

National Geographic Magazine

WASHINGTON, D. C. 20036

PHOTOGRAPHIC STAFF

August 21, 1978

Mr. Alan W. Ravenscroft
Seaonics International Ltd.
19 Patshull Road
London, NW5, U.K.

Dear Alan:

What Seaonics is proposing is a series of entertaining and highly informative shows on the last frontier on earth---the deep ocean. All programs done to this time have concerned themselves with the upper half of the first 1,000 feet. Seaonics interest starts at 1,000 feet and goes miles down to the bottom. Dr. Robert Ballard has more deep ocean time in more submersibles than any scientist practising today. Together, Bob and I have developed the best sea floor photography system (Angus) being used in the science community. We have published three articles and a book chapter for National Geographic. This January we are doing a television show for the Geographic on the creatures of the hot water vents in the Galapagos Rift. The show will be filmed from ALVIN at 10,000 feet using a radical new TV camera being built by RCA and Benthos with Geographic funds. When all the costs are totaled, the Geographic will have spent over a half million dollars on this project. The biggest single cost is building the special camera gear needed. But, once built, the equipment can be used repeatedly. This is the situation we face on our TITANIC project. The following is my list of ideas for shows with a projection of costs:

The TITANIC -

Seaonics would blend the material in the TITANIC Historical Society film library with an expedition to the TITANIC itself. The heart of the expedition is an unmanned cable vehicle to be built by Alcoa Marine and placed on either the U.S. Coast Guard Ice Patrol Ship EVERGREEN, or on a Canadian ship. Alcoa Marine is the largest builder and operator of deep sea cable vehicles in the world. Roy Ewing, their chief engineer, and I have blocked out a bare bones vehicle with a price of around \$400,000. It will be more advanced than anything being used by the science community today and much more productive for our projects than a manned submersible (please see block diagram and rough cost sheet). The vehicle is being designed for maximum portability so it can be airlifted to the North Pole.

Back to the TITANIC, the front-looking sonar should be an adequate search system for an object the size of TITANIC. The 35mm cameras will be used to make a mosaic of the entire ship. Filming of the color mosaic on shore will supply most of the bottom footage. The black and white TV camera will be the view finder for the 35mm cameras. The pod can be reconfigured to make side-looking photographs under some conditions. The pod will also off-load a camera and the Geographic super flash units to make a horizontal portrait of the ship on the bottom. A good artist will render scenes that the camera can't. I really don't consider live color TV to be of maximum value because of the danger to the pod of working close enough to make the color image, but it would be nice to try. Also not priced but worth building, would be a small claw to pick up any manageable souvenirs.

Rough cost breakdown includes: the cable vehicle - \$400,000; token payment on ship between \$5,000 and \$20,000; working out a deal on the computer and acoustical transponders less than \$20,000; running the color lab on ship, NGS pays; mosaic of ship, NGS pays; offload packages, NGS pays; salaries for key technicians other than NGS less than \$6,000; cost of film crew and their equipment for 30 days, you supply figure; Alcoa fee for one operator, to be negotiated; artist fee to be negotiated.

TRIP TO THE REAL NORTH POLE -

The common thread in all these shows will be Dr. Ballard and the work of the Seaonics group. In this show the Seaonics cable vehicle will be flown to the North Pole to support the work of our Canadian colleague, Dr. Joe MacInnis. Joe has worked under the ice at the North Pole and has produced some spectacular motion footage of divers around the giant pressure ridges. Joe says our vehicle would make a whole expedition worth doing and he can arrange it with the Canadian government. We would be making the first pictures of the North Pole 13,000 feet under the ice cap. The vehicle would also be fitted to take water samples, temperatures, bottom cores, etc. Other deep ocean scientists are sure to be interested and I predict lots of enthusiasm. The cost of this show should be limited to that of sending along a film team and the Alcoa operator.

