



**ENVIROCARE OF UTAH, LLC**

**SAFE AND SECURE**

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SECTION 1  
2005 DEC -8 PM 12:45

December 6, 2005  
Ref. No. 23535-066

Mr. Eric Lardiere  
Meggitt-USA, Inc.  
Whittaker Corporation  
1955 N. Surveyor Avenue  
Simi Valley, California 93063

Subject: Transmittal of Envirocare of Utah, LLC Document

Dear Mr. Lardiere:

Please find the enclosed document detailing the November 2005 groundwater sampling event conducted by Envirocare of Utah, LLC (formerly Sciencetech, LLC-Decommissioning Services Division) at the Whittaker site located near Greenville, PA. This document should be attached as Addendum 10 to the site Groundwater Monitoring Plan (Sciencetech Document Number 82A9103, Revision 3).

Should you have any questions or comments, please call me at (864) 235-3695.

Sincerely,

Kevin E. Taylor, PE  
Sr. Health Physicist  
Envirocare of Utah, LLC  
17 College Street  
Suite D  
Greenville, SC 29601  
Phone: (864) 235-3695  
Fax: (864) 235-8405

KET/lhc

cc: E. Lardiere w/enclosure  
M. McLaughlin w/enclosure  
B. Werner w/enclosure  
R. Woods w/enclosure



**ADDENDUM AUTHORIZATION**

2-Dec-05  
Effective Date

Document Title Groundwater Monitoring Plan Document No. 82A9103, Rev. 3

Addendum No. 10 Originator *Kevin E. Taylor*  
Kevin E. Taylor

For Site/Utility Whittaker Site, Greenville, PA

**Description of Addendum:**

Report on site groundwater monitoring activities for 2005.

**Reason for Change:**

Results of the ANNUAL groundwater monitoring are to be submitted per Section 3 of the Groundwater Monitoring Plan.

CONTROLLED COPY No. 743

**APPROVALS:**

<u>Title</u>	<u>Signature</u>	<u>Date</u>
Technical Reviewer	<u><i>Kevin E. Taylor</i></u>	<u>12/5/05</u>
Operations Manager	<u><i>[Signature]</i></u>	<u>12/2/05</u>

Approvals for the Addendum shall at least be equal to the Approval of the base document and may include customer sign off.

Distribute to all Envirocare Control Copy holders of affected document and None

A copy of this authorization shall be attached to the affected document.



December 2, 2005

Subject: Whittaker Site Groundwater Monitoring Well Sampling, November 2005

## INTRODUCTION

In accordance with Whittaker Corporation's U.S. Nuclear Regulatory Commission (NRC) License No. SMA-1018, Amendment No. 8, Condition No. 14, and Scientech, LLC Document No. 82A9103, Revision 3, "Groundwater Monitoring Plan, Whittaker Corporation, Greenville, PA" (Plan), well sampling activities were conducted on November 3 and 4, 2005. Keith Shortsleeve (Project Geologist) of Envirocare of Utah, LLC (formerly Scientech, LLC) conducted the sampling activities with support from on-site Envirocare personnel. Well sampling procedures and analytical protocol are discussed and specified in the Plan. The water sampling event also complies with the environmental monitoring requirements of the site Restoration Plan as approved by the Pennsylvania Department of Environmental Protection.

In addition to the groundwater data, the results of the fence line radiological survey is attached. This survey was conducted to document the radiological conditions at the fence prior to demobilizing from the site for the winter. The December 2004 fence line survey is also provided to compare how site conditions changed during 2005.

## ACTIVITIES

On November 3, Envirocare first measured the depths to groundwater for all 10 site monitoring wells (MW-1 to MW-10). Envirocare sampled wells MW-1 through MW-7 on November 3 and wells MW-8 through MW-10 on November 4. Water samples were collected in two 0.5-gallon plastic containers for gross alpha and gross beta analysis. The wells were productive and sampling proceeded without any problems. Previous sampling results indicated little to no difference in gross alpha and gross beta concentrations in filtered and unfiltered water sample; therefore, only unfiltered samples were collected.

Groundwater samples were analyzed for gross alpha and gross beta activity using gas flow proportional counting (GFPC) (EPA Method 900.0 MOD) by Severn Trent Laboratories (STL) radioanalytical laboratory in St. Louis, MO. For quality assurance (QA) purposes, Envirocare sent a duplicate sample from MW-10 to General Engineering Laboratories (GEL) in Charleston, SC.

