

NY.D-02-1

FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM

ELIMINATION REPORT.

FOR

AL-TECH SPECIALTY STEEL CORPORATION  
(THE FORMER ALLEGHENY-LUDLUM STEEL CORPORATION)  
WATERYLIET, NEW YORK, AND DUNKIRK, NEW YORK

Department of Energy  
Office of Nuclear Energy  
Office of Remedial Action and Waste Technology  
Division of Facility and Site Decommissioning Projects

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ELIMINATION REPORT  
AL-TECH SPECIALTY STEEL CORPORATION  
(THE FORMER ALLEGHENY-LUDLUM STEEL CORPORATION)  
WATERVLIET, NEW YORK, AND DUNKIRK, NEW YORK

INTRODUCTION

The Department of Energy (DOE), Office of Nuclear Energy, Office of Remedial Action and Waste Technology, Division of Facility and Site Decommissioning Projects (and/or predecessor agencies, offices, and divisions), has reviewed the past activities of the Atomic Energy Commission (AEC) at the former Allegheny-Ludlum Steel Corporation site (now Al-Tech Specialty Steel Corporation), Watervliet, New York, and completed a radiological screening survey at this facility and at the Al-Tech Specialty Steel Corporation plant in Dunkirk, New York, where some equipment previously used in the AEC operations is presently located. DOE has determined, based on a review of these surveys, that the conditions at both the Watervliet and Dunkirk sites are in compliance with current DOE radiological guidelines and standards and that no potential for radiological exposure exists beyond that resulting from natural background. Therefore, the Watervliet and Dunkirk sites require no remedial action and are will not be included in the Formerly Utilized Sites Remedial Action Program.

This report presents information supporting the determination that the radiological conditions at the former Allegheny-Ludlum Steel Corporation sites are in compliance with current DOE radiological guidelines and standards<sup>1</sup> and provides assurance that use of these facilities will not result in any measurable radiological hazard to site occupants or the general public.

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<sup>1</sup> U.S. Department of Energy Guidelines for Residual Radioactivity at Formerly Utilized Sites Remedial Action Program and Remote Surplus Facilities Management Program Sites (Rev. 1, July 1985).

This elimination report will be archived by DOE through the Assistant Secretary for Management and Administration. A copy of this package will be available for public review, between 8:00 a.m. and 4:00 p.m., Monday through Friday (except Federal holidays), at the DOE Public Document Room located in Room 1E-190 of the Forrestal Building, 1000 Independence Avenue, SW., Washington, D.C.

## BACKGROUND

### Site Function

The Al-Tech Watervliet plant was used in 1950, 1951, and 1952 for the processing of uranium metal for AEC. The company, known as Allegheny-Ludlum Steel Corporation at the time of the contract (No. AT(30-1)-1156 with National Lead of Ohio), rolled uranium billets into solid rods. The operation was on a developmental rather than a production scale. The contract called for the return of all uranium-bearing material and any scrap generated in the operation to AEC. Finished rods were shipped to either Hanford or Savannah River. Available records indicate that a total of 918 billets were rolled on three occasions in March, April, and May 1952. More definitive information on the total quantity of uranium processed during the term of the contract is not available. The uranium operations were limited to the 14-inch rolling mill and an annealing furnace and were conducted only on weekends. AEC personnel were on hand during the rolling operations and carefully vacuum-cleaned areas surrounding the rolling mill and made radiation measurements. However, no records are presently available. The primary purpose of the contract was to develop design criteria for the planned Fernald rolling mill. The 14-inch mill was removed in 1960 to Al-Tech's Dunkirk, New York, plant.

### Site Description

The facilities are owned and operated by Al-Tech Specialty Steel Corporation, formerly Allegheny-Ludlum Steel Corporation. The Watervliet site is located on Spring Street Road and consists of a building and surrounding property. The area where the mill operated

in 1950 through 1951 is now used for metal and roller storage. The annealing furnace is still in use but could be any one of four electric furnaces. Furnace liner material was replaced several times in the interim. This material is believed to have been buried in the company disposal yard. The building housing the operation has been rearranged and expanded significantly since 1951.

The Al-Tech plant in Dunkirk, New York, is located on Willowbrook Avenue. The affected area includes the mill building and the scrap yard.

