

and make it immediately effective, notwithstanding the request for a hearing. Any hearing held would take place after issuance of the amendment.

If the final determination is that the amendment request involves a significant hazards consideration, any hearing held would take place before the issuance of any amendment.

A request for a hearing or a petition for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemakings and Adjudications Staff, or may be delivered to the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC, by the above date. A copy of the petition should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to M. Stanford Blanton, Esq., Balch and Bingham, Post Office Box 306, 1710 Sixth Avenue North, Birmingham, Alabama, attorney for the licensee.

Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for hearing will not be entertained absent a determination by the Commission, the presiding officer or the presiding Atomic Safety and Licensing Board that the petition and/or request should be granted based upon a balancing of the factors specified in 10 CFR 2.714(a)(1)(i)-(v) and 2.714(d).

For further details with respect to this action, see the application for amendment dated February 22, 1999, supplemented by letters dated March 19 and June 30, 1999, which are available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC, and at the local public document room located at the Houston-Love Memorial Library, 212 W. Burdeshaw Street, Post Office Box 1369, Dothan, Alabama.

Dated at Rockville, Maryland, this 26th day of August 1999.

For the Nuclear Regulatory Commission.

L. Mark Padovan,

*Project Manager, Project Directorate II,
Division of Licensing Project Management,
Office of Nuclear Reactor Regulation.*

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NUCLEAR REGULATORY COMMISSION

[Docket No. 40-08980]

Environmental Assessment, Finding of No Significant Impact, and Notice of Opportunity for a Hearing for Remediation of the Lakehurst, NJ Site

Summary and Conclusions

The environmental assessment (EA) reviews the environmental impacts of the decommissioning actions proposed by Heritage Minerals, Incorporated (HMI) of their Lakehurst, New Jersey facility. Based upon the NRC staff evaluation of the HMI Final Status Survey Plan (FSSP), dated November 3, 1997, it was determined that the proposed decommissioning can be accomplished in compliance with the NRC public and occupational dose limits, effluent release limits, and residual radioactive material limits. In addition, the approval of the proposed action, i.e., decommissioning of HMI's Lakehurst, New Jersey facility in accordance with the commitments in NRC license SMB-1541 and the FSSP (decommissioning plan), will not result in significant adverse impact on the environment.

1.0 Introduction

1.1 Background

Heritage Minerals, Inc. is the current holder of NRC radioactive source materials license SMB-1541 (NRC Docket 40-08980) for the possession of radioactive material resulting from operations at their facility located in Lakehurst, New Jersey. The license authorizes HMI to possess at any one time a maximum of 300 kg of uranium in the form of natural uranium as monazite and 15,000 kg of thorium in the form of natural thorium as monazite. Processing of licensed material is not authorized except incident to facility decommissioning activities and packaging materials for shipment.

In December 1996, HMI informed the NRC staff that it intended to decommission the Lakehurst, New Jersey facility. The licensee submitted the Final Status Survey Plan (FSSP or decommissioning plan) to the NRC for review on November 3, 1997. The license was renewed on May 26, 1998 to authorize possession, packaging, storage, and decommissioning in accordance with the FSSP and transfer of products and waste to authorized recipients. Prior to the renewal, a safety evaluation report (SER), which evaluated conformance of the proposed action with NRC regulations and regulatory guidance was prepared and

the opportunity for a hearing was publicly noticed in the March 12, 1998, **Federal Register** Notice (63 Federal Register 12114). In response to NRC requests, in 1998-99, HMI provided additional information to clarify certain planned remediation activities. The NRC is considering a license amendment which include additional HMI commitments during facility decommissioning.

1.2 Purpose and Need for Proposed Action

NRC is considering approval of the FSSP to allow Heritage Minerals, Inc. to remove radioactive material attributable to licensed operations at the site, to levels that permit release of the property for unrestricted use and termination of radioactive source materials license SMB-1541.

