SCIENTECH

March 22, 2002
Ref. No. 23516-002

Mr. Steve Shaffer
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

Subject: Transmittal of SCIENTECH, Inc. Document

Dear Mr. Shaffer:

Please find enclosed one (1) uncontrolled copy of Addendum 12, *Whittaker Site Quarterly Inspection, First Quarter of 2002*, to SCIENTECH Document No. 82A9104, Rev. 2, *Soil Erosion Control Plan, Whittaker Corporation, Greenville, PA*, for your records.

Again, congratulations and good luck with your recent position change in Region I. It has been a pleasure working with you in connection with the Whittaker site and you have been very helpful. I will address future correspondence regarding the Whittaker project to Randy Ragland as the new Region I Project Manager for the site.

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

Sincerely,

Kevin Taylor
Project Manager

KT:lc
Enclosure

143 West Street • New Milford, CT 06776 • Tele: (860) 210-3000 • Fax: (860) 210-3015

CONTROLLED COPY No. 487

A SCIENTECH, INC., Company

3/20/02
Effective Date

ADDENDUM AUTHORIZATION

Document Title: Soil Erosion Control Plan Document No. 8ZA9104, Rev 2
Addendum No.: 12 Originator Roy Racine
For Site/Utility: Whittaker Site, Greenville, PA

Description of Addendum:

Report on-site inspection and other activities for the 1st Quarter of 2002.

Reason for Change:

Site Quarterly Inspection reports are to be submitted as addenda to the SOIL EROSION CONTROL PLAN, per Section 4.2 of the Plan.

APPROVALS:

Title	Signature	Date
Tech Review	Stewart R Smith (STEWART R SMITH)	3/20/02
Dept. Mgr		3/21/02

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

Distribute to all Controlled Copy holders of affected document and _____.

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

FIGURE 4.7
ADDENDUM AUTHORIZATION FORM

March 8, 2002

Subject: Whittaker Site Quarterly Inspection, First Quarter of 2002

INTRODUCTION

In accordance with Whittaker Corporation's U.S. Nuclear Regulatory Commission (NRC) License No. SMA-1018, Amendment No. 8, Condition No. 14, site inspection activities were performed by Roy Racino (Outgoing Site Project Manager and RSO), Kevin Taylor (Incoming Site Project Manager and RSO), and Pat Horkman (Site Supervisor) of SCIENTECH, Inc. on March 5, 2002. The purpose of the inspection was to identify any degradation of the pile and slopes that might have occurred, confirm that licensed material is not migrating from the Radiologically Controlled Area (RCA), and to verify that the site perimeter fencing, silt fencing, site postings, and access control are intact and adequate. This visit also provided an opportunity for Kevin Taylor to become familiar with the site, environs, and the inspection process.

INSPECTION SUMMARY

Erosion and Migration

The weather conditions were cold and windy with snow flurries throughout the morning. The slopes of the embankments were covered with a thin layer of snow in the morning. This cover of snow melted or blew away by mid-afternoon. The RCA embankments showed no visible signs of new gully formation, recent movement of pieces of slag, or accumulation of tailings or material on the slopes or against the silt fencing.

The gully by Monitoring Well #3, the gullies on the southern slope of Section 2, and the area closest to the Shenango River (around the east gate) were afforded heightened surveillance. The new silt fencing, straw bales, and plastic sheeting that were installed in the gully areas are intact and the slopes are stable. The area close to the river was secure and indicated no new slag migration.

Fourteen routine inspection photographs were taken of the eastern and southern slopes of Section 2 (the central section of the site) and the eastern and northern slopes of Section 1 (the southern section). These photographs are included with this report and are identified as "Inspection Locations #1 - #14". These locations are indicated on the attached site map.

Perimeter and Silt Fencing, Gates, Postings

Perimeter silt fencing was pliable and generally intact. Gates and locks were intact and secure. Perimeter fencing and fence posts were in good condition. Greenville Metals personnel continue to limit the storage of tote bins in the area between fence posts #70-#74.

Fenceline "Radioactive Materials" postings were checked and it was found that, except for a short distance from the southeast gate to fencepost #179, all postings were gone from the southern fencing of Section 1 to the northeast corner of Section 3. This encompasses the entire eastern boundary of

the RCA that adjoins the floodplain areas and the Shenango River. It appears that these postings were intentionally removed. These postings will be replaced as part of the next inspection and will be secured inside the fencing with a heavier gauge wire to discourage removal.

Radiological Surveys

Outside perimeter ground level surveys were conducted between fence posts #1 to #20 and #132 to #260 with a 2" x 2" Sodium Iodide (NaI) gamma scintillation detector. The GM and alpha detectors were on hand for frisking and other non-survey use purposes. These surveys encompassed all downslope areas and the outside perimeter of the large slag/soil pile in the northwest corner of the site where licensed material could migrate to, or through, the fenceline as a result of erosion or washout. The survey results were consistent with the previous quarterly survey.

OTHER ACTIVITIES

In addition to the removal of fenceline postings, it was discovered that a drum of radioactive material inside the RCA near the southeast gate had been opened and tipped over, and the purge water drum for Monitoring Well #6 was lying at the base of the embankment below the well. The drum by the southeast gate had been secured with a cover and bolted ring. The drum was righted and radioactive material and soil were shoveled from the ground into the drum. The cover was replaced and the cover ring was re-secured. The purge water drum was unopened and was returned to the top of the Section 4 embankment near Monitoring Well #6.

Roy Woods and Chris Rittiger from the Pittsburgh office of PADEP were on-site to perform a brief site walk-down and to meet Kevin Taylor.

ATTACHMENTS

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

	# of Pages
• Surveys and Maps	3
• Photographs (Taken on 3/5/02)	7
• Instrument Calibration and Safety Data	11

Surveys and Maps
(3 pages)

Survey Data Sheet

Project Title: Whittaker Fenceline Survey
Survey Type: Ground Level Survey
Survey Unit (Location): Outside "Downslope" Perimeter Fencing
Date: 03/05/02