### Radiological History and Status

On August 19, 1976, alpha and beta-gamma survey measurements were made by Oak Ridge National Laboratory (ORNL) and Oak Ridge Operations Office personnel on surfaces in the involved areas. Measurements were also made in the company disposal yard. Since 1973, Al-Tech has mined the yard for metal recovery. This resulted in the recovery of materials previously covered by many years of waste disposal, i.e., furnace liner bricks. All radiation levels measured at the plant were indistinguishable from natural background radiation. Because no elevated radioactivity was detected and only uranium was handled, in a relatively nondispersible form and on a limited developmental scale, ORNL concluded that any radioactive residue from the AEC contract operations was insignificant and further surveys were not required. Although the equipment was only used for a short period of time, a survey of the 14-inch rolling mill relocated to the Dunkirk, New York, facility was recommended. In September 1980, ORNL surveyed those portions of the mill that were still available. Radiation levels were equal to background, and ORNL concluded that no potential health hazards exist due to AEC activities at either the Watervliet or Dunkirk locations.

## ELIMINATION ANALYSIS

Scrap recovery procedures in force at the time of the rolling operations are judged likely to have prevented the loss of any significant quantity of the metal. Radiological surveys of the plant area in which the rolling was performed and of the equipment used indicate that radiation levels are typical of natural background for the area. These data indicate that no significant quantity of residual radioactive material remains at the site from AEC operations. On the basis of the data summarized in this report, the DOE Division of Facility and Site Decommissioning Projects has determined that no remedial action is necessary at this site and has eliminated Al-Tech Specialty Steel Corporation from further consideration under the Formerly Utilized Sites Remedial Action Program.

## REFERENCES

- o Thornton, William T. (Oak Ridge Operations Office) to D.C. McCarter (Al-Tech Specialty Steel Corporation), "Radiological Resurvey of Al-Tech Facilities Utilized in Early Atomic Energy Commission Contract Work," August 5, 1976.
- o Thornton, William T. (Energy Research and Development Administration), to E.K. Loop (Energy Research and Development Administration), "Report of Findings: Al-Tech Specialty Steel Corporation," September 20, 1976.
- o Loop, E.K. (Energy Research and Development Administration) to William T. Thornton (Energy Research and Development Administration), "Al-Tech Specialty Steel Corporation," September 29, 1976.
- o Oak Ridge National Laboratory, (Press Release) "ERDA Visits Watervliet Firm; No Plans for Further Survey," October 12, 1976.

- o Hart, R.J. (Energy Research and Development Administration), to D.C. McCarter (Al-Tech Specialty Steel Corporation), "Radiological Status of Al-Tech Facilities Utilized in Early Atomic Energy Commission Contract Work," October 13, 1976.
- o Oak Ridge National Laboratory, "Preliminary Survey of Al-Tech Specialty Steel Corporation, Watervliet, New York," March 1980.
- o Haywood, F.F. (Oak Ridge National Laboratory), to Arnold Abriss (Department of Energy), "RASCA - Survey of Rolling Mill Used by Al-Tech Specialty Steel Corporation, Dunkirk, New York," October 1, 1980 (report attached).

August 5, 1976

Mr. McCarter, Plant Manager  
AL-Tech Speciality Steel Corporation  
Post Office Box 91  
Watervliet, New York 12189

Dear Mr. McCarter:

**RADIOLOGICAL RESURVEY OF AL-TECH FACILITIES UTILIZED IN EARLY ATOMIC ENERGY COMMISSION CONTRACT WORK**

This will confirm our discussions arranging for Energy Research and Development Administration representatives to visit those AL-Tech facilities in Watervliet, New York, which were utilized during the early 1950's for uranium metal rolling operations under AEC contract. On January 19, 1975, ERDA assumed control of all but the regulatory functions of AEC. As part of an overall ERDA program, the visit will assist us in evaluating the adequacy of existing radiation records and determining the need for additional surveys so the agency and the contractor may be assured that conditions do not exist which would be contrary to current guidelines for radiation control.

It is anticipated in the absence of adequate records that a radiation survey of involved areas may be necessary. If that is the case, we would hope on this visit to secure information to aid us in developing site specific plans in order to conduct a survey, with your permission, in the near future.

Mr. Fred Haywood of the Oak Ridge National Laboratory and I plan to arrive August 19, 1976, at 9:00 AM and will contact you upon arrival.

Your cooperation in this matter is greatly appreciated.

