l
01-08066-06	RN9000802W080902 D	07/25/01	08/13/01	08/15/01	0108066	Gross Alpha	EPA 900.0 Modified	10.31	12.81	13.04	pCi/l
01-08066-01	K KNOWN	08/13/01	08/13/01	08/14/01	0108066	Gross Beta	EPA 900.0 Modified	268.79	4.84		pCi/l
01-08066-01	S SPIKE	08/13/01	08/13/01	08/14/01	0108066	Gross Beta	EPA 900.0 Modified	265.63	7.44	1.13	pCi/l
01-08066-02	B BLANK	08/13/01	08/13/01	08/14/01	0108066	Gross Beta	EPA 900.0 Modified	-0.25	0.49	1.13	pCi/l
01-08066-03	D RN9000802W080901 D	07/24/01	08/13/01	08/14/01	0108066	Gross Beta	EPA 900.0 Modified	111.36	15.33	12.96	pCi/l
01-08066-04	RN9000802W080901 D	07/24/01	08/13/01	08/14/01	0108066	Gross Beta	EPA 900.0 Modified	206.95	17.10	12.94	pCi/l
01-08066-06	RN9000802W080902 D	07/25/01	08/13/01	08/15/01	0108066	Gross Beta	EPA 900.0 Modified	154.64	16.17	12.97	pCi/l
01-08066-01	K KNOWN	08/13/01	08/13/01	08/17/01	0108066	Cobalt-60	EPA 901.1 Modified	1.91E+02	9.35E+00		pCi/ml
01-08066-01	K KNOWN	08/13/01	08/13/01	08/17/01	0108066	Cesium-137	EPA 901.1 Modified	1.21E+02	5.70E+00		pCi/ml
01-08066-01	S SPIKE	08/13/01	08/13/01	08/17/01	0108066	Cobalt-60	EPA 901.1 Modified	1.88E+02	1.42E+01	8.11E-01	pCi/ml
01-08066-01	S SPIKE	08/13/01	08/13/01	08/17/01	0108066	Cesium-137	EPA 901.1 Modified	1.24E+02	1.32E+01	6.50E-01	pCi/ml
01-08066-02	B BLANK	08/13/01	08/13/01	08/16/01	0108066	Cobalt-60	EPA 901.1 Modified	2.01E-03	4.28E-03	7.75E-03	pCi/ml
01-08066-02	B BLANK	08/13/01	08/13/01	08/16/01	0108066	Cesium-137	EPA 901.1 Modified	-2.05E-03	5.09E-03	7.24E-03	pCi/ml
01-08066-02	B BLANK	08/13/01	08/13/01	08/16/01	0108066	Ruthenium-106	EPA 901.1 Modified	1.19E-02	3.30E-02	5.97E-02	pCi/ml
01-08066-02	B BLANK	08/13/01	08/13/01	08/16/01	0108066	Zirconium-95	EPA 901.1 Modified	-7.41E-04	6.88E-03	1.20E-02	pCi/ml
01-08066-03	D RN9000802W080901 D	07/24/01	08/13/01	08/17/01	0108066	Cobalt-60	EPA 901.1 Modified	-1.72E-03	3.98E-03	6.93E-03	pCi/ml
01-08066-03	D RN9000802W080901 D	07/24/01	08/13/01	08/17/01	0108066	Cesium-137	EPA 901.1 Modified	4.21E-03	4.18E-03	6.77E-03	pCi/ml
01-08066-03	D RN9000802W080901 D	07/24/01	08/13/01	08/17/01	0108066	Ruthenium-106	EPA 901.1 Modified	4.63E-03	3.57E-02	6.08E-02	pCi/ml
01-08066-03	D RN9000802W080901 D	07/24/01	08/13/01	08/17/01	0108066	Zirconium-95	EPA 901.1 Modified	-4.54E-03	7.98E-03	1.30E-02	pCi/ml

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

[redacted]
Lionville Laboratories
208 Welsh Pool Road
Lionville, PA 19341-1313

SDG: 0108066
Matrix: Water

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-08066-04	RN9000802W080901 D	07/24/01	08/13/01	08/16/01	0108066	Cobalt-60	EPA 901.1 Modified	7.15E-04	3.83E-03	6.96E-03	pCi/ml
01-08066-04	RN9000802W080901 D	07/24/01	08/13/01	08/16/01	0108066	Cesium-137	EPA 901.1 Modified	2.69E-03	4.01E-03	7.01E-03	pCi/ml
01-08066-04	RN9000802W080901 D	07/24/01	08/13/01	08/16/01	0108066	Ruthenium-106	EPA 901.1 Modified	-1.76E-02	3.55E-02	5.83E-02	pCi/ml
01-08066-04	RN9000802W080901 D	07/24/01	08/13/01	08/16/01	0108066	Zirconium-95	EPA 901.1 Modified	1.10E-04	7.93E-03	1.34E-02	pCi/ml
01-08066-05	RN9000802W080901 S	07/24/01	08/13/01	08/17/01	0108066	Cobalt-60	EPA 901.1 Modified	8.92E-04	2.42E-03	4.40E-03	pCi/ml
01-08066-05	RN9000802W080901 S	07/24/01	08/13/01	08/17/01	0108066	Cesium-137	EPA 901.1 Modified	5.45E-03	5.86E-03	4.31E-03	pCi/ml
01-08066-05	RN9000802W080901 S	07/24/01	08/13/01	08/17/01	0108066	Ruthenium-106	EPA 901.1 Modified	5.44E-03	2.16E-02	3.89E-02	pCi/ml
01-08066-05	RN9000802W080901 S	07/24/01	08/13/01	08/17/01	0108066	Zirconium-95	EPA 901.1 Modified	-5.60E-04	5.21E-03	9.19E-03	pCi/ml
01-08066-06	RN9000802W080902 D	07/25/01	08/13/01	08/16/01	0108066	Cobalt-60	EPA 901.1 Modified	3.96E-03	4.75E-03	8.86E-03	pCi/ml
01-08066-06	RN9000802W080902 D	07/25/01	08/13/01	08/16/01	0108066	Cesium-137	EPA 901.1 Modified	9.27E-04	7.39E-03	8.99E-03	pCi/ml
01-08066-06	RN9000802W080902 D	07/25/01	08/13/01	08/16/01	0108066	Ruthenium-106	EPA 901.1 Modified	-4.89E-02	4.31E-02	7.13E-02	pCi/ml
01-08066-06	RN9000802W080902 D	07/25/01	08/13/01	08/16/01	0108066	Zirconium-95	EPA 901.1 Modified	1.93E-03	8.93E-03	1.61E-02	pCi/ml
01-08066-07	RN9000802W080902 S	07/25/01	08/13/01	08/17/01	0108066	Cobalt-60	EPA 901.1 Modified	7.20E-04	3.15E-03	5.65E-03	pCi/ml
01-08066-07	RN9000802W080902 S	07/25/01	08/13/01	08/17/01	0108066	Cesium-137	EPA 901.1 Modified	-3.27E-04	3.19E-03	5.59E-03	pCi/ml
01-08066-07	RN9000802W080902 S	07/25/01	08/13/01	08/17/01	0108066	Ruthenium-106	EPA 901.1 Modified	-6.69E-03	3.18E-02	4.96E-02	pCi/ml
01-08066-07	RN9000802W080902 S	07/25/01	08/13/01	08/17/01	0108066	Zirconium-95	EPA 901.1 Modified	9.59E-03	6.64E-03	1.25E-02	pCi/ml
01-08066-01	K KNOWN	08/13/01	08/13/01	08/20/01	0108066	Radium-226	EPA 903.0 Modified	10.17	0.47		pCi/l
01-08066-01	S SPIKE	08/13/01	08/13/01	08/20/01	0108066	Radium-226	EPA 903.0 Modified	9.09	1.13	0.19	pCi/l
01-08066-02	B BLANK	08/13/01	08/13/01	08/20/01	0108066	Radium-226	EPA 903.0 Modified	0.19	0.13	0.13	pCi/l
01-08066-03	D RN9000802W080901 D	07/24/01	08/13/01	08/21/01	0108066	Radium-226	EPA 903.0 Modified	1.19	0.45	0.42	pCi/l
01-08066-04	RN9000802W080901 D	07/24/01	08/13/01	08/21/01	0108066	Radium-226	EPA 903.0 Modified	1.41	0.47	0.34	pCi/l
01-08066-06	RN9000802W080902 D	07/25/01	08/13/01	08/21/01	0108066	Radium-226	EPA 903.0 Modified	1.52	0.80	0.62	pCi/l

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

[redacted]
Lionville Laboratories
208 Welsh Pool Road
Lionville, PA 19341-1313

SDG: 0108066
Matrix: Water

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-08066-01	K KNOWN	08/13/01	08/13/01	09/04/01	0108066	Radium-228	EPA 904.0 Modified	17.68	0.80		pCi/l
01-08066-01	S SPIKE	08/13/01	08/13/01	09/04/01	0108066	Radium-228	EPA 904.0 Modified	15.98	1.32	1.04	pCi/l
01-08066-02	B BLANK	08/13/01	08/13/01	09/04/01	0108066	Radium-228	EPA 904.0 Modified	0.42	0.66	1.13	pCi/l
01-08066-03	D RN9000802W080901 D	07/24/01	08/13/01	09/04/01	0108066	Radium-228	EPA 904.0 Modified	0.53	0.70	1.19	pCi/l
01-08066-04	RN9000802W080901 D	07/24/01	08/13/01	09/04/01	0108066	Radium-228	EPA 904.0 Modified	1.54	0.77	1.18	pCi/l
01-08066-06	RN9000802W080902 D	07/25/01	08/13/01	09/04/01	0108066	Radium-228	EPA 904.0 Modified	1.33	1.10	1.79	pCi/l
01-08066-01	K KNOWN	08/13/01	08/13/01	08/23/01	0108066	Thorium-228	EML Th-01 Modified	4.76	0.17		pCi/l
01-08066-01	S SPIKE	08/13/01	08/13/01	08/23/01	0108066	Thorium-228	EML Th-01 Modified	5.12	1.18	0.12	pCi/l
01-08066-02	B BLANK	08/13/01	08/13/01	08/23/01	0108066	Thorium-228	EML Th-01 Modified	0.63	0.25	0.16	pCi/l
01-08066-03	D RN9000802W080902 D	07/25/01	08/13/01	08/23/01	0108066	Thorium-228	EML Th-01 Modified	0.48	0.46	0.58	pCi/l
01-08066-04	RN9000802W080901 D	07/24/01	08/13/01	08/23/01	0108066	Thorium-228	EML Th-01 Modified	-0.04	0.05	0.50	pCi/l
01-08066-05	RN9000802W080901 S	07/24/01	08/13/01	08/23/01	0108066	Thorium-228	EML Th-01 Modified	0.45	0.47	0.71	pCi/l
01-08066-06	RN9000802W080902 D	07/25/01	08/13/01	08/23/01	0108066	Thorium-228	EML Th-01 Modified	0.53	0.59	0.86	pCi/l
01-08066-07	RN9000802W080902 S	07/25/01	08/13/01	08/23/01	0108066	Thorium-228	EML Th-01 Modified	1.07	0.66	0.73	pCi/l
01-08066-01	K KNOWN	08/13/01	08/13/01	08/23/01	0108066	Thorium-230	EML Th-01 Modified	5.42	0.15		pCi/l
01-08066-01	S SPIKE	08/13/01	08/13/01	08/23/01	0108066	Thorium-230	EML Th-01 Modified	5.67	1.29	0.05	pCi/l
01-08066-02	B BLANK	08/13/01	08/13/01	08/23/01	0108066	Thorium-230	EML Th-01 Modified	0.10	0.10	0.14	pCi/l
01-08066-03	D RN9000802W080902 D	07/25/01	08/13/01	08/23/01	0108066	Thorium-230	EML Th-01 Modified	0.19	0.41	0.93	pCi/l
01-08066-04	RN9000802W080901 D	07/24/01	08/13/01	08/23/01	0108066	Thorium-230	EML Th-01 Modified	0.73	0.58	0.80	pCi/l
01-08066-05	RN9000802W080901 S	07/24/01	08/13/01	08/23/01	0108066	Thorium-230	EML Th-01 Modified	0.71	0.57	0.71	pCi/l
01-08066-06	RN9000802W080902 D	07/25/01	08/13/01	08/23/01	0108066	Thorium-230	EML Th-01 Modified	1.91	1.14	1.25	pCi/l
01-08066-07	RN9000802W080902 S	07/25/01	08/13/01	08/23/01	0108066	Thorium-230	EML Th-01 Modified	0.84	0.58	0.69	pCi/l

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[redacted]
Lionville Laboratories
208 Welsh Pool Road
Lionville, PA 19341-1313