1.3 Description of Proposed Action

The objective of HMI is to decontaminate and decommission the Lakehurst, NJ facility to permit release for unrestricted use and termination of NRC license SMB-1541. Decommissioning will involve remediation of buildings and other above-grade structures, decontamination of process equipment and sumps, excavation of soil containing monazite sands, and restoration of excavated areas. Soil and other radioactively contaminated materials will be transported to either a licensed disposal facility or recipient authorized to receive such material.

NRC staff reviewed the information provided by HMI in the FSSP describing the proposed decommissioning actions and, by letter dated March 16, 1999, requested additional information regarding specific areas that needed clarification. NRC staff concluded that the decommissioning plan (FSSP) and supplemental information (letters dated November 30, 1998, June 24, 1999, July 13, 1999 and August 17, 1999) from A.J. Thompson, Attorney for HMI, Inc., responding to NRC comments provided an adequate information base for assessing potential environmental impacts from the proposed action.

2.0 Facility Description/Operating History

2.1 Site Locale and Physical

Description The Heritage Minerals, Inc. site is located on Route 70 in Lakehurst, Manchester Township (Ocean County), New Jersey, in the Atlantic Coastal Plain. It encompasses an area of approximately 7000 acres, of which 1000-1200 acres were used for mining operations involving monazite.

Other areas remained undisturbed. The plant and production areas including mill tailings containing monazite (produced as a result of previous operations) occupied an estimated 500 acres. The monazite pile is located within a security fence and occupies approximately 700 cubic meters. Areas adjacent to the site are predominantly rural, with bands of existing or recently developed residential communities within Manchester Township.

In the Hydrogeologic Investigation Report prepared for HMI, Fellows, Read, & Associates, Inc. (1989) characterized the geology and hydrogeology of the facility. Geologic deposit formations consist of underlying sediments of stratified clay, silt, sand, and gravel on well-indurated bedrock. The topography is relatively flat, recontoured by surface mining of ilmenite surface deposits. Wetlands form the drainage of adjacent Wrangel Brook, which has an easterly streamflow. Two lakes were created along the Green Branch of Wrangel Brook as a result of mine dredging operations.

Groundwater flow occurs from areas located north and west of the site to east and northeast towards the tributaries of the Toms River. The Toms River and its tributaries represent the major groundwater discharge zones for the region. Local groundwater flow is from upland areas to lower areas where groundwater discharges to streams and wetlands. Site groundwater is recharged by precipitation and flows unconfined through underlying sands. The Green Branch, Michaels Branch, and Davenport Branch of Wrangel Brook serve as local discharge zones for shallow ground water, with subsequent discharge to the Toms River or Barnegat Bay.

2.2 Descriptions of Facility Operations

Between 1973 and 1982 the site was operated by ASARCO, Inc., for dredging and processing sand deposits to extract heavy minerals. The titanium mineral, ilmenite, was the primary mineral recovered by various physical separation methods. There was no chemical separation involved in the extraction and concentration processes. Heavy minerals, including monazite were pumped as slurry to a Wet Mill. At the Wet Mill, the heavy minerals were separated from the slurry, then stockpiled for dewatering, while the lighter fraction was returned to the dredge pond. The heavy mineral concentrate was heated in a Dry Mill, then screened to remove coarse material. The high conductivity of the titanium dioxide bearing minerals allowed electrical separation from other

heavy minerals. Further magnetic refinement produced the final ilmenite product. The dry mill tailings containing essentially all the monazite from the heavy minerals concentrate were mixed with water and pumped to an area east of the dry mill building.

ASARCO ceased operations in 1982. Evaluation of residual materials by private companies for commercial use continued until the property was purchased by HMI in 1986. Plant facilities were leased to Mineral Recovery, Inc. (MRI), who performed operational testing for titanium recovery until 1987.

