



March 10, 2006
Ref. No. 2501-073

Ms. Marjorie McLaughlin
Division of Nuclear Materials Safety
U.S. Nuclear Regulatory Commission, Region 1
475 Allendale Road
King of Prussia, PA 19406

RECEIVED
REGION 1
2006 MAR 13 PM 1:07

Subject: Whittaker Site Quarterly Inspection, First Quarter of 2006

Dear Ms. McLaughlin:

In accordance with Whittaker Corporation's U.S. Nuclear Regulatory Commission (NRC) License No. SMA-1018, Amendment No. 12, Condition No. 17(C), a site inspection was performed on February 15 and 16, 2006 by Pat Horkman (Decommissioning Site Supervisor) and Joe Trowbridge (Health Physics Technician) of EnergySolutions, LLC conducted the inspection. EnergySolutions (formerly, Envirocare of Utah, LLC and Sciencetech, LLC (D&D Division)), demobilized from the Whittaker project site in November 2005 and according to project plans, a site inspection was required after a 3 month period of demobilization. The purpose of this inspection was to identify any degradation of the piles, excavations, 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.

INSPECTION SUMMARY

Erosion and Migration

The weather conditions during the inspection were cool and mostly clear. There was no snow on the ground and visibility of the slopes of the RCA embankments was good. The RCA embankments showed no visible signs of new gully formation, recent movement of pieces of slag, or accumulation of sediment or material on the slopes or against the silt fencing.

The soil and slag stock piles appeared to be in the same conditions as they were at the time of demobilization. All excavations appeared to be in excellent shape and stabilization materials were still in place.

Perimeter and Silt Fencing, Gates, Postings

Perimeter silt fencing was pliable and generally intact. No repairs were needed.

All Radioactive Material postings appeared to be in place. No additional postings were added. Gates and locks were intact and secure.

Perimeter fencing and fence posts were generally in good condition.

Radiological Surveys

On February 16, the perimeter fence-line survey was conducted along the outside of the site fence between fence posts #1 to #35 and #132 to #260 with an Ludlum 44-10 2"x2" sodium iodide (NaI) gamma scintillation detector (Serial No. 226936). The probe was coupled to a Ludlum Model 2221 survey meter (Serial No. 172022). The gamma count rate data is presented in Attachment A. A figure showing the site fence line is also included in Attachment A.

The survey results were generally consistent with the results from the pre-demobilization survey in Attachment B. The data indicates that the radiological conditions along the perimeter fence line have not changed. Instrument calibration and response information is presented in Attachment C.

OTHER ACTIVITIES

EnergySolutions collected 3 samples of non-native sand uncovered late in the 2005 mobilization period. High gamma radiation measurements were recorded in the area of this sand. Three samples of the sand were collected analyzed for gamma-emitting radionuclides using gamma spectroscopy and for RCRA metals and mercury. Surprisingly, the results showed that the concentrations of detectable radionuclides were relatively low and consistent with expected background levels. A summary of the analytical results is provided in Attachment D. Since the sand appears to contain little or no elevated radioactivity, EnergySolutions will investigate that area further upon mobilization in April 2006. The area will be roped off and posted as a radiological contamination area until the source of radiation can be identified.

In its review of the 2005 annual groundwater sampling results, the US NRC identified inconsistencies with groundwater sampling procedures set forth in the site Groundwater Monitoring Plan (Sciencetech Document No. 82A9103) and the methods applied in the field during the November 2005 groundwater sampling event. As a resolution to this issue, Kevin Taylor, the Whittaker Radiation Safety Officer, will ensure that all EnergySolutions personnel involved in future groundwater sampling events read and document their understanding of the Groundwater Monitoring Plan.

If you have any questions or requests for additional information, please contact me at (864) 235-3695.

Sincerely,

A handwritten signature in black ink that reads "Kevin E. Taylor". The signature is written in a cursive, flowing style.

Kevin E. Taylor, PE, CHP
Sr. Health Physicist/Site RSO

KET:lhc

cc: P. Horkman w/attachments
E. Lardiere w/attachments
R. Moss w/attachments

Attachments:

- A February 2006 Survey Data and Map
- B November 2005 Survey Data
- C Instrument Calibration and Safety Data
- D Summary of Sand Sample Analytical Results



ATTACHMENT A

February 2006 Survey Data and Map

Survey Data Sheet

Project Title: Whittaker D&D Project
 Survey Type: 1st Qtr. Fenceline Survey
 Date: 02/16/06