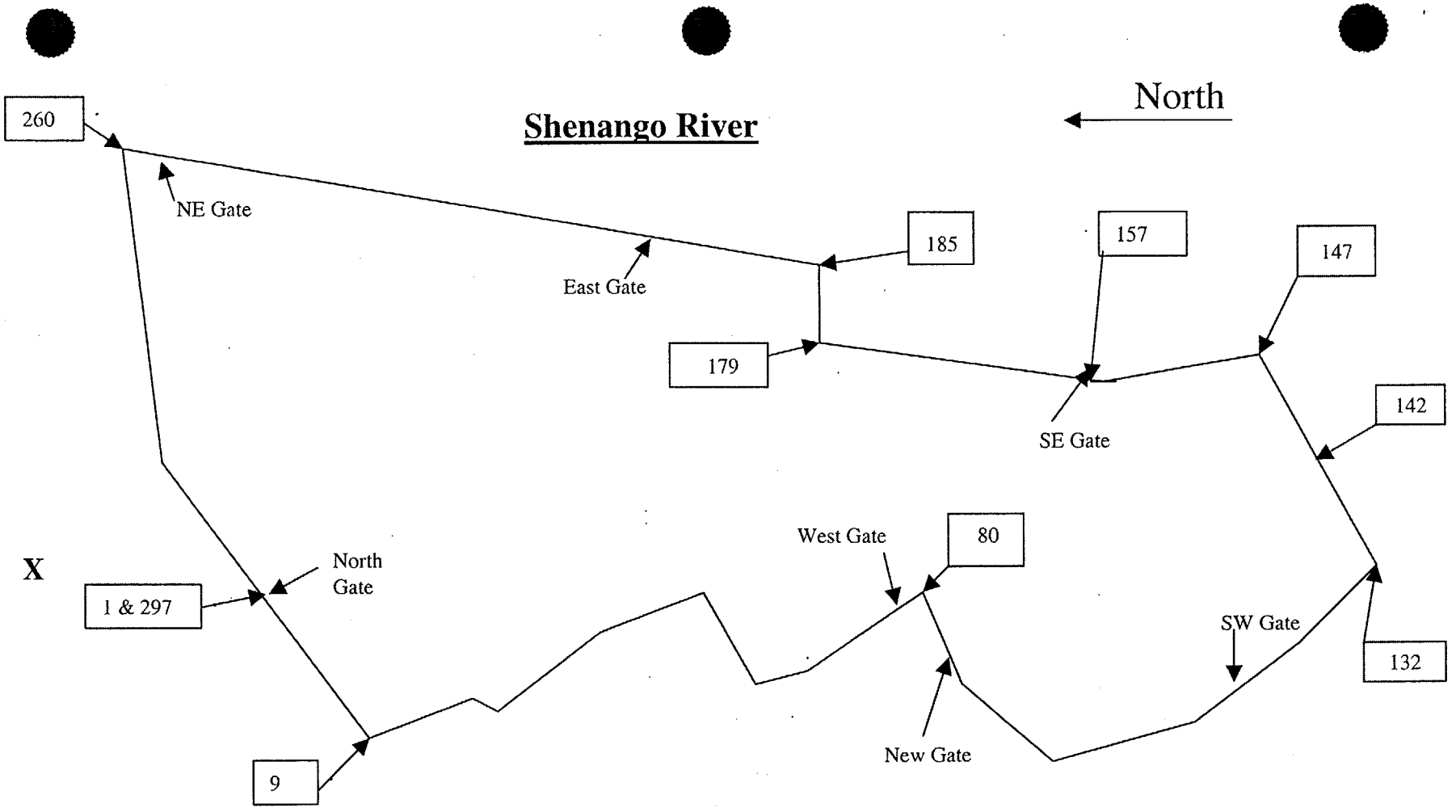
Meter:
Model: Ludlum model 2221
Serial #: 73687
Background: 5093 cpm

Probe:
Model: Eberline SPA-3: 2x2 NaI
Serial #: n/a

Fence Post #	gcpm	notes	Fence Post #	gcpm	notes	Fence Post #	gcpm	notes	Fence Post#	gcpm	notes
132	10k	chain link	173	14k		217	9k		1	10k	north gate
133	9k		174	12k		218	8k		2	11k	
134	8k		175	12k		219	8k		3	11k	
135	9k		176	12k		220	8k		4	11k	
136	10k		177	12k		221	8k		5	11k	
137	10k		178	17k		222	8k		6	15k	
138	11k		179	16k	top corner	223	7k		7	9k	
139	11k		180	12k	chain link	224	8k		8	17k	
140	12k		181	10k		225	7k		9	10k	NW corner
141	13k		182	10k		226	7k		10	9k	
142	11k	old SE corner	183	10k		227	7k		11	9k	
143	10k	start new chain	184	10k		228	7k		12	10k	
144	8k	link fence	185	10k	bottom corner	229	7k		13	9k	
145	7k		186	10k		230	7k		14	10k	
146	6k		187	11k		231	7k		15	11k	
147	6k	SE corner	188	13k		232	7k		16	11k	
148	6k		189	13k		233	7k		17	12k	
149	10k		190	16k		234	7k		18	11k	
150	10k		191	19k		235	7k		19	11k	
151	11k		192	49k		236	7k		20	11k	
152	10k		193	56k		237	7k				
153	10k		194	28k		238	7k				
154	9k		195	40k		239	7k				
155	9k		196	21k		240	7k				
156	10k	stream	197	16k		241	7k				
156A	10k	stream	198	16k	new east gate	242	7k				
156B	10k		199	17k		243	7k				
156C	10k		200	18k		244	7k				
157	11k	old SE gate	201	15k		245	7k				
158	12k	barbed wire	202	16k		246	7k				
159	10k		203	13k		247	7k				
160	9k		204	12k		248	7k				
161	9k		205	12k		249	7k				
162	8k		206	12k		250	7k				
163	9k		207	12k		251	8k				
164	9k	hill crest	208	11k		252	7k				
165	11k		209	10k		253	7k				
166	10k		210	10k		254	8k				
167	10k	stream	211	10k		255	7k				
168	10k	stream	212	9k		256	7k				
169	11k		213	10k	end chain link	257	7k	NE Gate			
170	10k		214	10k	barbed wire	258	7k	NE gate			
171	13k		215	9k		259	7k				
172	14k		216	9k		260	7k	NE corner			

