



COMPLETE RADIOLOGICAL SERVICES

**Kantner Iron & Steel, Inc.**  
365 Bassett Road  
Hooversville, PA 15936  
Attention: John Toth

**March 26, 2007**

## **FIELD SERVICE REPORT**

### **Introduction**

On Thursday, March 15<sup>th</sup>, 2007, Applied Health Physics, Inc. (AHP) was contacted by Kantner Iron & Steel, Inc. (KIS) with a request for radiological services at their scrap yard in Kantner, PA. As understood from conversations, Kantner Iron & Steel, Inc. recently had a shipment of scrap metal for recycle get rejected at a steel mill due to alarming the scrap detection system. The load was rejected and returned to Kantner Iron & Steel, Inc. Kantner Iron & Steel, Inc. contacted the Pennsylvania Department of Environmental Protection (PA DEP) for further guidance. PA DEP Radioactive Materials Section Chief, Dwight Shearer, P.E. provided guidance as well as gamma spectroscopy analysis and identified the isotope as Cs-137 and a maximum radiation level of 8 mR/h was measured at the outside of the container. Kantner Iron & Steel requested that Applied Health Physics, Inc. visit the facility to provide consulting services.

### **Scope**

On Friday, March 16<sup>th</sup>, 2007, Applied Health Physics, Inc. representatives, Anthony Hull and Keith Mobley visited the Kantner, PA facility. The AHP representatives met with Kantner Iron & Steel representative John Toth and PA DEP Materials Section Chief, Dwight Shearer, P.E. At the time of the visit, the device had been removed from the container by a magnetic crane and placed in an adjacent area. Applied Health Physics, Inc. technicians provided the following radiological services:

- Contamination surveys
- Radiation surveys
- Leak testing
- Identification of manufacturer, model and serial number
- Verification of isotope and activity
- Proper shielding of the device
- Placement into secure storage



### **Instrumentation**

Applied Health Physics, Inc. utilized radiological instrumentation that is recognized as standard in the nuclear industry for assessments of this type. AHP's portable field service meters are calibrated semi-annually to ensure accuracy. Equipment utilized for the radiological assessment at Kantner Iron & Steel, Inc. during included the following:

<u>Manufacturer / Model</u>	<u>Serial Number</u>	<u>Calibration Due</u>	<u>Background</u>
Bicron Analyst	A002A	5/7/07	60 CPM
Bicron Surveyor 2000	B559Q	3/29/07	0.02 mR/h

### **Background Determination**

In order to identify the potential presence of radioactive materials in suspect material it is necessary to determine levels of radioactivity caused by background radiation.

Background radiation is defined as the measured levels of radiation as contributed from *naturally occurring radioactive materials (NORM)*. Levels of background radiation vary from site to site, dependent upon the abundance of naturally occurring sources contained within the environment (sun, concrete, sand). The AHP representative established mean background radiation levels in an unaffected area, similar to where the suspect material was offloaded. The results of a series of background tests were documented and compared to suspect material emissions.

### **Results**

Visual identification of the device proved the following:

<u>Manufacturer</u>	<u>Model</u>	<u>Serial #</u>	<u>Isotope</u>	<u>Activity</u>
Texas Nuclear	5191	B927	Cs-137	200 mCi

Applied Health Physics, Inc. representative Anthony Hull contacted Thermo Electron Corporation Radiation Safety Officer Mike Fontenot and discussed the scenario. Mr. Fontenot was able to identify the company that purchased the device as:

### **RAPCO, Inc.**

Route 14  
Moreland Drive  
Kingsport, TN 37664



### **Health Risk From Radiation Exposure To Suspect Material**

The results of the radiological screening of the device identified gamma radiation levels in excess of limits for *members of the general public*. According to Kantner Iron & Steel representatives, the container and the device after removal had been isolated and workers were not in close proximity at any time. The AHP representative determined that radiation levels associated with the device would not constitute a health hazard to employees from ionizing radiation.

### **USNRC Notification**

PADEP notified the United States Nuclear Regulatory Commission (USNRC) of the incident. On Monday, March 19th, 2007, Sattar Lodhi, Ph.D., Health Physicist with the USNRC contacted Anthony Hull in regards to the incident and provided instruction on filing an Event Notification. Following the discussion, the Event Notification was completed through the USNRC Operations Center representative Bill Huffman. The USNRC issued Event Notification Report # 43248.

### **Disposition of Recovered Source**

The device currently located in secure storage at the Kantner Iron & Steel, Inc. Yard Location will remain in storage while the USNRC investigates and attempts to locate the owner. In the event that the owner cannot be found or is no longer in business, the responsibility may fall on Kantner Iron & Steel, Inc. to properly dispose of the device.

### **Recommendations**

Applied Health Physics, Inc. recommends the following:

- 1) Forward a copy of this report to the PADEP for review.
- 2) Retain a copy of this report for future reference.
- 3) Continue to use professional consulting services for issues dealing with radiation safety.

If there are any questions in regards to this report please contact the Applied Health Physics, Inc. office at (412)-835-9555.