## RESULTS

Table 1 provides a summary of groundwater analytical results for MW-1 through MW-10 for gross alpha and gross beta as reported by STL. All results were less than the water quality contaminant limits of 15 picocuries per liter (pCi/L) gross alpha and less than 50 pCi/L gross beta. In fact, no sample has had concentrations greater than either limit since April 2001. As a result, none of the samples were analyzed for isotopic distribution. The maximum reported alpha activity was 6.7 pCi/L for the sample collected from MW-10; however, this concentration was



less than the minimum detectable concentration (MDC) of 8.4 pCi/L. While MDCs for the gross alpha analyses were slightly elevated in several samples due to high residual mass in those samples, no MDCs were greater than the 15 pCi/L action limit. The maximum beta activity was 22.2 pCi/L for the sample collected from MW-8.

**TABLE 1  
GROUNDWATER ANALYSIS DATA**

Field ID	SMP Received		Analysis	Result	Error	MDA	Unit
MW-1	~ 4000	ml	Alpha	2.8	2.4	3.6	pCi/L
			Beta	2.9	1.3	2.0	pCi/L
MW-1 (DUP)	~ 4000	ml	Alpha	2.0	2.2	3.4	pCi/L
			Beta	2.4	1.4	2.2	pCi/L
MW-2	~ 4000	ml	Alpha	3.5	2.1	2.8	pCi/L
			Beta	6.8	1.6	2.1	pCi/L
MW-3	~ 4000	ml	Alpha	1.1	1.8	3.1	pCi/L
			Beta	2.9	1.4	2.1	pCi/L
MW-4	~ 4000	ml	Alpha	5.6	3.4	4.7	pCi/L
			Beta	4.3	1.5	2.2	pCi/L
MW-5	~ 4000	ml	Alpha	0.3	1.2	2.3	pCi/L
			Beta	9.0	1.8	2.0	pCi/L
MW-6	~ 4000	ml	Alpha	2.1	1.7	2.5	pCi/L
			Beta	5.7	1.5	2.0	pCi/L
MW-7	~ 4000	ml	Alpha	1.8	2.3	3.7	pCi/L
			Beta	4.4	1.7	2.5	pCi/L
MW-8	~ 4000	ml	Alpha	1.7	4.5	8.3	pCi/L
			Beta	22.2	7.7	11	pCi/L
MW-9	~ 4000	ml	Alpha	4.2	3.4	5.0	pCi/L
			Beta	3.3	2.4	3.8	pCi/L
MW-10	~ 4000	ml	Alpha	6.7	5.6	8.4	pCi/L
			Beta	16.9	4.6	6.1	pCi/L

Table 2 compares gross alpha and gross beta results from each Whittaker site groundwater sampling event dating back to May 2000. These data do not include duplicate samples analyzed at a QA laboratory. Table 3 provides the depths to groundwater in MW-1 through MW-10 from May 2000 through October 2005.

**TABLE 2**  
**GROUNDWATER CONCENTRATION COMPARISONS**  
**UNFILTERED SAMPLES**

Well Number	May 2000		September 2001		August 2002		October 2003		September 2004		November 2005	
	Gross alpha	Gross beta	Gross alpha	Gross beta	Gross alpha	Gross beta	Gross alpha	Gross beta	Gross alpha	Gross beta	Gross alpha	Gross beta
MW-1	<MDA	29	<MDA	<MDA	3.2	<MDA	<MDA	5.6	<MDA	<MDA	<MDA	2.9
MW-2	<b>15</b>	28	<MDA	<MDA	6.5	5.0	4.9	9.3	<MDA	15.3	3.5	6.8
MW-3	<MDA	8.6	<MDA	5.5	<MDA	<MDA	2.5	<MDA	<MDA	<MDA	<MDA	2.9
MW-4	9.9	48	11	5.4	4.6	18	8.5	9.5	<MDA	6.4	5.6	4.3
MW-5	<MDA	18	<MDA	<MDA	<MDA	6.7	<MDA	7.7	<MDA	4.6	<MDA	9.0
MW-6	<b>25</b>	<b>85</b>	<MDA	5.7	5.2	4.7	5.4	6.7	6.0	6.5	<MDA	5.7
MW-7	6.2	19	<MDA	<MDA	<MDA	11	<MDA	4.4	<MDA	5.5	<MDA	4.4
MW-8	8.6	<b>73</b>	6.6	27	5.2	32	5.3	22	<MDA	21.4	<MDA	22.2
MW-9	<MDA	13	<MDA	<MDA	<MDA	<MDA	<MDA	<MDA	<MDA	<MDA	<MDA	<MDA
MW-10	23	<b>95</b>	11	12	<MDA	2.6	6.6	212	9.6	30.1	<MDA	16.9

*Note:* Bold values in Table 4 are greater than their respective water quality contaminant limit.

