

FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM

ELIMINATION REPORT
FOR
USS AGRI-CHEMICALS
(THE FORMER ARMOUR FERTILIZER WORKS)
BARTOW, FLORIDA

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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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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 conducted on behalf of the Atomic Energy Commission (AEC) at the former Armour Fertilizer Works (now USS Agri-Chemicals, a division of U.S. Steel Corporation), Bartow, Florida. A preliminary radiological survey revealed that the radium concentration in a sample of the site's soil exceeded current DOE radiological guidelines.¹ However, on the basis of a review of available historical and radiological information, DOE has determined that the contamination is not attributable to the AEC-sponsored operations. Therefore, DOE does not have legal authority to conduct remedial actions at this site and will not include it in the Formerly Utilized Sites Remedial Action Program (FUSRAP).

This report presents information on the radiological status of the site and summarizes the results of DOE's authority investigation. Although the contamination exceeds guidelines, it does not pose a significant radiological hazard to site occupants or the general public under current conditions of site usage.

¹ 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 Reading Room located in Room 1E-190 of the Forrestal Building, 1000 Independence Avenue, SW., Washington, D.C.

BACKGROUND

Site Function

This facility was a small pilot plant used for research and development of uranium recovery by organic solvent extraction from phosphoric acid. It was operated under Atomic Energy Commission (AEC) contracts AT(30-1)-1391, AT(30-1)-1404, and AT(49-6)-915 from 1951 to 1955. According to plant personnel, the facility produced only gram quantities of uranium. In 1959, the company name changed from Armour Fertilizer Works to Armour Agricultural Chemical Company and later to U.S. Agri-Chemicals, Inc. It eventually became USS Agri-Chemicals, a division of the U.S. Steel Corporation. The building is currently used as a field office for the plant's diammonium phosphate loading area.

Site Description

The Plant is located about 1 mile west of Bartow, Florida, on State Highway 60 (Figure 1).