Individual Completing Form: R. Racine Date: 3/5/02

Reviewed By: Stewart R. Smith Date: 3/20/02



Whittaker Site

March 5, 2002: 1st Quarter Inspection

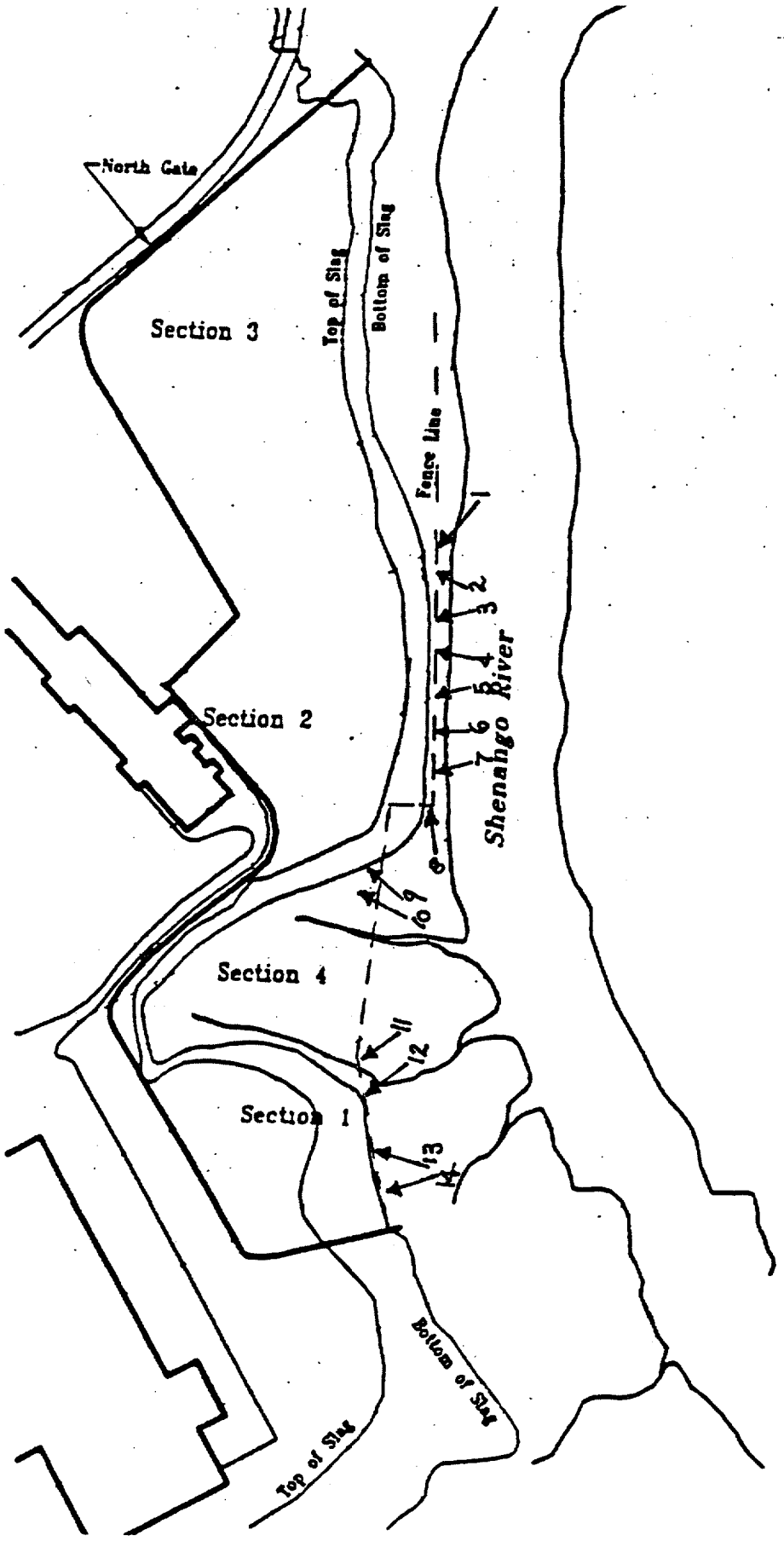
Fenceline Ground Level Survey

82A9104 Addendum #12

□ = Fence post number

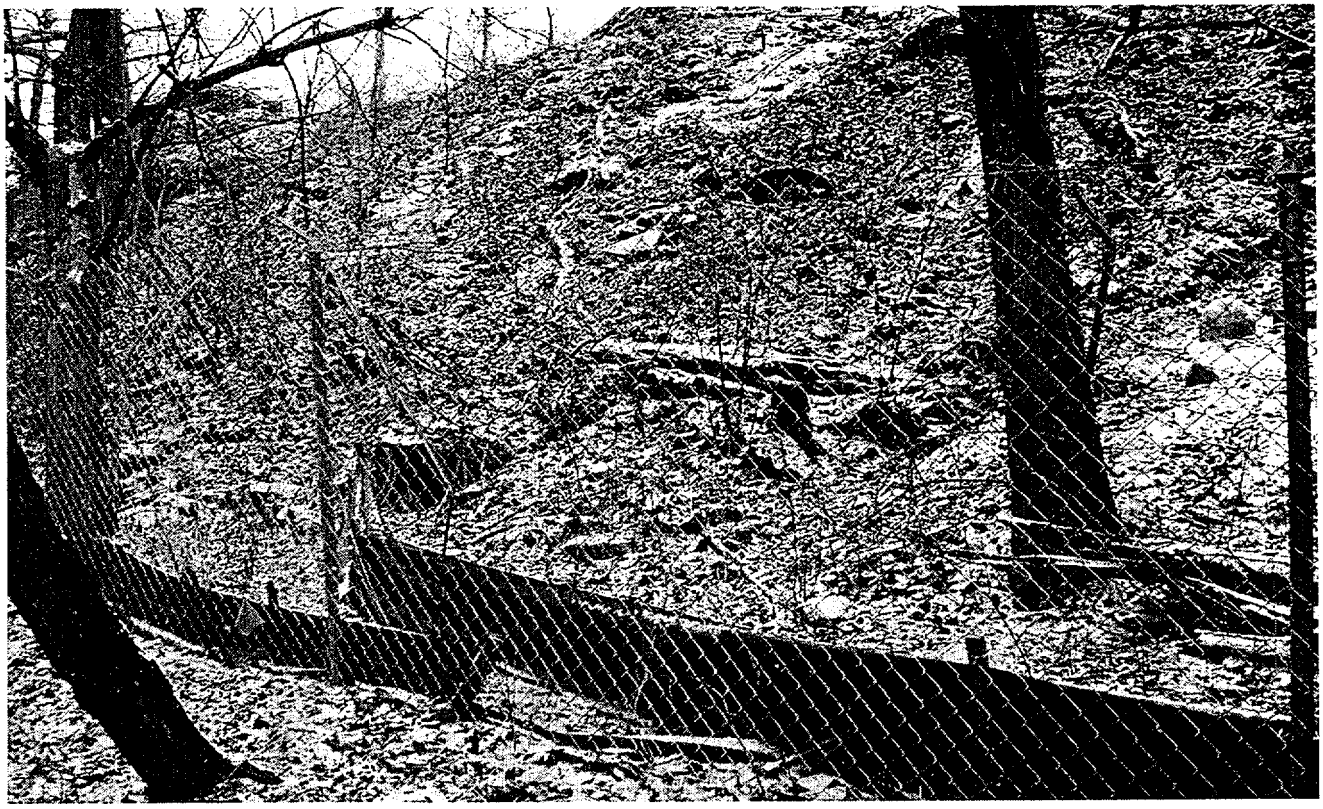
X = location of background reading

Not drawn to scale



Photographs for Quarterly Inspections
Whittaker Site, Greenville, PA

Photographs
(Taken on 3/5/02 - 7 pages)