Meter: Model: 2221
 Serial #: 172022
 Background: 9100 cpm

Probe: Model: 44-10
 Serial #: 226936

Fence Post #	gcpm (k)	notes	Fence Post #	gcpm (k)	notes	Fence Post #	gcpm (k)	notes	Fence Post #	gcpm (k)	notes
132	9	chain link	173	16		217	7		1	16	north gate
133	10		174	14		218	7		2	14	
134	12		175	14		219	7		3	14	
135	12		176	14		220	7		4	15	
136	11		177	14		221	7		5	18	
137	12		178	14		222	7		6	22	
138	11		179	10	top corner	223	7		7	19	
139	10		180	10	chain link	224	8		8	20	
140	15		181	10		225	8		9	15	NW corner
141	13		182	8		226	8		10	15	
142	10	old SE corner	183	8		227	8				
143	9	start new chain	184	8		228	8				
144	8	link fence	185	12	bottom corner	229	8				
145	8		186	17		230	8				
146	6		187	22		231	8				
147	7	SE corner	188	12		232	7				
148	7		189	10		233	7				
149	11		190	9		234	7				
150	12		191	9		235	7				
151	14		192	9		236	8				
152	11		193	12		237	7				
153	12		194	25		238	7				
154	10		195	18		239	7				
155	10		196	13		240	7				
156	10	stream	197	11		241	7				
156A	10	stream	198	10	new east gate	242	7				
156B	10		199	10		243	7				
156C	11		200	10		244	7				
157	12	old SE gate	201	25		245	7				
158	11	barbed wire	202	18		246	7				
159	12		203	11		247	7				
160	12		204	14		248	7				
161	10		205	12		249	7				
162	10		206	10		250	7				
163	10		207	12		251	7				
164	12	hill crest	208	11		252	7				
165	10		209	11		253	7				
166	10		210	9		254	8				
167	11	stream	211	8		255	8				
168	10	stream	212	7		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	17		216	7		260	7	NE corner			

	gcpm (k)	uR/hr @ waste level
11	22	36
12	23	34
13	25	34
14	31	38
15	34	42
16	36	48
17	41	50
18	42	60
19	50	60
20	51	80
21	32	50
22	17	40
23	14	50
24	21	50
25	19	40
26	15	50
27	25	60
28	45	55
29	36	65
30	59	40
31	16	30
32	13	25
33	14	20
34	11	20
35	10	15

11 -35: Elevated readings due to the presence of type I&II slag stockpiled on the Section 3 pad east of the fence.