THE DEEP WRECKS OF THE STRAITS OF SICILY -

I have been talking to the world's largest operator of commercial submarines, a French company called InterSub. They have 10 subs with depth ranges up to 3,000 feet. InterSub is helping to construct a pipeline across the Straits of Sicily between Sicily and Tunisia. This narrow but moderately deep passage used to be an ancient trade route. InterSub had found two old wrecks already and will be working for two more summers in the area. They have agreed to mark locations of wrecks and to make some pictures for us. Deep water wrecks for a number of reasons should be the best preserved of all time. InterSub said they would be interested in working with us in the summer of 1980. I propose using the Seaonics vehicle to map the wrecks and then buying a limited number of dives from InterSub to visit and sample the most interesting. From this, a show could be done on this ancient trade route and the ships and peoples that plied it.

April 21, 1978

Costs for this show depend on what can be negotiated with InterSub and whether or not we have to supply our own boat from which to operate our vehicle. A big advantage might result by buying a 5,000 foot cable and smaller winch as a substitute for the 20,000 foot arrangement.

DR. BALLARD'S WORK IN PLATE TECTONICS -

Bob has had film shot that he can use of most of his expeditions. Bob will be wrapping up his diving activities on plate tectonics next spring off the west coast of Mexico. This would be a good chance to do an overview of a major piece of scientific work that has gone from the mid-Atlantic Ridge to the Cayman Trough to the Galapagos Rift in the Pacific. The National Geographic ALVIN color TV system could be used to supply bottom footage of the type of geology and geography Bob has seen. Shots of earthquakes and erupting volcanos could show the land manifestations of the moving plate theories. Since this show would be mostly cut from existing footage, the only field costs should be three weeks at sea for a camera crew next April. This idea should be carefully checked against what the Geographic plans to do in the Galapagos Rift with Bob.

DEEP OCEAN BIOLOGY -

The Geographic color TV camera is going to make possible the best filming ever from ALVIN. Interesting footage should be most in evidence from the biologists. After the Galapagos show the TV camera will be an ALVIN tool open to all users with no limits on broadcast rights. Bob knows most of the biologists working with ALVIN and they are excited about using the camera. Within a year or two I would expect a lot of good video tape to be available that will be different from the Galapagos Rift footage and able to stand on its own as a show on deep ocean creatures.

The only original filming I see here is of the shipboard and lab interview variety.

DEEP SEA RESOURCES -

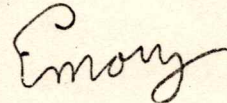
A look at man's future supply warehouse of minerals and energy. Once again, using the Seaonics vehicle the manganese nodule treasure can be shown. Dr. MacInnis has talked about a study the Canadian government would like to conduct into the effects of mining the nodules. Our machine could do this for the Canadians. The most costly spy operation of all time, the CIA raising of the Russian sub, used manganese nodule mining as a cover. We are using many of the same techniques and could digress into the similarities. InterSub could be filmed to show their work with the ever-deepening oil industry. Even the jewelry business is using a sub in Hawaii to harvest pink coral below 1,000 feet. Future power plants may sit in the Gulf Stream using the difference in temperature between the warm surface water and the cold deep water thousands of feet below.

April 21, 1978

Cost is again a negotiable item which to a large extent will be controlled by the credibility of our TV shows. If we do well we will get ship time from the science community, industry and even some national governments. The fact is that the deep ocean is a frontier environment where megabuck science, industry and defense programs are at this moment being implemented. It is also a dead area as far as reporting to the public is concerned because nobody in media knows how to play the game, and the costs are scarry.

Dr. Ballard and his Seaonics group are playing the game, have the contacts and know the price doesn't have to be ruinous. The Geographic has been Bob's chief media backer. There is a limit to the amount of TV coverage we can do on any one subject and one show is just about it. The Magazine side is interested in all the above mentioned projects and would be willing to help defray costs for the still rights. I would like to see Ben bring in a U.S. company for sponsorship on PBS. This too could help divide up the costs. The keystone to most of these shows is the building of the Seaonics vehicle for media use that will not be under the control of the military or industry and doesn't exist in the science community. I am not disparaging the years of TV done in shallow water, but it is many orders of magnitude easier and cheaper. For less than \$5,000 a fully equipped diver can be put into the water with a housed movie camera from a small boat, and shoot pictures successfully to 200 feet. But, this isn't scratching the surface of the world's oceans that have an average depth of 12,000 feet. I hope I have shown by my initial list of subject matter that there are some interesting projects to be done deep.

