

SPECIFIC COMMENTS ON THE CAPTIONS AND FIGURES

Caption Fig. 2(c). Alpha is not used in text. Suggest omitting it.

Caption Fig. 4. Explain what the solid arrows represent.

Caption Fig. 6. Given that the hanging wall slips about a hinge or fold (kink also possible?) line, the hanging wall cutoff in these examples should always be shortened by bending, no? Possible typo? Change "perpendicularly" to "perpendicularity?"

Caption Fig. 7. There is a lot left to the imagination. It is unclear as to how "fault interaction and fault block geometry and strain" are important for groundwater flow and perching, and hydrocarbon migration and trapping. Suggest explaining the concepts in more detail in the text or enhance the caption.

Caption Fig. 8. Explain the acronym ESF and provide a scale.

FUTURE WORK ON THIS SUBJECT TO BE CONSIDERED

1. Integrate some of the details of the concepts in this report into the SDS IRSR, Rev.3.
2. Consider validating some of the concepts using sandbox experiments and field observations.
3. Consider integrating analyses into the 3DSTRESS tool.
4. Consider applying the conceptual bases for this analysis to the abstractions used to develop process and performance models of Yucca Mountain flow, drift stability, and possible future deformation related to fault slip.

This report was reviewed by Lee Abramson, John Trapp, and myself. If you have any questions about this review, please contact me at 301-415-6745, or by e-mail at psi@nrc.gov.

Sincerely,
 [Original signed by:]
 Philip S. Justus
 GLGP Program Element Manager
 High-Level Waste and Performance
 Assessment Branch
 Division of Waste Management
 Office of Nuclear Material Safety
 and Safeguards

- Enclosures: 1. Cut-out sketch 1
 2. Cut-out sketch 2

cc: J. Linehan
 B. Meehan
 B. Caudle

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