Inspection Photograph #1

Inspection Photograph #2

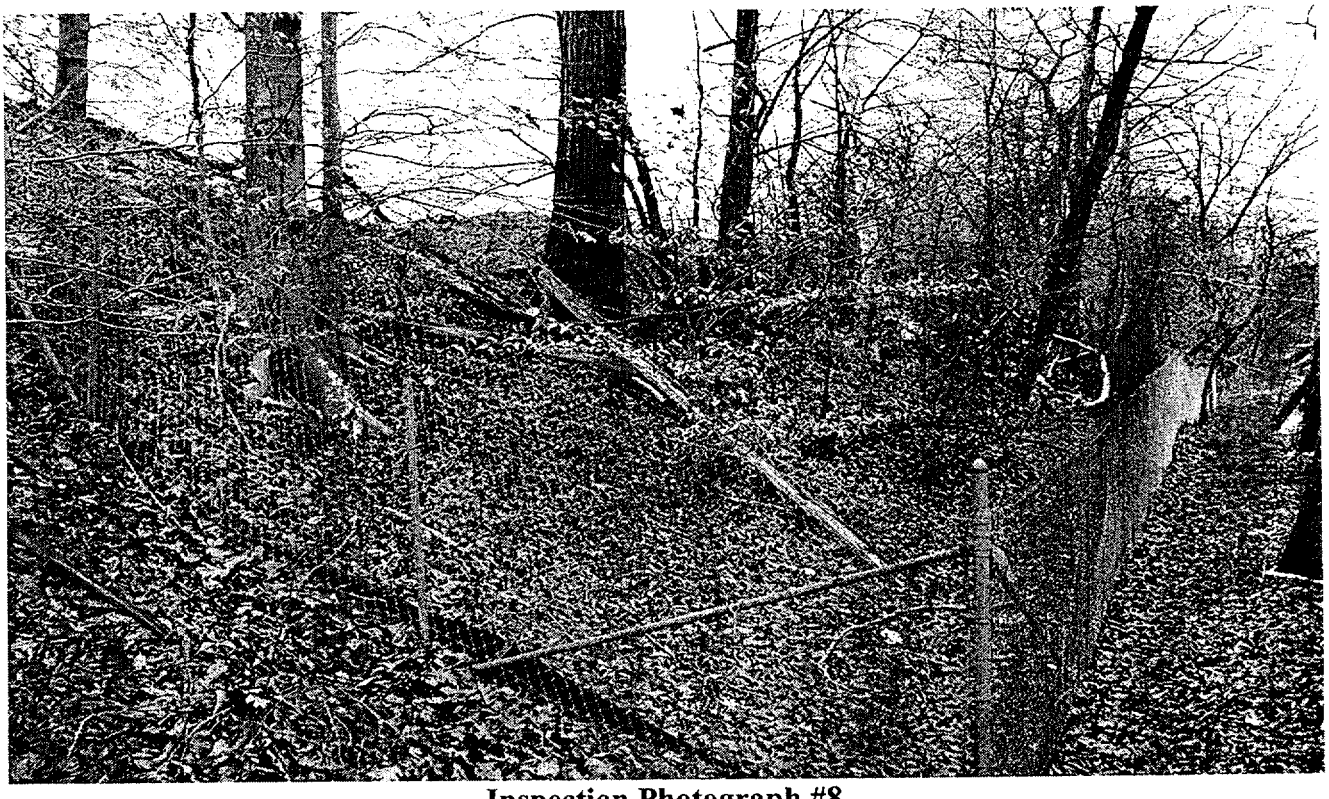
Inspection Photograph #3

Inspection Photograph #4

Inspection Photograph #5

Inspection Photograph #6

Inspection Photograph #7



Inspection Photograph #8

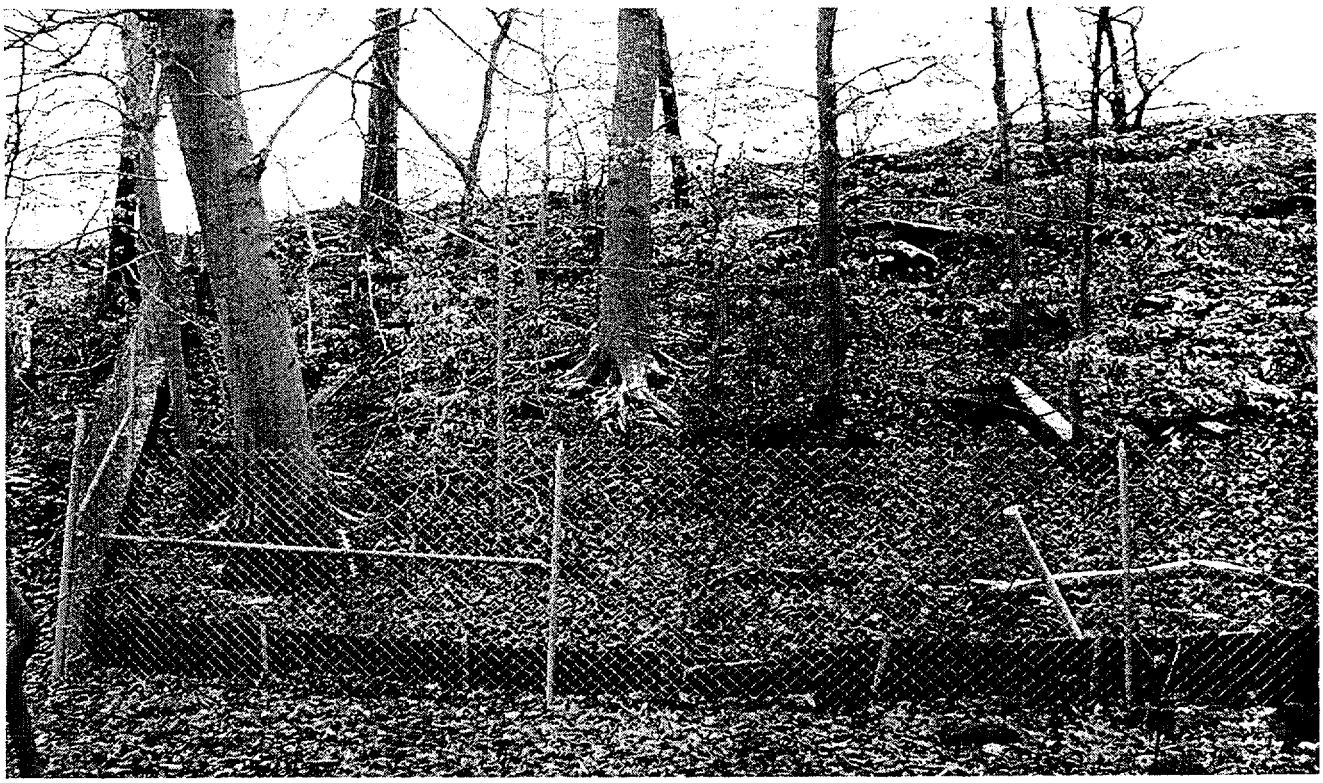
Inspection Photograph #9

Inspection Photograph #10

Inspection Photograph #11

Inspection Photograph #12

Inspection Photograph #13



Inspection Photograph #14

Instrument Calibration and Safety Data
(11 pages)

CERTIFICATE OF CALIBRATION
(COUNT-RATE INSTRUMENT)

RSA Laboratories, Inc.
21 Pendleton Drive, P.O. Box 61
Hebron, Connecticut 06248
(860) 228-0721 Fax (860) 228-4402

Customer and Contact: **Scientech, Inc., Attn: Roy Racino (203) 796-5340**
Customer Address: **44 Shelter Rock Road, Danbury, CT 06810-7095**

Inst. Mfr. & Model **Ludlum Model 2221**	Inst. Type **Scaler/Ratemeter**	Inst. s/n **73687**
Det. Mfr. & Model **Eberline SPA-3**	Det. Type **2 x 2 Sodium Iodide**	Det. s/n **not indicated**
Cal. Date **12 October 2001**	Due Date **12 October 2002**	Cal. Interval **1 year**

Environmental conditions: Temperature: 75°F Relative Humidity 45% Atmospheric Pressure 29.46 inches Hg
Pre-calibration Checks:

■ Contamination survey	■ Battery check	■ Slow response check	
■ Mechanical check	■ Audio check	□ Window operation	■ Det. volts 900 Vdc
■ Meter zero	■ Reset check	□ Plateau check	
■ Geotropism check	■ Fast response check	□ Alarm set	■ Input sens. 30 mV

■ Pulse generator s/n 94926 (cal due 12 April 2002) □ Oscilloscope s/n 171-04928 ■ Voltmeter s/n 57410002 (cal due 20 Oct. 2001)
■ HV Readout (2 points) Ref./Inst. 500V/ 450V Ref./Inst. 1500V/ 1500V

Comments:

S/N of source used for precision check #2887 Isotope Cs-137 Dedicated Source? □Yes ■No
Reading #1 35,559 Reading #2 35,288 Reading #3 35,425 Mean 35,424
Precision: ■± <10% □± 10-20% □Out of tolerance

Range	Reference Calibration Point	"As Found" Instrument Indication	"As left" Instrument Indication
x 1000	400,000 cpm	400,000 cpm	400,000 cpm
x 1000	100,000 cpm	100,000 cpm	100,000 cpm
x 100	40,000 cpm	40,000 cpm	40,000 cpm
x 100	10,000 cpm	10,000 cpm	10,000 cpm
x 10	4,000 cpm	4,000 cpm	4,000 cpm
x 10	1,000 cpm	1,000 cpm	1,000 cpm
x 1	400 cpm	400 cpm	400 cpm
x 1	100 cpm	100 cpm	100 cpm
1 min. count	400,000 cpm	400,074 cpm	400,074 cpm

All ranges calibrated electronically.

Local background (cpm) = 23,197