HMI assumed property control, conducting site operations under NRC license until 1990 when all production stopped. Operations were comparable to the ASARCO process, utilizing dry mill tailings as feed material. The tailings were mixed with water, pumped to the wet mill for mineral separation according to their conductive properties, proceeding through a dewatering and drying process. Minerals were recovered and sold as leucoxene and rutile (titanium dioxide products) and zircon. Licensable amounts of monazite were present throughout the electrical and magnetic separation processes. In early 1990, processing of feed materials continued followed by recycle of tailings from the MRI operations. Mill tailings containing monazite were deposited in a stockpile east of the dry mill. Due to economic conditions, HMI terminated all operations in August 1990. Approximately 700 cubic meters of stockpiled tailings remain licensed to HMI.

3.0 Radiological Status of the Facility

3.1 Structures and Equipment

HMI performed decontamination of building surfaces and disposed of contaminated equipment in 1990–1991. Subsequent radiation (screening) surveys were conducted of the interiors of the wet mill and dry mill. Process trains within each building were characterized according to their monazite content and operating history as affected or unaffected areas using NUREG/CR-5849, "Manual for Conducting Radiological Surveys in Support of License Termination" criteria. The methods used to dismantle and decontaminate process equipment in affected areas and for disposition of resultant materials are described in the FSSP. The same methods will be used for decontamination of building interiors prior to the final radiological survey and will serve as the basis for

termination of NRC Source Material License SMB-1541.

The final release status surveys described in the FSSP will be performed in accordance with NUREG/CR-5849 criteria. Residual radioactive materials that exist in affected areas will meet current guidelines described in "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use for Termination of Byproduct, Source, and Special Nuclear Material Licenses," (U.S. Nuclear Regulatory Commission, Policy and Guidance Directive FC 83-23, 1983). Details regarding the radiological status of affected areas within the Wet and Dry Mill buildings are described in the next sections. At present, contaminated material containing monazite is being stored in the outdoor tailings pile. A final survey of affected areas will be required by NRC after residual material is removed and decontamination is complete.

Following review of the Heritage Minerals, Inc. site radiological characterization of structures and equipment, the NRC staff finds characterization was performed in accordance with NUREG/CR-5849. The NRC staff review of the FSSP also finds it adequate for remediating structures and equipment to radiological levels below the NRC guidelines for unrestricted release (Nuclear Regulatory Commission, 1983). The staff concludes no adverse environmental impacts will result from planned remediation of the site structures and equipment.

3.1.1 Wet Mill Building. The Wet Mill Building process equipment used to extract product materials from raw feed was grouped into affected and unaffected survey units. The majority of survey units including floors, lower walls, and western mill areas are unaffected. Mechanical separation units and feed sumps involving transfer or processing of product material containing monazite were identified in the FSSP as affected areas. Final radiological surveys of interior surfaces will be within allowable release limits for natural thorium, the primary contaminant of concern. Prior to release of equipment in affected areas for unrestricted use, the NRC release limit of 1,000 dpm/100 cm² for average surface contamination and maximum release limit of 3,000 dpm/100 cm² will be met.

3.1.2 Dry Mill Building. Equipment in the Dry Mill Building was used to extract product materials from the Wet Mill process feed. Consistent with Wet Mill Building survey units, Dry Mill Building equipment was also grouped into affected and unaffected areas. Most

areas of the Dry Mill involving monazite including floors, ceiling, and lower walls (up to two meters above floor level) are affected. These include dryers, high tension separators, and sumps. NRC surface contamination release limits are the same as those used for Wet Mill equipment.

3.2 Surface and Subsurface Soils

Radionuclide concentrations and direct radiation levels for surface and subsurface soils at the facility have been measured in the Wet Mill, Dry Mill, dust collectors, tailings (monazite) pile, and at various outdoor locations.

Direct radiation levels inside buildings and outdoor areas were routinely measured by HMI personnel since 1990. Direct gamma exposure rates at ground level and 1 meter above the surface were reported for the monazite pile and areas in and around the Wet and Dry Mills. Average monazite pile perimeter readings ranged between 300–1700 $\mu\text{R/hr}$ up to 2000 $\mu\text{R/hr}$ on the pile. Readings at outdoor locations around buildings were at or near background levels. The highest exposure rates were measured on storage drums located inside the security fence surrounding the pile, at levels up to 3000 $\mu\text{R/hr}$. Small amounts of residual material (unlicensed) exists from recycled ASARCO tailings deposits in adjoining owner controlled property locations. These areas showed direct gamma radiation readings ranging between 10–150 $\mu\text{R/hr}$ and will not be included in the remediation. Normal background radiation levels for other facility production areas is 7–20 $\mu\text{R/hr}$.

