HOMESTAKE MINING COMPANY
P.O. BOX 98
GRANTS, NEW MEXICO 87020
(505) 287-4456

CERTIFIED MAIL NO.: P 369 600 953

November 1, 1996

Mr. Joseph . Holonich, Branch Chief
U.S. Nuclear Regulatory Commission
Division of Waste Management, MST-7J9
High Level Waste and Uranium Recovery Project Branch
11555 Rockville Pike
Rockville, MD 20852

RE: Docket No. 40-8903
License No. SUA-1471
Quantitative Review of Outslope Rock

Dear Mr. Holonich:

At the request of Mr. Ted Johnson, personnel from Homestake Mining Company, Grants Reclamation site, conducted a quantitative review of the erosion protection rock placed on the outslope of the large tailings pile at the Grants site.

The purpose of the review, based on a visual inspection of the outslopes, was to identify areas where the rock density may appear to have a low in-place density or be inconsistent with respect of rest of the placed rock. Rock in-place density would be defined in pounds of rock per cubic foot in-place for a given area.

The entire rock covered outslope of the large tailing pile was inspected. During the inspection four areas were identified that appeared to have significant bedding material near the surface of the rock, thereby giving the areas the appearance of having a lower rock in-place density. A fifth area that had previously passed a visual inspection was chosen to be used as a test control area.

The attached testing procedure was used during the quantitative review at all five test sites. In addition, control photographs were taken during the various steps of the review process at each of the test sites.

The quantitative review of the four test areas and resulting test data show that the in-place density of the outslope rock of these areas are consistent with the test data from the control area and should therefore, be consistent over the entire outslope area. The data in Table 1 lists the results from the testing process. The enclosed set of photographs is a photographic sequence of one test area showing the testing steps in progress. Photographic records were

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drawing & photos located in File Center

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taken during the testing of the other four areas but have not been included with this report. The photographs are available for review if it becomes necessary.

I hope the enclosed data is sufficient to answer all of Mr. Johnsons questions relative to rock placement density. If you or your staff have any additional questions related to this subject please contract me at the Grants project site.

Sincerely,

HOMESTAKE MINING COMPANY OF CALIFORNIA

Roy R. Cellan
Corporate Manager, Reclamation

Enclosures

xc: enclosures - C. Cain, NRC

Homestake Mining Company of California
Grants Project

Quantitative Review of Outslope Rock

Equipment: 10 plastic buckets
1 hanging scale-100 pound capacity
2 8-foot by 10-foot tarps
spray paint
camera and film
tripod to allow for weighting rock
square point shovel
marking pen and poster board
tape measure
pencil and paper to record results

Procedure:

1) By visual inspection, identify a site on the outslope of large tailings pile where rock is visually less than 10-inches in depth and greater than 2-foot by 2-foot in surface dimensions. Label site utilizing marker and poster board. Place label near site and photograph site before any work begins. Record location, date and reviewer.

2) Paint boundary of site. Take photograph with label in picture. Measure surface area of site with at least 3 measurements in each direction. Remove all rock down to and including within the bedding. Weigh any rock above 0.5 inch diameter and is within the painted boundary. If more than 50% of a rock is within paint boundary line then rock will be weighed and should be placed in a bucket. If less than 50% of a rock is within the paint line do not weigh rock. Record size of site and weight of each bucket of rock weighed.

3) Setup tripod with hanging scale suspended from tripod. Weigh each plastic bucket and record tare weight on bucket.

4) Check bedding for rock that could have been pushed into bedding. Smooth bedding after checking for buried rock. Photograph results.

5) Replace rock evenly on site and photograph. Measure thickness of rock.

6) Calculate volume and density of rock. Prepare estimated location on outslope of each evaluation location.

