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Reviewed by Richard O. Gilbert Date 9/29/87



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October 25, 1976

Mr. Ed Bramlitt
Defense Nuclear Agency
Field Command
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New Mexico 87115

REPOSITORY P.N.W.L.
COLLECTION Marshall Islands
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Dear Ed;

This letter is a follow-up to the letter and contour plots I sent you dated October 19, 1976.

I was in Las Vegas the week of October 18 and met with Dr. Pierre Delfiner and Frank Markwell to discuss Kriging. I showed Pierre the above mentioned contour map of Janet. He remarked that he too could produce a similar looking map using Kriging but that such a map based on the Pu soil data from Janet should not be used to indicate areas on the island for cleanup. His objection centers on the lack of "structure" in the data, i.e. based on the Pu data above, there appears to be no pattern to the data to suggest certain local areas have average concentrations higher than other local areas. We noted that the present pattern of Pu concentrations on Janet is not unlike what one might expect to see if indeed there were no local hot spots to clean up but only random variation of contamination over the island. In that case the best we can do is give an average concentration for the whole island. I might add that Pierre gave the Janet data a thorough analysis looking for "structure" before he came to the above conclusions. Of course, if more samples are taken so that the average distance between samples decreases, then a structure might appear. And also, information on the location and magnitude of the shots conducted on Janet need to be considered.

In conclusion, I agree with Dr. Delfiner that any contour map produced on the basis of the present Pu soil data collected on Janet is not a reliable tool for deciding what local areas on Janet need to be cleaned up. Consequently, the contour map I sent you in my letter of October 19 should not be used for that purpose.

Best regards,

Richard O. Gilbert
Richard O. Gilbert
Senior Research Scientist
Systems Department
Statistics Section

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cc: T. F. McCraw, ERDA Headquarters, Washington, DC
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