Sincerely,

ORIGINAL SIGNED BY  
W. T. THORNTON  
William T. Thornton  
Health Physicist  
Health Protection Branch  
Safety and Environmental Control Division

CSH:wjt

cc: J. W. Range, PIO

OFFICE	HP Br.	Safety Div.	PIO		
SURNAME	Thornton/wjt		JWS		
DATE	8-5-76	8/5/76	8-6-76		



September 20, 1976

E. K. Loop, Chief, Process Facilities Safety Branch, DSSC-HQ

REPORT OF FINDINGS: AL-TECH SPECIALTY STEEL CORPORATION

On August 19, 1976, Fred F. Haywood, ORNL, and I visited the Al-Tech plant in Watervliet, New York, to make a preliminary assessment of the radiological status of facilities utilized during 1950-51 for AEC contract work involving uranium. Discussions were held with Mr. Donald McCarter, Plant Manager, Mr. Ted Owens, who was familiar with the subject work, assisted in identifying involved plant areas. Following is a statement of findings:

Operations History. The company, known as Allegheny-Ludlum at the time of the contract, rolled uranium billets to solid rods. The operation was on a developmental rather than a production scale. The contract called for return to the AEC of all uranium-bearing material and any scrap generated in the operation. More definitive information on quantities of uranium processed is not available. AEC operations were reportedly limited to the 14-inch rolling mill and an annealing furnace and were conducted only on weekends. Primary purpose of the contract was to develop design criteria for the planned Fernald rolling mill.

Current Status of Facilities. The 14-inch mill was removed in 1960 to a Dunkirk, New York plant. The area where the mill operated in 1950-51 was located and is now used for metal and roller storage. The annealing furnace is still in use but could be any one of four electric furnaces. Furnace liner material has been replaced several times in the interim. The building housing the operation has been rearranged and expanded significantly since 1951.

Preliminary Survey Findings. Alpha and Beta-gamma survey measurements were made on surfaces in the involved areas. Measurements were also made in the company disposal yard. The yard was being mined during the past three years for metal value recovery resulting in the resurrection of materials; i.e., furnace liner bricks, previously covered by many years of waste disposal. Surveys detected no radiation levels above naturally occurring background.

OFFICE	HP Br.	Safety Div.	PIO			
SURNAME	Thornton/ndw					
DATE	9-20-76	9/20/76	9/20/76			

Evaluation and Conclusions. Since no elevated radioactivity was detected and since only uranium was handled, and that on a limited developmental scale, it is concluded that any radioactive residual from AEC contract operation is insignificant and further surveys are not required.

Recommendation. It is recommended that further surveys not be made.

The company has had several inquiries from local press since the EPDA Resurvey Program was made public in May 1976 and requests that if a radiation clearance can be given for Al-Tech facilities that this information be communicated by EPDA to local press.

DR-PIO has prepared a press release, copy enclosed, and will issue in the Albany, New York area upon receipt of HQ concurrence with the above recommendation.

ORIGINAL SIGNED BY  
E. L. THORNTON

William T. Thornton  
Health Physicist  
Health Protection Branch  
Safety and Environmental Control Division

DSH:HTT

Enclosure: ✓ CFF  
Press Release

cc: J. H. Range, PIO  
CK W. H. Travis, S&EC

OFFICE	HP Br.	Safety Dv.	PIO			
SURNAME	Thornton/naw					
DATE	9-20-76	9/20/76	9/20/76			

September 29, 1976

William T. Thorpe  
Senior Environmental Control Division  
New York Operations Office

AL-Tech SPECIALTY STEEL CORPORATION

Your recommendation of September 20, 1976, that no further radiological survey be considered for the Al-Tech Plant, formerly the Alcoa-Ludlum Company, Watervliet, New York, has been accepted. The proposed press release appears to adequately cover the situation.

jsl

E. K. Loop, Chief  
Process Facilities Safety Branch  
Division of Safety, Standards,  
and Compliance

OFFICE	SSC:PFS	SSC:PFS	SSC:DDIR			
REASON	REASON	REASON	REASON			
DATE	9/29/76	9/29/76	9/ /76			



# NEWS

120711

UNITED STATES  
ENERGY RESEARCH  
& DEVELOPMENT ADMINISTRATION  
Oak Ridge, TN 37830

FOR IMMEDIATE RELEASE

Telephone No. - Area Code 615  
453-8511 - Extension 3-4231

## ERDA VISITS WATERVLIET FIRM; NO PLANS FOR FURTHER SURVEY

The Energy Research and Development Administration announced today that as a result of a preliminary visit to Al Tech Specialty Steel Corporation (formerly Allegheny-Ludlum Steel Corporation) in Watervliet, N. Y., no further radiation surveys of the facility will be required.