**TABLE 3**  
**DEPTH TO GROUNDWATER IN MONITORING WELLS**

Well Number	Depth to Groundwater (feet) <sup>a</sup>						Δ Feet <sup>b</sup>
	May 2000	September 2001	August 2002	October 2003	September 2004	November 2005	
MW-1	5.62	6.63	6.91	4.89	5.35	5.40	-0.15
MW-2	10.79	11.44	11.36	9.32	9.88	10.78	-0.90
MW-3	1.44	1.90	1.86	0.69	0.73	1.23	-0.50
MW-4	16.07	16.70	16.79	15.33	15.53	16.24	-0.71
MW-5	7.30	8.20	8.32	6.16	6.09	6.79	-0.70
MW-6	19.48	20.70	20.83	20.22	20.34	20.51	-0.17
MW-7	4.35	4.35	4.53	4.31	4.37	4.24	+0.13
MW-8	19.13	19.86	19.60	18.65	18.22	17.26	+0.96
MW-9	0	0.05	0	0.1	0	0	0
MW-10	21.51	22.45	22.33	20.50	20.51	21.11	-0.60
Average 1-year change in water level							<b>-0.264</b>

*Note:*

<sup>a</sup> Measured from the top of the PVC well casing.

<sup>b</sup> Change in water level change from September 200 to November 20054.



### ATTACHMENTS

The following supporting documentation is provided as attachments to this report.

- A Site Well Location Map
- B STL Water Analysis Report
- C Envirocare Well Sampling Field Logs
- D Envirocare Chain-of-Custody Forms
- E Fence Line Radiological Surveys and Map



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Document No. 82A9103

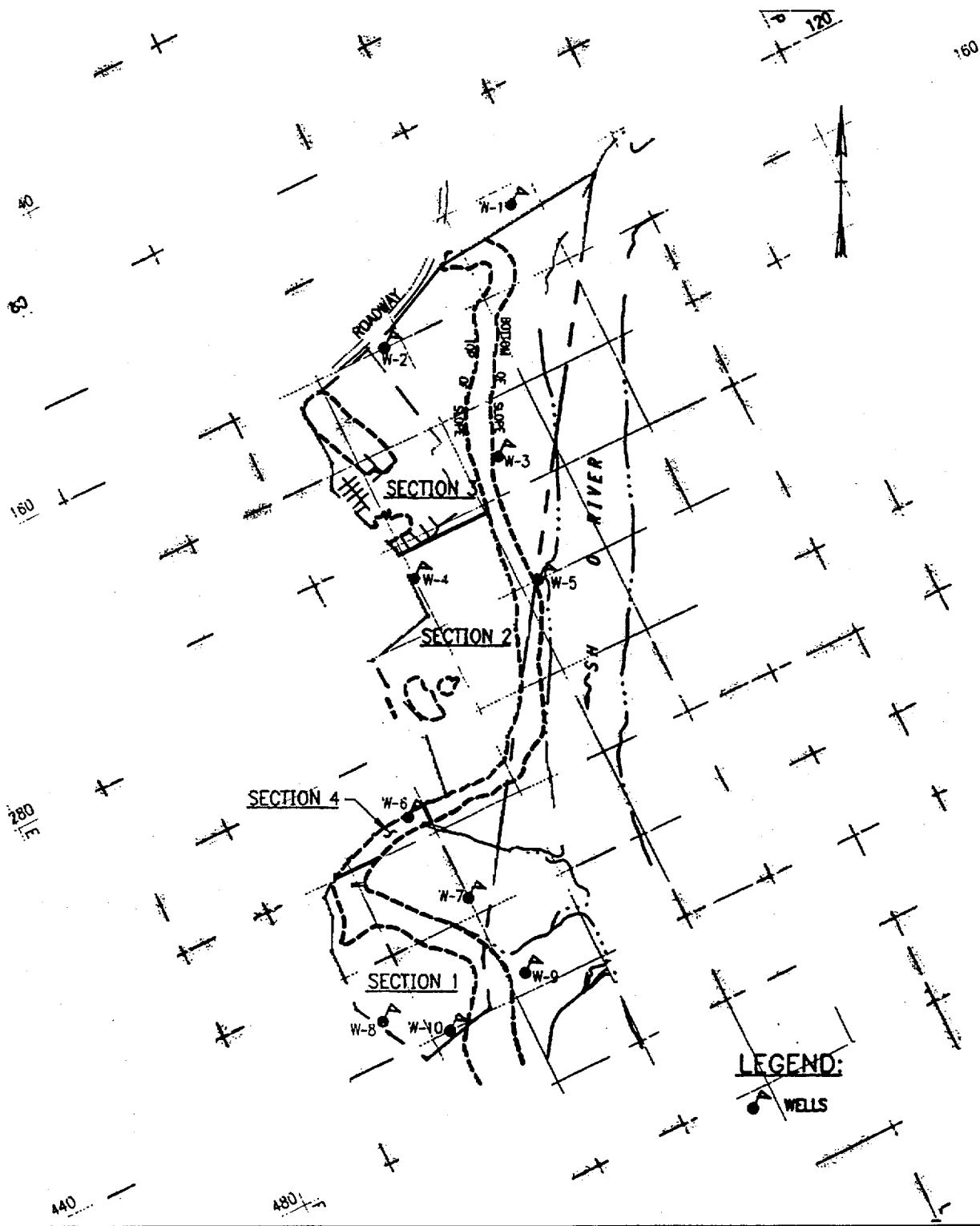
Revision No. 3

Addendum No. 10

**ATTACHMENT A**

**Site Well Location Map**

(1 page)





