FEB 27 1985

Mr. Harold Snyder
Chief, Discovery and Investigations Branch
Hazardous Site Control Division
Administration for Solid Waste and
Emergency Response
U. S. Environmental Protection Agency
401 M Street, S. W.
Washington, D. C. 20460

Dear Mr. Snyder:

The Department of Energy (DOE) has conducted a radiological survey at the Conserv Corporation (The former Virginia-Carolina Chemical Corporation), Nichols, Florida. This survey indicated that levels of residual radioactive material and associated radiation levels at the site are in excess of those used by DOE to determine if a site requires remedial action. The data did not indicate that, under the current use of the site, there was any hazard to the workers or the general public. However, changes in site use or modifications to the facility could possibly result in increased exposure to workers at the site. The owner has received a copy of the final survey report and is aware of the survey results.

A review of contract records, the final radiological survey report, and historical documents by DOE has determined that the Department does not have authority under the Atomic Energy Act to conduct remedial action at this site. Therefore, in accordance with DOE policy, we are notifying you (Environmental Protection Agency) and, by a separate letter, the State of Florida of these findings so that the Environmental Protection Agency and/or the State of Florida can take appropriate action to assess and resolve any problems associated with this site.

Enclosed please find a summary (enclosure 1) which describes (1) the operations conducted at the site that led to the contamination, (2) our findings with regard to authority for remedial action and, (3) the radiological condition of the site. Also enclosed is a copy of the final radiological survey report for the site (enclosure 2).

NE-24
Whitman*

NE-24
DeLaney*

NE-24
Baublitz
2/27/85

Please contact Mr. Arthur Whitman (301-353-5439) regarding any questions on the enclosed material or if the Department can be of assistance in providing additional information on the Conserv, Inc. facility.

Sincerely,

1st

John E. Baublitz, Director
Division of Remedial Action Projects
Office of Terminal Waste Disposal
and Remedial Action

2 Enclosures

cc w/enclosures
Al Smith, Region IV
Environmental Protection Agency

Robert McVety, Administrator
Florida State Department of
Environmental Regulations

Ulray Clark, Florida State Department
of Health and Rehabilitation Services

Ronald E. Graf, General Manager
Conserv, Inc.

bcc w/o/enclosures
V. DeCarlo, PE-243
C. Welty, PE-243
S. Miller, GC-11
E. Keller, OR
S. Lichtman, EPA
R. Guiemond, EPA
A. Whitman, NE-24
W. Voigt, NE-20
Aerospace

Subject
NE-73 (4)
NE-24, RF
AWhitman, RF

NE-24:AWhitman:jtm:353-5439:2/27/85:52-48:PREVIOUS CONCURRENCES VALID*

3.9.1

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JEB

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FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM INELIGIBILITY REPORTS

CONSERV, NICHOLS, FLORIDA

CONTENTS

FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM INELIGIBILITY REPORT

FORMER VIRGINIA-CAROLINA CHEMICAL COMPANY SITE, NICHOLS, FLORIDA

Introduction and Summary

Records searches for information on, and investigations of the operations at former Virginia-Carolina Chemical Company uranium recovery pilot plant were conducted to determine if the Department of Energy (DOE) has authority to include this site in the Formerly Utilized Sites Remedial Action Program. This investigation included the analysis of radiological surveys conducted at the facility as well as historical data. The analyses reported in this document are based on the data collected during these investigations. There is no conclusive evidence that DOE predecessors had direct or indirect responsibility for the condition of the site or that the contamination at the site is directly related to the uranium recovery process. The elevated levels appear to be due to normal phosphate ore processing and would be under the jurisdiction of the Environmental Protection Agency or state agencies.

Reason for Investigation

The Conserv facility (formerly Virginia-Carolina Chemical Corporation) in Florida was identified during initial searches to identify formerly utilized sites. The search indicated that portions of this facility were utilized by the contractor for the production of uranium under contract to the Atomic Energy Commission (AEC). The records did not contain sufficient information to verify the adequacy of the sites radiological condition.