Best regards,



Emory Kristof

/ta

National Geographic Magazine

WASHINGTON, D. C. 20036

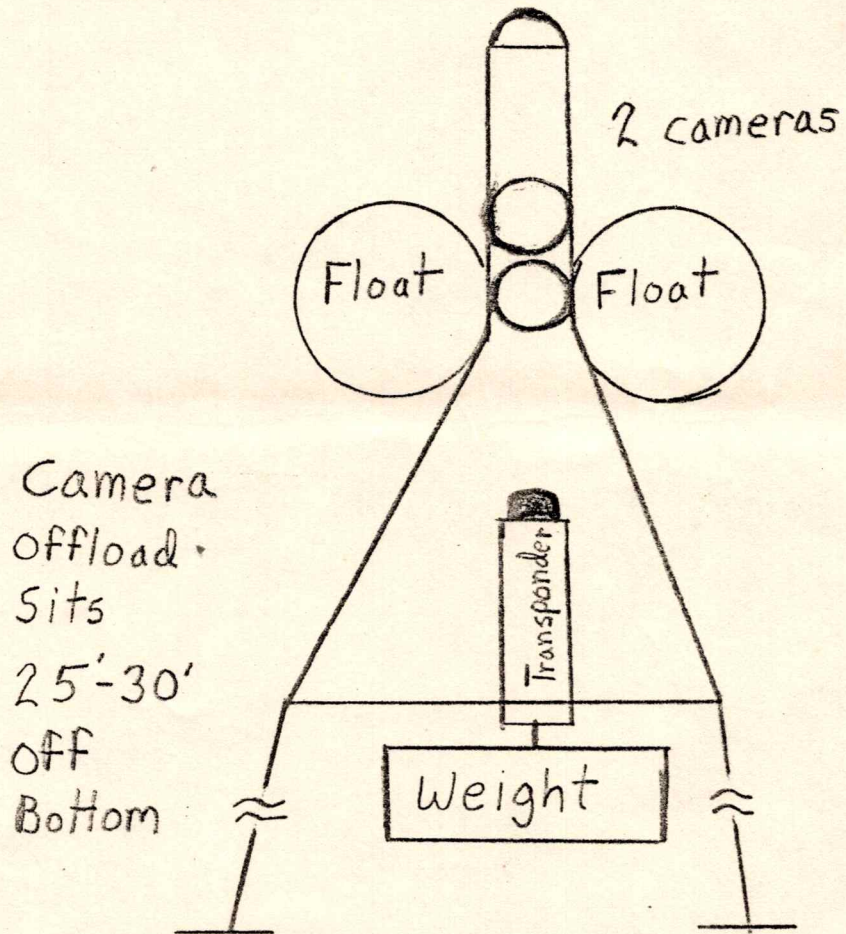
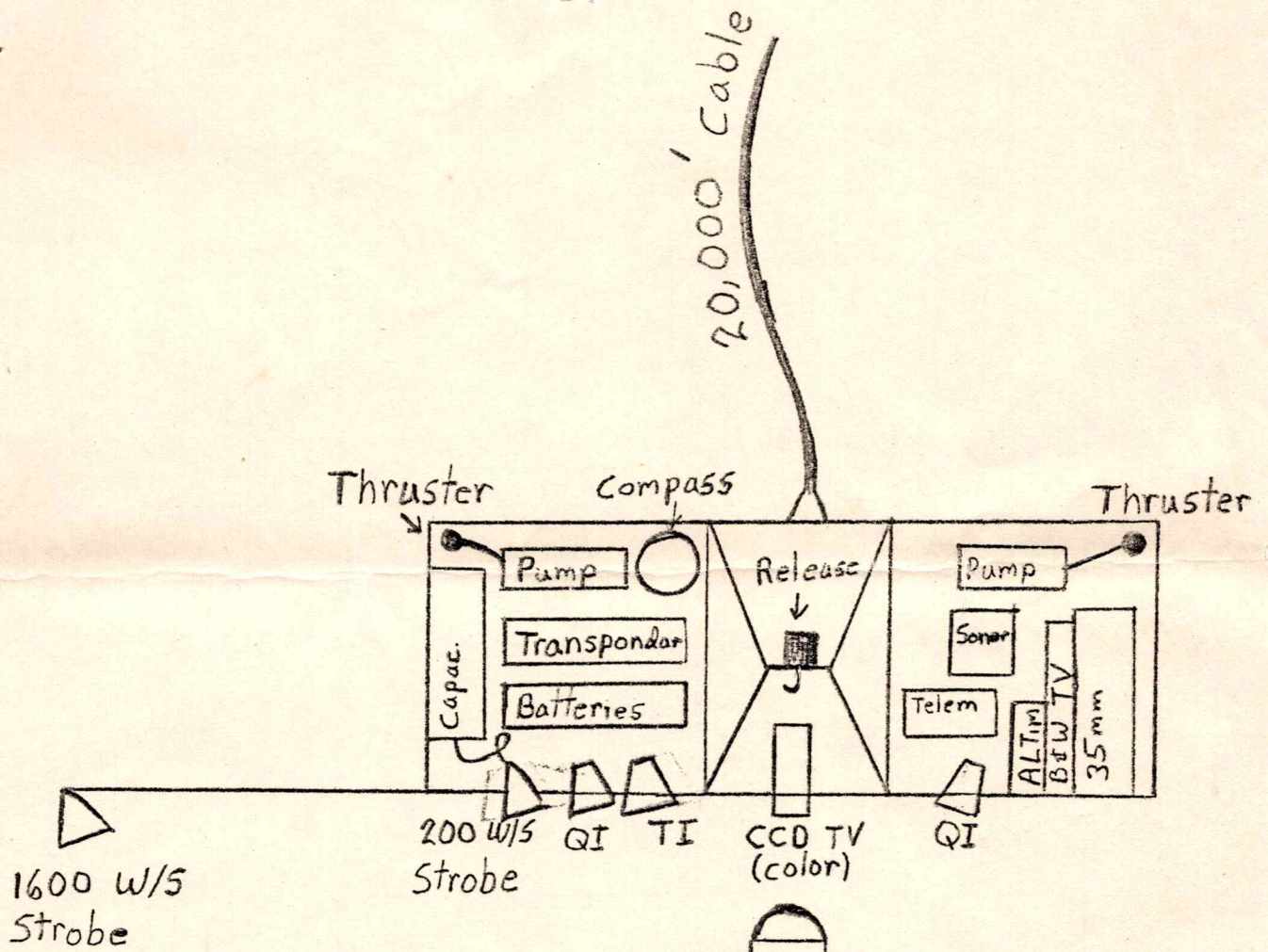
PHOTOGRAPHIC STAFF

August 21, 1978

SEAONICS VEHICLE (roughly priced with Alcoa):

1. 3 wire cable - 20,000 feet at \$6 a foot)	\$120,000
2. Aluminum winch	70,000
3. Telemetry (part of Alcoa charge)	50,000
4. Ametex front looking sonar	50,000
5. 377 Benthos camera	Have
6. 383 Benthos strobe	Have
7. Sit TV camera	10,000
8. Digital compass	2,000
9. Thallium iodide light	8,000
10. Benthos release	1,000
11. Pumping thrusters (to be engineered by Alcoa)	
12. Altimeter	4,000
13. Transponder	4,000

Pricing doesn't include color TV gear, 1600 w/sec. strobe or total Alcoa costs or charges to assemble the system.



August 21, 1978

ALAN:

I hope this isn't so long that people's eyes glaze over, or so short that they feel cheated. I would like to see us move to take Ben in. We really will need his help with PR, lawyers and U.S. rights, and he has been beside us from the start. I also have some ideas about how to handle some other critically necessary personnel. I have heavily emphasized the time frame which is just about gone, so I will say no more except:.....

Good luck!

Emory

/ta

MEMORANDUM from PHOTOGRAPHIC DIVISION