SDG: 0108066
Matrix: Water

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-08066-01	K KNOWN	08/13/01	08/13/01	08/23/01	0108066	Thorium-232	EML Th-01 Modified	4.76	0.17		pCi/l
01-08066-01	S SPIKE	08/13/01	08/13/01	08/23/01	0108066	Thorium-232	EML Th-01 Modified	5.68	1.29	0.12	pCi/l
01-08066-02	B BLANK	08/13/01	08/13/01	08/23/01	0108066	Thorium-232	EML Th-01 Modified	0.06	0.07	0.11	pCi/l
01-08066-03	D RN9000802W080902 D	07/25/01	08/13/01	08/23/01	0108066	Thorium-232	EML Th-01 Modified	0.31	0.36	0.53	pCi/l
01-08066-04	RN9000802W080901 D	07/24/01	08/13/01	08/23/01	0108066	Thorium-232	EML Th-01 Modified	0.14	0.24	0.45	pCi/l
01-08066-05	RN9000802W080901 S	07/24/01	08/13/01	08/23/01	0108066	Thorium-232	EML Th-01 Modified	0.32	0.37	0.55	pCi/l
01-08066-06	RN9000802W080902 D	07/25/01	08/13/01	08/23/01	0108066	Thorium-232	EML Th-01 Modified	0.78	0.68	0.81	pCi/l
01-08066-07	RN9000802W080902 S	07/25/01	08/13/01	08/23/01	0108066	Thorium-232	EML Th-01 Modified	0.30	0.31	0.20	pCi/l
01-08066-01	K KNOWN	08/13/01	08/13/01	08/22/01	0108066	Uranium-234	EML U-02 Modified	8.09	0.29		pCi/l
01-08066-01	S SPIKE	08/13/01	08/13/01	08/22/01	0108066	Uranium-234	EML U-02 Modified	7.70	1.68	0.14	pCi/l
01-08066-02	B BLANK	08/13/01	08/13/01	08/22/01	0108066	Uranium-234	EML U-02 Modified	0.01	0.05	0.14	pCi/l
01-08066-03	D RN9000802W080902 D	07/25/01	08/13/01	08/22/01	0108066	Uranium-234	EML U-02 Modified	1.95	1.82	2.55	pCi/l
01-08066-04	RN9000802W080901 D	07/24/01	08/13/01	08/22/01	0108066	Uranium-234	EML U-02 Modified	1.78	1.57	2.50	pCi/l
01-08066-05	RN9000802W080901 S	07/24/01	08/13/01	08/22/01	0108066	Uranium-234	EML U-02 Modified	0.03	0.20	0.57	pCi/l
01-08066-06	RN9000802W080902 D	07/25/01	08/13/01	08/22/01	0108066	Uranium-234	EML U-02 Modified	0.81	1.04	1.82	pCi/l
01-08066-07	RN9000802W080902 S	07/25/01	08/13/01	08/22/01	0108066	Uranium-234	EML U-02 Modified	0.42	0.44	0.67	pCi/l
01-08066-01	K KNOWN	08/13/01	08/13/01	08/22/01	0108066	Uranium-235	EML U-02 Modified	0.37	0.01		pCi/l
01-08066-01	S SPIKE	08/13/01	08/13/01	08/22/01	0108066	Uranium-235	EML U-02 Modified	0.19	0.14	0.12	pCi/l
01-08066-02	B BLANK	08/13/01	08/13/01	08/22/01	0108066	Uranium-235	EML U-02 Modified	-0.01	0.01	0.12	pCi/l
01-08066-03	D RN9000802W080902 D	07/25/01	08/13/01	08/22/01	0108066	Uranium-235	EML U-02 Modified	0.74	1.07	1.01	pCi/l
01-08066-04	RN9000802W080901 D	07/24/01	08/13/01	08/22/01	0108066	Uranium-235	EML U-02 Modified	-0.09	0.12	1.36	pCi/l
01-08066-05	RN9000802W080901 S	07/24/01	08/13/01	08/22/01	0108066	Uranium-235	EML U-02 Modified	0.07	0.17	0.39	pCi/l
01-08066-06	RN9000802W080902 D	07/25/01	08/13/01	08/22/01	0108066	Uranium-235	EML U-02 Modified	0.50	0.79	1.27	pCi/l
01-08066-07	RN9000802W080902 S	07/25/01	08/13/01	08/22/01	0108066	Uranium-235	EML U-02 Modified	0.05	0.22	0.65	pCi/l

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

[redacted]
Lionville Laboratories
208 Welsh Pool Road
Lionville, PA 19341-1313

SDG: 0108066
Matrix: Water

Final Report of Analysis
Date of Report: 9/10/2001

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-08066-01	K KNOWN	08/13/01	08/13/01	08/22/01	0108066	Uranium-238	EML U-02 Modified	7.89	0.28		pCi/l
01-08066-01	S SPIKE	08/13/01	08/13/01	08/22/01	0108066	Uranium-238	EML U-02 Modified	7.53	1.65	0.11	pCi/l
01-08066-02	B BLANK	08/13/01	08/13/01	08/22/01	0108066	Uranium-238	EML U-02 Modified	0.01	0.07	0.19	pCi/l
01-08066-03	D RN9000802W080902 D	07/25/01	08/13/01	08/22/01	0108066	Uranium-238	EML U-02 Modified	1.23	1.68	3.18	pCi/l
01-08066-04	RN9000802W080901 D	07/24/01	08/13/01	08/22/01	0108066	Uranium-238	EML U-02 Modified	0.40	0.73	1.50	pCi/l
01-08066-05	RN9000802W080901 S	07/24/01	08/13/01	08/22/01	0108066	Uranium-238	EML U-02 Modified	-0.01	0.15	0.52	pCi/l
01-08066-06	RN9000802W080902 D	07/25/01	08/13/01	08/22/01	0108066	Uranium-238	EML U-02 Modified	0.59	0.93	1.81	pCi/l
01-08066-07	RN9000802W080902 S	07/25/01	08/13/01	08/22/01	0108066	Uranium-238	EML U-02 Modified	0.11	0.31	0.76	pCi/l

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

74-15-1 (9/97)—q

SEND THIS SHEET WITH SAMPLE TO CONTACT LAB

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CONTRACT LAB SAMPLE INFORMATION SHEET

Print Legibly

Part 3

CAUTION (check if applicable)

☐ Lab personnel are expected to use caution when handling DEC samples, however, please use special caution when handling this sample since it is believed to contain significant concentrations of hazardous and/or toxic materials(s)

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

☐ 2. 13PP Metals
☐ 3. Volatiles—(USEPA 624 GC/MS)
☐ 6. Pesticides/PCBs (USEPA 608-GC)
☐ 4. Acids Base/Neutrals (USEPA 624 GC/MS)
☐ 5. Cyanide
☐ 9. BOD
☐ 7. Halogenated Volatiles (USEPA 601 GC)
☐ 8. Aromatic Volatiles USEPA 602 GC)
☐ 12. TSS
☐ 10. pH
☐ 11. COD
☐ 15. Ammonia
☐ 13. Settleable Solids
☐ 14. TKN
☐ 18. Reactive Phosphorus
☐ 16. Nitrate/Nitrite
☐ 17. Total Phosphorus
☐ 21. Total Phenols
☐ 19. Oil/Grease)
☐ 20. TOC
☐ 60. PCBs congener method (ASP 91-11)
☐ 22. Other _____
☐ 59. PCBs at 0.065 ug/l
☐ 64. Total Solids
☐ 62. CBOD
☐ 65. Volatiles (USEPA 524.2 GC/MS)

CONTRACT LABORATORY PROTOCOLS

☐ 23 (ALL)—Water—Includes 24-28
☐ 29. (ALL)—Soil/Sediments—Includes 30-34
☐ 24 Base/Neutral/Acid (B/N/A)—Water—GC/MS (ASP #95-2)
☐ 30. (B/N/A)—Soil/Sediments—GC/MS (ASP #95-2)
☐ 25 Volatile Organic Analysis VOA—Water—GC/MS (ASP #95-1)
☐ 31. VOA—Soil/Sediments—GC/MS (ASP #95-1)
☐ 26 Pesticides/PCBs—Water—GC/MS (ASP #95-3)
☐ 32. Pesticides/PCBs—Soil/Sediments—GC (ASP #95-3)
☐ 27 Metals—23 in Water
☐ 33. Metals—23 in Soil/Sediments)
☐ 28 Cyanide—Water
☐ 34. Cyanide—Soil/Sediments)
☐ 66 Dioxin-Water (ASP #91-7)
☐ 67. Dioxin-Soil/Sediments (ASP #91-7)
☐ 35 Other _____

RECEIVED AUG 13 2001 OMA, Sterline OAK RIDGE LAB

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

☐ 36. EP Toxicity
☐ 37. EP Toxicity (Metals Only)
☐ 38. Ignitability
☐ 39. Corrosivity
☐ 40. VOA—(USEPA 8260 GC/MS)
☐ 41. BNA—(USEPA 8270 GC/MS)
☐ 42. Pesticides/PCBs (USEPA 8081)
☐ 43. TCLP
☐ 44. TCLP (Metals Only)
☐ 45. Reactivity
☐ 46. Dioxin (USEPA 8280)
☐ 47. Appendix IX
☒ 48. Other See Attached Letter
☐ 63 Percent Solids
☐ 68. Metals—17 Hazardous

MUNICIPAL SLUDGE

☐ 56. RS-01 ☐ 57. RS-02 ☐ 58. Other _____

COLLECTED BY:	TELEPHONE NUMBER:	REGION NO.:
[redacted]		0

CONTRACT LABORATORY:	COUNTY:	SAMPLING DATE:	MILITARY TIME:
Eberline Services / Burnsville Lab	Erie	7/24/01	8:15

SAMPLE MATRIX:

☐ Air ☐ Soil/Sediment ☐ Groundwater ☐ Surface Water ☒ Wastewater ☐ Other _____

CASE NO.	SDG NO.	SAMPLE NO.	CHECK FOR MS/MD	TYPE OF SAMPLE
RM9010	0 8 0 2 W	0 8 9 9 1 0 1	☐ This sample	☐ Grab ☐ Composite ☐ Term _____ hours

☐ Check if there will be more samples with this SDG sent in this calendar week.

SAMPLING POINT:

Report via Category B, unless checked ☐

Check if field duplicate ☐ Outfall Number

Check if sampling is part of inspection ☐

FLOW: _____ GPD _____ MGD

SPDES NUMBER/REGISTRY NUMBER

74-15-1 (9/97)—q

SEND THIS SHEET WITH SAMPLE TO CONTACT LAB

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CONTRACT LAB SAMPLE INFORMATION SHEET

Print Legibly

Part 3

CAUTION (check if applicable)

☐ Lab personnel are expected to use caution when handling DEC samples, however, please use special caution when handling this sample since it is believed to contain significant concentrations of hazardous and/or toxic materials(s)

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)—SPDES

☐ 2. 13PP Metals
☐ 3. Volatiles—(USEPA 624 GC/MS)
☐ 6. Pesticides/PCBs (USEPA 608-GC)
☐ 4. Acids Base/Neutrals (USEPA 624 GC/MS)
☐ 5. Cyanide
☐ 9. BOD
☐ 7. Halogenated Volatiles (USEPA 601 GC)
☐ 8. Aromatic Volatiles USEPA 602 GC)
☐ 12. TSS
☐ 10. pH
☐ 11. COD
☐ 15. Ammonia
☐ 13. Settleable Solids
☐ 14. TKN
☐ 18. Reactive Phosphorus
☐ 16. Nitrate/Nitrite
☐ 17. Total Phosphorus
☐ 21. Total Phenols
☐ 19. Oil/Grease)
☐ 20. TOC
☐ 60. PCBs congener method (ASP 91-11)
☐ 22. Other _____
☐ 59. PCBs at 0.065 ug/l
☐ 64. Total Solids
☐ 62. CBOD
☐ 65. Volatiles (USEPA 524.2 GC/MS)

CONTRACT LABORATORY PROTOCOLS

☐ 23 (ALL)—Water—Includes 24-28
☐ 29. (ALL)—Soil/Sediments—Includes 30-34
☐ 24 Base/Neutral/Acid (B/N/A)—Water—GC/MS (ASP #95-2)
☐ 30. (B/N/A)—Soil/Sediments—GC/MS (ASP #95-2)
☐ 25 Volatile Organic Analysis VOA—Water—GC/MS (ASP #95-1)
☐ 31. VOA—Soil/Sediments—GC/MS (ASP #95-1)
☐ 26 Pesticides/PCBs—Water—GC/MS (ASP #95-3)
☐ 32. Pesticides/PCBs—Soil/Sediments—GC (ASP #95-3)
☐ 27 Metals—23 in Water
☐ 33. Metals—23 in Soil/Sediments)
☐ 28 Cyanide—Water
☐ 34. Cyanide—Soil/Sediments)
☐ 66 Dioxin-Water (ASP #91-7)
☐ 67. Dioxin-Soil/Sediments (ASP #91-7)
☐ 35 Other _____

RECEIVED
AUG 13 2001
OAK RIDGE LAB

HAZARDOUS WASTES/RCRA ANALYSIS SW-846

☐ 36. EP Toxicity
☐ 37. EP Toxicity (Metals Only)
☐ 38. Ignitability
☐ 39. Corrosivity
☐ 40. VOA—(USEPA 8260 GC/MS)
☐ 41. BNA—(USEPA 8270 GC/MS)
☐ 42. Pesticides/PCBs (USEPA 8081)
☐ 43. TCLP
☐ 44. TCLP (Metals Only)
☐ 45. Reactivity
☐ 46. Dioxin (USEPA 8280)
☐ 47. Appendix IX
☒ 48. Other See Attached Letter
☐ 63 Percent Solids
☐ 68. Metals—17 Hazardous

MUNICIPAL SLUDGE

☐ 56. RS-01 ☐ 57. RS-02 ☐ 58. Other _____

[redacted]

REGION NO.: 0

CONTRACT LABORATORY: Eberline Services/Livonia Lab

COUNTY: Erie

SAMPLING DATE: 7/25/01

MILITARY TIME:

SAMPLE MATRIX:

☐ Air ☐ Soil/Sediment ☒ Groundwater ☐ Surface Water ☐ Wastewater ☐ Other _____

CASE NO.	SDG NO.	SAMPLE NO.	CHECK FOR MS/MD	TYPE OF SAMPLE
RW9	0a08	2Wa8	9 0 1 ☐ This sample	☐ Grab ☐ Composite ☐ Term _____ hours

☐ Check if there will be more samples with this SDG sent in this calendar week.