Background on Conserv

During the early 1950's, the Virginia-Carolina Chemical Corporation constructed a phosphate fertilizer plant at a site in Nichols, Florida. In conjunction with this construction, and as part of AEC Contract No. AT(49-1)-623, the Company agreed to construct, at their own expense, a pilot plant to recover uranium oxide from phosphoric acid produced by the fertilizer plant. AEC agreed to offset process development costs for the Virginia-Carolina system by guarantying to purchase the by-product uranium for a given period at a price partly dependent on process operating costs. The contract was effective May 23, 1952, through April 30, 1957.

The pilot plant was disassembled after contract termination (about 1960). The fertilizer plant ownership changed three times since 1951 and between 1969 to 1973 was completely shutdown. The present owner is the Conserv Department of Philipp Brothers Division, Englehard Minerals and Chemicals Corporation. As a result of the many ownership changes, the present location of equipment from the operation could not be determined.

Oak Ridge National Laboratory personnel conducted a preliminary survey on April 4, 1977. Conserv conducted a survey and decontamination on some contaminated areas between April and November 1977. Approximately 4 cubic yards of contaminated soil was removed and subsequently buried in an inactive gypsum pile location about 2600 feet from the original site. Oak Ridge National Laboratory personnel then performed a complete site survey in December 1977.

Alpha and beta-gamma contamination levels in the maintenance building were below guidelines set by the Nuclear Regulatory Commission. Transferable alpha and beta-gamma contamination was negligible both on the floors and walls and on overhead surfaces. For the most part, contamination measurements on the original concrete pad revealed alpha and beta-gamma levels below Nuclear Regulatory Commission guidelines except for the two small points. Soil samples from around the pad were analyzed and found to contain significant concentrations of uranium and radium. Small concentrations of radium and

uranium were still detectable in the soil removed to the gypsum pile from the pad area in 1977. Although radium concentrations are in excess of the guidelines for remedial action under FUSRAP, they are generally within background levels normally found at phosphate product plants currently operating without uranium recovery (with the possible exception of those areas surrounding the pad having had beta-gamma dose rates exceeding the NRC guidelines). The elevated areas appear to be contaminated with radium or uranium in or near equilibrium with radium.

Analysis

The data reviewed to date does not indicate that DOE had any responsibility for the site other than the purchase of uranium. Further, the contract only related to the recovery of uranium from phosphoric acid (at which point in phosphate fertilizer process most of the radium has already been removed from the product stream). One would expect that any contamination resulting from the uranium recovery process would be largely uranium and because most of the areas identified that exceed guidelines are related to radium or uranium in equilibrium with radium, and therefore are most likely due to other parts of the process rather than just the uranium recovery process.

Radiological Conditions

The radiological survey found some radiation levels at this site to be above guidelines used for FUSRAP; however, the levels appear to be more related to the processing of phosphate ore rather than uranium recovery.

Factors Required for Inclusion

During records searches and analysis to support DOE determinations regarding authority for remedial action, the need for and pertinence of specific materials are assessed considering five questions addressed by DOE in an authority review. The questions and a summary of implications of data collected to date are discussed below.

1. Was the site/operation owned by a DOE predecessor or did a DOE predecessor have significant control over the operations or site?

   The AEC never owned or operated the site, nor did they have any direct control over the research other than requiring the contractor to maintain records and comply with normal health and safety standards.

2. Was a DOE predecessor agency responsible for maintaining or ensuring the health and safety and environment of the site (i.e., were they responsible for cleanup)?

   There is no evidence to indicate the AEC was responsible for health, safety or environment at the site. While the AEC may have provided guidance regarding standards, compliance and implementation were the owner's responsibility.

3. Is the waste, residual, or radioactive material on the site the result of DOE predecessor related operations?

   The type and levels of contamination are similar to those found at phosphate plants not having uranium recovery operations. The fact that the contamination contains significant radium suggests it may not be related to the recovery of uranium from phosphoric acid.

4. Is the site in need of further cleanup and was the site left in unacceptable condition as a result of DOE predecessor related activities?

   It is not clear if the site is in need of further cleanup as radiation levels are typical of other phosphate operations. Furthermore, the contamination is not directly related to DOE predecessor operations.

5. Did the present owner accept responsibility for the site with knowledge of its contaminated condition and that additional remedial measures are necessary before the site is acceptable for unrestricted use by the general public?

   There is not sufficient data to assess the present owner's responsibility if additional cleanup is required.