Homestake Mining Company of California
Grants Project

Table 1 - Quantitative Review of Outslope Rock

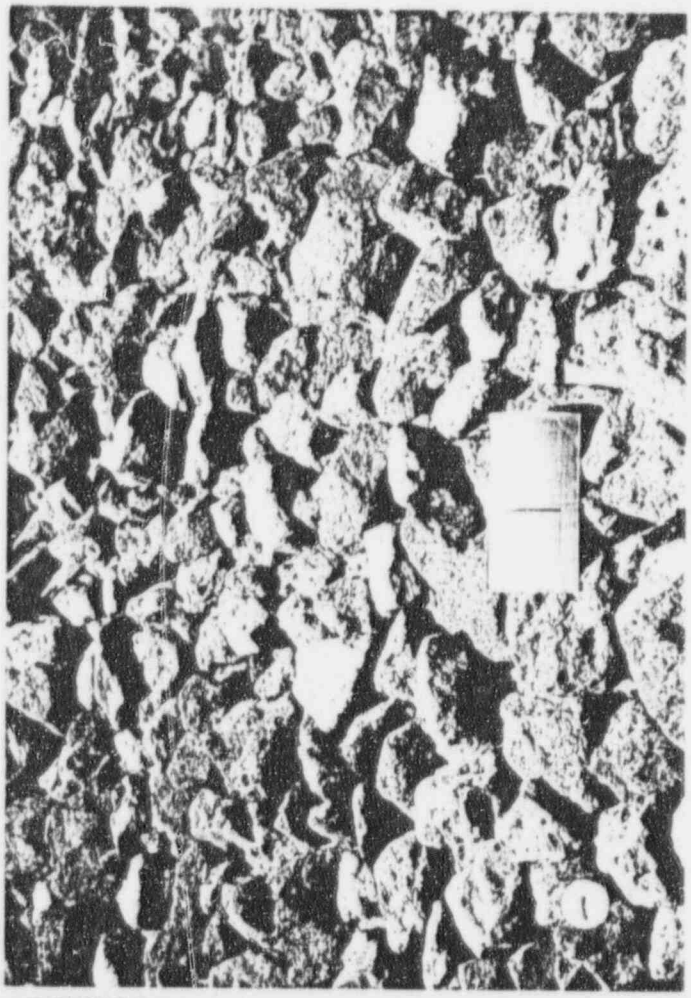
I.D.	DATE	AREA (ft^2)	DEPTH (ft)	VOLUME (ft^3)	TOTAL WEIGHT (lbs)	DENSITY OF ROCK (#/cf)
1	6/17/96	72.0	0.6	43.2	2656	61
2	6/17/96	47.6	0.7	33.3	2102	63
3	6/17/96	26.6	0.9	23.9	1644	69
4	6/17/96	41.3	0.8	33.0	2104	64
5 (control)	6/17/96	14.1	1.3	18.3	1136	62

