HOMESTAKE MINING COMPANY

P.O. BOX 98
GRANTS, NEW MEXICO
87020

March 10, 1986

Mr. S. E. Reynolds, State Engineer
Bataan Memorial Building
Santa Fe, New Mexico 87503

Re: File No. 3700
Quarterly Report

Dear Mr. Reynolds:

Submitted herewith in compliance with your orders is a report on the progress of construction of the tailings impound at Homestake Mining Company's mill for the period November 26, 1985 to February 25, 1986. In additon this letter is my certification that the structure meets all the current criteria and is safe for tailings impoundment.

There was no dike building during the reporting period.

A copy of Dr. Kuhn's report has been mailed to you under separate cover which shows that the static and pseudo static factors of safety are within limits.

Since there was no tailings deposition during the reporting period there is no data for percentage of fines and in-place density.

Yours truly,

HOMESTAKE MINING COMPANY

J. M. Parker

J. M. Parker, P.E.
General Manager

JMP:jg

Attachments

xc: E. Kennedy

ALAN V. KUHN, Ph.D., P.E.
CONSULTANT IN [redacted]OLOGICAL ENGINEERING AND APPLIE[redacted]EOSCIENCES
13212 Manitoba Drive NE, Albuquerque, NM 87111-2955 505-298-9839

March 8, 1986 84-102

Mr. John Parker
Homestake Mining Company
P.O. Box 98
Grants, NM 87020

STABILITY ASSESSMENT
HOMESTAKE TAILINGS EMBANKMENT
FIRST QUARTER, 1986

Dear John:

This letter reports the results of my assessment of stability of the Homestake tailings embankment for the first quarter of 1986. The assessment consisted of evaluation of monitoring point surveys, piezometer readings, and crest and pond elevations as well as three cross-section surveys performed by Homestake, followed by computer model analysis of the three surveyed sections (3-3', 6-6', 8-8'). Inputs for the stability analyses were the above listed data and the soil properties used in all previous analyses.

A limited number of piezometers were read this quarter. Readings were obtained only on the piezometers along sections 6-6' and 8-8'. Of these, only St-18 recorded a significant change, an increase of 1.14 feet. Other piezometers along section 8-8' also recorded increases. Piezometer DB-11 on 6-6' experienced a 0.18 foot drop. No trends in phreatic water levels can be determined from these readings.

Monitor point surveys indicate only small apparent movements. The maximum elevation changes over the quarter were -0.04 feet on three points. Latitude changes were up to 0.05 feet and did not appear to follow any pattern. The largest departure change was measured on point A2, where the change was 0.06 east this quarter compared to 0.02 east last quarter. All of these apparent movements are within the expectable range of survey error, and no trends are evident from the readings.

Until late February the mill had not been processing ore and no tailings were placed during most of the quarter. Therefore, surveys were run this quarter only on those cross-sections which had relatively low factors of safety in the previous quarter -- 3-3', 6-6', 8-8'. Stability analyses were performed on these sections only, because all input data on other sections remained the same this quarter. The factors of safety determined from these analyses are:

Section	Static	Pseudostatic
3-3	1.59	1.08
6-6	1.68	1.12
8-8	1.68	1.12

The factors for 3-3 are slightly lower this quarter because of the higher, ridged crest compared to last quarter. Because of the position of 3-3 with respect to prevailing winds, this section usually experiences a buildup of windblown sand. Spreading these accumulations across the beach toward the pond will improve the safety factors, as in similar situations previously.

The factors for 6-6 and 8-8 have increased from last quarter. The increase on 6-6 is due to a 2.5 foot reduction in crest height and a slightly flatter and lower slope. A slight flattening of the slope is also responsible for the factor increases on 8-8.

No stability calculations were performed for the other sections because no new data were available on those sections for this quarter. If slope profiles and water levels have not changed appreciably from last quarter along those sections, the factors previously determined should still apply. Those factors were all well above required minimums.

Recorded data and stability calculations indicate that the embankment meets or exceeds State Engineer requirements for factors of safety.

If you have any questions about this assessment, please contact me.

Yours truly,

Alan K. Kuhn

Alan K. Kuhn, P.E.

ALAN K. KUHN
REGISTERED PROFESSIONAL ENGINEER
0703

cc. Don Lopez, State Engineer's Office