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} Υ	BILL ***********************************	UNITED STATES WUCLEAR REGULATORY COMMI WASHINGTON, D. C. 20555 May 29, P4:03	SSION WM Record File 1986 Disjanation:	WM Project Docket No PDR LPDR
	MEMORANDUM FOR:	Philip Justus, Acting Chief Geotechnical Branch Division of Waste Managemen Office of Nuclear Material	(Relurn to W.M, 623-S3) t Safety and Safeguar	Linehan Als
FROM: Lee Abramson Human Factors and Safeguards Branch Division of Risk Analysis and Operations Office of Nuclear Regulatory Research				
\sim	SUBJECT:	GEOSTATISTICAL ANALYSIS OF WOLFCAMP AQUIFER OF THE PAL	POTENTIOMETRIC DATA O DURO BASIN, TEXAS	IN THE

In response to your request of May 18, I have made a preliminary review of the subject report. In general, the geostatistical analysis appears to have been carried out in a competent manner. In particular, the kriging standard error contours in Figure 3-12 are an essential part of the analysis and allow an estimate of the uncertainty in the kriged potentiometric surface. However, it should be noted that the kriged surface in Figure 3-11 is constrained to pass through the observed points, i.e., the observations are assumed to be errorfree. It is possible that a better representation of the potentiometric surface can be obtained using an alternate kriging technique which assumes an error structure for the observations. This should be investigated.

(BMI/ONWI-587)

Other comments follow.

Page 2, Paragraph 1

The assumption of horizontal flow appears to contradict the statement on the bottom of page 3 that "the flow direction is downward."

Page 13, Paragraph 1

Where does the theoretical model come from? What is its relation to the linear trend surface fitted in Appendix B? A detailed exposition is needed.

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Philip Justus

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Page 13, Paragraph 6

There is no need to assume normality of the standardized residuals, since normality can be tested using the W test. (Since the sample size is larger than 50, the extended W test must be used.) If the hypothesis of normality is rejected, normality-inducing transformations of the data should be explored.

Page 14

It is not clear why the plotted semivariograms in Figure 3-9 are different from those in Figure 3-6. An explanation is needed.

Please let me know if you need a more thorough review of the report.

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cc: P. Ting