**ENVIROCARE** OF UTAH, LLC  
SAFE AND SECURE

Document No. 82A9103  
Revision No. 3  
Addendum No. 10

**ATTACHMENT B**

**STL Water Analysis Report**

**(12 pages)**

**SEVERN  
TRENT**

**STL**

STL St. Louis  
13715 Rider Trail North  
Earth City, MO 63045

Tel: 314 298 8566 Fax: 314 298 8757  
www.stl-inc.com

## **ANALYTICAL REPORT**

**PROJECT NO. 23535**

**Whittaker, Transfer, PA**

**Lot #: F5K070158**

**Kevin Taylor**

**Sciencetech Inc  
17 College Street  
Suite D  
Greenville,, SC 29601**

**SEVERN TRENT LABORATORIES, INC.**



**Ed Kao  
Project Manager**

**November 14, 2005**

**Case Narrative**  
**LOT NUMBER: F5K070158**

This report contains the analytical results for the 15 samples received under chain of custody by STL St. Louis on November 7, 2005. These samples are associated with your Whittaker, Transfer, PA project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by STL St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Gross Alpha/Beta 900 Mod

**Affected Samples:**

F5K070158 (1): MW-1	F5K070158 (9): MW-9
F5K070158 (3): MW-3	F5K070158 (10): MW-10
F5K070158 (4): MW-4	F5K070158 (12): SW-SECT 1
F5K070158 (7): MW-7	F5K070158 (14): SW-N POND
F5K070158 (8): MW-8	F5K070158 (15): SW-S POND

*The reporting limit for gross alpha was not met due to the high residual mass of the sample. The maximum sample aliquot of 200 mL was used to prepare the sample which resulted in a high residual mass on the planchette.*

*The high residual mass yields lower detector efficiency. The sample was counted for 200 minutes. However, due to the reduced detector efficiency, the reporting limit was not met. The data is reported with the MDA achieved.*

# METHODS SUMMARY

F5K070158

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Gross Alpha/Beta by GFPC	EPA 900.0 MOD	EPA 900.0

## References:

EPA "EASTERN ENVIRONMENTAL RADIATION FACILITY RADIOCHEMISTRY  
PROCEDURES MANUAL" US EPA EPA 520/5-84-006 AUGUST 1984

# SAMPLE SUMMARY

F5K070158

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
HPJKC	001	MW-1	11/03/05	13:20
HPJKD	002	MW-2	11/03/05	14:15
HPJKE	003	MW-3	11/03/05	14:50
HPJKG	004	MW-4	11/03/05	15:20
HPJKH	005	MW-5	11/03/05	15:50
HPJKJ	006	MW-6	11/03/05	16:30
HPJKK	007	MW-7	11/03/05	16:50
HPJKL	008	MW-8	11/04/05	09:00
HPJKM	009	MW-9	11/04/05	09:45
HPJKN	010	MW-10	11/04/05	10:30
HPJKP	011	SW-UPSTREAM	11/04/05	11:15
HPJKQ	012	SW-SECT 1	11/04/05	09:50
HPJKR	013	SW-SECT 2	11/03/05	15:00
HPJKV	014	SW-N POND	11/03/05	16:55
HPJKW	015	SW-S POND	11/03/05	16:45

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Sciencetech Inc

Client Sample ID: MW-1

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F5K070158-001  
Work Order: HPJJC  
Matrix: WATER

Date Collected: 11/03/05 1320  
Date Received: 11/07/05 1215

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
GROSS A/B BY GFPC EPA 900.0 MOD					pCi/L	900.0 MOD		
Gross Alpha	2.8	U	2.4	3.6	11/07/05	11/11/05	5312186	
Gross Beta	2.9	J	1.3	2.0	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Scientech Inc

Client Sample ID: MW-1 DUP

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F5K070158-001X  
Work Order: HPJKC  
Matrix: WATER

Date Collected: 11/03/05 1320  
Date Received: 11/07/05 1215

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
GROSS A/B BY GFPC EPA 900.0 MOD				pCi/L	900.0 MOD			
Gross Alpha	2.0	U	2.2	3.4	11/07/05	11/11/05	5312186	
Gross Beta	2.4	J	1.4	2.2	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Sciencetech Inc

Client Sample ID: MW-2

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F5K070158-002  
Work Order: HPJKD  
Matrix: WATER