Range Multiplier	Cal. Source Used (isotope and S/N)	Source Activity (dpm)	Instrument Reading (cpm)	4π Instrument Efficiency (%)
1 min. count	Cs-137 #2887	140,046	35,456	8.75

RSA Laboratories ID# 5224. Instrument indicates within ±10% of calibration points unless otherwise indicated. Source-to-detector entry window distance for efficiency determinations is 1 cm unless otherwise specified. RSA Laboratories, Inc. certifies that the above instrument has been calibrated with standards traceable to the National Institute of Standards and Technology, or have been derived from accepted values of natural physical constants, or have been derived by the ratio-type of calibration techniques.

Calibrated by: Paul R. Steinmeyer Paul R. Steinmeyer Date 12 Oct 2001

Reviewed by: David L. Judd Date 12 OCT 2001

INSTRUMENT RESPONSE RANGE CHECK

Meter Model #	Ludlum 2221	**Date**	03/05/02
Meter Serial #	73687		
Probe Model #	Eberline SPA-3 (2x2)	**Source Type**	Cs-137
Probe Serial #	N/A	**Source Serial #**	NES#7 (NEN 1.04 uCi)

instrument background (cpm) 5093

Range Check (cpm) 15723

location of source on the detector on side

Note: All source readings @ contact

	source reading (net response)	(reading - mean)	squared
1	15,594	-254	64516
2	15,863	15	225
3	16,083	235	55225
4	15,724	-124	15376
5	15,702	-146	21316
6	15,981	133	17689
7	15,926	78	6084
8	16,046	198	39204
9	15,760	-88	7744
10	15,799	-49	2401
total	158,478	**Summation of squares**	229780
mean	15,848	**total divide by 9**	25531
		sqrt.of summation/9	160

upper range = mean +(1.96)(sqrt of summ/9) = 16,161

lower range = mean - (1.96)(sqrt of summ/9) = 15,535

Technician R. Racine

Reviewer S.R. Smith

CERTIFICATE OF CALIBRATION
(COUNT-RATE INSTRUMENT)

RSA Laboratories, Inc.
21 Pendleton Drive, P.O. Box 61
Hebron, Connecticut 06248
(860) 228-0721 Fax (860) 228-4402

Customer and Contact: **Scientech, Inc. Attn: S.R. Smith (203) 796-5080**
Customer Address: **44 Shelter Rock Road, Danbury, CT 06810-7095**

Inst. Mfr. & Model **Ludlum Model 2220**	Inst. Type **Scaler/Ratemeter**	Inst. s/n **52836**
Det. Mfr. & Model **Ludlum 44-9**	Det. Type **G-M Pancake**	Det. s/n **084063**
Cal. Date **02 November 2001**	Due Date **02 November 2002**	Cal. Interval **1 year**

Environmental conditions: Temperature: **70°F** Relative Humidity **40%** Atmospheric Pressure **29.60** inches Hg
Pre-calibration Checks:

