

REGION I TECHNICAL ASSISTANCE REQUEST			
Date: July 21, 2004	Package Accession No. ML 023470310		
ADAMS Send to:	Dominick Orlando Division of Waste Management and Environmental Protection, NMSS (RPDC)		
From:	George Pangburn, Director Division of Nuclear Materials Safety		
Original signed by: /RA by Francis Costello Acting For/			
Licensee: Heritage Minerals, Inc.			
License No. SMB-1541	Docket No. 040-08980	Control No. N/A	
Letter Dated: June 30, 2004	ADAMS Accession No. ML 041910222 ML 041900461 ML 041900464		
Enforcement Action being held in abeyance:	<input checked="" type="checkbox"/>	Yes	No
<p>Problem or Issue:</p> <p>1. Proposed buffer zone. Distribution of licensed material in soil located in the area around decommissioned mill buildings is nonuniform. NRC confirmatory surveys performed in 2001 and 2003 showed HMI was unable to complete remediation of licensed material throughout the area. HMI has requested NRC approval of a proposed buffer zone boundary to be considered as the last area in need of remediation prior to license termination.</p> <p>2. Disposition of stockpiled material. After demolition, mill building equipment and structures were cleaned (power washed) and released for unrestricted use in accordance with Reg. Guide 1.86 guidelines. Sands and other material removed from washing were recovered and stockpiled. Prior to NRC licensing in 1990, this material was part of the process operations. Following cessation of operations, it remained in place inside the mill buildings until demolition. Sample results of the stockpiled material indicate it is well below licensable source material levels. HMI contends the material is not licensable by NRC. They propose to defer current action by committing to address the material as part of the final disposition plan under NJDEP soil remediation standards.</p>			
Action Requested:			

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<p>1. Review and approve the proposed buffer area based on the results of HMI's gamma walkover survey, previous excavation of pockets of fugitive licensable material, and OGC's memo from R. Fonner, OGC, dated 11/30/90, relative to NRC jurisdiction over specific areas of the HMI site.</p> <p>2. Approve HMI's proposal to address the stockpiled material as part of the final site disposition plan to be developed under the State of New Jersey's soil remediation standards.</p>	
Recommended Action and Alternatives	<input checked="" type="checkbox"/> Accept <input type="checkbox"/> Reject
TARs addressing similar issues (subject, date and location): none	
Background Documents (Include date and ADAMS Accession Number): Removal of Fugitive Licensable Soil at HMI (ENERCON Services, June 26, 2003, ML031960018), Letter from A. J. Thompson to NRC (May 6, 2003, ML 031320537) ORISE Confirmatory Survey (December 2003; ML 040250070), Memo for J. Kinneman, RI, from R. Fonner, OGC (Nov. 30, 1990, ML 030980702).	
Remarks:	

1. Buffer zone. The process history report indicates that storage of licensable material was confined to locations directly adjacent to the dry mill and area around the former monazite pile. To define the boundary for contaminated soil outside these areas, HMI performed a gamma walkover survey covering 100% of the licensed (red) area, extending north and east of the wet mill pad into the blue area. Survey results showed elevated readings (>180,000 cps) in a few selected locations of both areas. The proposed buffer zone is an extension of the red area, into which HMI will identify remaining licensable (>116 pCi/g total Thorium) fugitive material. Soil samples will be taken at these locations, and any fugitive material found will be remediated to meet soil concentration guidelines in the DP.

Recommendation to approve the boundary is consistent with the 11/30/90 memo from R. Fonner, OGC, to not regulate the blue and gray areas, and HMI's commitment noted in the May 6, 2004 letter from A.J. Thompson, counsel to HMI, to remove subsurface pockets of fugitive material. From the 2003 ORISE survey and the followup survey by HMI's contractor in 2004, it appears that any fugitive material remaining in the licensed (red) area has been identified and is included within the proposed buffer zone.

2. Stockpiled material. When the mills were demolished small amounts of concentrated material remained in the licensed (red) area within building infrastructures (piping, tanks) and related equipment. Decontamination involved sizing and cutting structures, followed by pressure washing sand and other debris from surfaces. Potentially licensable wash off material was combined with material from structures in unaffected areas. It was recovered as a homogeneous mixture, and is being stockpiled and controlled within the red area.

HMI indicates that 95% of the dry mill processed sand was not part of the magnetic separation circuit that concentrated monazite during active operations. The radiological characteristics of the stockpiled material are similar to the commercial product distributed offsite and to the tailings disposed in the blue area, neither of which were licensable. Results of stockpile samples taken by ORISE and HMI were in agreement, ranging between 20-27 pCi/g for total Thorium, and 12-32 pCi/g for total Uranium. HMI process history reports show that concentrations of material in the blue area are approximately 120 ppm, total U and Th combined (21 pCi/g total Th and 21 pCi/g U), consistent with stockpile material. Since stockpiled sands do not exceed licensable source material levels, HMI asserts that no further action is necessary under the NRC license, and final disposition should be addressed under NJDEP soil remediation standards.

Reviewer: C. Gordon, RI	(610) 337- 5216	Reviewer Code: L0
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Needed By (date): August 31, 2004

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