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Site: NEW BEDFORD
Break: 4.1
Other: 54935

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March 4, 1986

Dr. Joseph Yeasted
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Dear Joe:

The Storm Event sampling for the New Bedford Harbor Modeling Program was conducted from 27 February to 1 March 1986. Although some problems with the R/V Mya extended the sampling over a longer period than we had intended, the work generally went well and all the planned samples and data points were collected.

As you know from our telephone conversation on Wednesday of last week, the "storm" consisted of a period of unusually high winds (20 to 30 knots) which occurred for approximately 24 to 30 hours prior to the initiation of sampling. There is no question that this was a marginal storm, and I expect there will be some disagreement over whether this was a valid storm event. With that in mind, I would like to document the events leading to my decision to conduct the sampling.

On the evening of Tuesday, February 25, I noticed strong and gusty winds at my home in Plymouth, which is approximately 20 miles from New Bedford. The possibility that the winds could be sufficient to constitute a storm for the purpose of the modeling program occurred to me at that time and I made a mental note to watch the weather conditions on Wednesday carefully. On the morning of the 26th the winds were also strong and gusty at my office in Duxbury, approximately 35 miles from New Bedford. I decided to wait for an additional few hours before taking further action. At noon, with the winds still strong, I checked the U.S. Weather Service marine weather forecast for Buzzards Bay and learned that the forecast was for 20 to 30 knot winds from the northwest for the remainder of the day into the evening, subsiding to 10 to 20 knots northeast on Thursday the 27th.

Based on that forecast and the visibly high winds in Duxbury, I attempted to reach Bill Grant at WHOI, as you and I had discussed some time ago, to solicit his opinion on whether the winds and waves were sufficiently high to qualify as a storm event. I learned that Bill was in Colorado and would not return until Monday. I then called you to discuss the situation and we agreed that, given the fact that the winter season was nearly over and considering the severe consequences for the program if we failed to sample a storm event this year, any weather conditions approaching a storm event should be considered as such and should be sampled. I agreed to contact Yasuo Onishi or Dick Ecker at Battelle-Northwest and Hans Graber at WHOI to ask their opinions before making a final decision.

I spoke with Yasuo, who had relatively little new information to offer, and learned that Dick Ecker was in Alaska. Yasuo agreed to attempt to reach him and call me back. Yasuo's opinion tended to be that we should hold out for a large storm but I do not think he fully appreciated the consequences of not acquiring some storm data this year. I then called Hans Graber who said that he had driven along the Bay earlier in the day and noticed considerable wave activity. He was confident that some wave-induced sediment transport was taking place, especially in the shallower areas of the Bay and further indicated that, in his opinion, any data collected under the prevailing conditions would have value for the model, even if minimal amounts of sediment were found in the water column. In addition, I called Phil Kelsey of ENDECO Corporation, located on the western shore of the Bay in Marion, MA. Phil confirmed that the Bay was extremely rough and had been so since he arrived at work that morning.

Based on the available information, I decided to initiate the storm event sampling and called you back to discuss that decision. We agreed that these conditions were certainly not the "storm" we had all hoped for when the program was designed but that given the lack of good storms over the last two years we faced the risk of acquiring no storm data, which would be unacceptable for the model. At approximately 1:00 PM we decided to proceed with the sampling and I began to implement the protocols which I had prepared some time ago.

Because the R/V Mya had been involved with a project in Cape Cod Bay, it had been moved temporarily from New Bedford to

Sandwich, at the east end of the Cape Cod Canal. The first task, then, was to move the boat from Sandwich to New Bedford, which required traversing most of Buzzards Bay. This was done on Wednesday afternoon and early evening; the vessel captain noted that sea conditions were extremely rough in the Bay and, in fact, were the roughest conditions under which he had ever operated the Mya. This further convinced me that this was an appropriate time to conduct the sampling.

Sampling began early on the morning of the 27th and continued through the day. I was on board for most of that day and noted what appeared to be abnormally high amounts of suspended material in the water column. Although this was only a subjective impression, it did tend to support Hans Graber's opinion that some sediment transport would be occurring.

Upon returning to the Laboratory on in the late afternoon of Thursday, I received a telephone message that Yasuo had called earlier in the day to inform me that Dick Ecker's opinion was that we should wait for more stormy conditions. We were, of course, committed to the sampling at that point and I elected to continue. Even had Ecker's message arrived in time to be factored into my decision, I doubt that I would have cancelled the sampling, but the point is moot.

I hope you find this information useful and I urge you to solicit whatever additional input you can on this matter. I will contact Bill Grant and Dick Ecker to discuss with them the utility of the data from this sampling. Although we have obviously incurred some costs in conducting the sampling, the major expense will be in the analysis of the samples and we have the option of not analyzing these samples if there is some concensus that the storm event was not sufficiently severe. Given the history of our attempts to conduct this sampling and the low probability of a more severe storm occurring this year, I would not recommend that course of action without strong justification.

Sincerely,

Richard A. McGrath
Program Manager
New Bedford Harbor Modeling Program

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