In July 1996, Radiation Science, Inc. issued a Report of Site Background for HMI which included soil samples at a depth of six inches from undisturbed environment, representative of natural site conditions. Background levels were established by performing gamma spectral analysis for U-238 and Th-232 on 32 samples. Mean values reported for background samples was 0.31 pCi/gm for U-238 concentration and 0.25 pCi/gm for Th-232 concentration. Average dose rates measurements from areas where samples were taken was 3.0 $\mu\text{R/hr}$.

Sample analysis of soils taken from recycled tailings, an unused settling pond, plant tailings, and new feed materials did not exceed NRC limits for total uranium and thorium (i.e., 10 pCi/g above background) for unrestricted release. Only soil in the monazite pile was measured above licensable source material quantities, and showed total concentrations of Ra-226 and Ra-228 up to 1376 pCi/gm. The FSSP identifies

these soils as the material to be considered for remediation activities.

Following review of the HMI site radiological characterization studies for soils, the NRC staff finds the characterization effort and FSSP adequate for determining areas of elevated radioactivity in soils that require remediation to limit concentrations to the NRC limits for unrestricted release (46 **Federal Register** 52061–52063).

3.3 Surface Water and Groundwater

Analyses for radioactivity of surface water samples collected from existing site monitoring wells and offsite streams were reported by Camp Dresser & McKee, Inc. in 1997 as part of the Mine Tailings Radiological Assessment Plan prepared for the New Jersey Department of Environmental Protection. Concentrations measured for groundwater samples were 2.0–7.0 pCi/l for gross alpha and under 2.0–5.0 pCi/l for gross beta. Results of surface water samples were 2.0–3.9 pCi/l gross alpha and 2.0–4.2 pCi/l gross beta. Due to the insoluble properties of monazite and generally low levels of radiological contamination identified in samples, no concern was found regarding dissolution of radioactivity into groundwater and surface water.

Following staff review of the characterization of surface waters and groundwater around the HMI site, the NRC staff concludes the characterization is adequate and radiological contamination of surface waters and groundwater is below levels that would be a concern for environmental impacts.

3.4 Air

HMI reported results from 1990 air sampling measurements in three locations of the Dry Mill taken by their contractor, Teledyne Isotopes. Air filters were analyzed for gross alpha activity using an alpha scintillation counter. Activity detected was assumed to be Th-232, with reported concentrations less than 1.6×10^{-12} $\mu\text{Ci/ml}$. These concentrations were less than effluent concentrations limits allowed in 10 CFR Part 20, Appendix B, and are therefore found by NRC to be below levels that could lead to adverse environmental impacts. Dust and security control measures provide confidence that air quality will not be degraded during decommissioning activities to levels that exceed NRC limits in 10 CFR Part 20.

4.0 Evaluation of Proposed Methods for Decontamination and Dismantlement of Structures, Buildings, and Equipment

4.1 Decontamination of Buildings, Equipment, and Outdoor Areas

HMI's proposal for decontamination of buildings, equipment, and outdoor areas is provided in the FSSP, supplemented by additional letters clarifying remediation activities in response to NRC's request for additional information. In 1991, process equipment, Wet and Dry Mill buildings, and survey units with operating equipment suspected to contain radioactive material were cleaned and decontaminated. Decontamination methods used for mill equipment included high pressure washing, steaming, general wipe down and scrubbing, blowing, and dusting and sweeping of surfaces. Radiation surveys of buildings and areas around the monazite pile have been performed routinely by HMI since that time.