Date Collected: 11/03/05 1415  
Date Received: 11/07/05 1215

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
GROSS A/B BY GFPC EPA 900.0 MOD					pCi/L	900.0 MOD		
Gross Alpha	3.5		2.1	2.8	11/07/05	11/11/05	5312186	
Gross Beta	6.8		1.6	2.1	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

Sciencetech Inc

Client Sample ID: MW-3

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F5K070158-003  
Work Order: HPJKE  
Matrix: WATER

Date Collected: 11/03/05 1450  
Date Received: 11/07/05 1215

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
GROSS A/B BY GFPC EPA 900.0 MOD				pCi/L		900.0 MOD		
Gross Alpha	1.1	U	1.8	3.1	11/07/05	11/11/05	5312186	
Gross Beta	2.9	J	1.4	2.1	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Scientech Inc

Client Sample ID: MW-4

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F5K070158-004  
Work Order: HPJKG  
Matrix: WATER

Date Collected: 11/03/05 1520  
Date Received: 11/07/05 1215

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
GROSS A/B BY GFPC EPA 900.0 MOD					pCi/L	900.0 MOD		
Gross Alpha	5.6		3.4	4.7	11/07/05	11/11/05	5312186	
Gross Beta	4.3		1.5	2.2	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.  
MDC is determined by instrument performance only.  
Bold results are greater than the MDC

Sciencetech Inc

Client Sample ID: MW-5

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F5K070158-005  
Work Order: HPJKH  
Matrix: WATER

Date Collected: 11/03/05 1550  
Date Received: 11/07/05 1215

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
GROSS A/B BY GFPC EPA 900.0 MOD					pCi/L	900.0 MOD		
Gross Alpha	0.3	U	1.2	2.3	11/07/05	11/11/05	5312186	
Gross Beta	9.0		1.8	2.0	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

U Result is less than the sample detection limit.

Sciencetech Inc

Client Sample ID: MW-6

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F5K070158-006  
Work Order: HPJKJ  
Matrix: WATER

Date Collected: 11/03/05 1630  
Date Received: 11/07/05 1215

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
<b>GROSS A/B BY GFPC EPA 900.0 MOD</b>					<b>pCi/L</b>		<b>900.0 MOD</b>	
Gross Alpha	2.1	U	1.7	2.5	11/07/05	11/11/05	5312186	
Gross Beta	5.7		1.5	2.0	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

U Result is less than the sample detection limit.

Sciencetech Inc

Client Sample ID: MW-7

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F5K070158-007  
Work Order: HPJKK  
Matrix: WATER

Date Collected: 11/03/05 1650  
Date Received: 11/07/05 1215

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
GROSS A/B BY GFPC EPA 900.0 MOD					pCi/L	900.0 MOD		
Gross Alpha	1.8	U	2.3	3.7	11/07/05	11/11/05	5312186	
Gross Beta	4.4		1.7	2.5	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

U Result is less than the sample detection limit.

Sciencetech Inc

Client Sample ID: MW-8

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F5K070158-008  
Work Order: HPJKL  
Matrix: WATER

Date Collected: 11/04/05 0900  
Date Received: 11/07/05 1215

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
GROSS A/B BY GFPC EPA 900.0 MOD				pCi/L	900.0 MOD			
Gross Alpha	1.7	U	4.5	8.3	11/07/05	11/11/05	5312186	
Gross Beta	22.2		7.7	11	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

U Result is less than the sample detection limit.

Scientech Inc

Client Sample ID: MW-9

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F5K070158-009  
Work Order: HPJKM  
Matrix: WATER

Date Collected: 11/04/05 0945  
Date Received: 11/07/05 1215

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
GROSS A/B BY GFPC EPA 900.0 MOD					pci/L	900.0 MOD		
Gross Alpha	4.2	U	3.4	5.0	11/07/05	11/11/05	5312186	
Gross Beta	3.3	U	2.4	3.8	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

U Result is less than the sample detection limit.

Sciencetech Inc

Client Sample ID: MW-10

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F5K070158-010  
Work Order: HPJKN  
Matrix: WATER

Date Collected: 11/04/05 1030  
Date Received: 11/07/05 1215

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
GROSS A/B BY GFPC EPA 900.0 MOD					pCi/L	900.0 MOD		
Gross Alpha	6.7	U	5.6	8.4	11/07/05	11/11/05	5312186	
Gross Beta	16.9		4.6	6.1	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

U Result is less than the sample detection limit.