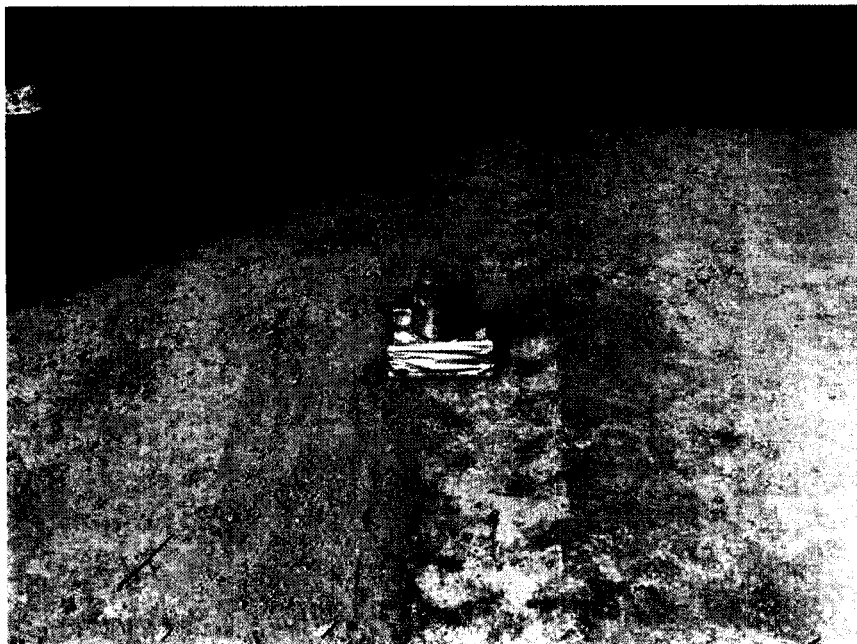
Report completed by:

Anthony Hull  
Technical Specialist  
Applied Health Physics, Inc.



COMPLETE RADIOLOGICAL SERVICES

Attachment 1



# Applied Health Physics, Inc.

2986 Industrial Blvd., Bethel Park, Pa 15102 Phone: (412) 835-9555 Fax: (412) 835-9559

## Radiation Survey Data

Kantner Iron & Steel, Inc.

365 Bassett Road

Hooversville

PA 15936

Contact: John Toth

Contact Phone: (814) 893-5668

Contact: Fax:

Contact Phone: (814) 893-5399

## Device Information

Device Serial Number: B927

Device Manufacturer: Texas Nuclear

Device Model: 5191

Device Type: Gauge

Location: Secure Storage

Make:

Source Serial Number:

Source Manufacturer:

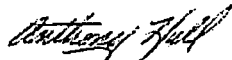
Source Model:

Radioisotope: Cs-137

Activity: 200 mCi

## Radiation Survey Results

Surveyor: A. Hull



Date of survey:

3/16/2007

Background: 0.02 mR/hr

Shutter position: Open

Surface of shutter: 400 mR/h

Surface of shielding: 25 mR/h

30 cm from shutter: 200 mR/h

30 cm from shielding: 2 mR/h

1 meter from shutter: 30 mR/h

1 meter from shielding: 0.4 mR/h

Are radiation levels normal? Yes

Is shutter mechanism operating properly? N/A

Comments: This is a factory designed "shutterless" device. Placed lead shielding over beam prior to placement into secure storage. Survey of storage area was less than 0.1 mR/h on contact.

## Survey Instrument Information

Serial Number: B559Q

Manufacturer: Bicron

Model: Surveyor 2000

Calibration due date: 03/29/07

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# Applied Health Physics, Inc.

2986 Industrial Blvd., Bethel Park, Pa 15102 Phone: (412) 835-9555 Fax: (412) 835-9559  
E-Mail address: ahp.inc@comcast.net - Web Page address: WWW.APPLIEDHEALTHPHYSICS.COM

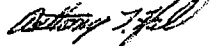
## Mark V Leak Test Certificate

This certificate shall not be reproduced except in full, without the written approval of Applied Health Physics, Inc.

### Device Information

Device Serial Number:	B927	Source Serial Number:	
Device Manufacturer:	Texas Nuclear	Source Manufacturer:	
Device Model:	5191	Source Model:	
Device Type:	Gauge	Make:	
Radioisotope:	Cs-137	Location:	Secure Storage
		Activity:	200 mCi

### Leak Test Information

Leak Test Performed by:	Anthony Hull 	Leak Test Performed on:	3/16/2007
Leak Test Specimen Number:	KIS-031607-1	Leak Test Analysis Date:	3/17/2007
Leak Test Analysis Performed by:	A. Hull		
Leak Test Results Indicate an Activity of:	< 0.005 uCi		

### Notification

The analysis of this leak test sample was provided by Applied Health Physics, Inc. U.S. Nuclear Regulatory Commission License Number 37-09135 and State License Number PA-0228. In the event this specimen indicates leakage and or contamination in excess of 0.005 microcuries, Applied Health Physics, Inc. will notify you promptly by telephone; at such time you will need to take the appropriate actions required by the governing regulatory agency. Applied Health Physics, Inc. is required by our license to report leakage and/or contamination in excess of 0.005 microcuries.

### Client Information

Kantner Iron & Steel, Inc.	Contact:	John Toth
365 Bassett Road	Phone:	(814) 893-5668
	Contact:	Fax:
	Phone:	(814) 893-5399
Hooversville	PA	15936

This certificate is an essential record and should be maintained for inspection by the regulatory agency.

Next LT Due 3/16/2008