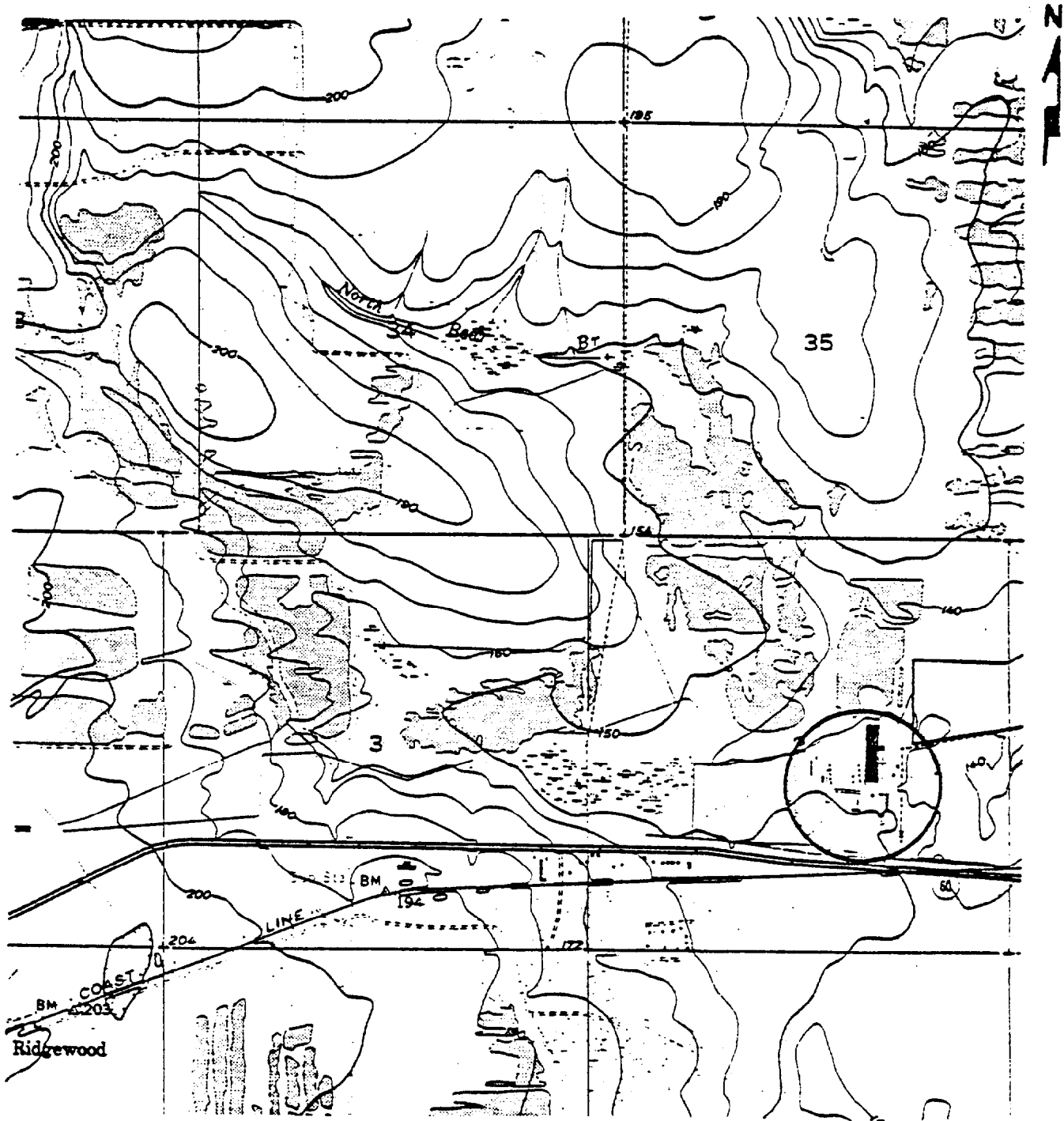


Figure 1. Location of the U.S. Steel Agri-Chemicals Plant
Near Bartow, Florida

Radiological History and Status

Department of Energy (then the Energy Research and Development Administration) Oak Ridge Operations Office and Oak Ridge National Laboratory (ORNL) personnel visited the site and performed a screening survey on April 4, 1977. Radiation levels and soil radionuclide concentrations were found to be normal for operating phosphate product plants of this type, regardless of the nature of the operation. Any residual contamination from the AEC-related work would be insignificant in magnitude and indistinguishable from radioactive material produced incidental to the phosphate operation. ORNL concluded that a formal survey of this site would be unlikely to yield additional information about radiological conditions existing at the time AEC contract operations ceased.

ELIMINATION ANALYSIS

An investigation of AEC-related operations at the former Armour Fertilizer Works site in Bartow, Florida, was conducted to determine if the site was eligible for remedial action under FUSRAP. Records of the AEC Feed Materials Division stored in Oak Ridge, Tennessee, and in Suitland, Maryland, were reviewed along with contract files. No information has been found that would provide DOE with authority to conduct remedial action at this site. The contract has apparently been destroyed in accordance with standard records management procedures. cursory review of other records groups indicates that it is not likely that duplicates of the contract or any other supportive materials will be found in future records searches.

Some conclusions may be reached based on information and contracts relating to phosphate operations at other sites which are available. In general, the phosphate contracts were intended to support industrial research. The contractor usually owned the facilities. There was no direct AEC involvement other than review of the data. AEC had an obligation to purchase any uranium produced, but had no responsibility for the operation of the sites or their final condition.

The contractors were handling the same materials they normally handled in their everyday operations and AEC provided no special guidance (other than that pertaining to uranium accountability if any was to be produced). For the same reason, AEC did not specify any requirements for cleanup.

The results of the radiological survey also suggest that the radioactive material on the site is the result of the commercial phosphate operations rather than the AEC-sponsored uranium recovery work. Gamma radiation levels are comparable to those at other phosphate product plants operating without uranium recovery processes. The soil sample obtained adjacent to the original building indicated only ^{226}Ra . The ^{238}U concentration was below detection limits. Radium was separated out of the phosphoric acid stream prior to the uranium recovery step, so the observed contamination is not attributable to the AEC-related work.

Based on the information summarized in this report, DOE's Division of Facility and Site Decommissioning Projects has determined that it does not have authority to conduct remedial action at the former Armour Fertilizer Works site in Bartow if it were determined to be necessary and has eliminated the site from further consideration under FUSRAP. DOE will notify the property owner, the Environmental Protection Agency, and the State of Florida of its findings at this site so that they may take appropriate action.

REFERENCES

- o Oak Ridge National Laboratory. March 1980. Preliminary of U.S. Steel Corporation--Agri-Chemical (Former Armour Fertilizer Works), Bartow, Florida.