



THE UNIVERSITY OF TEXAS
MARINE SCIENCE INSTITUTE
GEOPHYSICS LABORATORY
GALVESTON, TEXAS 77550

IG 15-4 Dr. Hadden
General Crude
Proposal
Path

700 The Strand
713 765-2173

March 21, 1975

General Crude Oil Company
#1 Allen Center
Box 2252
Houston, Texas

ATTN: Mr. Ed Hickam

Dear Ed:

The research program in the Granada-Barbados area shown on the chart, one of which we kept and one of which you retained, that we planned and discussed the other afternoon in my office would require funding as follows:

Ship Operations in the area	30 days		
Travel from Galveston	10 days		
Hurricane Contingency	<u>7 days</u>		
	47 days	@ \$1100	\$ 51,700
35 Sonobuoys		@ \$ 400	14,000
442 mi Multichannel Seismic		@ \$ 140/mi	61,880
1400 mi Single Channel Seismic		@ \$ 40/mi	<u>56,000</u>
		TOTAL	<u>\$183,580</u>

We can fit this into our other program of work about June 15th. The item above called Hurricane Contingency is that in a 45 day period in the area, it is likely that the work will have to be broken off due to a hurricane threat in the area and suitable shelter will have to be sought. The ship costs continue through such an emergency. At present we contemplate the use of only 28 sonobuoys in the refraction program. However, occasionally a sonobuoy malfunctions and it is wise to have a few spares. We also thought that while on the scene it might become desirable to add a few more sonobuoy refraction profiles. Consequently, we have increased the number to 35 as it is much cheaper to carry a few spares than it is to have to return to the area or to neglect a desired opportunity.

As we discussed, by doing the work at this time we can share the running time from Galveston to the area and return with two of our other grants and save everyone running time. If this were not the case we would have to allow 20 days for running to the area and returning to Galveston.

Mr. Ed Hickam
March 21, 1975
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We would have two bunks available on board for people from your company who would like to participate in the program. We would be planning to take 3.5 khz soundings and magnetic data along all of the track. We have satellite navigation and Loran A presently on board, and expect to have a Loran C on board prior to this work so that the navigation should be reliable to several hundred feet. Of course one has to worry about how well the shoals and rocks of the area are charted. They probably are not as precise as our navigation will be. We have allowed some extra time so that the six passages between the islands, we have planned, can be accomplished in daylight hours for safety. In fact, we could not undertake these passages except in daylight hours.

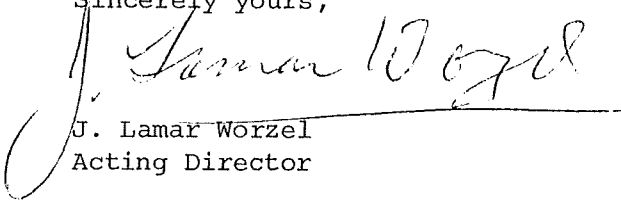
We of course are including the data reduction and production of interpretive reports on the work as a part of the program. We would hope that various members of your staff would want to participate in the publication of the scientific results with members of our staff.

If the project is to go ahead, it will be important to get about \$20,000 in hand quickly so that orders may be placed for the sonobuoys, magnetic tapes, and other supplies. The University will not let us order such things until the funds are in hand to pay for them.

If you should decide to fund this program checks should be made payable to Galveston Geophysics Laboratory, M.S.I., University of Texas and should be sent to me, so that I can make sure they get into the proper channels.

This sounds like an excellent cooperative program to us and we would be very pleased to participate in it.

Sincerely yours,



J. Lamar Worzel
Acting Director

JLW/bw


Research Proposal Submitted to Rambin Exploration
Corporation and Antigua Minerals Exploration, Ltd.