Sciencetech Inc

Client Sample ID: SW-UPSTREAM

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F5K070158-011  
Work Order: HPJKP  
Matrix: WATER

Date Collected: 11/04/05 1115  
Date Received: 11/07/05 1215

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
GROSS A/B BY GFPC EPA 900.0 MOD				pCi/L		900.0 MOD		
Gross Alpha	0.22	U	0.83	1.5	11/07/05	11/11/05	5312186	
Gross Beta	3.0	J	1.3	1.9	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Sciencetech Inc

Client Sample ID: SW-SECT 1

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F5K070158-012  
Work Order: HPJKO  
Matrix: WATER

Date Collected: 11/04/05 0950  
Date Received: 11/07/05 1215

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
GROSS A/B BY GFPC EPA 900.0 MOD				pCi/L	900.0 MOD			
Gross Alpha	1.7	U	2.2	3.5	11/07/05	11/11/05	5312186	
Gross Beta	3.2	J	1.3	2.0	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Scientech Inc

Client Sample ID: SW-SECT 2

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F5K070158-013  
Work Order: HPJKR  
Matrix: WATER

Date Collected: 11/03/05 1500  
Date Received: 11/07/05 1215

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
GROSS A/B BY GFPC EPA 900.0 MOD				pCi/L	900.0 MOD			
Gross Alpha	0.5	U	1.0	1.7	11/07/05	11/11/05	5312186	
Gross Beta	3.2	J	1.3	1.8	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Scientech Inc

Client Sample ID: SW-N POND

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F5K070158-014  
 Work Order: HPJKV  
 Matrix: WATER

Date Collected: 11/03/05 1655  
 Date Received: 11/07/05 1215

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
GROSS A/B BY GFPC EPA 900.0 MOD				pci/L	900.0 MOD			
Gross Alpha	3.4	U	2.7	4.1	11/07/05	11/11/05	5312186	
Gross Beta	3.4	J	1.4	2.0	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.

U Result is less than the sample detection limit.

Sciencetech Inc

Client Sample ID: SW-S POND

Severn Trent Laboratories - Radiochemistry

Lab Sample ID: F5K070158-015  
Work Order: HPJKW  
Matrix: WATER

Date Collected: 11/03/05 1645  
Date Received: 11/07/05 1215

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Analysis Date	Batch #	Yld %
GROSS A/B BY GFPC EPA 900.0 MOD					pCi/L	900.0 MOD		
Gross Alpha	2.8	U	3.5	5.7	11/07/05	11/11/05	5312186	
Gross Beta	6.5		1.6	2.0	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.

Bold results are greater than the MDC

U Result is less than the sample detection limit.

METHOD BLANK REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot ID: F5K070158  
 Matrix: WATER

Parameter	Result	Qual	Total Uncert. (2 $\sigma$ +/-)	MDC	Prep Date	Lab Sample ID		
						Analysis Date	Batch #	Yld %
GROSS A/B BY GFPC EPA 900.0 MOD				pCi/L	900.0 MOD	F5K080000-186B		
Gross Alpha	0.40	U	0.64	1.1	11/07/05	11/11/05	5312186	
Gross Beta	-0.6	U	1.1	2.0	11/07/05	11/11/05	5312186	

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined using instrument performance only

Bold results are greater than the MDC

U Result is less than the sample detection limit.

# Laboratory Control Sample Report

## Severn Trent Laboratories - Radiochemistry

Client Lot ID: F5K070158  
 Matrix: WATER

Parameter	Spike Amount	Result	Total Uncert. (2 $\sigma$ +/-)	MDC	% Yld	% Rec	Lab Sample ID QC Control Limits
<hr/>							
GROSS A/B BY GFPC EPA 900.0 MOD			pCi/L	900.0 MOD			F5K080000-186C
Gross Beta	104	92.6	9.9	1.9		89	(70 - 121)
	Batch #:	5312186		Analysis Date:	11/11/05		
<hr/>							
GROSS A/B BY GFPC EPA 900.0 MOD			pCi/L	900.0 MOD			F5K080000-186C
Gross Alpha	51.4	40.0	5.3	1.2		78	(55 - 147)
	Batch #:	5312186		Analysis Date:	11/11/05		
<hr/>							

**NOTE(S)**

MDC is determined by instrument performance only  
 Calculations are performed before rounding to avoid round-off error in calculated results

MATRIX SPIKE REPORT

Severn Trent Laboratories - Radiochemistry

Client Lot Id: F5K070158  
 Matrix: WATER

Date Sampled: 11/03/05  
 Date Received: 11/07/05

Parameter	Spike Amount	Spike Result	Total Uncert. (2σ +/-)	Spike Yld.	Sample Result	Total Uncert. (2σ +/-)	QC Sample ID		QC Control Limits
							%YLD	%REC	
GROSS A/B BY GFPC EPA 900.0 MOD			pCi/L	900.0 MOD		F5K070158-001			
Gross Alpha	51.4	75	11	2.8	2.4	140	(31 - 150)		
	Batch #:	5312186	Analysis Date:		11/11/05				

NOTE(S)

Data are incomplete without the case narrative.

Calculations are performed before rounding to avoid round-off errors in calculated results.