The FSSP describes the proposed decommissioning activities and methods for protecting workers and the public during removal of monazite contaminated soil. Residual radioactivity remaining inside buildings is confined to fine sand grains present on equipment surfaces. Affected survey units may require further decontamination prior to performing the final status survey. Areas that contain only loosely adhered contamination will be HEPA vacuumed to remove contaminants. Fixtures, tanks, pumps, high tension separators, piping, and heavy equipment will be isolated, disassembled, and decontaminated as necessary, then resurveyed prior to release for unrestricted use. Equipment that cannot be economically decontaminated will be resurveyed, and all equipment with contamination above the NRC limits for unrestricted release or equipment suspected to contain radioactive material will be treated as radioactive waste.

When removal of process equipment from mill buildings is completed, building characterization surveys will be conducted. Walls up to two meters and floors are to be surveyed in accordance with the FSSP. Those buildings that contain residual contamination will be decontaminated below NRC guideline values using the most economical and reliable methods available. HMI's objective is to free release all buildings above grade to allow demolition (if deemed necessary) of clean buildings. Decontamination of ground-level floors will include the top surface of the concrete slabs, if needed.

Material from demolition of ground-level floors and underlying soils will be surveyed for contamination and remediated.

Surface and subsurface soils with Th-232 concentrations greater than 10 pCi/g is restricted to the monazite pile. HMI proposes two excavations of materials with monazite concentrations greater than 10 pCi/g above background. Contaminated soil (monazite ore) will be excavated, placed into a hopper, and transferred to shipping containers. This will be followed by a second excavation of surface layer soil to be removed in a similar manner. A fenced security area near the existing pile will be established for staging of shipping containers and contaminated equipment prior to transportation off-site. After the second excavation, area radiation levels are expected to be reduced to no more than twice background. Excavation of soil to meet Th-232 cleanup criteria will also serve to remove residual uranium contamination because both contaminants are contained in the monazite-rich soil. Once remediated, the remaining soil will be resurveyed in a manner consistent with NRC-accepted methods to ensure residual thorium and uranium contamination meet the NRC unrestricted release criteria. Soil and other material will be transported from the site either to a licensed disposal facility or exported under NRC Export License XSOU8751, issued to HMI on May 2, 1997.

Under Condition 15 of Materials License SMB-1541, HMI cannot release for unrestricted use areas within plant buildings or the monazite pile without specific, written authorization from the NRC. Based on the NRC review of building and equipment decontamination methods described in the FSSP and supporting documents, NRC concludes that the methods are adequate for ensuring that equipment, buildings, and outdoor areas will meet the NRC guidelines for unrestricted use and no adverse environmental impacts will result from planned activities.

5.0 Decommissioning Alternatives and Impacts

5.1 No Action

No decommissioning action by HMI would constitute a violation of 10 CFR 40.42(d) requirements, which requires that licensees begin site decommissioning of buildings and outdoor areas that contain residual radioactivity after permanently ceasing principal activities. Impacts of the no-action alternative are maintaining an NRC license, which would significantly reduce options for future property use, and require perpetual care and security of the site in its current radiological condition to prevent radiation exposure to monazite contamination and unauthorized public access.

5.2 Proposed Action

The proposed action is the approval to implement the Heritage Minerals, Inc. Final Status Survey Plan, for decommissioning activities at the Lakehurst, New Jersey facility that will permit unrestricted use of the site and termination of License No. SMB-1541. Decommissioning the facility for unrestricted release allows productive use of the land in the future. Site remediation is expected to mitigate potential future environmental impacts attributable to existing radiological contamination resulting from past operations.

5.3 Alternatives to Proposed Action

Two alternatives to the proposed action are considered. The first alternative is to not release the site for unrestricted use and keep the property under license. This alternative is unfavorable because maintaining an NRC license for the site would provide negligible, if any, environmental benefit, but would greatly reduce options for future use of the property. The second alternative involves storage of excavated soils on-site for an indefinite period should HMI be unable to export or transfer the material for disposal. While on-site storage defers the costs associated with disposal at a licensed facility, it removes the property from productive use, resulting in a negative

impact to the economic potential of the local area.