■ Contamination survey	■ Battery check	■ Slow response check	
■ Mechanical check	■ Audio check	□ Window operation	■ Det. volts 900 Vdc
■ Meter zero	■ Reset check	□ Plateau check	
■ Geotropism check	■ Fast response check	□ Alarm set	■ Input sens. 25 mV

■ Pulse generator s/n 106400 (cal due 7 Mar 2002) □ Oscilloscope s/n 171-04928 □ Voltmeter s/n 57410002
■ HV Readout (2 points) Ref./Inst. V/ V Ref./Inst. V/ V

Comments: **Efficiency for Th-230 was taken with source in contact with probe face.**

S/N of source used for precision check **#6** Isotope **Cs-137** Dedicated Source? □Yes ■No
Reading #1 **36,950** Reading #2 **36,765** Reading #3 **36,274** Mean **36,663**
Precision: ■± <10% □±10-20% □Out of tolerance

Range	Reference Calibration Point	"As Found" Instrument Indication	"As left" Instrument Indication
x 1000	400,000 cpm	400,000 cpm	400,000 cpm
x 1000	100,000 cpm	100,000 cpm	100,000 cpm
x 100	40,000 cpm	40,000 cpm	40,000 cpm
x 100	10,000 cpm	10,000 cpm	10,000 cpm
x 10	4,000 cpm	4,000 cpm	4,000 cpm
x 10	1,000 cpm	1,000 cpm	1,000 cpm
x 1	400 cpm	400 cpm	400 cpm
x 1	100 cpm	100 cpm	100 cpm
1 min. count	400,000 cpm	399,822 cpm	399,822 cpm

All ranges calibrated electronically.

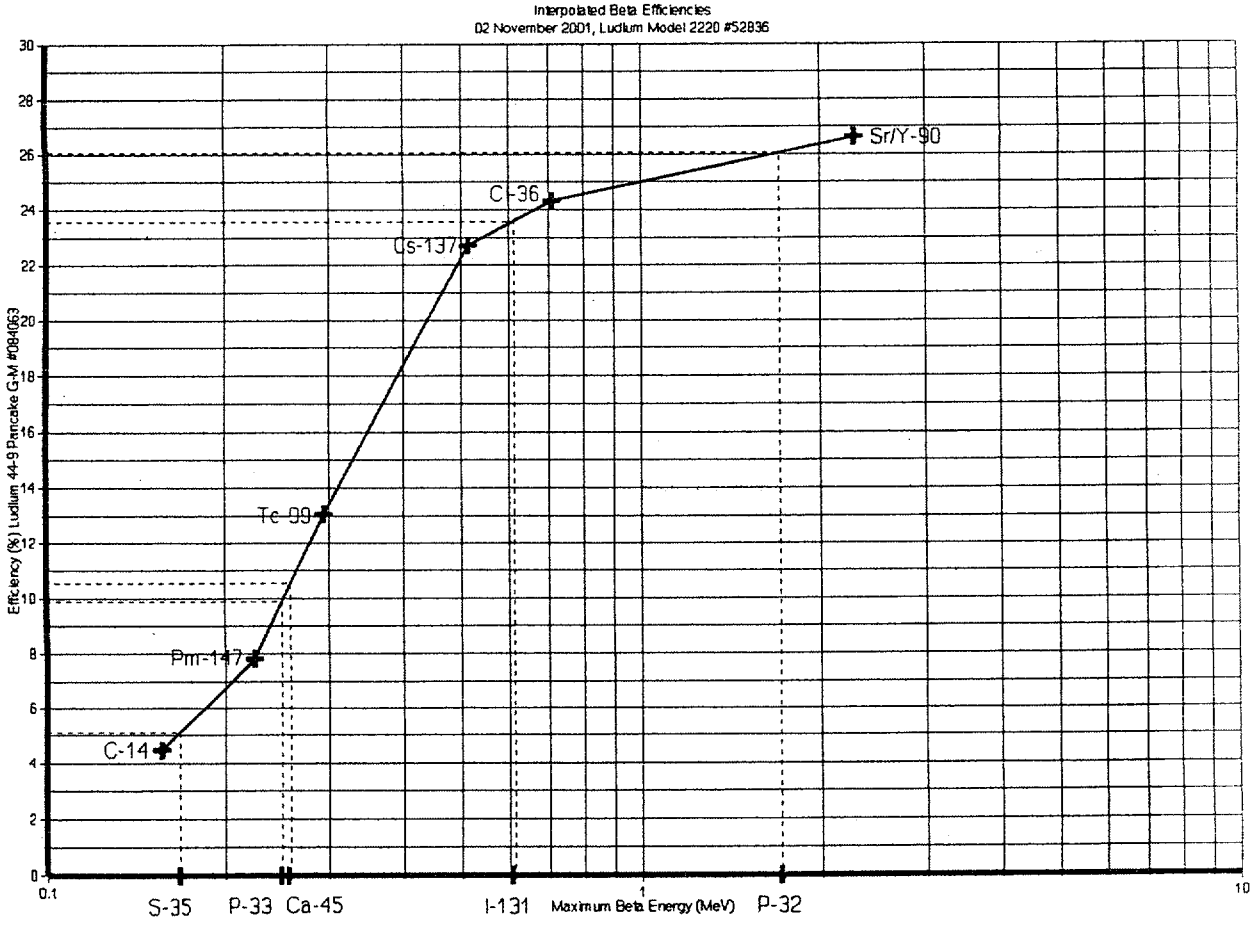
Local background (cpm) = 63

Range Multiplier	Cal. Source Used (isotope and S/N)	Source Activity (dpm)	Instrument Reading (cpm)	4π Instrument Efficiency (%)
1 min. count	C-14 #4456	208,100	9335	4.46
1 min. count	Pm-147 #5381	18,247	1489	7.81
1 min. count	Tc-99 #D702	23,064	3075	13.06
1 min. count	Cs-137 #2886	19,007	4380	22.71
1 min. count	Cl-36 #D700	23,598	5799	24.31
1 min. count	Sr/Y-90 #D711	47,751	12,772	26.62
1 min. count	Th-230 #91TH2200210	38,900	5085	13.06

RSA Laboratories ID# **5303**. Instrument indicates within ±10% of calibration points unless otherwise indicated. Source-to-detector entry window distance for efficiency determinations is 1 cm unless otherwise specified. RSA Laboratories, Inc. certifies that the above instrument has been calibrated with standards traceable to the National Institute of Standards and Technology, or have been derived from accepted values of natural physical constants, or have been derived by the ratio-type of calibration techniques.