**DUPLICATE EVALUATION REPORT**

**Severn Trent Laboratories - Radiochemistry**

Client Lot ID: F5K070158  
 Matrix: WATER

Date Sampled: 11/03/05  
 Date Received: 11/07/05

Parameter	SAMPLE Result	Total Uncert. (2σ +/-)	% Yld	DUPLICATE Result	Total Uncert. (2 σ +/-)	% Yld	QC Sample ID	
							Precision	
GROSS A/B BY GFPC EPA 900.0 MOD				pCi/L	900.0 MOD		F5K070158-001	
Gross Alpha	2.8 U	2.4		2.0 U	2.2		32	%RPD
Gross Beta	2.9 J	1.3		2.4 J	1.4		20	%RPD
	Batch #:	5312186 (Sample)		5312186 (Duplicate)				

**NOTE(S)**

Data are incomplete without the case narrative.

Calculations are performed before rounding to avoid round-off error in calculated results

- J Result is greater than sample detection limit but less than stated reporting limit.
- U Result is less than the sample detection limit.



**ENVIROCARE** OF UTAH, LLC

SAFE AND SECURE

Document No. 82A9103

Revision No. 3

Addendum No. 10

**ATTACHMENT C**

**Envirocare Well Sampling Field Logs**

**(10 pages)**























**ENVIROCARE** OF UTAH, LLC

SAFE AND SECURE

Document No. 82A9103

Revision No. 3

Addendum No. 10

**ATTACHEMENT D**

**Envirocare Chain-of-Custody Forms**

**(2 pages)**

**Chain of Custody Record**

3 Airbills - 3 Locations  
 8528-3268-9486  
 8528-3268-9501  
 8528-~~4477~~-9497  
 8528-3268

**SEVERN TRENT** **STL**  
 Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client <b>Envirocare of Utah LLC</b>			Project Manager <b>Rich Moss</b>			Date <b>11-4-05</b>	Chain of Custody Number <b>225079</b>
Address <b>143 West Street</b>			Telephone Number (Area Code)/Fax Number <b>860-210-3067</b>			Lab Number	
City <b>New Milford</b>	State <b>CT</b>	Zip Code <b>06776</b>	Site Contact <b>Pat Horkman</b>	Lab Contact <b>Ed Kao</b>	Analysis (Attach list if more space is needed)		
Project Name and Location (State) <b>Whittaker Transfer, PA</b>			Carrier/Waybill Number			Page <b>1</b> of <b>2</b>	
Contract/Purchase Order/Quote No.							

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix				Containers & Preservatives						Gross Alpha	Gross Beta	Special Instructions/ Conditions of Receipt
			Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH			
MW-1	11-3-05	11:20	✓										✓	✓	IF Gross Alpha is > 15 pCi/L, or Gross Beta is > 50 pCi/L then analyze for Isotopic U & Th and Gamma Spec
MW-2		2:15	✓										✓	✓	
MW-3		2:50	✓										✓	✓	
MW-4		3:20	✓										✓	✓	
MW-5		3:50	✓										✓	✓	
MW-6		4:30	✓										✓	✓	
MW-7	↓	4:50	✓										✓	✓	
MW-8	11-4-05	9:00	✓										✓	✓	
MW-9	↓	9:45	✓										✓	✓	
MW-10	↓	10:30	✓										✓	✓	
SW-Upstream	11-4-05	11:15	✓										✓	✓	Contact: Keith Skotsleeve
SW-Sect1	11-4-05	9:50	✓										✓	✓	

Possible Hazard Identification:  Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

Sample Disposal:  Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required:  24 Hours  48 Hours  7 Days  14 Days  21 Days  Other \_\_\_\_\_

QC Requirements (Specify)

1. Relinquished By <i>Keith Skotsleeve</i>	Date <b>11-4-05</b>	Time <b>3:00 pm</b>	1. Received By	Date	Time
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments





**ENVIROCARE** OF UTAH, I.L.C.  
SAFE AND SECURE

Document No. 82A9103  
Revision No. 3  
Addendum No. 10

**ATTACHEMENT E**

**Fence Line Radiological Surveys and Map**

**(3 pages)**

Survey Data Sheet



**ENVIROCARE** OF UTAH, LLC

**SAFE AND SECURE**

Project Title: Whittaker D&D Project "05"  
 Survey Type: Survey Fenceline  
 Date: 11/07/05