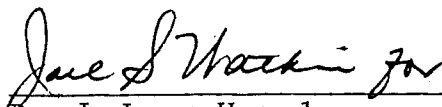
UNIVERSITY OF TEXAS MARINE SCIENCE INSTITUTE
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"Collaborative Common-Depth-Point Seismic Reflection Survey
of the Lesser Antilles and in the Vicinity of the Virgin Islands
and Antigua"

Amount Requested: \$51,146.
Proposed Duration: 12 months
Requested Starting Date: 16 July, 1975

Principal Investigator:


Dr. Joel S. Watkins
Professor of Geophysics
Geophysics Laboratory
University of Texas
Marine Science Institute
(713) 765-2172
(713) 765-2173


Dr. J. Lamar Worzel
Director
Geophysics Laboratory
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Dr. Gardner Lindzey
Vice President and Dean of Graduate
Students
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The purpose of the proposed collaborative common-depth-point (CDP) seismic reflection investigation is to investigate the geologic structure of the Lesser Antilles in the vicinity of the Virgin Islands and Antigua in order to obtain a better understanding of the origin and evolution of the Lesser Antilles and of potential hydrocarbon resources of the region. We anticipate that these data interpreted in conjunction with similar data from the Barbados - Grenadines region and Puerto Rico - Hispaniola region will provide UTMSI scientists with an overall picture of the regional structure of the Greater and Lesser Antilles.

The project will consist of approximately 250 miles of 24-fold CDP data in water depths of 100 fathoms or less and 300 miles of 12-fold CDP data from regions deeper water. Locations of proposed tracks are shown on the attached map.

The following is a summary of the salient elements of the proposed investigation.

Principal Scientist: Joel S. Watkins

Vessel: R/V IDA GREEN (see attached data)

Location: See attached map

Time schedule (approximate)

Data acquisition: July 26 - Aug. 9, 1975

Data processing: Sept. - Dec., 1975

Interpretation: Dec., 1975 - June, 1976

Publication: Late 1976

UTMSI will make available the R/V IDA GREEN, provide the necessary crew, process the data as indicated below and prepare an interpretational

report(s) for publication in a national scientific journal(s). Rambin Exploration and Antigua Minerals Exploration, Ltd. will provide a grant \$51,146 to partially underwrite the project. The cost of the total project is estimated to be in excess of \$80,000. UTMSI will underwrite the balance of project costs.

The processing will include such of the following procedures that, in the opinion of UTMSI scientists, are required to obtain optimum quality results.

- Demultiplex and reformat

- Data Editing

- Velocity Analysis

- Deconvolution

- Frequency Filtering

- NMO correction

- CDP Gather and Stack

Stacked sections will be displayed on mylar masters, 2.5 in/sec, approximately 10 traces/inch. One copy each of the mylar master for the 24-fold data and 24-fold stack tapes will be provided to Rambin Exploration and/or Antigua Mineral Exploration. Two blue line prints of all data 12- and 24-fold will also be provided. In the event that demultiplexed, trace-sequential tapes are desired, copies will be provided at cost. Copies of navigation, bathymetric and magnetic data will be provided at no cost.

Table 1

Marine Scientific Equipment

(2) DFS-10,000 Texas Instruments 24-Channel Digital Field Seismic Systems
Varian V-4937 Precision Magnetometer with Model G-40 Varian Strip Chart Recorder
Two 20,000 Joule Sparker Systems
(2) 8,000' 24-trace streamers (one with acceleration cancelling hydrophones)
Shorter single-channel streamers
Ewing-Thorndike deep-sea camera
12 khz bottom finding pingers
12 and 3.5 khz precision depth recorder
Single Channel Seismic Reflection Profiler System Complete with Raytheon
Graphic Recorder
(2) 2,000 psi air guns
(4) 500 psi, 1500 cu. in. air guns
(4) 3,000 psi air compressors for sound sources
Hydrographic Winch for Deep Sea Camera, etc.
Streamer Winch for Hydrophone Streamer
Sonobuoy Equipment

Table 2

R/V IDA GREEN

General Description

Length	130'
Beam	27.5'
Draft	8'
Deck	50'
Net Tons	135
Built in 1965, Gulfport, Tex.	

Power Plant

Engines	2 caterpillar D-353
Horsepower	770
Generator Capacity	2-110 kw
Fuel Capacity	21,500 gallons

Crew

Ship Operators	7
Scientists	15
Bunks	22

Other

Radar
 Radio
 Satellite Navigation
 Full Bridge and Stern Controls
 17,000 Gallon Water Capacity
 Depth Recorder
 Loran A and C
 Waste Heat Evaporators

Range

5,000 n.m. at 10 kts
 >5,000 n.m. during CDP surveys due to fuel conservation at lower speeds.

Regional lines proposed as part of Virgin Islands - Antigua project.

