

MEMORANDUM



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DATE: August 5, 1986

SUBJECT: Quality Reviews - Salt Sites

WM-RES
WM Record File
D1003
Weston

WM Project 10, 11, 16
Docket No. _____
PDR
LPDR B, N, S

Distribution:
Corrado _____
Trapp _____
(Return to WM, 623-SS) _____
Ibrahim _____
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A review is provided for each salt site comment.

This presentation is in accord with SRP - Page 7, 5.2 (1, 2, 3, 4, and 6).

SALT
RICHTON DOME
QUALITY REVIEW

MAJOR COMMENT NO. 1

Structural Discontinuities

- 5.2.1 OK, defensible given the uncertainty of boring data in the FEA reference.
- 2 OK, comment points out the above FEA inconsistencies.
- 3 OK, faulting is a major concern.
- 4 OK, all projects are concerned with faulting.
- 6 OK, no inconsistency is apparent.

NOTE ON COMMENT 1:

The top paragraph of Page 2 is probably too complex for some readers; suggest a minor rewrite as two sentences.

MAJOR COMMENT NO. 2

Dissolution

- 5.2.1 OK, comment contains enough specifics to indicate NRC position.
- 2 OK, comment represents much FEA information by reference to figures and facts.
- 3 OK, with reservation; namely the reason for the cited items to constitute a major concern could be stated more forcefully.
- 4 OK, consistent with approach to discipline and projects in that specifics related to dissolution lead to a major concern.
- 6 OK, no obvious inconsistencies.

SALT

DAVIS CANYON
QUALITY REVIEW

MAJOR COMMENT NO. 1

Structure & Tectonics

- 5.2.1 OK with reservations. Technical concerns are expressed with regard to the size of the earthquake, faulting, and the relationships of faulting and alluvial deposits. These items are only briefly considered, and the summary is considered to be too brief to technically "tie" all of the NRC observations in the comment to substantiate the lack of adequately addressing the guidelines.
- 2 OK as presented. The comment could further benefit by discussion of specific drilling information or the absence of such information. [Refer also to 5.2.4 below.]
- 3 OK in that a major concern truly exists for size of earthquake and the possible faulting of alluvial deposits.
- 4 OK for consistency within the discipline; but the brief discussion of the maximum earthquake event is not consistent with comments concerning other salt projects. In consideration of consistency with all salt projects, there is apparently a rather limited quantity of data for Davis Canyon relative to Richton Dome and especially to Deaf Smith. The volume of reference material for those two sites would indicate that this major comment on dissolution at Davis Canyon could also be enhanced by consideration of additional types of data that are useful at other sites with regard to dissolution evaluations.
- 6 OK in that no inconsistencies are apparent.

NOTE: This major comment, because of a number of technical considerations concerning earthquakes, faulting, and relationships of geologic features will be a stronger product if some of the discussions are expanded upon, especially with regard to the summary. It is suggested that the summary include specific "for instance" type back-up statements concerning why the FEA does not adequately address the guidelines on tectonics.

NOTE 2: The information on microearthquakes [Page 1, Paragraph 3] could be enlarged and in the concern substantiated by inclusion of information presented in Comment 106.2/MB/86/06/30/0.

NOTE 3: Rather than have the reader of the major comment refer to a detailed comment, it is suggested that the detailed comment be abstracted with regard to structures in Chesler Canyon.

MAJOR COMMENT NO. 2

Dissolution

- 5.2.1 OK for technical defense.
- 2 OK but representation of FEA information would benefit by a different order of presentation. The geophysical data that are presented at the outset of the comment [Page 1,, Paragraph 2 and Paragraph 3] should be re-ordered with the following paragraphs, so that the geophysical discussions follow the discussions of problems with FEA conclusions; that is, a conclusion could be stated as not being acceptable, because amongst other factors, the geophysical data indicate or do not indicate conclusively certain subsurface features.
- 3 OK, the existence and extent of major faulting is truly a major concern.
- 4 OK, the comment is technically consistent within the discipline and across the salt projects.
- 6 OK, no inconsistencies are noted.

