

Petrotonics Company

P. O. Box 8509, Shirley Basin, Wyoming 82615 - Telephone: (307) 234-9341

June 11, 1997

Mr. Joseph J. Holonich, Chief
Uranium Recovery Branch MS-T-7-J-9
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

40-6659

Reference: Filter Material for Riprap - Gradation
Modification - Source Material License SUA-551.

Dear Mr. Holonich:

Reference is made to our letter dated March 27, 1997, which transmitted the riprap and filter material specifications for the tailings area reclamation. Copies of the first three pages of the specifications, showing the riprap and filter gradations for the seven items is attached hereto. Based on discussion with our riprap contractor, and evaluation by Hydro-Engineering (report enclosed), we propose the following gradation modifications:

- Item 2, Coarse filter - delete the Item 2 gradation shown. Substitute Item 6, Dam outslope rock gradation as the coarse filter for the swale discharge structures, channels, and channel confluence.
- Items 3, 5 and 7, filter - delete the gradations shown. Substitute the following filter gradation:

Percent Passing	Upper Limit (in.)	Lower Limit (in.)
D85	----	0.25
D50	0.75	0.06
D15	0.25	0.02

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- For rock with a D₅₀ of less than 6 inches, allow waiver of D₁₅ and D₁₀₀ criteria such that rock with a more uniform size distribution could be utilized.

The modifications to the filter gradations will allow smaller stockpile space, fewer processing setups, and will result in less stockpile loss. A more uniform rock size distribution will allow reduced placement effort to obtain a uniform surface with minimal segregation.

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RIPRAP AND FILTER MATERIAL SPECIFICATIONS

Riprap and Filter Material Gradations and Durability

Seven different riprap and filter material gradations will be utilized for Petrotomics' tailings area reclamation. Each riprap and filter material type shall meet the gradation requirements as follows:

Item 1

Location North and South Swale Discharge Structures,
Channels & Channel Confluence.

<u>Material</u>	<u>Percent Passing</u>	<u>Upper Limit (in.)</u>	<u>Lower Limit (in.)</u>
Riprap	D100	22.82"	16.82"
	D50	15.28"	13.35"
	D15	12.00"	9.00"

Item 2

Location North and South Swale Discharge Structures,
Channels & Channel Confluence.

<u>Material</u>	<u>Percent Passing</u>	<u>Upper Limit (in.)</u>	<u>Lower Limit (in.)</u>
Coarse filter	D85	---	2.1"
	D50	4.25"	0.354"
	D15	1.57"	0.263"

Item 3

Location North and South Swale Discharge Structures,
Channels & Channel Confluence.

<u>Material</u>	<u>Percent Passing</u>	<u>Upper Limit (in.)</u>	<u>Lower Limit (in.)</u>
Fine Filter		coarse sand to fine gravel	

Item 4

Location 5:1 slope on Tailings Area.

<u>Material</u>	<u>Percent Passing</u>	<u>Upper Limit (in.)</u>	<u>Lower Limit (in.)</u>
Riprap	D100	5.68"	4.19"
	D50	3.79"	3.32"
	D15	3.00"	2.27"

Item 5

Location 5:1 slope on Tailings Area.

<u>Material</u>	<u>Percent Passing</u>	<u>Upper Limit (in.)</u>	<u>Lower Limit (in.)</u>
Filter	D85	---	0.528"
	D50	0.60"	0.087"
	D15	0.19"	0.06"

Item 6

Location Dam outslope and North Swale wing walls.

<u>Material</u>	<u>Percent Passing</u>	<u>Upper Limit (in.)</u>	<u>Lower Limit (in.)</u>
Riprap	D100	4.45"	3.28"
	D50	2.96"	2.60"
	D15	2.40"	1.78"

Item 7

Location Dam outslope and North Swale wing walls.

<u>Material</u>	<u>Percent Passing</u>	<u>Upper Limit (in.)</u>	<u>Lower Limit (in.)</u>
Filter	D85	---	0.417"
	D50	0.614"	0.069"
	D15	0.083"	0.052"

Each type of riprap and filter material will be sampled and tested to ensure that the gradation specifications are met, in accordance with these specifications and the testing and inspection plan.

In addition to meeting the gradation requirements above, less than 15% of the rock shall have length to diameter ratios greater than 3. Long flat rocks shall be excluded to the extent practical.

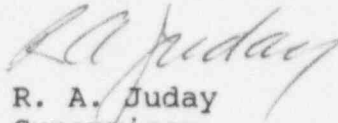
Rock for riprap and filters shall be angular in shape.

The rock for riprap and filters will be produced from sound, durable rock from competent rock faces at the Burnett

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Your approval of these proposed gradation modifications is requested. Please contact me if you have questions or need additional information.

Sincerely,


R. A. Juday
Supervisor

Enclosures: 3 pages Riprap and Filter
Material Specifications

Hydro-Engineering evaluation

pc: Mr. Mohammad Haque

U.S. Nuclear Regulatory Commission
Region IV
Attn: Ross Scarano, Director
Division of Radiation Safety and Safeguards
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011