SAMPLING POINT:

Report via Category B, unless checked ☐

Check if field duplicate ☐ Outfall Number

Check if sampling is part of inspection ☐

FLOW: _____ GPD _____ MGD

SPDES NUMBER/REGISTRY NUMBER

Seaway Soil

SeacoR0001

SS060300

EBERLINE SERVICES

EBS-OR-15776

September 4, 2001

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

[redacted]
Lionville Laboratory, Inc.
208 Welsh Pool Road
Lionville, PA 19341-1313

01082680
Part 2

CASE NARRATIVE
Work Order # 01-08121-OR

SAMPLE RECEIPT

This work order contains nine soil samples received 08/23/01. All samples were analyzed for Isotopic Thorium, Isotopic Uranium and by Gamma Spectroscopy.

CLIENT ID	LAB ID
RN9000804S082006	01-08121-04 rock from 080108
RN9000804S082007	01-08121-05 rock from 080109
RN9000804S082008	01-08121-06 rock from 080110
RN9000804S082009	01-08121-07 rock from 073101
RN9000803S081601	01-08121-08 Seaway 24-30"
RN9000803S081602	01-08121-09 Bulk Slag
RN9000803S081603	01-08121-10 Soil goes w 082003
RN9000803S081604	01-08121-11 Soil goes w 082004
RN9000803S081605	01-08121-12 Soil goes w 082005

ANALYTICAL METHODS

Isotopic Thorium was analyzed using Method EML Th-01 modified. Isotopic Uranium was analyzed using Method EML U-02 modified. Gamma Spectroscopy was performed using Method LANL ER-130 modified.

ANALYTICAL DATA

No problems or unusual circumstances were noted during the analytical process.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.

[redacted]

Laboratory Manager

Date: 9/4/2001

[redacted]
Lionville Laboratories
208 Welsh Pool Road
Lionville, PA 19341-1313

SDG: 0108121
Matrix: Soil

Final Report of Analysis
Date of Report: 9/4/2001

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-08121-01	K KNOWN	08/23/01	08/23/01	08/27/01	0108121	Cobalt-60	LANL ER-130 Modified	207.88	10.19		pCi/g
01-08121-01	K KNOWN	08/23/01	08/23/01	08/27/01	0108121	Cesium-137	LANL ER-130 Modified	132.13	6.21		pCi/g
01-08121-01	S SPIKE	08/23/01	08/23/01	08/27/01	0108121	Cobalt-60	LANL ER-130 Modified	199.20	15.29	1.31	pCi/g
01-08121-01	S SPIKE	08/23/01	08/23/01	08/27/01	0108121	Cesium-137	LANL ER-130 Modified	127.00	13.49	1.18	pCi/g
01-08121-02	B BLANK	08/23/01	08/23/01	08/27/01	0108121	Cobalt-60	LANL ER-130 Modified	0.01	0.02	0.04	pCi/g
01-08121-02	B BLANK	08/23/01	08/23/01	08/27/01	0108121	Cesium-137	LANL ER-130 Modified	0.02	0.02	0.03	pCi/g
01-08121-02	B BLANK	08/23/01	08/23/01	08/27/01	0108121	Potassium-40	LANL ER-130 Modified	-0.07	0.21	0.42	pCi/g
01-08121-02	B BLANK	08/23/01	08/23/01	08/27/01	0108121	Lead-212	LANL ER-130 Modified	0.00	0.03	0.05	pCi/g
01-08121-02	B BLANK	08/23/01	08/23/01	08/27/01	0108121	Lead-214	LANL ER-130 Modified	0.01	0.04	0.07	pCi/g
01-08121-02	B BLANK	08/23/01	08/23/01	08/27/01	0108121	Radium-226	LANL ER-130 Modified	-0.03	0.04	0.07	pCi/g
01-08121-02	B BLANK	08/23/01	08/23/01	08/27/01	0108121	Thorium-228	LANL ER-130 Modified	-0.03	0.06	0.11	pCi/g
01-08121-02	B BLANK	08/23/01	08/23/01	08/27/01	0108121	Thorium-232	LANL ER-130 Modified	-0.03	0.06	0.11	pCi/g
01-08121-02	B BLANK	08/23/01	08/23/01	08/27/01	0108121	Thallium-208	LANL ER-130 Modified	0.05	0.06	0.12	pCi/g
01-08121-02	B BLANK	08/23/01	08/23/01	08/27/01	0108121	Uranium-238	LANL ER-130 Modified	-0.03	0.37	0.70	pCi/g
01-08121-03	D RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Cobalt-60	LANL ER-130 Modified	0.00	0.09	0.16	pCi/g
01-08121-03	D RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Cesium-137	LANL ER-130 Modified	0.30	0.19	0.18	pCi/g
01-08121-03	D RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Potassium-40	LANL ER-130 Modified	8.02	2.17	1.39	pCi/g
01-08121-03	D RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Lead-212	LANL ER-130 Modified	0.74	0.33	0.26	pCi/g
01-08121-03	D RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Lead-214	LANL ER-130 Modified	7.19	1.31	0.31	pCi/g
01-08121-03	D RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Radium-226	LANL ER-130 Modified	6.48	0.63	0.29	pCi/g
01-08121-03	D RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Thorium-228	LANL ER-130 Modified	1.03	0.44	0.55	pCi/g
01-08121-03	D RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Thorium-232	LANL ER-130 Modified	1.03	0.44	0.55	pCi/g
01-08121-03	D RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Thallium-208	LANL ER-130 Modified	1.07	0.30	0.43	pCi/g
01-08121-03	D RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Uranium-238	LANL ER-130 Modified	26.96	5.21	3.73	pCi/g

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

[redacted]
Lionville Laboratories
208 Welsh Pool Road
Lionville, PA 19341-1313

SDG: 0108121
Matrix: Soil

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-08121-04	RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Cobalt-60	LANL ER-130 Modified	0.00	0.09	0.18	pCi/g
01-08121-04	RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Cesium-137	LANL ER-130 Modified	0.30	0.14	0.17	pCi/g
01-08121-04	RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Potassium-40	LANL ER-130 Modified	7.37	2.07	1.10	pCi/g
01-08121-04	RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Lead-212	LANL ER-130 Modified	0.65	0.30	0.25	pCi/g
01-08121-04	RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Lead-214	LANL ER-130 Modified	7.21	1.31	0.32	pCi/g
01-08121-04	RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Radium-226	LANL ER-130 Modified	6.58	0.68	0.31	pCi/g
01-08121-04	RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Thorium-228	LANL ER-130 Modified	1.13	0.45	0.60	pCi/g
01-08121-04	RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Thorium-232	LANL ER-130 Modified	1.13	0.45	0.60	pCi/g
01-08121-04	RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Thallium-208	LANL ER-130 Modified	1.20	0.31	0.43	pCi/g
01-08121-04	RN9000804S082006	08/01/01	08/23/01	08/24/01	0108121	Uranium-238	LANL ER-130 Modified	28.74	5.05	3.77	pCi/g
01-08121-05	RN9000804S082007	08/01/01	08/23/01	08/24/01	0108121	Cobalt-60	LANL ER-130 Modified	-0.09	0.10	0.16	pCi/g
01-08121-05	RN9000804S082007	08/01/01	08/23/01	08/24/01	0108121	Cesium-137	LANL ER-130 Modified	-0.04	0.11	0.17	pCi/g
01-08121-05	RN9000804S082007	08/01/01	08/23/01	08/24/01	0108121	Potassium-40	LANL ER-130 Modified	6.80	2.04	2.03	pCi/g
01-08121-05	RN9000804S082007	08/01/01	08/23/01	08/24/01	0108121	Lead-212	LANL ER-130 Modified	1.76	0.54	0.25	pCi/g
01-08121-05	RN9000804S082007	08/01/01	08/23/01	08/24/01	0108121	Lead-214	LANL ER-130 Modified	6.41	1.36	0.30	pCi/g
01-08121-05	RN9000804S082007	08/01/01	08/23/01	08/24/01	0108121	Radium-226	LANL ER-130 Modified	6.19	0.67	0.34	pCi/g
01-08121-05	RN9000804S082007	08/01/01	08/23/01	08/24/01	0108121	Thorium-228	LANL ER-130 Modified	1.31	0.52	0.60	pCi/g
01-08121-05	RN9000804S082007	08/01/01	08/23/01	08/24/01	0108121	Thorium-232	LANL ER-130 Modified	1.31	0.52	0.60	pCi/g
01-08121-05	RN9000804S082007	08/01/01	08/23/01	08/24/01	0108121	Thallium-208	LANL ER-130 Modified	1.23	0.33	0.42	pCi/g
01-08121-05	RN9000804S082007	08/01/01	08/23/01	08/24/01	0108121	Uranium-238	LANL ER-130 Modified	12.34	3.20	3.38	pCi/g
01-08121-06	RN9000804S082008	08/01/01	08/23/01	08/24/01	0108121	Cobalt-60	LANL ER-130 Modified	-0.02	0.04	0.07	pCi/g
01-08121-06	RN9000804S082008	08/01/01	08/23/01	08/24/01	0108121	Cesium-137	LANL ER-130 Modified	0.02	0.05	0.08	pCi/g
01-08121-06	RN9000804S082008	08/01/01	08/23/01	08/24/01	0108121	Potassium-40	LANL ER-130 Modified	2.85	1.03	0.66	pCi/g
01-08121-06	RN9000804S082008	08/01/01	08/23/01	08/24/01	0108121	Lead-212	LANL ER-130 Modified	0.69	0.17	0.13	pCi/g
01-08121-06	RN9000804S082008	08/01/01	08/23/01	08/24/01	0108121	Lead-214	LANL ER-130 Modified	4.71	0.66	0.17	pCi/g
01-08121-06	RN9000804S082008	08/01/01	08/23/01	08/24/01	0108121	Radium-226	LANL ER-130 Modified	4.99	0.42	0.14	pCi/g
01-08121-06	RN9000804S082008	08/01/01	08/23/01	08/24/01	0108121	Thorium-228	LANL ER-130 Modified	0.54	0.21	0.28	pCi/g
01-08121-06	RN9000804S082008	08/01/01	08/23/01	08/24/01	0108121	Thorium-232	LANL ER-130 Modified	0.54	0.21	0.28	pCi/g
01-08121-06	RN9000804S082008	08/01/01	08/23/01	08/24/01	0108121	Thallium-208	LANL ER-130 Modified	0.66	0.16	0.21	pCi/g
01-08121-06	RN9000804S082008	08/01/01	08/23/01	08/24/01	0108121	Uranium-238	LANL ER-130 Modified	7.70	1.64	1.61	pCi/g

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

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Lionville Laboratories
208 Welsh Pool Road
Lionville, PA 19341-1313