The NRC determines the proposed action to be more favorable than either no-action or alternatives to the proposed action.

6.0 Radiation Protection Program

6.1 Radioactive Waste Management and Transportation Program

The radioactive waste management program at the HMI site includes identification, characterization, segregation, packaging, labeling, manifesting, and transporting waste in accordance with NRC, U.S. Department of Transportation (DOT), and other applicable federal, state, and local regulations. Included as contaminated radioactive waste materials from decommissioning activities will be equipment, tools, process material, building debris, decontamination materials (rags, wipes, filters), decontamination waste, soils, residual process equipment waste (sludges), and used personal protective equipment.

Since HMI intends to comply with all applicable requirements, NRC finds the planned radioactive waste management and transportation programs adequate for the materials at the site, and no adverse environmental impacts are expected from waste management activities or transfer of the material offsite.

6.2 Technical and Environmental Specifications

6.2.1 Unrestricted Use Guidelines. Guidelines for unrestricted use for natural thorium and uranium for the Heritage Minerals, Inc. site are Option 1 in the 1981 Branch Technical Position on "Disposal or Onsite Storage of Thorium or Uranium Wastes From Past Operations" (46 FR 52061), and NRC "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use for Termination of Byproduct, Source, and Special Nuclear Material Licensees," Policy and Guidance Directive, FC 83-23. The unrestricted release criteria are identified in the table below.

SOIL RELEASE CRITERIAL¹

Radionuclide	Maximum soil concentration (pCi/g)	Reference
Natural Thorium (Th-232 plus Th-228) if all daughters are in equilibrium	10	(46 <i>Federal Register</i> 52061-52063).
Natural Uranium Ores (U-238 plus U-234) if all daughters are present and in equilibrium	10	(46 FR 52061-52063).

¹ If only one radionuclide is present, the maximum concentration is the value listed in this table. If more than one radionuclide is present, however, the ratio between the measured concentration and the corresponding limit listed in this table is determined. The sum of such ratios for all radionuclides present must not exceed one.

6.2.2 Radiological Health and Safety Program. HMI will select a decommissioning contractor who will follow radiation protection procedures sufficient to administer the radiation protection program authorized by License SMB-1541. The radiation protection program has been routinely inspected by NRC staff and found to be well implemented. The proposed action is limited in scope and not expected to include unique health and safety issues outside the scope of the radiation protection program. NRC will conduct site inspections while decommissioning activities are in progress. NRC determines the radiation protection program adequate for the proposed action.

6.2.3 Corporate Organization and Management. The HMI site manager will function as the licensee representative of the decommissioning project to provide oversight for all project activities. The site manager's function is to coordinate scheduling and status reports with the contractor Project Manager (PM) and HMI legal advisor. The PM will maintain overall responsibility for performance of project operations for the duration of the project until decommissioning activities are completed. The PM and decommissioning workers report directly to the HMI technical and legal staff for all project related activities, management direction, and resolution of operational issues. Primary responsibility of the PM includes on-site workforce management to ensure agreed to work schedules are met. The HMI Radiation Safety Officer (RSO) will report to the site manager and continue to perform oversight of all radiological work-related activities throughout the decommissioning project.

From review of job descriptions and responsibilities involved in radiological safety during decommissioning, NRC determines that the designated functions are acceptable to implement the radiological safety program during proposed decommissioning activities.

6.2.4 Radiological Exposure Control. Areas where radioactive materials are used and stored will be posted to control exposures to workers and visitors and avoid the spread of contamination. Measures to be taken to ensure control of contamination include donning of anti-contamination clothing, personnel monitoring, and frequent area radiation surveys. External radiation monitoring will be conducted through the use of environmental dosimeters placed at strategic locations around the monazite pile and work areas. The need for and type of dosimetry for workers and visitors in radiologically controlled

areas will be determined by the contractor, and may include issuance of a radiation work permit. The primary dosimeter will be the thermoluminescent dosimeter (TLD) for whole body exposure, however, other types such as extremity TLD's will be employed, as conditions warrant.

