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OPTICAL TECHNOLOGY DIVISION  
OPTO-MECHANICAL DESIGN ENGINEERING

Memorandum ME 48

TO: Distribution

DATE: August 4, 1971

FROM: L.B. Molaskey

SUBJECT: Telecon to [redacted] - Recovery of RV #3.

Configuration of Trieste

I called [redacted] to request information on the configuration of the cable and wench on the Trieste to aid in the design of the RV recovery hook. He indicated that he would request the data and let me know sometime this afternoon as to its availability.

Sea Currents

He also had some new data on sea currents and the nature of the bottom in the impact area. The data is as follows:

Sea Currents in Impact Area

<u>Depth</u>	<u>Rate</u>	<u>Direction</u>
0-25 M	0.2 to 0.5 knots	Easterly
*25-200 M	0.2 to 0.5 knots	Westerly
200 to bottom	0.2 to 0.5 knots	Westerly
Bottom	0.5 knots	Westerly

\*The 25 to 200 meter depth zone is a "transition" zone between the two layers and the rate and direction stated are questionable and may not be constant.

Nature of the Bottom

The sea bottom in the impact area is classified as "soft clay silt". He also provided estimates of the penetration of the payload into the bottom. Assuming an impact velocity of 20 ft/sec at the bottom the data is:

<u>Weight of Payload</u>	<u>Penetration %</u>
2000 pounds	50 to 100%
1000 pounds	35 to 80%
500 pounds	25 to 60%

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Contrary to previous opinion the Navy indicated that the sonar search vehicle could not detect an object which is immersed in the silt of the bottom. This has reduced the probability of locating the payload from the original 90 to 95% to 30 to 50%. The exercise, however, is still full speed ahead.

Shipping and Handling

In a call from Don Schoessler earlier this week, Don indicated that because of the growth of bacteria on the film that the unit must be maintained at a temperature below 40°F. for the entire recovery and shipping cycle.

This, of course, presents quite a problem with respect to the shipping container and handling procedures for the return trip. [redacted] has requested EK to investigate the use of fungicides to prevent the bacterial growth. This would greatly simplify the shipping and handling.

I reported that we had located a shipping container which could be considered for the job. It is a 64 inch diameter aluminum cylinder of all welded construction 61-1/2 inches high. It has a flat cover attached at the top flange and provides an O-ring seal. Dale indicated that Col. Hillock had located a couple of candidate containers in Hawaii. These will be checked to make sure they can handle the job. In the meantime we have requested quotations and delivery for the one we located. The manufacturer is Container Research Corporation of Glen Riddle, Pa. A sketch and quotations are expected before the end of the week.

Light Levels

I reported that we had started a preliminary investigation of the light levels one could expect at the 120 foot transfer depth. I pointed out that determination of the light levels, spectral content, and vulnerability of the payload package to light exposure, at best, can only be estimated. There is, at this point however, enough evidence to indicate the need to consider protecting the payload from exposure at depths greater than 120 feet. I indicated that it is probably quite feasible to incorporate a light protecting cover on the lifting hook. This concept will be investigated with the hook layout.

*[Handwritten Signature]*

L.B. Molaskey

8-4-71

LBM/cj

- cc: M.F. Maguire
- H. Robertson
- R.W. Jones
- C. Karatzas

- P. Petty
- R. Roylance
- J. Braddon

BIF 007-1365-71

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