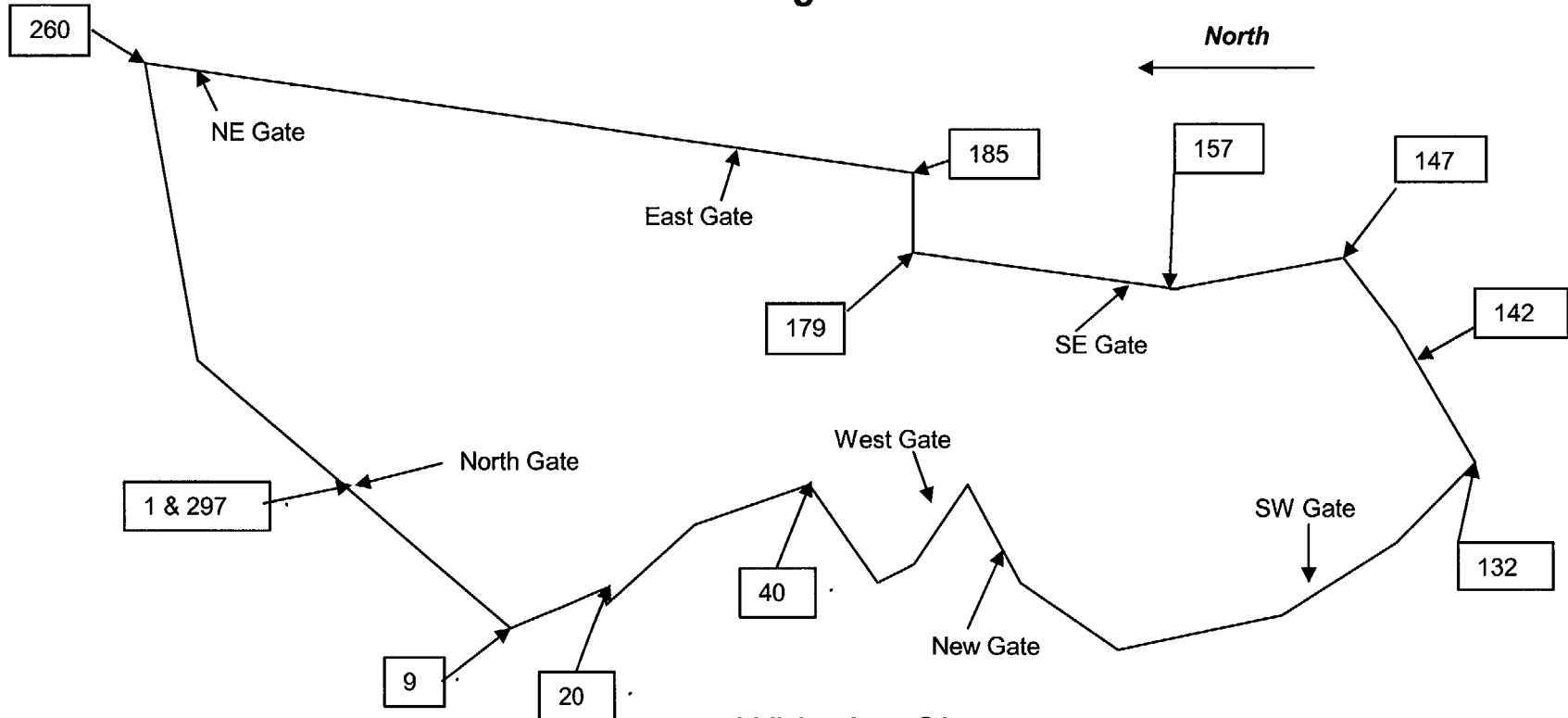
Individual Completing Form: Pat Horkman

Date: 2/16/2006

Reviewed By: Kevin Taylor, CHP

Date: 2/20/2006

Shenango River



Whittaker Site

= Fence Post number



ATTACHMENT B

November 2005 Survey Data

Survey Data Sheet

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



ENVIROCARE OF UTAH, LLC
SAFE AND SECURE

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 -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, CHP

Date: 11/21/2005



ATTACHMENT C

Instrument Calibration and Safety Data



K&S Associates, Inc.
1926 Elm Tree Drive
Nashville, Tennessee 37210-3718
615-883-9760 Fax 615-871-0856

Date: 6/9/2005
Due Date:
Report #: 050443
Test #: M051101



CERTIFICATE OF CALIBRATION

This is to certify that the instrument described below was calibrated on the indicated date using a REFERENCE SOURCE having a calibration which is traceable to the National Institute of Standards and Technology. This calibration has been performed with a Quality Assurance Program which complies with 10 CFR 50, Appendix B and ISO/IEC 17025:2000. The Cs-137 photon beam calibration complies with ANSI N323A-1997. Unless stated otherwise, the Calibration Values represent an average of at least two points on each scale. The combined expanded uncertainty with a coverage factor of 2 (95% confidence) of the Cs-137 photon Reference beam is 3.4%.

Caution: If a calibration due date is shown, it is shown for the convenience of the user only. The interval is not a recommendation by K + S but is based on either the customer's requirements or the manufacturer's recommendations. Any number of factors, such as time, environment and handling may cause the instrument to drift out of calibration prior to the indicated date.

This laboratory is accredited by the American Association for Laboratory Accreditation (A2LA) and the results shown in this report have been determined in accordance with the laboratory's terms of accreditation unless stated otherwise in this report.

Divide the reading of the instrument by the listed Factor to obtain an exposure or exposure rate value with an accuracy of within plus or minus 10% of the REFERENCE EXPOSURE (RATE).

Customer # 426
Name SCIENTECH, INC
Address 143 WEST STREET
Address NEW MILFORD, CT 06776
Code L2221
Type ANALOG
Mfg LUDLUM
Model 2221
Serial 172022
Source 1 Cs-137
Source 2
Source 3
Probe Type G-SCINT
Probe Mfg LUDLUM
Probe Model 44-10
Probe Serial 226936
Probe Window
Probe Orientation END ON

Table with 5 columns: Temp, Pressure, RH%, Check Source, Conditions, Reading, Battery Chk. Values: 22.7 deg C, 749 mmHg, 56, NO, , , OK

Main data table with 9 columns: Status, HPS, Beam, Scale (cpm), Ref. Rate (mR/h), Reading (cpm), Ref. Rate (mR/h), Reading (cpm), Calibration Value (cpm/(mR/h)). Rows include F, Y, x100, 0.020, 15.3k, 0.050, 36k, 763k and F, Y, x1k, 0.20, 137k, 0.60, 412k, 686k.

STATUS: F AS FOUND; L AS LEFT. HPS: Accredited Procedure = "Y" for yes, "N" for no.