Homestake Mining Company
Grants Project

Quantitative Review of Outslope Rock

Photographs of Test Area No. 1

- Picture No. 1 - Undisturbed test area No. 1, prior to testing;
- Picture No. 2 - Test area outlined with the green line;
- Picture No. 3 - Rock removal from the test area;
- Picture No. 4 - Weighing the rock removed from the test area;
- Picture No. 5 - Preparation of bed before replacement of the rock;
- Picture No. 6 - Test area no. 1 rock replacement completed;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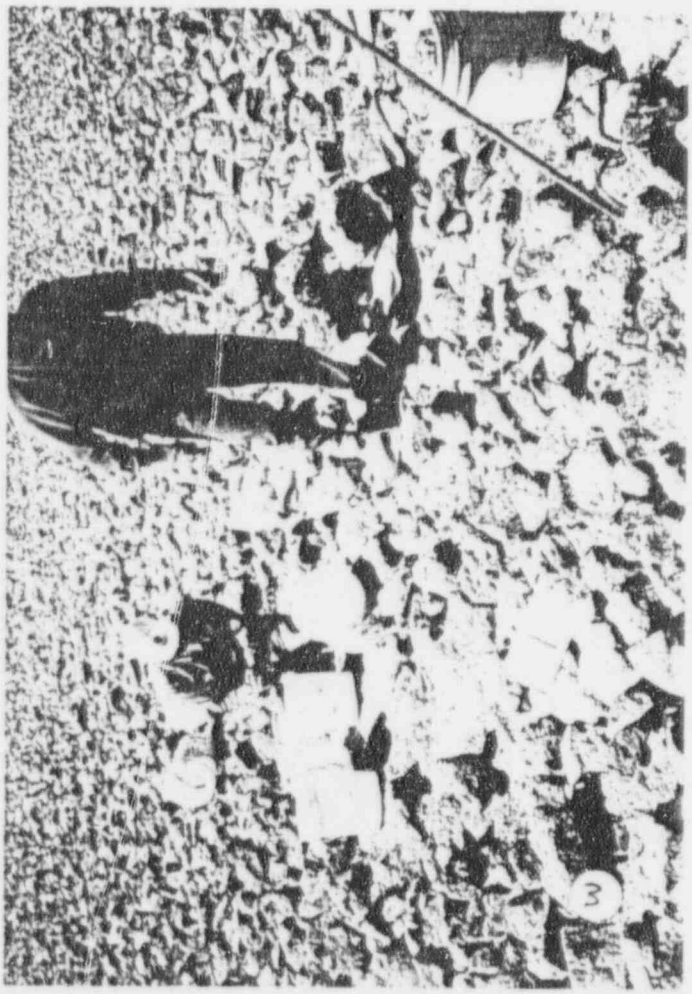
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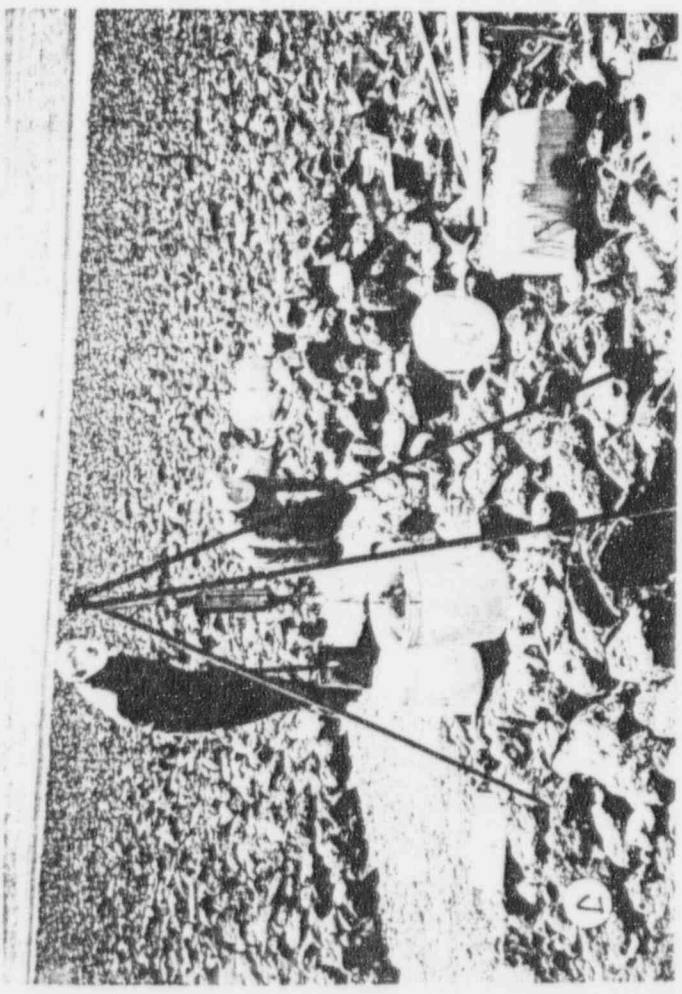
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PICTURE NO. 3

ROCK REMOVING FROM TEST AREA NO. 1

PICTURE NO. 1

WEIGHING ROCK FROM TEST AREA

PICTURE NO. 1

UNDISTURBED AREA BEFORE TEST START

PICTURE NO. 2

TEST AREA OUTLINE IN GRASS

5

6

PICTURE NO. 5

TEST AREA NO. 1 - PREPARE BED TO REPLACE ROCK

PICTURE NO. 6

TEST AREA NO. 1

COMPLETED - ROCK REPLACED

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