

SPECIAL PUBLICATION

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SEISMIC INTENSITY SURVEY

IN TOBAGO

FOR ~~THREE~~ ~~ELEVEN~~ EVENTS

ON 24 MAY 1982

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and

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INTRODUCTION

On the 24 May, 1982 there were three earthquakes felt in Tobago, the first occurred at 08:56 UTC, the second at 09:20 UTC and the third at 20:35 UTC. All three events were observed on the TRN and GRV visual seismograms but it was not until 25 May, 1982 that persons resident in Tobago telephoned to inquire and/or inform on these events.

Felt earthquakes in Tobago are few, therefore it was thought that an intensity survey would yield interesting results. Joan Latchman and Ingrid Rogers were given the assignment to make such a survey.

PREPARATION

For the trip the following items were prepared:-

- 1) An outline map of Tobago - intensities obtained would be noted on the map, it was decided that doing this would indicate any patterns and help in deciding areas to investigate.
- 2) A questionnaire - a permanent record of all relevant information could be easily and quickly obtained; if necessary the forms could be referred to for re-evaluating intensities noted.

A modified Mercalli Scale of Earthquake Intensities 1956 version and a Road Map of Tobago were also taken along.

SURVEY:

On arrival in Tobago on 27 May, 1982 at about 10.20 a.m our first contacts were Ms. Cheryl Stewart and Mr. Berily Francois. The required information was taken and intensities put on the map. We decided at this point that it would be useful, for future reference, to number each form (as we went along)

and to number the intensities put on the map consistent with the numbers on the forms. In conversation with Ms. Stewart we pointed out that unless someone called us when an earthquake was felt, we had no way of knowing that it was felt. Therefore, in the case of future felt events she will call the SRU. Mr. Francois assisted us in renting a car from Mr. Jordan. We discussed our proposed route with Mr. Francois and Mr. Jordan and finally decided that the better route would be to Charlotteville via Scarborough and the Windward Road, then to Parlatuvier side-tracking to Bloody Bay and L'Anse Formi.

We set off interviewing people on our way into Scarborough. We decided we would leave some villages to look at later. We questioned people from Roxborough to Charlotteville. It was in Charlotteville that we first heard of any damage. Two cracks in a wall running in a N-S direction, widened. The maximum depth of the crack was about 1.3 cm and its length approximately .4 m. We also heard of damage in Parlatuvier. One Mr. Moore had suffered "serious" damage; therefore when we arrived there we inquired and found his house. The alleged damage was the separation of two walls (of a pig pen) at a 90° angle. This damage cannot be considered major when the poor construction of the pen is taken into account. The most significant damage, that we saw, was done to a house in Castara. The house is of concrete blocks and is four years old. One crack goes right through the wall and runs from the ceiling to the top-of a row of ventilation blocks. Another crack was not as deep. Again this wall runs N-S. The house is level with the road at the front and is supported by pillars at the back. These pillars, approximately 4m in height, are individually placed in the ground i.e not on a common foundation.

From Parlatuvier we stopped at every settlement until we got to Mason Hall. During the night we were able to interview people from Bucco and Mt. Irvine.

On the 28 May, 1982 the villages along the Windward Road that were left out the day before were covered. Mr. Neville Hilton-Clarke of Scarborough was

interviewed and he also promised to contact the SRU in the event of a felt earthquake. With this completed we had time to return the car and board the 10.00 a.m flight back to Trinidad.

CONCLUSION:

The first (MM Int. V) and the second events (MM Int. IV) were felt throughout Tobago. However, they were not felt by all e.g. quite a large number of people in Charlotteville did not feel them. Another interesting point to note is that although the highest intensity recorded is in Castara, many people in Castara did not feel the events at all. The second event was felt at about the same intensity as the first by people in SW Tobago. Others, in the rest of the island, felt it but significantly smaller and yet others not at all. The third event (MM Int. III) was felt mainly by residents in SW Tobago.