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Addendum to
Analysis Report
Task 1 of AP-088
Construction of Geologic Contour Maps

(AP-088: Analysis Plan for Evaluation of the Effects of Head Changes on Calibration of Culebra Transmissivity Fields)

Task Number 1.3.5.3.1.2

Addendum Date: July 23, 2002

Author: Dennis W. Powers, Consulting Geologist — Date: 7/23/02

Technical Review: Randall M. Roberts, 6822, Repository Performance and Certification Department — Date: 7/24/02

QA Review: Mario J. Chavez, 6820, Carlsbad Programs Group — Date: 7/25/02

Management Review: Frank D. Hansen, 6822, Repository Performance and Certification Department — Date: 7/24/02

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April 17, 2002

Addendum to
Analysis Report for Task 1, AP-088, Construction of Geologic Contour Maps

This addendum has been prepared and submitted to meet the requirements of Task 1 of AP-088 Analysis Plan (effective 3/20/02) for evaluation of the effects of head changes on calibration of Culebra transmissivity fields.
The analyst is Dennis W. Powers, Ph.D., Consulting Geologist, Anthony, TX 79821.

The purpose of this addendum is to report and archive minor interpretive changes to the map prepared to meet the needs of Task1, Element B: reduction in thickness of the upper Salado Formation by dissolution. The map included in the original report is a large-format map titled "Thickness from Top of Culebra to Base of Vaca Triste (m)." The map with annotations is titled the same, but the annotations show the revisions and date. This map with annotations has been provided to Robert M. Holt for use in Task 2, and the dissolution margin shown on the map is being used to differentiate areas of upper Salado dissolution.

None of the data on the original map has been changed. The changes to the line interpreted to indicate the general margin of upper Salado dissolution are consistent with the data, and the changes are annotated on the new map.

West of the WIPP site, the dissolution margin has been modified to show a tongue that surrounds the P-14 location so that that location is not isolated. This is also consistent with geological information showing Gatuña Formation is thicker along Livingston Ridge at the intersection. Surface drainage developed along part of this trend may be a consequence of some dissolution. In addition, after modifying the map on May 15, 2002, I found records of several wells along this tongue that were noted in Duval Corporation records as producing "heavy water" flows at depths similar to the Culebra. These may also be indicating some upper Salado dissolution.

North of the WIPP site, I removed a zone described as possible incipient dissolution of the upper Salado based on limited thickness changes. The redrawn dissolution margin includes locations in the "incipient dissolution" zone where the change in thickness is clear. A thinner interval (176 m) in one drillhole north of the WIPP site was removed as an isolated dissolution zone in the revised map; the geology of the drillhole indicates thinning by deformation, not dissolution.

Along the Maroon Cliffs, I extended the Salado dissolution margin to the edge of the domain based on sharp topographic changes. The escarpment along Nash Draw is clearly related to upper Salado dissolution; this short extension allows the model domain to be characterized to its edge.

Attachments:
Large format print map titled: Thickness from Top of Culebra to Base of Vaca Triste (m)
[original date of April 2002, shows annotations dated 5/15/02]
Electronic files: Task 1 Analysis Report for AP-088 Addendum.doc (Microsoft Word 97)
Salado diss revised 5-15-02.pdf (large format map prepared with Illustrator 8.0)

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