SDG: 0108121
Matrix: Soil

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-08121-07	RN9000804S082009	07/31/01	08/23/01	08/24/01	0108121	Cobalt-60	LANL ER-130 Modified	0.09	0.21	0.37	pCi/g
01-08121-07	RN9000804S082009	07/31/01	08/23/01	08/24/01	0108121	Cesium-137	LANL ER-130 Modified	0.23	0.22	0.43	pCi/g
01-08121-07	RN9000804S082009	07/31/01	08/23/01	08/24/01	0108121	Potassium-40	LANL ER-130 Modified	4.99	2.29	3.16	pCi/g
01-08121-07	RN9000804S082009	07/31/01	08/23/01	08/24/01	0108121	Lead-212	LANL ER-130 Modified	3.40	0.77	0.44	pCi/g
01-08121-07	RN9000804S082009	07/31/01	08/23/01	08/24/01	0108121	Lead-214	LANL ER-130 Modified	4.52	0.87	0.47	pCi/g
01-08121-07	RN9000804S082009	07/31/01	08/23/01	08/24/01	0108121	Radium-226	LANL ER-130 Modified	4.62	0.85	0.57	pCi/g
01-08121-07	RN9000804S082009	07/31/01	08/23/01	08/24/01	0108121	Thorium-228	LANL ER-130 Modified	2.60	1.01	1.10	pCi/g
01-08121-07	RN9000804S082009	07/31/01	08/23/01	08/24/01	0108121	Thorium-232	LANL ER-130 Modified	2.60	1.01	1.10	pCi/g
01-08121-07	RN9000804S082009	07/31/01	08/23/01	08/24/01	0108121	Thallium-208	LANL ER-130 Modified	3.15	0.80	0.85	pCi/g
01-08121-07	RN9000804S082009	07/31/01	08/23/01	08/24/01	0108121	Uranium-238	LANL ER-130 Modified	4.61	3.92	7.24	pCi/g
01-08121-08	RN9000803S081601	08/16/01	08/23/01	08/24/01	0108121	Cobalt-60	LANL ER-130 Modified	0.01	0.09	0.16	pCi/g
01-08121-08	RN9000803S081601	08/16/01	08/23/01	08/24/01	0108121	Cesium-137	LANL ER-130 Modified	0.02	0.09	0.14	pCi/g
01-08121-08	RN9000803S081601	08/16/01	08/23/01	08/24/01	0108121	Potassium-40	LANL ER-130 Modified	20.34	3.24	1.27	pCi/g
01-08121-08	RN9000803S081601	08/16/01	08/23/01	08/24/01	0108121	Lead-212	LANL ER-130 Modified	0.94	0.34	0.21	pCi/g
01-08121-08	RN9000803S081601	08/16/01	08/23/01	08/24/01	0108121	Lead-214	LANL ER-130 Modified	8.95	1.84	0.26	pCi/g
01-08121-08	RN9000803S081601	08/16/01	08/23/01	08/24/01	0108121	Radium-226	LANL ER-130 Modified	6.78	0.66	0.24	pCi/g
01-08121-08	RN9000803S081601	08/16/01	08/23/01	08/24/01	0108121	Thorium-228	LANL ER-130 Modified	0.98	0.43	0.46	pCi/g
01-08121-08	RN9000803S081601	08/16/01	08/23/01	08/24/01	0108121	Thorium-232	LANL ER-130 Modified	0.98	0.43	0.46	pCi/g
01-08121-08	RN9000803S081601	08/16/01	08/23/01	08/24/01	0108121	Thallium-208	LANL ER-130 Modified	0.69	0.22	0.35	pCi/g
01-08121-08	RN9000803S081601	08/16/01	08/23/01	08/24/01	0108121	Uranium-238	LANL ER-130 Modified	17.94	3.18	4.49	pCi/g
01-08121-09	RN9000803S081602	08/16/01	08/23/01	08/24/01	0108121	Cobalt-60	LANL ER-130 Modified	-0.02	0.06	0.10	pCi/g
01-08121-09	RN9000803S081602	08/16/01	08/23/01	08/24/01	0108121	Cesium-137	LANL ER-130 Modified	0.00	0.05	0.09	pCi/g
01-08121-09	RN9000803S081602	08/16/01	08/23/01	08/24/01	0108121	Potassium-40	LANL ER-130 Modified	3.41	1.22	0.96	pCi/g
01-08121-09	RN9000803S081602	08/16/01	08/23/01	08/24/01	0108121	Lead-212	LANL ER-130 Modified	1.06	0.48	0.15	pCi/g
01-08121-09	RN9000803S081602	08/16/01	08/23/01	08/24/01	0108121	Lead-214	LANL ER-130 Modified	2.53	1.00	0.18	pCi/g
01-08121-09	RN9000803S081602	08/16/01	08/23/01	08/24/01	0108121	Radium-226	LANL ER-130 Modified	2.43	0.45	0.18	pCi/g
01-08121-09	RN9000803S081602	08/16/01	08/23/01	08/24/01	0108121	Thorium-228	LANL ER-130 Modified	0.78	0.37	0.33	pCi/g
01-08121-09	RN9000803S081602	08/16/01	08/23/01	08/24/01	0108121	Thorium-232	LANL ER-130 Modified	0.78	0.37	0.33	pCi/g
01-08121-09	RN9000803S081602	08/16/01	08/23/01	08/24/01	0108121	Thallium-208	LANL ER-130 Modified	0.79	0.37	0.44	pCi/g
01-08121-09	RN9000803S081602	08/16/01	08/23/01	08/24/01	0108121	Uranium-238	LANL ER-130 Modified	2.47	1.58	1.69	pCi/g

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SDG: 0108121
Matrix: Soil

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-08121-10	RN9000803S081603	08/16/01	08/23/01	08/24/01	0108121	Cobalt-60	LANL ER-130 Modified	0.03	0.04	0.09	pCi/g
01-08121-10	RN9000803S081603	08/16/01	08/23/01	08/24/01	0108121	Cesium-137	LANL ER-130 Modified	0.02	0.04	0.08	pCi/g
01-08121-10	RN9000803S081603	08/16/01	08/23/01	08/24/01	0108121	Potassium-40	LANL ER-130 Modified	9.37	1.55	0.64	pCi/g
01-08121-10	RN9000803S081603	08/16/01	08/23/01	08/24/01	0108121	Lead-212	LANL ER-130 Modified	0.84	0.18	0.10	pCi/g
01-08121-10	RN9000803S081603	08/16/01	08/23/01	08/24/01	0108121	Lead-214	LANL ER-130 Modified	1.61	0.25	0.14	pCi/g
01-08121-10	RN9000803S081603	08/16/01	08/23/01	08/24/01	0108121	Radium-226	LANL ER-130 Modified	1.31	0.19	0.13	pCi/g
01-08121-10	RN9000803S081603	08/16/01	08/23/01	08/24/01	0108121	Thorium-228	LANL ER-130 Modified	0.74	0.20	0.24	pCi/g
01-08121-10	RN9000803S081603	08/16/01	08/23/01	08/24/01	0108121	Thorium-232	LANL ER-130 Modified	0.74	0.20	0.24	pCi/g
01-08121-10	RN9000803S081603	08/16/01	08/23/01	08/24/01	0108121	Thallium-208	LANL ER-130 Modified	0.79	0.17	0.20	pCi/g
01-08121-10	RN9000803S081603	08/16/01	08/23/01	08/24/01	0108121	Uranium-238	LANL ER-130 Modified	3.18	1.47	1.30	pCi/g
01-08121-11	RN9000803S081604	08/16/01	08/23/01	08/24/01	0108121	Cobalt-60	LANL ER-130 Modified	-0.03	0.03	0.06	pCi/g
01-08121-11	RN9000803S081604	08/16/01	08/23/01	08/24/01	0108121	Cesium-137	LANL ER-130 Modified	0.16	0.07	0.06	pCi/g
01-08121-11	RN9000803S081604	08/16/01	08/23/01	08/24/01	0108121	Potassium-40	LANL ER-130 Modified	5.03	1.01	0.53	pCi/g
01-08121-11	RN9000803S081604	08/16/01	08/23/01	08/24/01	0108121	Lead-212	LANL ER-130 Modified	1.32	0.33	0.10	pCi/g
01-08121-11	RN9000803S081604	08/16/01	08/23/01	08/24/01	0108121	Lead-214	LANL ER-130 Modified	1.86	0.35	0.12	pCi/g
01-08121-11	RN9000803S081604	08/16/01	08/23/01	08/24/01	0108121	Radium-226	LANL ER-130 Modified	1.80	0.20	0.11	pCi/g
01-08121-11	RN9000803S081604	08/16/01	08/23/01	08/24/01	0108121	Thorium-228	LANL ER-130 Modified	1.21	0.21	0.21	pCi/g
01-08121-11	RN9000803S081604	08/16/01	08/23/01	08/24/01	0108121	Thorium-232	LANL ER-130 Modified	1.21	0.21	0.21	pCi/g
01-08121-11	RN9000803S081604	08/16/01	08/23/01	08/24/01	0108121	Thallium-208	LANL ER-130 Modified	1.12	0.16	0.17	pCi/g
01-08121-11	RN9000803S081604	08/16/01	08/23/01	08/24/01	0108121	Uranium-238	LANL ER-130 Modified	2.84	0.87	1.42	pCi/g
01-08121-12	RN9000803S081605	08/16/01	08/23/01	08/24/01	0108121	Cobalt-60	LANL ER-130 Modified	-0.02	0.05	0.08	pCi/g
01-08121-12	RN9000803S081605	08/16/01	08/23/01	08/24/01	0108121	Cesium-137	LANL ER-130 Modified	-0.01	0.05	0.09	pCi/g
01-08121-12	RN9000803S081605	08/16/01	08/23/01	08/24/01	0108121	Potassium-40	LANL ER-130 Modified	8.15	1.47	0.69	pCi/g
01-08121-12	RN9000803S081605	08/16/01	08/23/01	08/24/01	0108121	Lead-212	LANL ER-130 Modified	0.87	0.26	0.12	pCi/g
01-08121-12	RN9000803S081605	08/16/01	08/23/01	08/24/01	0108121	Lead-214	LANL ER-130 Modified	2.32	0.49	0.14	pCi/g
01-08121-12	RN9000803S081605	08/16/01	08/23/01	08/24/01	0108121	Radium-226	LANL ER-130 Modified	2.01	0.25	0.15	pCi/g
01-08121-12	RN9000803S081605	08/16/01	08/23/01	08/24/01	0108121	Thorium-228	LANL ER-130 Modified	0.80	0.25	0.29	pCi/g
01-08121-12	RN9000803S081605	08/16/01	08/23/01	08/24/01	0108121	Thorium-232	LANL ER-130 Modified	0.80	0.25	0.29	pCi/g
01-08121-12	RN9000803S081605	08/16/01	08/23/01	08/24/01	0108121	Thallium-208	LANL ER-130 Modified	0.64	0.18	0.24	pCi/g
01-08121-12	RN9000803S081605	08/16/01	08/23/01	08/24/01	0108121	Uranium-238	LANL ER-130 Modified	30.25	3.88	1.90	pCi/g