An ERDA health physicist who visited the facility on August 19 for discussions with Al Tech officials and to examine the facility, could find no evidence of radiation in excess of naturally occurring (background) radiation levels. ERDA said it plans no further visits to the site, thus completing its update of radiological records on the facility.

The Watervliet plant was used briefly during the period 1950-1951 for the processing of naturally radioactive uranium metal for the former Atomic Energy Commission (AEC).

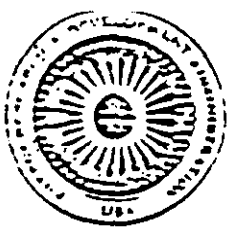
The AEC began a program in 1974 to identify and survey sites used for atomic-energy related activities in the 1940's and 1950's. The surveys were made at sites where radiological information was insufficient to assure that there were no health or safety problems. ERDA inherited the

survey program when it took over many of the AEC's functions in 1975.

# # #

(EDITOR'S NOTE: Enclosed for your additional information is a copy of a press release with attachments concerning the National survey program. The release was issued by ERDA Headquarters on September 16, 1976.)

October 12, 1976



UNITED STATES  
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

OAK RIDGE OPERATIONS  
P. O. BOX E  
OAK RIDGE, TENNESSEE 37830

AREA CODE 615  
TELEPHONE 422-8111

October 13, 1976

Mr. D. C. McCarter, Works Manager  
Al-Tech Specialty Steel Corporation  
Post Office Box 91  
Watervliet, New York 12189

Dear Mr. McCarter:

RADIOLOGICAL STATUS OF AL-TECH FACILITIES UTILIZED IN EARLY ATOMIC ENERGY  
COMMISSION CONTRACT WORK

On August 19, 1976, representatives of the Energy Research and Development Administration visited the Al-Tech plant located on Spring Street Road in Watervliet, New York, to reevaluate the radiological status of the subject facilities. Rationale underlying this ERDA effort was indicated in the introductory letter to you dated August 5, 1976, from William T. Thornton of my staff.

Based on our finding that (1) radiation levels as measured in the plant are indistinguishable from naturally occurring background levels, (2) AEC contract work was on a very limited scale, and (3) only uranium in a relatively non-dispersible form was handled, it is concluded that no potential for a radiation-related health and safety problem exists in the subject facilities and that further formal radiation surveys are not warranted.

Enclosed for your files is a copy of our report documenting the findings during the August 19 visit. Also enclosed is a copy of the ERDA statement being issued to local press affirming our conclusions.

Your cooperation in this matter is very much appreciated.

Sincerely,

*W. J. Hart*  
R. J. Hart

Manager

OSR:WHT

Enclosures:  
As stated.

w/encls:

M. B. Giles, DSSC-EQ, Gmtn.

F. V. Starnise, NY

C. A. Haller, AMO

G. F. Henge, FEO

H. Travis, SREC



PRELIMINARY SURVEY OF  
AL-TECH SPECIALTY STEEL CORPORATION  
WATERVLIET, NEW YORK

Work performed  
by the  
Health and Safety Research Division  
Oak Ridge National Laboratory  
Oak Ridge, Tennessee 37830

March 1980

OAK RIDGE NATIONAL LABORATORY  
operated by  
UNION CARBIDE CORPORATION  
for the  
DEPARTMENT OF ENERGY  
as part of the  
Formerly Utilized Sites--  
Remedial Action Program

At the request of the Department of Energy (DOE, then ERDA), a preliminary survey was performed at the Ai-Tech Specialty Steel Corporation plant in Watervliet, New York (see Fig. 1), on August 19, 1976, to assess the radiological status of those facilities utilized in Atomic Energy Commission (AEC) contract activities during 1950 through 1951. D. C. McCarter, Works Manager, provided information about the project and identified plant areas involved in the project. Ted Owens, who was familiar with the contract work, also provided information and assisted in identifying involved plant areas. Contract work with the company, known as Allegheny-Ludlum at the time, involved the development of a process to convert rolled uranium billets into solid rods. The contract specified that all uranium-bearing material and any scrap generated in the operation be returned to the AEC. All work performed at this site was limited to a 36-cm rolling mill and an annealing furnace and was performed only on weekends. McCarter reported that AEC personnel were on hand during the rolling operations and that they carefully vacuumed areas surrounding the rolling mill and made radiation measurements.