Calibrated by: **Kurt D. Newton** _____ Date 02 Nov 2001

Reviewed by: **David L. Judd** _____ Date _____



RSA Laboratories ID# 5303.

Calibrated by: Kurt D. Newton _____ **Date** 02 Nov 2001

Reviewed by: David L. Judd _____ **Date** _____

INSTRUMENT RESPONSE RANGE CHECK

Meter Model #	L-2220	Date	03/05/02
Meter Serial #	52836		
Probe Model #	44-9	Source Type	Tc-99
Probe Serial #	84063	Source Serial #	C3649

instrument background (cpm) 43
Range Check (cpm) 1583

location of source on the detector center, contact

Note: All source readings @ contact

	source reading (net response)	(reading - mean)	squared
1	1,552	-70	4900
2	1,609	-13	169
3	1,709	87	7569
4	1,659	37	1369
5	1,534	-88	7744
6	1,661	39	1521
7	1,659	37	1369
8	1,662	40	1600
9	1,601	-21	441
10	1,571	-51	2601
total	16,217	Summation of squares	29283
mean	1,622	total divide by 9	3254
		sqrt.of summation/9	57

upper range = mean +(1.96)(sqrt of summ/9) = 1,734
lower range = mean - (1.96)(sqrt of summ/9) = 1,510

Technician R. Racine

Reviewer S.R. Smith

MINIMUM DETECTABLE ACTIVITY (MDA) CALCULATION SHEET

PROJECT TITLE: Whittaker Quarterly Inspection - 1st QTR 2002

Survey Type:	Removable β^-/γ
Meter Make & Model #:	Ludlum 2220
Meter Serial #:	52836
Probe Make & Model #:	Ludlum 44-9
Probe Serial #:	84063

$$MDA_{dpm/100cm^2} = \frac{2.71/T_s + 3.29\sqrt{R_b/T_b + R_b/T_s}}{\varepsilon \times (a/100)}$$

where:

T_s = Sample Time (min.) =	1	
T_b = Background Time (min.) =	10	
Background Counts in T_b =	430	
Date Background was taken:	3/5/2002	
Time Background was taken:	n/a	
R_b = Background Rate (c/min.) =	43	
ε = Probe/meter efficiency (^{36}Cl) =	12.155	%
$^{232}Th/^{230}Th$ effiency(ε) correction = -	n/a	%
a = Probe Active Area (cm^2) =	100	
MDA (dpm/100cm^2) =	208	
MDA pCi/100 cm^2 =	94.5	
MDA (dpm/100cm^2) =	0	corrected
MDA pCi/100 cm^2 =	0.0	corrected

Calculation/Technical Review by: SR 3/20/02

MINIMUM DETECTABLE ACTIVITY (MDA) CALCULATION SHEET

PROJECT TITLE: Whittaker Quarterly Inspection - 1st QTR 2002

Survey Type: Direct β^-/γ
Meter Make & Model #: Ludlum 2220
Meter Serial #: 52836
Probe Make & Model #: Ludlum 44-9
Probe Serial #: 84063

$$MDA_{dpm/100cm^2} = \frac{2.71/T_s + 3.29\sqrt{R_b/T_b + R_b/T_s}}{\varepsilon \times (a/100)}$$

where:

T_s = Sample Time (min.) =	1	
T_b = Background Time (min.) =	10	
Background Counts in T_b =	430	
Date Background was taken:	3/5/2002	
Time Background was taken:	n/a	
R_b = Background Rate (c/min.) =	43	
ε = Probe/meter efficiency (^{36}Cl) =	12.155	%
$^{232}Th/^{230}Th$ effiency(ε) correction = -	n/a	%
a = Probe Active Area (cm^2) =	15	
MDA ($dpm/100cm^2$) =	1390	
MDA pCi/100 cm^2 =	631.8	
MDA ($dpm/100cm^2$) =	0	corrected
MDA pCi/100 cm^2 =	0.0	corrected

Calculation/Technical Review by: J. R. Smith 3/20/02

CERTIFICATE OF CALIBRATION
(COUNT-RATE INSTRUMENT)

RSA Laboratories, Inc.
21 Pendleton Drive, P.O. Box 61
Hebron, Connecticut 06248
(860) 228-0721 Fax (860) 228-4402

Customer and Contact: **Scientech, Inc., Attn: S.R. Smith (203) 796-5080**
Customer Address: **44 Shelter Rock Road, Danbury, CT 06810-7095**

Inst. Mfr. & Model **Ludlum Model 2220**	Inst. Type **Scaler/Ratemeter**	Inst. s/n **48409**
Det. Mfr. & Model **Ludlum 43-65**	Det. Type **Alpha Scintillator**	Det. s/n **062385**
Cal. Date **02 November 2001**	Due Date **02 November 2002**	Cal. Interval **1 year**

Environmental conditions: Temperature: **70°F** Relative Humidity **40%** Atmospheric Pressure **29.60 inches Hg**

Pre-calibration Checks:

■ Contamination survey	■ Battery check	■ Slow response check	
■ Mechanical check	■ Audio check	■ Window operation	■ Det. volts **700** Vdc
■ Meter zero	■ Reset check	■ Plateau check	
■ Geotropism check	■ Fast response check	□ Alarm set	■ Input sens. **10** mV

■ Pulse generator s/n 106400 (cal due 7 Mar 2002) □ Oscilloscope s/n 171-04928 □ Voltmeter s/n 57410002
■ HV Readout (2 points) Ref./Inst. V/ V Ref./Inst. V/ V

Comments: **Background $\alpha \approx 1$ cpm**

S/N of source used for precision check **#0210** Isotope **Th-230** Dedicated Source? □Yes ■No
Reading #1 **5,934** Reading #2 **5,836** Reading #3 **5,772** Mean **5,847**
Precision: ■± <10% □±10-20% □Out of tolerance

Range	Reference Calibration Point	"As Found" Instrument Indication	"As left" Instrument Indication
x 1000	400,000 cpm	400,000 cpm	400,000 cpm
x 1000	100,000 cpm	100,000 cpm	100,000 cpm
x 100	40,000 cpm	40,000 cpm	40,000 cpm
x 100	10,000 cpm	10,000 cpm	10,000 cpm
x 10	4,000 cpm	4,000 cpm	4,000 cpm
x 10	1,000 cpm	1,000 cpm	1,000 cpm
x 1	400 cpm	400 cpm	400 cpm
x 1	100 cpm	100 cpm	100 cpm
1 min. count	400,000 cpm	399,805 cpm	399,805 cpm

All ranges calibrated electronically.