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SDG: 0108121
Matrix: Soil

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-08121-01	K KNOWN	08/23/01	08/23/01	08/29/01	0108121	Thorium-228	EML Th-01 Modified	4.69	0.17		pCi/g
01-08121-01	S SPIKE	08/23/01	08/23/01	08/29/01	0108121	Thorium-228	EML Th-01 Modified	5.36	1.18	0.12	pCi/g
01-08121-02	B BLANK	08/23/01	08/23/01	08/29/01	0108121	Thorium-228	EML Th-01 Modified	0.05	0.10	0.22	pCi/g
01-08121-03	D RN9000804S082009	07/31/01	08/23/01	08/29/01	0108121	Thorium-228	EML Th-01 Modified	2.24	0.96	0.61	pCi/g
01-08121-04	RN9000804S082006	08/01/01	08/23/01	08/29/01	0108121	Thorium-228	EML Th-01 Modified	1.73	1.22	1.43	pCi/g
01-08121-05	RN9000804S082007	08/01/01	08/23/01	08/29/01	0108121	Thorium-228	EML Th-01 Modified	1.42	1.06	1.30	pCi/g
01-08121-06	RN9000804S082008	08/01/01	08/23/01	08/29/01	0108121	Thorium-228	EML Th-01 Modified	1.05	0.82	0.82	pCi/g
01-08121-07	RN9000804S082009	07/31/01	08/23/01	08/29/01	0108121	Thorium-228	EML Th-01 Modified	2.66	0.96	0.37	pCi/g
01-08121-08	RN9000803S081601	08/16/01	08/23/01	08/29/01	0108121	Thorium-228	EML Th-01 Modified	1.39	1.13	1.53	pCi/g
01-08121-09	RN9000803S081602	08/16/01	08/23/01	08/29/01	0108121	Thorium-228	EML Th-01 Modified	1.09	0.94	1.22	pCi/g
01-08121-10	RN9000803S081603	08/16/01	08/23/01	08/29/01	0108121	Thorium-228	EML Th-01 Modified	2.32	1.62	2.15	pCi/g
01-08121-11	RN9000803S081604	08/16/01	08/23/01	08/29/01	0108121	Thorium-228	EML Th-01 Modified	1.38	1.09	1.27	pCi/g
01-08121-12	RN9000803S081605	08/16/01	08/23/01	08/29/01	0108121	Thorium-228	EML Th-01 Modified	1.43	1.25	1.80	pCi/g
01-08121-01	K KNOWN	08/23/01	08/23/01	08/29/01	0108121	Thorium-230	EML Th-01 Modified	5.36	0.14		pCi/g
01-08121-01	S SPIKE	08/23/01	08/23/01	08/29/01	0108121	Thorium-230	EML Th-01 Modified	5.81	1.27	0.18	pCi/g
01-08121-02	B BLANK	08/23/01	08/23/01	08/29/01	0108121	Thorium-230	EML Th-01 Modified	0.32	0.19	0.17	pCi/g
01-08121-03	D RN9000804S082009	07/31/01	08/23/01	08/29/01	0108121	Thorium-230	EML Th-01 Modified	5.60	1.67	0.42	pCi/g
01-08121-04	RN9000804S082006	08/01/01	08/23/01	08/29/01	0108121	Thorium-230	EML Th-01 Modified	10.03	3.22	0.98	pCi/g
01-08121-05	RN9000804S082007	08/01/01	08/23/01	08/29/01	0108121	Thorium-230	EML Th-01 Modified	9.31	3.00	1.15	pCi/g
01-08121-06	RN9000804S082008	08/01/01	08/23/01	08/29/01	0108121	Thorium-230	EML Th-01 Modified	9.45	2.91	1.42	pCi/g
01-08121-07	RN9000804S082009	07/31/01	08/23/01	08/29/01	0108121	Thorium-230	EML Th-01 Modified	4.80	1.42	0.56	pCi/g
01-08121-08	RN9000803S081601	08/16/01	08/23/01	08/29/01	0108121	Thorium-230	EML Th-01 Modified	202.70	40.65	0.91	pCi/g
01-08121-09	RN9000803S081602	08/16/01	08/23/01	08/29/01	0108121	Thorium-230	EML Th-01 Modified	5.68	2.25	1.67	pCi/g
01-08121-10	RN9000803S081603	08/16/01	08/23/01	08/29/01	0108121	Thorium-230	EML Th-01 Modified	5.53	2.41	1.64	pCi/g
01-08121-11	RN9000803S081604	08/16/01	08/23/01	08/29/01	0108121	Thorium-230	EML Th-01 Modified	5.79	2.35	1.33	pCi/g
01-08121-12	RN9000803S081605	08/16/01	08/23/01	08/29/01	0108121	Thorium-230	EML Th-01 Modified	8.00	2.93	1.30	pCi/g

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Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-08121-01	K KNOWN	08/23/01	08/23/01	08/29/01	0108121	Thorium-232	EML Th-01 Modified	4.69	0.17		pCi/g
01-08121-01	S SPIKE	08/23/01	08/23/01	08/29/01	0108121	Thorium-232	EML Th-01 Modified	5.16	1.15	0.15	pCi/g
01-08121-02	B BLANK	08/23/01	08/23/01	08/29/01	0108121	Thorium-232	EML Th-01 Modified	0.18	0.14	0.18	pCi/g
01-08121-03	D RN9000804S082009	07/31/01	08/23/01	08/29/01	0108121	Thorium-232	EML Th-01 Modified	3.34	1.19	0.36	pCi/g
01-08121-04	RN9000804S082006	08/01/01	08/23/01	08/29/01	0108121	Thorium-232	EML Th-01 Modified	1.33	1.02	1.14	pCi/g
01-08121-05	RN9000804S082007	08/01/01	08/23/01	08/29/01	0108121	Thorium-232	EML Th-01 Modified	3.03	1.48	0.89	pCi/g
01-08121-06	RN9000804S082008	08/01/01	08/23/01	08/29/01	0108121	Thorium-232	EML Th-01 Modified	2.29	1.24	1.06	pCi/g
01-08121-07	RN9000804S082009	07/31/01	08/23/01	08/29/01	0108121	Thorium-232	EML Th-01 Modified	2.03	0.81	0.34	pCi/g
01-08121-08	RN9000803S081601	08/16/01	08/23/01	08/29/01	0108121	Thorium-232	EML Th-01 Modified	5.98	2.33	1.02	pCi/g
01-08121-09	RN9000803S081602	08/16/01	08/23/01	08/29/01	0108121	Thorium-232	EML Th-01 Modified	2.85	1.48	1.10	pCi/g
01-08121-10	RN9000803S081603	08/16/01	08/23/01	08/29/01	0108121	Thorium-232	EML Th-01 Modified	3.36	1.78	1.27	pCi/g
01-08121-11	RN9000803S081604	08/16/01	08/23/01	08/29/01	0108121	Thorium-232	EML Th-01 Modified	2.73	1.52	1.27	pCi/g
01-08121-12	RN9000803S081605	08/16/01	08/23/01	08/29/01	0108121	Thorium-232	EML Th-01 Modified	2.94	1.63	0.92	pCi/g
01-08121-01	K KNOWN	08/23/01	08/23/01	08/30/01	0108121	Uranium-234	EML U-02 Modified	7.96	0.29		pCi/g
01-08121-01	S SPIKE	08/23/01	08/23/01	08/30/01	0108121	Uranium-234	EML U-02 Modified	8.16	1.88	0.18	pCi/g
01-08121-02	B BLANK	08/23/01	08/23/01	08/30/01	0108121	Uranium-234	EML U-02 Modified	0.03	0.09	0.21	pCi/g
01-08121-03	D RN9000804S082009	07/31/01	08/23/01	08/30/01	0108121	Uranium-234	EML U-02 Modified	4.82	1.53	0.76	pCi/g
01-08121-04	RN9000804S082006	08/01/01	08/23/01	08/30/01	0108121	Uranium-234	EML U-02 Modified	21.81	5.72	1.62	pCi/g
01-08121-05	RN9000804S082007	08/01/01	08/23/01	08/30/01	0108121	Uranium-234	EML U-02 Modified	8.48	2.94	1.45	pCi/g
01-08121-06	RN9000804S082008	08/01/01	08/23/01	08/30/01	0108121	Uranium-234	EML U-02 Modified	11.88	3.78	1.79	pCi/g
01-08121-07	RN9000804S082009	07/31/01	08/23/01	08/30/01	0108121	Uranium-234	EML U-02 Modified	5.57	1.70	1.02	pCi/g
01-08121-08	RN9000803S081601	08/16/01	08/23/01	08/30/01	0108121	Uranium-234	EML U-02 Modified	19.56	5.29	1.70	pCi/g
01-08121-09	RN9000803S081602	08/16/01	08/23/01	08/30/01	0108121	Uranium-234	EML U-02 Modified	4.72	1.67	1.09	pCi/g
01-08121-10	RN9000803S081603	08/16/01	08/23/01	08/30/01	0108121	Uranium-234	EML U-02 Modified	6.87	2.41	1.41	pCi/g
01-08121-11	RN9000803S081604	08/16/01	08/23/01	08/30/01	0108121	Uranium-234	EML U-02 Modified	5.72	2.14	1.37	pCi/g
01-08121-12	RN9000803S081605	08/16/01	08/23/01	08/30/01	0108121	Uranium-234	EML U-02 Modified	34.58	7.53	1.23	pCi/g

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

[redacted]
Lionville Laboratories
208 Welsh Pool Road
Lionville, PA 19341-1313

SDG: 0108121
Matrix: Soil

Lab ID		Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-08121-01	K	KNOWN	08/23/01	08/23/01	08/30/01	0108121	Uranium-235	EML U-02 Modified	0.36	0.01		pCi/g
01-08121-01	S	SPIKE	08/23/01	08/23/01	08/30/01	0108121	Uranium-235	EML U-02 Modified	0.22	0.17	0.13	pCi/g
01-08121-02	B	BLANK	08/23/01	08/23/01	08/30/01	0108121	Uranium-235	EML U-02 Modified	0.08	0.09	0.07	pCi/g
01-08121-03	D	RN9000804S082009	07/31/01	08/23/01	08/30/01	0108121	Uranium-235	EML U-02 Modified	0.26	0.32	0.43	pCi/g
01-08121-04		RN9000804S082006	08/01/01	08/23/01	08/30/01	0108121	Uranium-235	EML U-02 Modified	1.65	1.29	1.33	pCi/g
01-08121-05		RN9000804S082007	08/01/01	08/23/01	08/30/01	0108121	Uranium-235	EML U-02 Modified	0.57	0.84	1.59	pCi/g
01-08121-06		RN9000804S082008	08/01/01	08/23/01	08/30/01	0108121	Uranium-235	EML U-02 Modified	0.11	0.48	1.39	pCi/g
01-08121-07		RN9000804S082009	07/31/01	08/23/01	08/30/01	0108121	Uranium-235	EML U-02 Modified	0.05	0.20	0.58	pCi/g
01-08121-08		RN9000803S081601	08/16/01	08/23/01	08/30/01	0108121	Uranium-235	EML U-02 Modified	0.92	0.98	1.39	pCi/g
01-08121-09		RN9000803S081602	08/16/01	08/23/01	08/30/01	0108121	Uranium-235	EML U-02 Modified	0.34	0.45	0.69	pCi/g
01-08121-10		RN9000803S081603	08/16/01	08/23/01	08/30/01	0108121	Uranium-235	EML U-02 Modified	0.15	0.37	0.84	pCi/g
01-08121-11		RN9000803S081604	08/16/01	08/23/01	08/30/01	0108121	Uranium-235	EML U-02 Modified	0.63	0.74	1.09	pCi/g
01-08121-12		RN9000803S081605	08/16/01	08/23/01	08/30/01	0108121	Uranium-235	EML U-02 Modified	1.62	1.11	0.49	pCi/g
01-08121-01	K	KNOWN	08/23/01	08/23/01	08/30/01	0108121	Uranium-238	EML U-02 Modified	7.76	0.28		pCi/g
01-08121-01	S	SPIKE	08/23/01	08/23/01	08/30/01	0108121	Uranium-238	EML U-02 Modified	8.13	1.87	0.06	pCi/g
01-08121-02	B	BLANK	08/23/01	08/23/01	08/30/01	0108121	Uranium-238	EML U-02 Modified	0.05	0.10	0.21	pCi/g
01-08121-03	D	RN9000804S082009	07/31/01	08/23/01	08/30/01	0108121	Uranium-238	EML U-02 Modified	3.85	1.34	1.00	pCi/g
01-08121-04		RN9000804S082006	08/01/01	08/23/01	08/30/01	0108121	Uranium-238	EML U-02 Modified	22.21	5.82	2.15	pCi/g
01-08121-05		RN9000804S082007	08/01/01	08/23/01	08/30/01	0108121	Uranium-238	EML U-02 Modified	8.00	2.87	1.86	pCi/g
01-08121-06		RN9000804S082008	08/01/01	08/23/01	08/30/01	0108121	Uranium-238	EML U-02 Modified	12.73	3.93	1.51	pCi/g
01-08121-07		RN9000804S082009	07/31/01	08/23/01	08/30/01	0108121	Uranium-238	EML U-02 Modified	4.80	1.51	0.50	pCi/g
01-08121-08		RN9000803S081601	08/16/01	08/23/01	08/30/01	0108121	Uranium-238	EML U-02 Modified	16.17	4.59	1.50	pCi/g
01-08121-09		RN9000803S081602	08/16/01	08/23/01	08/30/01	0108121	Uranium-238	EML U-02 Modified	3.16	1.30	0.95	pCi/g
01-08121-10		RN9000803S081603	08/16/01	08/23/01	08/30/01	0108121	Uranium-238	EML U-02 Modified	6.02	2.21	1.33	pCi/g
01-08121-11		RN9000803S081604	08/16/01	08/23/01	08/30/01	0108121	Uranium-238	EML U-02 Modified	5.09	1.98	1.14	pCi/g
01-08121-12		RN9000803S081605	08/16/01	08/23/01	08/30/01	0108121	Uranium-238	EML U-02 Modified	35.76	7.74	1.18	pCi/g

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

EBS-OR-15073

May 10, 2001

EBERLINE SERVICES

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

John I. Mitchell
New York State Dept. Of Conservation
50 Wolf Road
Albany, NY 12233-7255

RECEIVED
NYSDEC
MAY 11 2001
BUREAU OF RADIATION & HAZARDOUS SITE MANAGEMENT
DIVISION OF SOLID & HAZARDOUS MATERIALS

CASE NARRATIVE
Work Order # 01-04083-OR

SAMPLE RECEIPT

This work order contains eight water samples received 04/13/01. All samples were analyzed as dissolved and suspended for Isotopic Thorium, Isotopic Uranium and by Gamma Spectroscopy. All samples were analyzed as dissolved for Gross Alpha/Beta and Radium-226/228.