NOTE: The summary statement on Page 3 of major Comment 2 is a summary-type presentation that places all findings in the FEA on dissolution with the same emphasis and weight in this major comment. This reviewer suggests that some distinction be made with regard to degree of emphasis for the guidelines on dissolution, especially preclosure versus post-closure. The emphasis is clearly a strong one, but the lack of distinction for the reader can be misleading.

MAJOR COMMENT 3 [New Comment]

Seismicity

- 5.2.1 OK for specific consideration of seismicity only.
- 2 OK for FEA information as noted above.
- 3 OK, it is consistent in that consideration of faulting as active is a major concern.
- 4 OK within discipline for specific consideration of seismicity and across projects.
- 6 OK, no inconsistencies are noted.

NOTE: This new major comment on "Seismicity" is referenced to the guideline on tectonics. Accordingly, it is suggested that this comment be integrated with major Comment 1, as well as used for expanded information with detailed Comment 106.2/MB/86/06/30/0.

Detailed Comment 106.2/MB/86/06/30/0

This detailed comment "on Davis Canyon seismicity" contains much useful material to document new information in the FEA.

It is also appropriate to include information from this detailed comment in major Comment 1, especially with regard to microseismicity and relationships to faulting.

SALT

DEAF SMITH
QUALITY REVIEW

MAJOR COMMENT NO. 1

Structural Discontinuities

- 5.2.1 OK for technical generalities, but the comment would be more defensible if the three items following Paragraph 1 on Page 2 of the comment contained back-up information such as specific quotations or partial quotations and the specific references from which obtained.
- 2 OK for specific FEA information presented, but most of the information is from non-FEA contained material and therefore, the comment would be more accurately representative of FEA information and conclusions by enlarging upon the specifics within the FEA.
- 3 OK for consistency in that the structural discontinuities result in major concerns with regard to the guidelines.
- 4 OK for consistency within the discipline and for all salt projects.
- 6 OK, no inconsistency noted.

NOTE: The last paragraph on Page 2 of the major comment is noted as a "partial discussion"; it is suggested that that be changed to "incomplete discussion".

The second paragraph on Page 2 which considers Section 6.3.1.3 of the FEA could be more useful to a reader of this major comment if this major comment included material as to how the discussions and the evaluations presented in the final EA could be expanded to better present the possible effects of the structural discontinuities.

As a detailed item for inclusion, it can be noted that geophysical logging of drillholes was completed but is not referenced or quoted to substantiate or complement the FEA findings.

MAJOR COMMENT NO. 2

Dissolution

- 5.2.1 OK for technical material.
- 2 OK with reservation that FEA information is limited and most information in the comment is from references to data contained in TBEG et al. reports.
- 3 OK for consistency in that the matter of dissolution is a major concern.
- 4 OK for technical consistency regarding discipline and salt projects.
- 6 OK, no inconsistencies noted.

NOTE: This major comment, as noted above, is principally concerned with non-FEA reports and the failure to discuss the data contained in TBEG reports. An enhancement of the comment could be accomplished by limited quoting from the TBEG reports sections that are of special relevance.

SALT
DEAF SMITH
QUALITY REVIEW

DETAILED COMMENT D3-7A

This detailed comment concerns the failure to reference highly significant published data, "Quaternary-Black Water Draw Formation".

The information in this detailed comment substantiates the title of the comment and provides rather thorough documentation of the NRC concern.

It is suggested that parts of this comment, specifically appropriate to "dissolution" be included in major Comment No. 2, and with special regard to recent references, such as Gustavson and Holliday [1985].

DETAILED COMMENT D3-7B

This detailed comment concerns the failure to reference highly significant published data, "Triassic Dockum Group".

This significant detailed comment should be fully referenced with regard to the three TBEG reports that are cited, such as Report No., Title, Date, etc. Also, as the FEA is referenced specifically to a page, the TBEG reports should be also referenced to specific pages where quotes were obtained.

Since basement structure is a matter of expanded and clear discussion in this comment, appropriate segments should also be included in major Comment 1, Structural Discontinuities.