#### Present Use of Facilities

The 36-cm rolling mill was removed to a Dunkirk, New York, plant in 1960. The area where the mill was located is presently used for metal and roller storage. Any of the four existing electric annealing furnaces could have been the one used in the process. However, furnace liner bricks have been replaced in each furnace several times since the project terminated. It was believed that old furnace liner bricks may have been buried in the company disposal yard. For about three years prior to this preliminary survey, the disposal yard had been mined to reclaim various types of metal which had been placed in the landfill. It was assumed that this operation was to continue indefinitely.

#### Results of Preliminary Survey

The preliminary survey was conducted by F. F. Haywood of the Oak Ridge National Laboratory and W. T. Thornton of the DOE/Oak Ridge



Operations Office. A survey was conducted of the area where the 36-cm rolling mill had been located, the annealing furnaces, and the company disposal yard. The survey consisted of direct measurements of alpha activity and beta-gamma dose-rate measurements (open- and closed-window Geiger-Mueller survey meter) made at 1 cm from surfaces. The direct alpha measurements were made in contact with the surfaces surveyed. Special attention was given to furnace liner bricks which had been uncovered in the company disposal yard. All measurements taken at the Al-Tech Specialty Steel Corporation were within typical background levels for the state of New York.

It was concluded that no present or potential radiation-related health hazard exists due to post-MED/AEC operations, and that no further DOE survey is required at the Al-Tech Specialty Steel Corporation in Watervliet, New York. Measurements at other rolling mill facilities have revealed beta-gamma radiation levels up to 42 mrad/hr. Therefore, it is recommended that an effort be made to locate the machinery used by Al-Tech so that a survey of that equipment can be performed.