For activities that have the potential to generate dusts, airborne particulate monitoring will be performed to demonstrate compliance with 10 CFR Part 20 intake limits, determine whether precautionary measures are needed (engineering controls, use of respiratory equipment), and show how exposures are being maintained ALARA. To reduce the amount of airborne particulates during excavations, the monazite pile will be sprayed with water twice per day. For equipment decontamination within affected survey units, HEPA air filtration in the immediate work area will be used, as needed.

Resuspension and airborne transport of contaminated soil during excavations serves as the primary pathway for off-site releases from decommissioning activities. HMI proposes to measure air particulates in the downwind direction through the use of a high-volume air sampler. Workers involved in excavations will be required to wear respiratory protection until radiological airborne activity levels are determined. HMI does not expect the proposed action will result in the generation of off-site, airborne concentrations that would result in dose to a member of the public in excess of the dose limits in 10 CFR Part 20. Previous results of groundwater and surface water sampling have shown negligible dose contribution due to the low levels of radionuclides during site operations. Decommissioning activities will have no further impact, therefore, additional water sampling is not needed.

HMI's total dose estimates for a worker based on direct gamma exposure rate from airborne soil releases from excavation activities of the monazite pile of 1mR/h is 320 mRem, with dust inhalation dose at 6% of the annual limit of intake (ALI) for the duration of the proposed action. The off-site (public) annual dose limit in 10 CFR Part 20 is 100 mrem. Given the low estimated exposure beyond the site boundary, the air sampling is adequate for off-site monitoring of potential releases to ensure compliance with the dose limits of 10 CFR Part 20.

Following review of radiological exposure controls, NRC determines the proposed program methodologies are adequate for detecting potential

environmental impacts prior to license termination.

6.2.5 Security. Security of radioactive material at the HMI facility is maintained by a fence with a locked front entry gate around the perimeter of the monazite pile. Security for mill buildings is minimal, and other site areas are left unattended for long periods. Equipment theft in mill buildings has been a known concern within buildings, but missing equipment was believed to have been decontaminated after operations shut down in 1990. These concerns should be alleviated by the presence of on-site decommissioning personnel. HMI has committed to establishing a fenced exclusion area for shipping containers and equipment removed from buildings which cannot be released for unrestricted use.

NRC determines this is an adequate level of security to ensure radiological safety will be maintained during decommissioning activities at the site.

6.3 Radiological Accident Analysis

Potential accident scenarios considered include building fire and loading or shipping incidents of radioactive materials. Due to the low potential for fire or explosion in building structures and the limited quantities of material used during transfer operations, accidental releases of radioactive materials in quantities that could affect public health and safety are unlikely. A 24-hour number will be established to provide Radiation Safety Officer notifications in the event emergency response is necessary.

The NRC concludes that HMI has adequately addressed the potential for radiological accidents.

7.0 Environmental Impacts

7.1 Radiological Impacts to the Public and Workers

Potential sources of worker exposure from decommissioning activities include characterization work, decontamination and remediation of buildings and associated structures (piping, foundations), and excavation of soils. Past NRC inspections showed activities resulted in no measurable internal or external dose to workers. These activities were similar to the proposed activities and included equipment and building decontamination, radiological characterizations, and monazite pile maintenance. NRC dose calculation based upon excavation and packaging of 700 m³ of monazite soil at an average thorium soil concentration of 25 pCi/g (highest sample result obtained during

NRC inspection) project an occupational worker exposure under 10 mRem, primarily due to external exposure. Based on the above, the staff believes that worker exposures will be well within the 10 CFR Part 20 annual worker dose limit of 5000 mRem, and that no adverse impacts to workers will result.

Potential sources of radiological impacts to the public from decommissioning activities at the HMI site are similar to those pertaining to worker exposures (decontamination and excavation dusts), but require transport over greater distances to reach off-site receptors. As a result, lower concentrations and doses are expected for members of the public than for workers. Previous NRC inspections showed that worker exposures during past activities were undetectable. Similarly, the public doses from these activities should be undetectable. The NRC staff has determined that HMI has provided adequate plans to ensure that potential radiological impacts to members of the public from the proposed action will not exceed NRC limits and are unlikely to result in adverse environmental impacts.