Label: []

- CAUTION: 1. Application of the factors to an individual measurement is the responsibility of the user. 2. The factors shown are not necessarily valid over the entire scale. 3. Exercise caution in the interpolation or extrapolation of the factors.

Comments * With "true" bkg exposure rate of 6.8 uR/h, instrument reading was 3.9k cpm.

WIN: OUT
HV: 923V

Calibrated by: Richard Hardison
Title: Calibration Technician
Richard Hardison

Reviewed by: Larry C. Bryson, MS, CHP
Associate Director

Log: M-24
Page: 40
Page:
Page:



INSTRUMENT RESPONSE RANGE CHECK

Meter Model #	<u>L-2221</u>	Date	<u>2/15/2006</u>
Meter Serial #	<u>172022</u>		
Probe Model #	<u>44-10</u>	Source Type	<u>Cs-137</u>
Probe Serial #	<u>226936</u>	Source Serial #	<u>CS 7A</u>

instrument background N/A

location of source on the detector Bottom Center

Note: All source readings @ contact

	source reading (net response)	(reading - mean)	squared
1	<u>1,151,704</u>	<u>31,145</u>	<u>970035941.2</u>
2	<u>1,107,072</u>	<u>-13,487</u>	<u>181888379.6</u>
3	<u>1,168,300</u>	<u>47,741</u>	<u>2279241274</u>
4	<u>1,197,832</u>	<u>77,273</u>	<u>5971178348</u>
5	<u>1,104,449</u>	<u>-16,110</u>	<u>259519212.2</u>
6	<u>1,115,700</u>	<u>-4,859</u>	<u>23605993.96</u>
7	<u>1,115,562</u>	<u>-4,997</u>	<u>24966011.56</u>
8	<u>1,129,860</u>	<u>9,301</u>	<u>86516041.96</u>
9	<u>1,118,341</u>	<u>-2,218</u>	<u>4917749.76</u>
10	<u>996,766</u>	<u>-123,793</u>	<u>15324607815</u>
total	<u>11,205,586</u>		<u>25126476766</u>
mean	<u>1,120,559</u>		<u>total divide 9</u> <u>sqrt. 2791830752</u> <u>52838</u>

upper range = mean + (1.96)(sqrt) = 1224121 cpm
 lower range = mean - (1.96)(sqrt) = 1016997 cpm

Technician Pat Horkman
 Reviewer Kevin Taylor, CHP

	<u>source check</u>	<u>bkg.</u>
2/15/06	1105331 cpm	8305 cpm
2/16/06	1183351 cpm	9100 cpm



ATTACHMENT D

Summary of Sand Sample Analytical Results



Parameters

Gamma Spectroscopy - Cs-137 and Hits
 Mercury in Solid Waste (Manual Cold Vapor)
 Trace Inductively Coupled Plasma (ICP) Metals

Method

EPA 901.1 MOD
 SW846 7471A
 SW846 6010B

Sample Date: 2/16/06

Parameter	Sample Number		
	PS-001	PS-002	PS-003
Arsenic	13 mg/kg	13.5 mg/kg	18 mg/kg
Lead	8.3 mg/kg	9.2 mg/kg	9.8 mg/kg
Selenium	0.97 mg/kg	2.7 mg/kg	2.1 mg/kg
Barium	17.6 B mg/kg	66.3 mg/kg	51.9 mg/kg
Cadmium	ND mg/kg	ND mg/kg	ND mg/kg
Chromium	6.4 mg/kg	12 mg/kg	9.2 mg/kg
Silver	ND mg/kg	ND mg/kg	ND mg/kg
Mercury	0.0083 B mg/kg	ND mg/kg	ND mg/kg
Cs-137	-0.052 U pCi/g	0.005 U pCi/g	0.020 U pCi/g
Ac-228	NI pCi/g	0.45 pCi/g	0.8 pCi/g
Pb-212	0.39 pCi/g	0.63 pCi/g	0.55 pCi/g
Pb-214	0.39 pCi/g	0.34 pCi/g	0.57 pCi/g
K-40	8.1 pCi/g	10.4 pCi/g	10.4 pCi/g
Ra-228	NI pCi/g	0.45 pCi/g	0.8 pCi/g
Tl-208	0.146 pCi/g	0.178 pCi/g	0.185 pCi/g
Th-232	NI pCi/g	0.45 pCi/g	0.8 pCi/g

Notes:

- B - Estimated result, result is less than the reporting limit
- ND - Not detected
- B - Result is less than the sample detection limit
- NI - Not identified by gamma spectroscopy