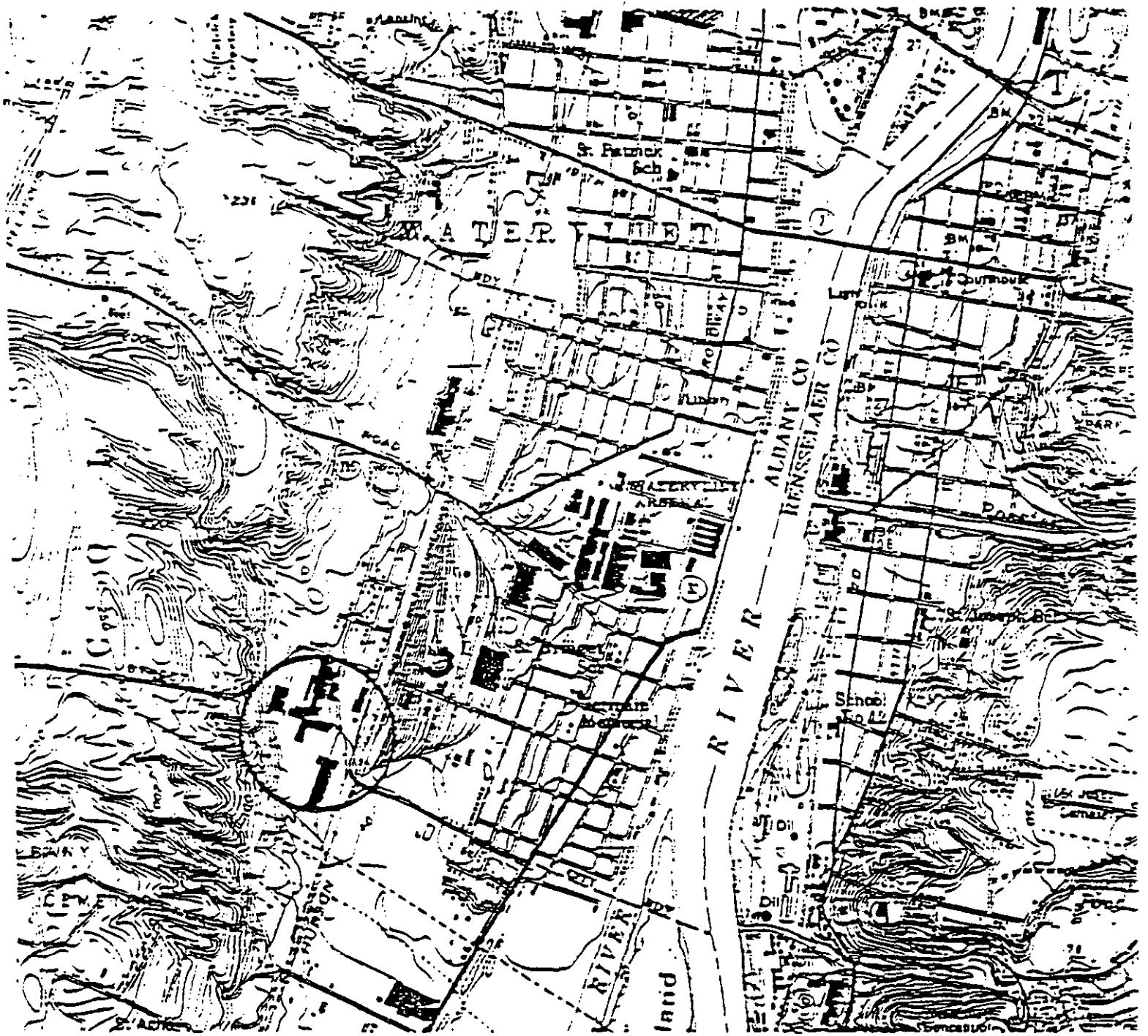


Fig. 1. Location of the Al-Tech Specialty Steel Corporation in Watervliet, New York.

OAK RIDGE NATIONAL LABORATORY

OPERATED BY

UNION CARBIDE CORPORATION

NUCLEAR DIVISION



POST OFFICE BOX 1

OAK RIDGE, TENNESSEE 37830

October 1, 1980

Mr. Arnold Abriss  
U. S. Department of Energy  
Environmental and Safety Engineering Division  
Nuclear Branch  
Washington, D. C. 20545

Dear Mr. Abriss:

RASCA - Survey of Rolling Mill Used by  
Al-Tech Specialty Steel Corporation,  
Dunkirk, New York

Attached, please find four copies of our letter report for the subject survey conducted on September 23, 1980. As you can see, there were no elevated radiation levels observed on the original mill stands and associated shoe plates. We feel that no additional survey work is required at the Dunkirk site.

Sincerely,

*for W.H. Cottrell*  
F. F. Haywood  
RASCA Program Manager, DRNL

FFH:ror

cc: P. S. Rohwer

cc/enc: W. R. Bibb

SURVEY OF ROLLING MILL USED BY  
AL-TECH SPECIALTY STEEL CORPORATION  
DUNKIRK, NEW YORK

Work performed  
by the  
Health and Safety Research Division  
Oak Ridge National Laboratory  
Oak Ridge, Tennessee 37830

September 1980

OAK RIDGE NATIONAL LABORATORY  
operated by  
UNION CARBIDE CORPORATION  
for the  
DEPARTMENT OF ENERGY  
as part of the  
Formerly Utilized Sites--  
Remedial Action Program

SURVEY OF ROLLING MILL USED BY  
AL-TECH SPECIALTY STEEL CORPORATION  
DUNKIRK, NEW YORK

A radiological survey was conducted at the Al-Tech Specialty Steel Corporation Plant in Dunkirk, New York, on September 23, 1980, by representatives of Oak Ridge National Laboratory (ORNL). The subject of the radiological survey was a portion of the original 36-cm (14-inch) bar mill used in converting uranium billets into solid rods. It was concluded in the "Preliminary Survey of Al-Tech Specialty Steel Corporation, Watervliet, New York" letter report (see attachment) that the mill be surveyed due to the potential for residual contamination as has been found at other bar mills involved in rolling uranium metal.

The 36-cm mill was relocated in 1960 from the Watervliet plant to the one used by Al-Tech at Dunkirk, New York. Three stands and associated shoe plates of the original mill are currently used in routine operations. Two stands and associated shoe plates were removed from the original mill and placed in a scrap metal yard. The rollers used during operations have been scrapped for a number of years (verbal communication with Jim Trubits, manager of engineering and maintenance).

#### Survey Results

The mill stands and associated shoe plates located in the mill building and scrap yard at Dunkirk were surveyed. Measurements included a gamma-scan of all accessible equipment surfaces, a beta-gamma scan of selected equipment surfaces, and alpha activity at random locations on equipment surfaces. All measurements taken on equipment surfaces resulted in no radiation levels significantly above background levels.

#### Conclusions

Since all radiological measurements taken both at the Watervliet and Dunkirk plants of Al-Tech Specialty Steel Corporation have resulted in radiation levels within background levels, it is concluded that no present or potential radiation-related health hazards exist due to previous Manhattan Engineer District (MED)/Atomic Energy Commission (AEC)-related activities. It is recommended that no further Department of Energy (DOE) radiological surveys be performed at these sites and that they are released by DOE for unrestricted use.