CLIENT ID	LAB ID	CLIENT ID	LAB ID
RN9000401W040501 D	Rattlesnake Creek	RN9000401W040505 D	#4
RN9000401W040501 S	2 mile road	RN9000401W040505 S	
RN9000401W040502 D	#1	RN9000401W040506 D	2 mile Creek North of Sheridan
RN9000401W040502 S		RN9000401W040506 S	
RN9000401W040503 D	#3	RN9000401W040507 D	Ellicott Creek by NF Blvd.
RN9000401W040503 S		RN9000401W040507 S	
RN9000401W040504 D	#2	RN9000401W040608 D	Seaway Leachate
RN9000401W040504 S		RN9000401W040608 S	

ANALYTICAL METHODS

Gross Alpha/Beta was performed by gas-flow proportional counting using EPA Method 900.0 modified. Radium-226 was analyzed using EPA Method 903.0 modified. Radium-228 was analyzed using EPA Method 904.0 modified. Isotopic Thorium was analyzed using Method EML Th-01 modified. Isotopic Uranium was analyzed using Method EML U-02 modified. Gamma Spectroscopy was performed using EPA Method 901.1 modified.

SPECIAL PROBLEMS OR UNUSUAL CIRCUMSTANCES

No special problems were noted during the analysis process.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.

[redacted]

Laboratory Manager Date: 5/10/2001

EBS-OR-15073

May 10, 2001

EBERLINE SERVICES

Oak Ridge Laboratory
601 Scarboro Road
Oak Ridge, TN 37830
Phone (865) 481-0683
Fax (865) 483-4621

[redacted]

New York State Dept. Of Conservation
50 Wolf Road
Albany, NY 12233-7255

RECEIVED
NYSDEC
MAY 11 2001
BUREAU OF RADIATION & HAZARDOUS SITE MANAGEMENT
DIVISION OF SOLID & HAZARDOUS MATERIALS

CASE NARRATIVE
Work Order # 01-04083-OR

SAMPLE RECEIPT

This work order contains eight water samples received 04/13/01. All samples were analyzed as dissolved and suspended for Isotopic Thorium, Isotopic Uranium and by Gamma Spectroscopy. All samples were analyzed as dissolved for Gross Alpha/Beta and Radium-226/228.

CLIENT ID	LAB ID	CLIENT ID	LAB ID
RN9000401W040501 D	01-04083-04	RN9000401W040505 D	01-04083-12
RN9000401W040501 S	01-04083-05	RN9000401W040505 S	01-04083-13
RN9000401W040502 D	01-04083-06	RN9000401W040506 D	01-04083-14
RN9000401W040502 S	01-04083-07	RN9000401W040506 S	01-04083-15
RN9000401W040503 D	01-04083-08	RN9000401W040507 D	01-04083-16
RN9000401W040503 S	01-04083-09	RN9000401W040507 S	01-04083-17
RN9000401W040504 D	01-04083-10	RN9000401W040608 D	01-04083-18
RN9000401W040504 S	01-04083-11	RN9000401W040608 S	01-04083-19

ANALYTICAL METHODS

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No special problems were noted during the analysis process.

CERTIFICATION OF ACCURACY

I certify that this data report is in compliance with the terms and conditions of the Purchase Order, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the cognizant project manager or his/her designee to be accurate as verified by the following signature.

[redacted]

Laboratory Manager Date: 5/10/2001

[redacted]

New York State Dept. of Conservation
50 Wolf Road
Albany, NY 12233-7255

SDG: 0104083
Matrix: Water

Final Report of Analysis
Date of Report: 5/10/2001

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-04083-01	K KNOWN	04/13/01	04/13/01	04/16/01	0104083	Gross Alpha	EPA 900.0 Modified	222.52	9.57		pCi/l
01-04083-01	S SPIKE	04/13/01	04/13/01	04/16/01	0104083	Gross Alpha	EPA 900.0 Modified	255.70	7.66	0.50	pCi/l
01-04083-02	B BLANK	04/13/01	04/13/01	04/16/01	0104083	Gross Alpha	EPA 900.0 Modified	0.36	0.29	0.16	pCi/l
01-04083-03	D RN9000401W040503 D	04/05/01	04/13/01	04/16/01	0104083	Gross Alpha	EPA 900.0 Modified	6.27	2.70	2.43	pCi/l
01-04083-04	RN9000401W040501 D	04/05/01	04/13/01	04/16/01	0104083	Gross Alpha	EPA 900.0 Modified	47.35	3.68	1.61	pCi/l
01-04083-06	RN9000401W040502 D	04/05/01	04/13/01	04/16/01	0104083	Gross Alpha	EPA 900.0 Modified	103.46	4.54	1.03	pCi/l
01-04083-08	RN9000401W040503 D	04/05/01	04/13/01	04/16/01	0104083	Gross Alpha	EPA 900.0 Modified	5.65	2.18	1.90	pCi/l
01-04083-10	RN9000401W040504 D	04/05/01	04/13/01	04/16/01	0104083	Gross Alpha	EPA 900.0 Modified	95.86	7.01	2.49	pCi/l
01-04083-12	RN9000401W040505 D	04/05/01	04/13/01	04/16/01	0104083	Gross Alpha	EPA 900.0 Modified	88.64	4.30	0.70	pCi/l
01-04083-14	RN9000401W040506 D	04/05/01	04/13/01	04/16/01	0104083	Gross Alpha	EPA 900.0 Modified	8.65	7.03	6.90	pCi/l
01-04083-16	RN9000401W040507 D	04/05/01	04/13/01	04/16/01	0104083	Gross Alpha	EPA 900.0 Modified	0.47	1.64	1.74	pCi/l
01-04083-18	RN9000401W040608 D	04/06/01	04/13/01	04/16/01	0104083	Gross Alpha	EPA 900.0 Modified	24.62	8.10	6.63	pCi/l
01-04083-01	K KNOWN	04/13/01	04/13/01	04/16/01	0104083	Gross Beta	EPA 900.0 Modified	206.79	4.34		pCi/l
01-04083-01	S SPIKE	04/13/01	04/13/01	04/16/01	0104083	Gross Beta	EPA 900.0 Modified	227.53	6.20	1.11	pCi/l
01-04083-02	B BLANK	04/13/01	04/13/01	04/16/01	0104083	Gross Beta	EPA 900.0 Modified	-0.30	0.49	1.12	pCi/l
01-04083-03	D RN9000401W040503 D	04/05/01	04/13/01	04/16/01	0104083	Gross Beta	EPA 900.0 Modified	6.10	1.89	1.76	pCi/l
01-04083-04	RN9000401W040501 D	04/05/01	04/13/01	04/16/01	0104083	Gross Beta	EPA 900.0 Modified	9.82	1.47	1.27	pCi/l
01-04083-06	RN9000401W040502 D	04/05/01	04/13/01	04/16/01	0104083	Gross Beta	EPA 900.0 Modified	11.36	1.05	0.86	pCi/l
01-04083-08	RN9000401W040503 D	04/05/01	04/13/01	04/16/01	0104083	Gross Beta	EPA 900.0 Modified	2.15	2.47	2.41	pCi/l
01-04083-10	RN9000401W040504 D	04/05/01	04/13/01	04/16/01	0104083	Gross Beta	EPA 900.0 Modified	23.43	3.30	2.84	pCi/l
01-04083-12	RN9000401W040505 D	04/05/01	04/13/01	04/16/01	0104083	Gross Beta	EPA 900.0 Modified	13.83	1.04	0.78	pCi/l
01-04083-14	RN9000401W040506 D	04/05/01	04/13/01	04/16/01	0104083	Gross Beta	EPA 900.0 Modified	1.22	8.08	8.03	pCi/l
01-04083-16	RN9000401W040507 D	04/05/01	04/13/01	04/16/01	0104083	Gross Beta	EPA 900.0 Modified	1.89	1.68	1.64	pCi/l
01-04083-18	RN9000401W040608 D	04/06/01	04/13/01	04/16/01	0104083	Gross Beta	EPA 900.0 Modified	70.53	9.07	7.80	pCi/l
01-04083-01	K KNOWN	04/13/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	190756.57	9346.59		pCi/l
01-04083-01	K KNOWN	04/13/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	121227.78	5697.71		pCi/l
01-04083-01	S SPIKE	04/13/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	195100.00	16470.00	758.10	pCi/l
01-04083-01	S SPIKE	04/13/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	121600.00	13770.00	677.60	pCi/l

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

EBERLINE SERVICES

Oak Ridge Laboratory
601 Scarboro Road, Oak Ridge, TN 37830 865/481-0683 FAX 865/483-4621

[redacted]

New York State Dept. of Conservation
50 Wolf Road
Albany, NY 12233-7255

SDG: 0104083
Matrix: Water

Final Report of Analysis
Date of Report: 5/10/2001

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-04083-02	B BLANK	04/13/01	04/13/01	04/20/01	0104083	Cobalt-60	EPA 901.1 Modified	-1.51	1.85	2.87	pCi/l
01-04083-02	B BLANK	04/13/01	04/13/01	04/20/01	0104083	Cesium-137	EPA 901.1 Modified	-2.71	2.29	3.48	pCi/l
01-04083-02	B BLANK	04/13/01	04/13/01	04/20/01	0104083	Ruthenium-106	EPA 901.1 Modified	-5.29	19.47	30.65	pCi/l
01-04083-02	B BLANK	04/13/01	04/13/01	04/20/01	0104083	Zirconium-95	EPA 901.1 Modified	-0.85	3.32	5.89	pCi/l
01-04083-03	D RN9000401W040501 D	04/05/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	-0.41	2.06	3.70	pCi/l
01-04083-03	D RN9000401W040501 D	04/05/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	0.02	2.23	3.99	pCi/l
01-04083-03	D RN9000401W040501 D	04/05/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	-4.18	18.07	32.24	pCi/l
01-04083-03	D RN9000401W040501 D	04/05/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	1.47	3.98	7.61	pCi/l
01-04083-04	RN9000401W040501 D	04/05/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	-0.20	2.18	3.96	pCi/l
01-04083-04	RN9000401W040501 D	04/05/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	-1.65	2.35	3.84	pCi/l
01-04083-04	RN9000401W040501 D	04/05/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	-6.63	20.37	35.68	pCi/l
01-04083-04	RN9000401W040501 D	04/05/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	-3.60	4.47	7.30	pCi/l
01-04083-05	RN9000401W040501 S	04/05/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	-0.22	0.80	1.40	pCi/l
01-04083-05	RN9000401W040501 S	04/05/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	-0.55	0.83	1.36	pCi/l
01-04083-05	RN9000401W040501 S	04/05/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	-0.98	5.94	10.70	pCi/l
01-04083-05	RN9000401W040501 S	04/05/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	-0.24	1.35	2.43	pCi/l
01-04083-06	RN9000401W040502 D	04/05/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	0.97	2.69	5.02	pCi/l
01-04083-06	RN9000401W040502 D	04/05/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	1.74	3.53	3.98	pCi/l
01-04083-06	RN9000401W040502 D	04/05/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	6.45	20.02	38.13	pCi/l
01-04083-06	RN9000401W040502 D	04/05/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	-0.93	3.96	7.22	pCi/l
01-04083-07	RN9000401W040502 S	04/05/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	0.92	1.29	2.64	pCi/l
01-04083-07	RN9000401W040502 S	04/05/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	0.44	1.44	2.58	pCi/l
01-04083-07	RN9000401W040502 S	04/05/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	6.28	12.68	22.19	pCi/l
01-04083-07	RN9000401W040502 S	04/05/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	0.80	2.23	4.33	pCi/l

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Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-04083-08	RN9000401W040503 D	04/05/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	0.56	3.28	6.29	pCi/l
01-04083-08	RN9000401W040503 D	04/05/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	1.45	2.91	5.70	pCi/l
01-04083-08	RN9000401W040503 D	04/05/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	4.82	22.82	43.78	pCi/l
01-04083-08	RN9000401W040503 D	04/05/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	4.60	5.45	11.14	pCi/l
01-04083-09	RN9000401W040503 S	04/05/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	1.34	1.68	3.32	pCi/l
01-04083-09	RN9000401W040503 S	04/05/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	-0.48	1.54	2.76	pCi/l
01-04083-09	RN9000401W040503 S	04/05/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	-9.40	14.28	24.30	pCi/l
01-04083-09	RN9000401W040503 S	04/05/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	-1.86	2.94	4.99	pCi/l
01-04083-10	RN9000401W040504 D	04/05/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	2.88	2.20	4.89	pCi/l
01-04083-10	RN9000401W040504 D	04/05/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	0.98	2.69	5.00	pCi/l
01-04083-10	RN9000401W040504 D	04/05/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	0.46	19.30	35.97	pCi/l
01-04083-10	RN9000401W040504 D	04/05/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	1.52	4.24	8.17	pCi/l
01-04083-11	RN9000401W040504 S	04/05/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	-0.03	0.83	1.52	pCi/l
01-04083-11	RN9000401W040504 S	04/05/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	-0.24	0.79	1.36	pCi/l
01-04083-11	RN9000401W040504 S	04/05/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	5.72	6.59	12.40	pCi/l
01-04083-11	RN9000401W040504 S	04/05/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	-0.58	1.34	2.31	pCi/l
01-04083-12	RN9000401W040505 D	04/05/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	0.95	2.89	5.80	pCi/l
01-04083-12	RN9000401W040505 D	04/05/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	0.16	3.07	5.70	pCi/l
01-04083-12	RN9000401W040505 D	04/05/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	16.07	22.43	45.39	pCi/l
01-04083-12	RN9000401W040505 D	04/05/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	0.82	6.69	11.27	pCi/l
01-04083-13	RN9000401W040505 S	04/05/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	0.60	1.40	2.73	pCi/l
01-04083-13	RN9000401W040505 S	04/05/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	0.50	1.33	2.48	pCi/l
01-04083-13	RN9000401W040505 S	04/05/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	-1.86	11.07	20.15	pCi/l
01-04083-13	RN9000401W040505 S	04/05/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	-1.47	2.32	4.00	pCi/l