Meter: Model: 2221  
 Serial #: 176956  
 Background: 8800 cpm

Probe: Model: 44-10  
 Serial #: 207829

Fence Post #	gcpm (k)	notes	Fence Post #	gcpm (k)	notes	Fence Post #	gcpm (k)	notes	Fence Post #	gcpm (k)	notes
132	10	chain link	173	14		217	7		1	14	north gate
133	10		174	15		218	7		2	14	
134	10		175	12		219	7		3	14	
135	12		176	13		220	7		4	16	
136	12		177	13		221	7		5	18	
137	12		178	14		222	7		6	19	
138	11		179	9	top corner	223	7		7	19	
139	10		180	9	chain link	224	7		8	18	
140	13		181	9		225	7		9	15	NW corner
141	13		182	8		226	7		10	12	
142	11	old SE corner	183	8		227	7		11	28	
143	9	start new chain	184	8		228	7		12	28	
144	8	link fence	185	11	bottom corner	229	7		13	31	
145	7		186	18		230	7		14	34	
146	6		187	20		231	7		15	38	
147	7	SE corner	188	10		232	7		16	43	
148	7		189	10		233	7		17	46	
149	10		190	9		234	7		18	53	
150	12		191	9		235	7		19	58	
151	13		192	9		236	7		20	69	~ 70 uR/hr
152	11		193	12		237	7				
153	12		194	23		238	7				
154	10		195	16		239	7				
155	9		196	13		240	7				
156	10	stream	197	11		241	7				
156A	10	stream	198	10	new east gate	242	7				
156B	10		199	9		243	7				
156C	12		200	10		244	7				
157	12	old SE gate	201	22		245	7				
158	11	barbed wire	202	18		246	7				
159	12		203	10		247	7				
160	12		204	14		248	7				
161	10		205	12		249	7				
162	10		206	10		250	7				
163	10		207	10		251	7				
164	10	hill crest	208	10		252	7				
165	10		209	10		253	7				
166	10		210	8		254	7				
167	10	stream	211	8		255	7				
168	10	stream	212	8		256	7				
169	10		213	8	end chain link	257	7	NE Gate			
170	10		214	8	barbed wire	258	7	NE gate			
171	10		215	8		259	7				
172	16		216	8		260	7	NE corner			

11	28
12	28
13	31
14	34
15	38
16	43
17	46
18	53
19	58
20	69

11 -20: High dose rates due to the presence of the LLRW stockpile on the Section 3 pad east of the fence.

Individual Completing Form: Jim Lavender

Date: 11/7/2005

Reviewed By: Kevin Taylor

Date: 11/21/2005

Survey Data Sheet

Project Title: Whittaker Fenceline Survey  
 Survey Type: Ground level survey  
 Survey Location: Outside "Downslope" Perimeter Fencing  
 Date: 12/16/04



**ENVIROCARE** OF UTAH, LLC

**SAFE AND SECURE**

Meter: Model: L-2221  
 Serial #: 73687  
 Background: 8261 cpm

Probe: Model: SPA-3  
 Serial #: 407472

Fence Post #	gcpm (K)	notes	Fence Post #	gcpm (K)	notes	Fence Post #	gcpm (K)	notes	Fence Post#	gcpm (K)	notes
132	11	chain link	173	14		217	9		1	10	north gate
133	9		174	13		218	9		2	10	
134	7		175	12		219	8		3	12	
135	9		176	12		220	8		4	10	
136	11		177	11		221	7		5	12	
137	10		178	18		222	8		6	15	
138	11		179	12	top corner	223	7		7	10	
139	10		180	12	chain link	224	7		8	16	
140	12		181	10		225	8		9	10	NW corner
141	12		182	10		226	8		10	10	
142	11	old SE corner	183	12		227	7		11	10	
143	10	start new chain	184	11		228	7		12	9	
144	9	link fence	185	10	bottom corner	229	7		13	10	
145	7		186	10		230	7		14	10	
146	7		187	10		231	7		15	12	
147	6	SE corner	188	15		232	7		16	12	
148	7		189	14		233	7		17	11	
149	12		190	18		234	7		18	12	
150	11		191	22		235	7		19	12	
151	11		192	53		236	7		20	11	
152	11		193	68		237	7				
153	10		194	32		238	7				
154	10		195	47		239	7				
155	9		196	20		240	7				
156	10	stream	197	18		241	7				
156A	11	stream	198	16	new east gate	242	7				
156B	10		199	18		243	7				
156C	10		200	17		244	7				
157	11	old SE gate	201	15		245	7				
158	12	barbed wire	202	16		246	7				
159	10		203	14		247	7				
160	9		204	12		248	7				
161	9		205	14		249	7				
162	8		206	12		250	7				
163	9		207	12		251	7				
164	9	hill crest	208	12		252	7				
165	10		209	10		253	7				
166	10		210	12		254	7				
167	10	stream	211	10		255	7				
168	10	stream	212	10		256	7				
169	11		213	12	end chain link	257	7	NE Gate			
170	10		214	10	barbed wire	258	7	NE gate			
171	12		215	9		259	7				
172	14		216	9		260	7	NE corner			

Individual Completing Form: James Lavender

Date: 12/16/2004

Reviewed By: Kevin Taylor

Date: 12/16/2004