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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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MEMORANDUM FOR: Martha Pendleton, Geologist
High-Level Waste Technical Development Branch
Division of Waste Management, NMSS

FROM: Ernst Zurflueh, Geophysicist
Earth Sciences Branch
Division of Health, Siting, and
Waste Management, RES

SUBJECT: REVIEW OF USGS OPEN-FILE REPORT #82-701, GRAVITY
AT YUCCA MTN.

The gravity map presented in this report was produced by using a density of 2.0 g/cm³ for Bouguer corrections. The resulting map₃ is much more satisfactory than an earlier one which used a density of 2.67 g/cm³. That density did not correspond to actual rock densities and therefore produced anomalies related to topography.

The interpretation of the map described in the report is quite reasonable in general, although it is not a complete interpretation. The outlines of rock bodies shown on the map and used in 3-d modeling are suitable. Some possible faults are indicated in the cross sections resulting from model calculations. However, a more comprehensive interpretation of the map might show that there are locations other than those shown on cross sections where faulting could be inferred.

Subsurface steps shown in cross section C-C¹ are questionable because they do not correspond to the measured gravity profile. Also, figure 12 shows that details of the model calculations can be fairly insignificant. The main point to keep in mind, in this respect, is that calculation of depths to the bottom of the tuff is very uncertain. Very similar models could be constructed that have markedly different depths to the base of the tuff.

WM Record File	WM Project	11
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