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Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-04083-14	RN9000401W040506 D	04/05/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	-1.53	2.46	4.03	pCi/l
01-04083-14	RN9000401W040506 D	04/05/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	-0.32	2.35	4.11	pCi/l
01-04083-14	RN9000401W040506 D	04/05/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	1.63	19.40	32.38	pCi/l
01-04083-14	RN9000401W040506 D	04/05/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	2.23	3.87	7.60	pCi/l
01-04083-15	RN9000401W040506 S	04/05/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	1.73	3.10	2.63	pCi/l
01-04083-15	RN9000401W040506 S	04/05/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	0.28	1.59	3.01	pCi/l
01-04083-15	RN9000401W040506 S	04/05/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	-2.92	14.40	26.03	pCi/l
01-04083-15	RN9000401W040506 S	04/05/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	0.26	2.81	5.33	pCi/l
01-04083-16	RN9000401W040507 D	04/05/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	-0.08	2.34	4.37	pCi/l
01-04083-16	RN9000401W040507 D	04/05/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	-0.77	2.39	4.19	pCi/l
01-04083-16	RN9000401W040507 D	04/05/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	5.04	20.07	38.00	pCi/l
01-04083-16	RN9000401W040507 D	04/05/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	11.45	5.56	7.21	pCi/l
01-04083-17	RN9000401W040507 S	04/05/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	0.16	0.76	1.45	pCi/l
01-04083-17	RN9000401W040507 S	04/05/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	-0.17	0.80	1.41	pCi/l
01-04083-17	RN9000401W040507 S	04/05/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	3.19	7.00	13.23	pCi/l
01-04083-17	RN9000401W040507 S	04/05/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	-1.35	1.76	2.47	pCi/l
01-04083-18	RN9000401W040608 D	04/06/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	-1.09	2.59	4.56	pCi/l
01-04083-18	RN9000401W040608 D	04/06/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	1.49	2.77	5.48	pCi/l
01-04083-18	RN9000401W040608 D	04/06/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	6.71	23.49	45.24	pCi/l
01-04083-18	RN9000401W040608 D	04/06/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	3.71	5.81	11.50	pCi/l
01-04083-19	RN9000401W040608 S	04/06/01	04/13/01	04/19/01	0104083	Cobalt-60	EPA 901.1 Modified	0.33	0.84	1.63	pCi/l
01-04083-19	RN9000401W040608 S	04/06/01	04/13/01	04/19/01	0104083	Cesium-137	EPA 901.1 Modified	-0.10	0.78	1.36	pCi/l
01-04083-19	RN9000401W040608 S	04/06/01	04/13/01	04/19/01	0104083	Ruthenium-106	EPA 901.1 Modified	-0.99	6.28	10.77	pCi/l
01-04083-19	RN9000401W040608 S	04/06/01	04/13/01	04/19/01	0104083	Zirconium-95	EPA 901.1 Modified	-0.36	1.22	2.17	pCi/l

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

[redacted]

New York State Dept. of Conservation
50 Wolf Road
Albany, NY 12233-7255

SDG: 0104083
Matrix: Water

Final Report of Analysis
Date of Report: 5/10/2001

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-04083-01	K KNOWN	04/13/01	04/13/01	04/25/01	0104083	Radium-226	EPA 903.0 Modified	10.34	0.48		pCi/l
01-04083-01	S SPIKE	04/13/01	04/13/01	04/25/01	0104083	Radium-226	EPA 903.0 Modified	10.21	1.25	0.22	pCi/l
01-04083-02	B BLANK	04/13/01	04/13/01	04/25/01	0104083	Radium-226	EPA 903.0 Modified	0.16	0.12	0.15	pCi/l
01-04083-03	D RN9000401W040501 D	04/05/01	04/13/01	04/25/01	0104083	Radium-226	EPA 903.0 Modified	0.14	0.15	0.32	pCi/l
01-04083-04	RN9000401W040501 D	04/05/01	04/13/01	04/25/01	0104083	Radium-226	EPA 903.0 Modified	0.17	0.16	0.28	pCi/l
01-04083-06	RN9000401W040502 D	04/05/01	04/13/01	04/25/01	0104083	Radium-226	EPA 903.0 Modified	0.13	0.11	0.17	pCi/l
01-04083-08	RN9000401W040503 D	04/05/01	04/13/01	04/25/01	0104083	Radium-226	EPA 903.0 Modified	0.07	0.09	0.19	pCi/l
01-04083-10	RN9000401W040504 D	04/05/01	04/13/01	04/25/01	0104083	Radium-226	EPA 903.0 Modified	0.40	0.23	0.25	pCi/l
01-04083-12	RN9000401W040505 D	04/05/01	04/13/01	04/25/01	0104083	Radium-226	EPA 903.0 Modified	0.35	0.24	0.40	pCi/l
01-04083-14	RN9000401W040506 D	04/05/01	04/13/01	04/25/01	0104083	Radium-226	EPA 903.0 Modified	0.22	0.23	0.56	pCi/l
01-04083-16	RN9000401W040507 D	04/05/01	04/13/01	04/25/01	0104083	Radium-226	EPA 903.0 Modified	0.32	0.27	0.64	pCi/l
01-04083-18	RN9000401W040608 D	04/06/01	04/13/01	04/25/01	0104083	Radium-226	EPA 903.0 Modified	0.83	0.38	0.51	pCi/l
01-04083-01	K KNOWN	04/13/01	04/13/01	05/02/01	0104083	Radium-228	EPA 904.0 Modified	10.12	0.56		pCi/l
01-04083-01	S SPIKE	04/13/01	04/13/01	05/02/01	0104083	Radium-228	EPA 904.0 Modified	9.37	1.10	1.07	pCi/l
01-04083-02	B BLANK	04/13/01	04/13/01	05/02/01	0104083	Radium-228	EPA 904.0 Modified	1.51	0.74	1.14	pCi/l
01-04083-03	D RN9000401W040501 D	04/05/01	04/13/01	05/02/01	0104083	Radium-228	EPA 904.0 Modified	1.10	0.78	1.25	pCi/l
01-04083-04	RN9000401W040501 D	04/05/01	04/13/01	05/02/01	0104083	Radium-228	EPA 904.0 Modified	1.85	0.94	1.45	pCi/l
01-04083-06	RN9000401W040502 D	04/05/01	04/13/01	05/02/01	0104083	Radium-228	EPA 904.0 Modified	1.45	0.69	1.05	pCi/l
01-04083-08	RN9000401W040503 D	04/05/01	04/13/01	05/02/01	0104083	Radium-228	EPA 904.0 Modified	1.06	0.72	1.15	pCi/l
01-04083-10	RN9000401W040504 D	04/05/01	04/13/01	05/02/01	0104083	Radium-228	EPA 904.0 Modified	1.69	0.81	1.25	pCi/l
01-04083-12	RN9000401W040505 D	04/05/01	04/13/01	05/02/01	0104083	Radium-228	EPA 904.0 Modified	1.32	0.65	0.99	pCi/l
01-04083-14	RN9000401W040506 D	04/05/01	04/13/01	05/02/01	0104083	Radium-228	EPA 904.0 Modified	1.60	0.77	1.18	pCi/l
01-04083-16	RN9000401W040507 D	04/05/01	04/13/01	05/02/01	0104083	Radium-228	EPA 904.0 Modified	0.48	0.58	0.97	pCi/l
01-04083-18	RN9000401W040608 D	04/06/01	04/13/01	05/02/01	0104083	Radium-228	EPA 904.0 Modified	0.05	0.73	1.28	pCi/l

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[redacted]

New York State Dept. of Conservation
50 Wolf Road
Albany, NY 12233-7255

SDG: 0104083
Matrix: Water

Final Report of Analysis
Date of Report: 5/10/2001

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-04083-01	K KNOWN	04/13/01	04/13/01	04/26/01	0104083	Thorium-228	EML Th-01 Modified	4.65	0.17		pCi/l
01-04083-01	S SPIKE	04/13/01	04/13/01	04/26/01	0104083	Thorium-228	EML Th-01 Modified	5.61	1.20	0.17	pCi/l
01-04083-02	B BLANK	04/13/01	04/13/01	04/26/01	0104083	Thorium-228	EML Th-01 Modified	-0.06	0.03	0.21	pCi/l
01-04083-03	D RN9000401W040501 D	04/05/01	04/13/01	04/26/01	0104083	Thorium-228	EML Th-01 Modified	0.39	0.39	0.57	pCi/l
01-04083-04	RN9000401W040501 D	04/05/01	04/13/01	04/26/01	0104083	Thorium-228	EML Th-01 Modified	0.48	0.47	0.73	pCi/l
01-04083-05	RN9000401W040501 S	04/05/01	04/13/01	04/26/01	0104083	Thorium-228	EML Th-01 Modified	0.29	0.44	0.85	pCi/l
01-04083-06	RN9000401W040502 D	04/05/01	04/13/01	04/26/01	0104083	Thorium-228	EML Th-01 Modified	0.28	0.42	0.80	pCi/l
01-04083-07	RN9000401W040502 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-228	EML Th-01 Modified	0.40	0.48	0.84	pCi/l
01-04083-08	RN9000401W040503 D	04/05/01	04/13/01	04/27/01	0104083	Thorium-228	EML Th-01 Modified	-0.12	0.23	0.91	pCi/l
01-04083-09	RN9000401W040503 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-228	EML Th-01 Modified	0.72	0.54	0.62	pCi/l
01-04083-10	RN9000401W040504 D	04/05/01	04/13/01	04/27/01	0104083	Thorium-228	EML Th-01 Modified	0.04	0.25	0.69	pCi/l
01-04083-11	RN9000401W040504 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-228	EML Th-01 Modified	0.08	0.30	0.76	pCi/l
01-04083-12	RN9000401W040505 D	04/05/01	04/13/01	04/27/01	0104083	Thorium-228	EML Th-01 Modified	-0.09	0.08	0.70	pCi/l
01-04083-13	RN9000401W040505 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-228	EML Th-01 Modified	0.46	0.41	0.43	pCi/l
01-04083-14	RN9000401W040506 D	04/05/01	04/13/01	04/27/01	0104083	Thorium-228	EML Th-01 Modified	0.19	0.31	0.60	pCi/l
01-04083-15	RN9000401W040506 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-228	EML Th-01 Modified	0.22	0.40	0.80	pCi/l
01-04083-16	RN9000401W040507 D	04/05/01	04/13/01	04/27/01	0104083	Thorium-228	EML Th-01 Modified	0.26	0.39	0.71	pCi/l
01-04083-17	RN9000401W040507 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-228	EML Th-01 Modified	0.21	0.38	0.78	pCi/l
01-04083-18	RN9000401W040608 D	04/06/01	04/13/01	04/27/01	0104083	Thorium-228	EML Th-01 Modified	0.08	0.16	0.21	pCi/l
01-04083-19	RN9000401W040608 S	04/06/01	04/13/01	04/27/01	0104083	Thorium-228	EML Th-01 Modified	-0.06	0.21	0.79	pCi/l

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[redacted]

