

I D A G R E E N C R U I S E R E P O R T

Cruise No. IG-15 Dates of Cruise July 24, 1975 to August 13, 1975

Members: Crew	<u>Cobb, F., Eng.</u>	<u>Murray, O. Capt.</u>	Scientific	<u>Watkins, J.S.</u>	<u>Putman, G.</u>
	<u>Mifsud, J. Asst. Eng.</u>			<u>Lindsay, J.</u>	<u>Orlea, C.</u>
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	<u>Patterson, O.S.</u>	<u>Theison, G. Cook</u>		<u>Shih, T.</u>	
Project:	<u>IPOD Caribbean, NSF, Ramin Expl.</u>			<u>Barksdale, F.</u>	

Reason (be specific): Multichannel Seismic Profiling.

REMARKS: (SEE ATTACHED)

Cruise report: IG-15-5 Barbados - St. Thomas
IG-15-6 St. Thomas - Galveston

Depart: Bridgetown, Barbados 23 July, 1975

Arrive: Galveston, Texas 7 September, 1975

Ports of Call:

St. Johns, Antigua	29-30 July	(overnight)
St. Thomas, Virgin Islands	6-7 August	(overnight)
Ft. Lauderdale, Florida	12-14 August	
St. Thomas, Virgin Islands	21-23 August	

In spite of a disproportionate amount of bad luck, we accomplished all objectives except a 100 mile line across the Aves Swell. The French had collected CDP data on three crossings of the Aves Swell during a cruise earlier in the year; we elected to increase the length of other lines in lieu of essentially duplicating the French work.

Upon leaving Barbados, we ran a 12-fold line to the northeast, terminating it near the outer edge of accretion zone, then ran another 12-fold line across the SE extension of the Puerto Rico trench to Barbuda.

We began the Barbuda - Antigua - Virgin Islands work on 29 July near Barbuda, and continued across Saba Bank to St. Croix and thence to St. Thomas where we hung the streamer in coral on 5 August, breaking it off while trying to recover it. We unsuccessfully grappled for the streamer 5-6 August, then proceeded to Ft. Lauderdale for a replacement. We returned to St. Thomas, retrieved the old streamer which had been located by divers, and completed the survey on 21 August.

The streamer loss probably occurred as follows: During a 270° turn at the end of a line, the leader sank to the bottom in about 16 fms. It probably moved laterally with enough force to catch on the underside of a coral head and work its way into some sort of crevice. The ship continued forward, scraping leader, and inboard stretch sections, finally hanging up when a bird caught in the coral.

We backed down on the streamer, recovering the leader and stretch sections before the streamer parted. We seemed to be directly over the coral obstruction when the parting occurred.

The streamer came up with a minimum of difficulty when we retrieved it later. About half was reuseable without repair. Another 10-20 percent is repairable. The most serious loss was the inboard stretch sections. As a result of this loss, it was necessary to do much of the remaining work with one inboard stretch section, a factor which slightly increased streamer noise.

During the balance of the Virgin Islands survey, we pulled in the leader before making a turn. This plus reducing the weights on the streamer appeared satisfactory. We can probably use this technique in other coral reef areas. Passing over reefs on a straight course gave us no problems other than occasional broken wings on depth controllers.

We also encountered numerous lobster traps. The buoy lines tangled in the bird wings, and pulled the streamer to the surface. We lost 2 birds outright and damaged a half-dozen more on trap-buoy lines. Future surveys in areas of suspected traps are advised to make arrangements with local officials for elimination of traps along proposed survey lines. In addition to bird damage and loss, I estimate we devoted time equivalent to 2 or more days to streamer repair resulting from lobster trap entanglement.

We are much indebted to Millard Rambin for obtaining divers to look for the streamer. A letter of appreciation from the director is suggested.

On 1 September, 1975, one generator failed. The other generator was started but cut off a few minutes later when the motor began to smoke. It was observed that the engineers had failed to replace the oil in the diesel after draining it sometime ago and the diesel had overheated. An air compressor diesel was started electrically, and air hoses rigged to transmit air to the remaining generator in order to start it.

No other incidents of particular note occurred during the cruise.

Recommendations regarding equipment and operations are as follows:

- (1) The evaporator worked reasonably well, producing an average of about 500 gal/day. A second unit operating off the other main engine is desirable as insurance in the event that one goes out during long cruises. A second unit would also provide adequate water for washing of clothes, an important factor in longer legs.
- (2) A good intercom system is of highest priority. We had the streamer in and out of water numerous times. The lack of an adequate intercom system slows this operation and unnecessarily endangers the streamer due to the delays and imperfect transmission of signals from fantail to stern controls, lab and bridge.
- (3) Our radio system leaves much to be desired. One VHF channel was out and could not be repaired; crystals received for contacting St. Thomas and San Juan radiotelephone operators were never used because we lacked adequate tuning equipment on board.

- (4) The airguns need complete refurbishing. It appears that the life of seal, magnetic plate and other interval parts is about 4,000 miles of shooting. We were able to use 4 guns as far as I know for only a limited time during IG-15-1 and -2. Toward the end of IG-15-6, the last gun failed. We never had adequate spare parts.
- (5) The magnetometer is intermittently noisy. I suspect the connection at the sensing head is beginning to go. We should have a refit bit on board.
- (6) The port engine overheats and the starboard engine will no longer maintain rated rpms. Our transit speed is reduced by 10-15 percent and cruise durations are proportionately increased.
- (7) The kerosene drums arrangement leaves much to be desired. Could we carry 500 gallons in the forward belly tank and add a good pump and lines to convey kerosene directly to the fantail? This would facilitate work on the streamer.
- (8) An emergency brake on the streamer is desireable. We have no way of stopping the reel in the event of hydraulic system failure. The hydraulic motor needs work. The padeye on the reel must be rewelded.
- (9) Blackboards and bulletin boards in lab and mess area would facilitate communication between chief scientist, scientific party and crew. Present word-of-mouth system frequently fails.
- (10) A refrigerator in the mess area would increase cold food storage capability and ease problems inherent in crew and party use of galley refrigerator.
- (11) I have suggestions regarding standardization of watch assignments which will be the subject of a separate memo.
- (12) Dave Fahlquish has indicated that he would like to serve as PI on IDA GREEN cruises. This matter can be discussed at staff/budget council meetings.
- (13) The IDA GREEN should be equipped for emergency manual steering. When the generators were out, she could be steered only with great difficulty.

A portable gasoline generator to power navigational aids would also be of value.

Of the two, the manual steering is probably the more important, since we could have done some sort of by guess and by God navigation, but steering would have been extremely crude since we could have done it only by means of someone in the engine room manually manipulating engine speeds.

- (14) We need an engine room/compressor room maintenance check list. On leaving St. Thomas, we were inconvenienced because Frank Cobb had failed to check fresh water supplies; when the generator failed, Otis discovered that the accumulator tanks contained excessive water, and that both generator and compressor diesels were low on oil or dry.
- (15) We should provide small lockers for each room. We have had occasional reports of minor theft including one instance between St. Thomas and Galveston.