Range Multiplier	Cal. Source Used (isotope and S/N)	Source Activity (dpm)	Instrument Reading (cpm)	Instrument Efficiency (%)
1 min. count	Th-230 #91TH2200210	38,900	5,871	15.1%

RSA Laboratories ID# **5304**. Instrument indicates within ±10% of calibration points unless otherwise indicated. Source-to-detector entry window distance for efficiency determinations is 1 cm unless otherwise specified. RSA Laboratories, Inc. certifies that the above instrument has been calibrated with standards traceable to the National Institute of Standards and Technology, or have been derived from accepted values of natural physical constants, or have been derived by the ratio-type of calibration techniques.

Calibrated by: **Kurt D. Newton** _____ Date 02 NOV 2001

Reviewed by: **David L. Judd** _____ Date _____

INSTRUMENT RESPONSE RANGE CHECK

Meter Model #	L-2220	Date	03/05/02
Meter Serial #	48409		
Probe Model #	43-65	Source Type	Th-230
Probe Serial #	62385	Source Serial #	94TH5002521

instrument background (cpm) 0.5
Range Check (cpm) 1357

location of source on the detector center - contact

Note: All source readings @ contact

	source reading (net response)	(reading - mean)	squared
1	1,006	-139	19321
2	1,012	-133	17689
3	994	-151	22801
4	1,020	-125	15625
5	1,131	-14	196
6	1,175	30	900
7	1,231	86	7396
8	1,312	167	27889
9	1,248	103	10609
10	1,316	171	29241
total	11,445	Summation of squares	151667
mean	1,145	total divide by 9	16852
		sqrt.of summation/9	130

upper range = mean +(1.96)(sqrt of summ/9) = 1,399
lower range = mean - (1.96)(sqrt of summ/9) = 891

Technician R. Racine

Reviewer S.R. Smith

RADIATION WORK PERMIT

Location	Initiated By	RWP No.
Whittaker Corp. Site, Greenville, PA	**R. Racino**	2290-003
Equipment Name / Number: **Whittaker Waste and Slag Storage Area-within the RCA**		Initiation Date: 1/01/02
Job Description: **Perform on-site activities in accordance with NRC License #SMA-1018 including:** ❑ **Routine and non-routine radiological surveys, sampling of materials & water;** ❑ **Required maintenance to ensure security of the controlled area;** ❑ **Recovery of migrated licensed material;** ❑ **Monitoring well sampling activities;** ❑ **Drilling associated with well or fencing installation;** ❑ **Authorization of visitors on-site for inspections or tours.**		Expiration Date: 12/31/02 Estimated Man/hours: **<200 hours/year** Estimated Exposure (mRem): **<4 mRem/year**

RADIOLOGICAL CONDITIONS

Gen. Fixed Cont. (dpm/100cm²)	Max. Fixed Cont. (dpm/100cm²)	Gen. Area Gamma (mrem/hr)	Hot Spot Gamma (mrem/hr)
N/A	**N/A**	**<0.02**	**0.1-0.5**
Gen. Loose Cont. (dpm/100cm²)	Max Loose Cont. (dpm/100cm²)	Gen. Area Beta (mrad/hr)	Hot Spot Beta (mrad/hr)
N/A	**N/A**	**N/A**	**N/A**
Airborne Particulate Activity	Gaseous Activity (uCi/ml)	Radioiodine Activity (uCi/ml)	Total DACs Assigned
N/A	**N/A**	**N/A**	**N/A**
Surveyed By: **R. Racino**		Survey Date: **1998-present**	Total Exposure (Rem): **TBD**

RADIOLOGICAL PROTECTION – Refer to SCIENTECH Doc.#82A9115 "SMAC" Plan

HP Support: ❑Initial ❑On Call ❑Intermittent ■Continuous

	Protective Clothing		Respiratory Protection		Dosimetry
	Lab Coat		Dust Mask		Film Badge (PPI issued)
	Coveralls (as req'd by HP)		Half Mask		TLD or OSD
	Double Coveralls (as req'd by HP)		Full Face (as req'd by HP)		Low Range SRD
	Plastic Top (as req'd by HP)		Supplied Air (optional)		High Range SRD
	Plastic Bottoms (as req'd by HP)		Particulate Cartridge		Electronic Dosimeter
	Tyveks (as req'd by HP)		Iodine Cartridge		Finger Rings (as req'd by HP)
	Sleeves (as req'd by HP)		Organic Vapor Cartridge		Dose Rate Meter
	Hood		Acid Gas Cartridge		Neutron Meter
	Face Shield (as req'd by HP)		Ammonia Cartridge		Neutron Badge
	Rubber Gloves (as req'd by HP)		Combination Cartridge		Other Extremity Badge
	Double Rubber Gloves		Other		Multi-Badge
	Cloth Booties				
	Rubber Shoe Covers				
	Cotton Liners				
	Surgeons Gloves				

SPECIAL INSTRUCTIONS – Refer to SCIENTECH Doc.#82A9115 "SMAC" Plan

X	Pre-job briefing required		Special location for dosimetry (see task plan)
X	Notify HP Prior to Work		No outer personal clothing
	Chemical hazards present (see task plan)		Set up Local Control Zone (for breaching waste system)
X	Hearing Protection Required (during drilling)		Contamination control envelope required
X	Hard Hats Required (during drilling, heavy equip operation)		Confined Space Entry Controls Required
	Eye Protection Required (safety glasses)	X	Evaluate radiological conditions whenever conditions change
	BZA (as req'd by HP)	X	Evaluate hazardous conditions every DAY
	Hi-vol air sampler (continuous during drilling, excavating)		
	HEPA filter required during task	X	Optional protective clothing at HP discretion

APPROVALS

Written By:	Title:	Date:	Approved By:	Title:	Date:	Closed By:	Title:	Date:
R. Racino	Site RSO	12/06/01	L. Penney	Dept. Mgr.	12/6/01			

Roy Racino 12/6/01

NES, Inc. 82A8036 ATTACHMENT B

RWP SIGN IN SHEET

RWP No. 2290-003	SHEET 1 OF 1				DATE 3/5/02				
NAME	BADGE No.	RESPIRATOR/ CARTRIDGE	TIME IN	SRPD READING IN	TIME OUT	SRPD READING OUT	TOTAL DEEP DOSE	TOTAL TIME IN AREA	DAC-hr assigned
R. Rocco	N/A	N/A	0900	N/A	1600	N/A	N/A	7 hrs	N/A
P. Herkman	N/A		1000		1600			6 hrs	
K. Taylor	N/A		0900		1430			5½ hrs	
Roy Woods	N/A		1130		1200			½ hr.	
Chris Rittiger	N/A		1130		1200			½ hr.	