New York State Dept. of Conservation
50 Wolf Road
Albany, NY 12233-7255

SDG: 0104083
Matrix: Water

Final Report of Analysis
Date of Report: 5/10/2001

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-04083-01	K KNOWN	04/13/01	04/13/01	04/26/01	0104083	Thorium-230	EML Th-01 Modified	5.21	0.14		pCi/l
01-04083-01	S SPIKE	04/13/01	04/13/01	04/26/01	0104083	Thorium-230	EML Th-01 Modified	5.14	1.12	0.16	pCi/l
01-04083-02	B BLANK	04/13/01	04/13/01	04/26/01	0104083	Thorium-230	EML Th-01 Modified	0.17	0.13	0.16	pCi/l
01-04083-03	D RN9000401W040501 D	04/05/01	04/13/01	04/26/01	0104083	Thorium-230	EML Th-01 Modified	0.45	0.42	0.60	pCi/l
01-04083-04	RN9000401W040501 D	04/05/01	04/13/01	04/26/01	0104083	Thorium-230	EML Th-01 Modified	0.36	0.36	0.42	pCi/l
01-04083-05	RN9000401W040501 S	04/05/01	04/13/01	04/26/01	0104083	Thorium-230	EML Th-01 Modified	0.62	0.58	0.96	pCi/l
01-04083-06	RN9000401W040502 D	04/05/01	04/13/01	04/26/01	0104083	Thorium-230	EML Th-01 Modified	0.54	0.48	0.62	pCi/l
01-04083-07	RN9000401W040502 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-230	EML Th-01 Modified	0.52	0.46	0.59	pCi/l
01-04083-08	RN9000401W040503 D	04/05/01	04/13/01	04/27/01	0104083	Thorium-230	EML Th-01 Modified	1.47	0.81	0.57	pCi/l
01-04083-09	RN9000401W040503 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-230	EML Th-01 Modified	1.33	0.71	0.43	pCi/l
01-04083-10	RN9000401W040504 D	04/05/01	04/13/01	04/27/01	0104083	Thorium-230	EML Th-01 Modified	0.33	0.38	0.61	pCi/l
01-04083-11	RN9000401W040504 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-230	EML Th-01 Modified	0.37	0.50	0.94	pCi/l
01-04083-12	RN9000401W040505 D	04/05/01	04/13/01	04/27/01	0104083	Thorium-230	EML Th-01 Modified	0.79	0.70	1.08	pCi/l
01-04083-13	RN9000401W040505 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-230	EML Th-01 Modified	0.99	0.67	0.91	pCi/l
01-04083-14	RN9000401W040506 D	04/05/01	04/13/01	04/27/01	0104083	Thorium-230	EML Th-01 Modified	0.37	0.43	0.75	pCi/l
01-04083-15	RN9000401W040506 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-230	EML Th-01 Modified	0.30	0.51	1.04	pCi/l
01-04083-16	RN9000401W040507 D	04/05/01	04/13/01	04/27/01	0104083	Thorium-230	EML Th-01 Modified	0.99	0.70	0.89	pCi/l
01-04083-17	RN9000401W040507 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-230	EML Th-01 Modified	1.83	0.91	0.76	pCi/l
01-04083-18	RN9000401W040608 D	04/06/01	04/13/01	04/27/01	0104083	Thorium-230	EML Th-01 Modified	0.77	0.56	0.73	pCi/l
01-04083-19	RN9000401W040608 S	04/06/01	04/13/01	04/27/01	0104083	Thorium-230	EML Th-01 Modified	1.50	0.79	0.49	pCi/l

K=Known,S=Spike,B=Blank,D=Duplicate,MS=Matrix Spike

[redacted]

New York State Dept. of Conservation
50 Wolf Road
Albany, NY 12233-7255

SDG: 0104083
Matrix: Water

Final Report of Analysis
Date of Report: 5/10/2001

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-04083-01	K KNOWN	04/13/01	04/13/01	04/26/01	0104083	Thorium-232	EML Th-01 Modified	4.65	0.17		pCi/l
01-04083-01	S SPIKE	04/13/01	04/13/01	04/26/01	0104083	Thorium-232	EML Th-01 Modified	5.27	1.14	0.10	pCi/l
01-04083-02	B BLANK	04/13/01	04/13/01	04/26/01	0104083	Thorium-232	EML Th-01 Modified	0.10	0.10	0.13	pCi/l
01-04083-03	D RN9000401W040501 D	04/05/01	04/13/01	04/26/01	0104083	Thorium-232	EML Th-01 Modified	-0.05	0.05	0.50	pCi/l
01-04083-04	RN9000401W040501 D	04/05/01	04/13/01	04/26/01	0104083	Thorium-232	EML Th-01 Modified	0.04	0.23	0.66	pCi/l
01-04083-05	RN9000401W040501 S	04/05/01	04/13/01	04/26/01	0104083	Thorium-232	EML Th-01 Modified	0.29	0.39	0.71	pCi/l
01-04083-06	RN9000401W040502 D	04/05/01	04/13/01	04/26/01	0104083	Thorium-232	EML Th-01 Modified	0.29	0.36	0.58	pCi/l
01-04083-07	RN9000401W040502 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-232	EML Th-01 Modified	0.17	0.30	0.63	pCi/l
01-04083-08	RN9000401W040503 D	04/05/01	04/13/01	04/27/01	0104083	Thorium-232	EML Th-01 Modified	0.42	0.43	0.57	pCi/l
01-04083-09	RN9000401W040503 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-232	EML Th-01 Modified	0.33	0.37	0.56	pCi/l
01-04083-10	RN9000401W040504 D	04/05/01	04/13/01	04/27/01	0104083	Thorium-232	EML Th-01 Modified	0.18	0.29	0.57	pCi/l
01-04083-11	RN9000401W040504 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-232	EML Th-01 Modified	0.06	0.29	0.80	pCi/l
01-04083-12	RN9000401W040505 D	04/05/01	04/13/01	04/27/01	0104083	Thorium-232	EML Th-01 Modified	0.31	0.46	0.90	pCi/l
01-04083-13	RN9000401W040505 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-232	EML Th-01 Modified	0.09	0.23	0.55	pCi/l
01-04083-14	RN9000401W040506 D	04/05/01	04/13/01	04/27/01	0104083	Thorium-232	EML Th-01 Modified	0.00	0.18	0.63	pCi/l
01-04083-15	RN9000401W040506 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-232	EML Th-01 Modified	0.32	0.50	1.01	pCi/l
01-04083-16	RN9000401W040507 D	04/05/01	04/13/01	04/27/01	0104083	Thorium-232	EML Th-01 Modified	0.12	0.27	0.60	pCi/l
01-04083-17	RN9000401W040507 S	04/05/01	04/13/01	04/27/01	0104083	Thorium-232	EML Th-01 Modified	0.31	0.41	0.75	pCi/l
01-04083-18	RN9000401W040608 D	04/06/01	04/13/01	04/27/01	0104083	Thorium-232	EML Th-01 Modified	0.15	0.28	0.57	pCi/l
01-04083-19	RN9000401W040608 S	04/06/01	04/13/01	04/27/01	0104083	Thorium-232	EML Th-01 Modified	0.43	0.41	0.42	pCi/l

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[redacted]

New York State Dept. of Conservation
50 Wolf Road
Albany, NY 12233-7255

SDG: 0104083
Matrix: Water

Final Report of Analysis
Date of Report: 5/10/2001

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-04083-01	K KNOWN	04/13/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	7.97	0.29		pCi/l
01-04083-01	S SPIKE	04/13/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	7.41	1.62	0.16	pCi/l
01-04083-02	B BLANK	04/13/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	0.15	0.12	0.13	pCi/l
01-04083-03	D RN9000401W040502 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	59.68	12.77	0.75	pCi/l
01-04083-04	RN9000401W040501 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	24.60	5.63	0.72	pCi/l
01-04083-05	RN9000401W040501 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	1.85	0.92	0.79	pCi/l
01-04083-06	RN9000401W040502 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	49.94	10.98	0.88	pCi/l
01-04083-07	RN9000401W040502 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	0.52	0.50	0.81	pCi/l
01-04083-08	RN9000401W040503 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	3.46	1.34	1.10	pCi/l
01-04083-09	RN9000401W040503 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	0.19	0.37	0.80	pCi/l
01-04083-10	RN9000401W040504 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	57.63	11.30	0.79	pCi/l
01-04083-11	RN9000401W040504 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	0.44	0.43	0.60	pCi/l
01-04083-12	RN9000401W040505 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	48.09	9.90	0.72	pCi/l
01-04083-13	RN9000401W040505 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	0.59	0.52	0.72	pCi/l
01-04083-14	RN9000401W040506 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	0.87	0.60	0.55	pCi/l
01-04083-15	RN9000401W040506 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	0.57	0.50	0.69	pCi/l
01-04083-16	RN9000401W040507 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	0.51	0.47	0.63	pCi/l
01-04083-17	RN9000401W040507 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	0.56	0.48	0.67	pCi/l
01-04083-18	RN9000401W040608 D	04/06/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	11.27	3.49	1.89	pCi/l
01-04083-19	RN9000401W040608 S	04/06/01	04/13/01	04/30/01	0104083	Uranium-234	EML U-02 Modified	0.11	0.41	0.98	pCi/l

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[redacted]

New York State Dept. of Conservation
50 Wolf Road
Albany, NY 12233-7255

SDG: 0104083
Matrix: Water

Final Report of Analysis
Date of Report: 5/10/2001

Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-04083-01	K KNOWN	04/13/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	0.36	0.01		pCi/l
01-04083-01	S SPIKE	04/13/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	0.19	0.14	0.14	pCi/l
01-04083-02	B BLANK	04/13/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	0.02	0.05	0.07	pCi/l
01-04083-03	D RN9000401W040502 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	3.15	1.39	0.72	pCi/l
01-04083-04	RN9000401W040501 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	0.36	0.45	0.72	pCi/l
01-04083-05	RN9000401W040501 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	0.12	0.32	0.75	pCi/l
01-04083-06	RN9000401W040502 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	2.49	1.17	0.60	pCi/l
01-04083-07	RN9000401W040502 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	-0.08	0.08	0.69	pCi/l
01-04083-08	RN9000401W040503 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	-0.02	0.04	0.51	pCi/l
01-04083-09	RN9000401W040503 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	0.16	0.32	0.65	pCi/l
01-04083-10	RN9000401W040504 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	2.17	1.01	0.27	pCi/l
01-04083-11	RN9000401W040504 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	0.28	0.37	0.57	pCi/l
01-04083-12	RN9000401W040505 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	1.17	0.76	0.60	pCi/l
01-04083-13	RN9000401W040505 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	0.07	0.22	0.59	pCi/l
01-04083-14	RN9000401W040506 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	0.30	0.40	0.61	pCi/l
01-04083-15	RN9000401W040506 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	0.00	0.00	0.28	pCi/l
01-04083-16	RN9000401W040507 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	0.17	0.30	0.57	pCi/l
01-04083-17	RN9000401W040507 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	0.16	0.27	0.51	pCi/l
01-04083-18	RN9000401W040608 D	04/06/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	0.77	0.82	1.25	pCi/l
01-04083-19	RN9000401W040608 S	04/06/01	04/13/01	04/30/01	0104083	Uranium-235	EML U-02 Modified	0.03	0.19	0.58	pCi/l

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[redacted]

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50 Wolf Road
Albany, NY 12233-7255

SDG: 0104083
Matrix: Water

Final Report of Analysis
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Lab ID	Client ID	Sample Date	Receipt Date	Analysis Date	Batch ID	Analyte	Method	Result	Error	MDA	Units
01-04083-01	K KNOWN	04/13/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	7.76	0.28		pCi/l
01-04083-01	S SPIKE	04/13/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	7.17	1.57	0.15	pCi/l
01-04083-02	B BLANK	04/13/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	0.01	0.04	0.13	pCi/l
01-04083-03	D RN9000401W040502 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	55.49	11.93	0.75	pCi/l
01-04083-04	RN9000401W040501 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	27.55	6.21	0.80	pCi/l
01-04083-05	RN9000401W040501 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	0.55	0.51	0.76	pCi/l
01-04083-06	RN9000401W040502 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	54.73	11.94	0.66	pCi/l
01-04083-07	RN9000401W040502 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	-0.07	0.18	0.72	pCi/l
01-04083-08	RN9000401W040503 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	3.11	1.21	0.66	pCi/l
01-04083-09	RN9000401W040503 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	0.12	0.26	0.57	pCi/l
01-04083-10	RN9000401W040504 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	55.64	10.93	0.62	pCi/l
01-04083-11	RN9000401W040504 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	0.45	0.47	0.75	pCi/l
01-04083-12	RN9000401W040505 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	47.87	9.86	0.75	pCi/l
01-04083-13	RN9000401W040505 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	0.39	0.40	0.53	pCi/l
01-04083-14	RN9000401W040506 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	0.33	0.37	0.49	pCi/l
01-04083-15	RN9000401W040506 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	0.08	0.25	0.63	pCi/l
01-04083-16	RN9000401W040507 D	04/05/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	0.18	0.30	0.59	pCi/l
01-04083-17	RN9000401W040507 S	04/05/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	0.00	0.16	0.56	pCi/l
01-04083-18	RN9000401W040608 D	04/06/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	11.36	3.45	1.05	pCi/l
01-04083-19	RN9000401W040608 S	04/06/01	04/13/01	04/30/01	0104083	Uranium-238	EML U-02 Modified	0.12	0.26	0.59	pCi/l

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