



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

July 9, 2002

Docket No. 04009027

License No. SMC-1562

Timothy Knapp  
Radiation Safety Officer  
Cabot Corporation  
Cabot Reading  
P.O. Box 1608  
County Line Road

Boyertown, PA 19512

SUBJECT: INSPECTION 04009027/2002002, CABOT CORPORATION, READING,  
PENNSYLVANIA SITE

Dear Mr. Knapp:

Between May 21, 2002, and July 8, 2002, Randolph C. Ragland, Jr. of this office conducted a safety inspection at the Cabot Corporation, Reading, Pennsylvania Site of activities authorized by the above listed NRC license. The inspection was limited to an evaluation of access controls and the performance of radiological surveys along fence boundaries and on the slag pile. The findings of the inspection were discussed with you at the conclusion of the inspection on July 8, 2002.

Within the scope of this inspection, no violations were identified.

In accordance with 10 CFR 2.790, a copy of this letter will be placed in the NRC Public Document Room and will be accessible from the NRC Web site at <http://www.nrc.gov/reading-rm.html>. No reply to this letter is required.

Your cooperation with us is appreciated.

Sincerely,

***Original signed by Ronald R. Bellamy***

Ronald R. Bellamy, Chief  
Decommissioning and Laboratory Branch  
Division of Nuclear Materials Safety

Enclosure:  
Inspection Report No. 04009027/2002001

cc:  
Commonwealth of Pennsylvania

T. Knapp  
Cabot Corporation

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U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

INSPECTION REPORT

Inspection No. 04009027/2002002  
Docket No. 04009027  
License No. SMC-1562  
Licensee: Cabot Corporation  
Location: Cabot Reading  
P.O. Box 1608  
County Line Road  
Boyertown, PA 19512  
Inspection Dates: May 21, 2002 - July 8, 2002  
Inspector: Randolph C. Ragland, Jr., CHP  
Health Physicist, Decommissioning & Laboratory Branch (D&LB)  
Division of Nuclear Material Safety (DNMS)  
Approved By: ***Original signed by:***  
***Ronald R. Bellamy*** ***July 9, 2002***  
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Ronald R. Bellamy, Chief date  
Decommissioning and Laboratory Branch  
Division of Nuclear Materials Safety

## **EXECUTIVE SUMMARY**

Cabot Corporation  
NRC Inspection Report No. 04009027/2002002

The Cabot Corporation has a possession-only license for a slag pile located at their Reading, PA site. The slag originated from precious metal extraction (tantalum) and contains naturally occurring thorium and uranium. The slag pile extends approximately 160 feet along a steep embankment adjacent to a railroad track and the Schuylkill River in Reading, PA. Access to the slag pile is controlled with chain link fencing and locked gates. A revised decommissioning plan was submitted to the NRC in March 2000 which includes additional information to support the licensee's plan to conduct no further remediation, which is based on a licensee dose model that indicated that for any reasonable future use of the land (e.g., resident gardener or resident trespasser), leaving the material in place at its current location would result in a dose that is less than 25 millirem per year. The licensee's decommissioning plan and dose model are currently under review by NRC.

The licensee established adequate access controls to the slag pile in accordance with license conditions and NRC requirements. Survey data obtained by the NRC appeared similar to licensee data included in a February 4, 1999 letter to the NRC. No deficiencies were identified.

## REPORT DETAILS

The Cabot Corporation has a possession-only license for a slag pile located at their Reading, PA, site. The slag originated from precious metal extraction (tantalum) and contains naturally occurring thorium and uranium. The slag pile extends approximately 160 feet along a steep embankment adjacent to a railroad track and the Schuylkill River in Reading, PA. Access to the slag pile is controlled with chain link fencing and locked gates. A revised decommissioning plan was submitted to the NRC in March 2000 which includes additional information to support the licensee's plan to conduct no further remediation, which is based on a licensee dose model that indicated that for any reasonable future use of the land (e.g., resident gardener or resident trespasser), leaving the material in place at its current location would result in a dose that is less than 25 millirem per year. The licensee's decommissioning plan and dose model are currently under review by NRC.

### **I. Radiological Access Controls & Radiation Surveys**

#### a. Inspection Scope

The inspector reviewed radiological access controls for the slag pile and evaluated slag pile and boundary dose rates. Information was gathered by direct inspections of the fence and gate surrounding the slag pile and radiation surveys along selected portions of the fence boundary and on the slag pile.

#### b. Observations and Findings

The fencing surrounding the slag pile was found to be intact, the fencing was posted as a Radioactive Materials Areas area, and all gates were securely locked.

The inspector used a Ludlum Model 19 microR meter (NRC Serial No. 019636) and obtained a total of 46 radiation measurements on the slag pile. Measurements were obtained in the center of the fenced area at the top, middle, and toe of the slag pile. All measurements were taken at one meter above the ground surface and included a background exposure rate of about 7 micro Roentgens per hour (microR/h). Results ranged from 7 - 38 microR/h and the average of the 46 measurements was 21 microR/h. The inspector noted one location along the inner southwest fence boundary, just SW of a former concrete block structure with one meter dose rates of 30 microR/h and contact (with the ground surface) dose rates of 90 - 100 microR/h.

A total of twenty radiation measurements were obtained along the outer southwest fence boundary adjacent to the railroad track. The results ranged from 12 - 25 microR/h with an average of 19 microR/h (including a background of approximately 7 microR/h)..

Measurements were also obtained at one meter above the railroad track adjacent to the fence boundary. The results averaged approximately 15 microR/h and included a background of approximately 7 microR/h.

The inspector compared the radiation survey results to a Radiological Survey submitted to the NRC on February 4, 1999, and concluded that the NRC data appeared similar to the data that the licensee previously submitted.

c. Conclusions

The licensee established adequate access controls to the slag pile in accordance with license conditions and NRC requirements. Survey data obtained by the NRC appeared similar to licensee data included in a February 4, 1999 letter to the NRC. No deficiencies were identified.

## II. Exit Meeting

X1. Exit Meeting

The inspector presented the inspection results to Mr. Timothy Knapp by telephone at the end of the inspection on July 8, 2002. Mr. Knapp acknowledged the inspection findings.

## PARTIAL LIST OF PERSONS CONTACTED

### Licensee

Tim Knapp, Radiation Safety Officer

### EPA

Sheri Minnick, Health Physicist, EPA Region 3

### Agency for Toxic Substances and Disease Registry

Charles J. Walters, Jr., Senior Regional Representative  
Dr. Paul A. Charp, Senior Health Physicist

### State of Pennsylvania

Robert Maiers, Chief, Decommissioning Division

## **INSPECTION PROCEDURES USED**

IP 87104: Decommissioning Inspection Procedure for Materials Licensees, 6/4/97

**Items Opened:** None

**Items Closed:** None

**Items Closed:** None

## **LIST OF ACRONYMS USED**

microR/h	microRoentgen per hour
NRC	Nuclear Regulatory Commission
PA	Pennsylvania
PADEP	Pennsylvania Department of Environmental Protection
RSO	Radiation Safety Officer