7.2 Nonradiological Impacts

There are no planned direct uses of chemicals in the proposed action, only the excavation of soil, and remediation of equipment and buildings. No other operations have a potential to affect the environment. During scoping and characterization surveys, an assessment of each building will be performed to identify the presence of hazardous or mixed wastes. The survey will identify items requiring management of hazardous substances, if found.

The NRC staff has determined that HMI has acceptably addressed the control of potential releases of nonradiological hazardous materials.

8.0 Agencies and Individuals Consulted

NRC transmitted the FSSP to the New Jersey Department of Environmental Protection (NJDEP), US Environmental Protection Agency, Region 2, and Township of Manchester by letters dated February 13, 1998, for review and comment. The response letter of March 18, 1998 from the NJDEP included comments regarding characterization of areas with thorium levels below licensable quantities and extent of soil removal, was forwarded to HMI for

evaluation. HMI addressed the State's comments in their letter of November 30, 1998 to NRC providing acceptable responses to the NJDEP questions. No response was received from the EPA or Manchester Township. HMI has committed to coordinate with the NJDEP and comply with applicable State and local regulations during decommissioning activities.

9.0 Finding of No Significant Impact

The Commission has prepared an EA related to the proposed unrestricted release, and removal from license SMB-1541, of 700 m³ of monazite-rich soil from the Heritage Minerals, Inc., Lakehurst, New Jersey site. On the basis of the EA, the Commission has concluded that this licensing action would not significantly affect the environment and does not warrant the preparation of an environmental impact statement. Accordingly, it has been determined that a Finding of No Significant Impact is appropriate.

The NRC hereby provides notice that this is a proceeding on a license amendment falling within the scope of Subpart L, "Informal Hearing Procedures for Adjudications in Materials and Operator Licensing Proceedings," 10 CFR Part 2. Pursuant to Sec. 2.1205(a), any person whose interest may be affected by this proceeding may file a request for hearing in accordance with Sec. 2.1205(d). A request for hearing must be filed within thirty (30) days of the date of publication of this **Federal Register** Notice.

The request for a hearing must be filed with the Office of the Secretary either:

1. By delivery to the Docketing and Service Branch of the Secretary at One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738; or
2. By mail or telegram addressed to the Secretary, U.S. Nuclear Regulatory Commission, Washington, D.C., 20555. Attention: Docketing and Service Branch.

In addition to meeting other applicable requirements of 10 CFR Part 2 of the NRC's regulations, a request for a hearing filed by a person other than an applicant must describe in detail:

1. The interest of the requestor in the proceeding;
2. How that interest may be affected by the results of the proceeding, including the reasons why the requestor should be permitted a hearing, with

particular reference to the factors set out in Sec. 2.1205(h),

3. The requestor's area of concern about the licensing activity that is the subject matter of the proceeding; and

4. The circumstances establishing that the request for a hearing is timely in accordance with Sec. 2.1205(d).

In accordance with Sec. 2.1205(f), each request for hearing must also be served, by delivering it personally or by mail, to:

1. Heritage Minerals, Inc., Attention: Anthony J. Thompson, Esquire, ShawPittman, 2300 N Street, NW, Washington, DC 20037-1128; and

2. The NRC staff, by delivery to the Executive Director for Operations, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738 or by mail, addressed to the Executive Director for Operations, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

The documents related to this proposed action are available for public inspection and copying at the NRC Public Document Room, 2120 L Street NW., Washington, DC 20555 or at the NRC's Region I offices located at 475 Allendale Road, King of Prussia, PA 19406.

10.0 References

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Dated at King of Prussia, Pennsylvania this 20th Day of August 1999.

For the Nuclear Regulatory Commission.

George Pangburn,

Director, Division of Nuclear Materials Safety.
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