

DIAMENTINA.

R of P.

1959 - 1961

AUSTRALIAN WAR MEMORIAL

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Reviewer: LCDR R. L. Smith (RANEM)

Signature: *[Signature]* Date: 1 Nov 90



## DEPARTMENT OF THE NAVY.

## MINUTE PAPER

H.M.A.S.

DIAMANTINA

- Report of Proceedings -

1st-15th MARCH 1960

(15th - 31st separate)

DP

DN

DTSR

DSD

DAWOT

HPB

DGS

NA2NM(X)

2 BDM

3 DMT

4 DPS

⑦ INR&amp;C

5 DCNP

D/CC

DEE

DME

DNC

DOUW

MDG

DNES

HNB(N5)

REGISTRAR

HNB

DOD

DCNS

1STNM

2NDNM

3RDNM

4THNM

DEPSEC

CNPR

HNB(N5)

REGISTRAR

Separate Report circulating

Note : (a) This report should be dealt with and passed on promptly.

(b) On this file comments should be brief; if any matter requires comprehensive treatment, reference to another Branch, or approval of a Board Member a new file should be raised, cross-referenced to this one.

DEPARTMENT OF THE NAVY.

1285-3-183

MINUTE PAPER

H.M.A.S.

DIAMANTINA

- Report of Proceedings - 1st-15th MARCH 1960

15th-31st March attached

DOE

DCNS

1STNM

2NDNM

3RDNM

4THNM

DEPSEC

CNPR

HNB (N5)

REGISTRAR

*Goodman did well in Diamantina. An interesting report of work with Vuma. Mm/4*

*27/4*  
*4/5*

*13/5*

*26/5*

*3/5*

DP  
DNI  
DTSR  
DSD  
DAWOT  
HPB  
DCNP  
DGS  
DPS  
INR&C  
NA 2NM (X)  
DM  
D/CC  
DEE  
DME  
DNC  
DOUW  
MDG  
DNES  
HNP (N5)  
REGISTRAR

Separate Report circulating.

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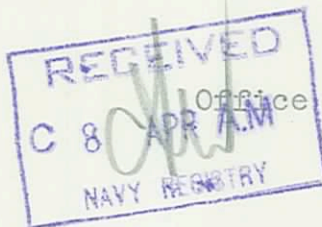
COMMONWEALTH OF AUSTRALIA



DEPT. OF THE NAVY		
1285	3	183
IN REPLY QUOTE		
No. WA 56/9/16		

DEPARTMENT OF THE NAVY

~~NAVAL STAFF OFFICE~~  
~~FREMANTLE W.A.~~



Office of The Naval Officer-in-Charge,  
P.O. Box 58,  
FREMANTLE.

6 APR 1960

The Secretary,  
Department of the Navy,  
CANBERRA.....A.C.T.

671

H.M.A.S. DIAMANTINA - REPORT OF PROCEEDING,  
PERIOD 1st - 15th MARCH, 1960.

Submitted for the information of the  
Naval Board the attached Report of Proceedings of  
H.M.A.S. DIAMANTINA for the period 1st - 15th March,  
1960.

NAVAL OFFICER IN CHARGE  
WEST AUSTRALIAN AREA.

Encl.

19/4

1912/1/10



56 9 16  
Royal Australian Navy.

1285/3/183

18

IN REPLY PLEASE QUOTE

No. D26/1H.M.A.S. DIAMANTINA,  
At Adelaide,

16th March, 1960.

The Naval Officer-in-Charge,  
 West Australian Area,  
FREMANTLE. W.A.



Copies to: The Hydrographer. R.A.N. Garden Island.  
 The Naval Officer-in-Charge, South Australia.

H.M.A.S. DIAMANTINA - REPORT OF PROCEEDINGS - 1st - 15th MARCH, 1960

Sir,

I have the honour to submit the Report of Proceedings for Her Majesty's Australian Ship DIAMANTINA for the period 1st - 15th March, 1960.

2. DIAMANTINA sailed from Fremantle at 2000, 1st March having spent the day alongside fuelling and storing, the C.S.I.R.O. scientific team under the leadership of Captain R. DAVIES re-joined prior to sailing. As there were an additional three scientists onboard for seismic profile work accommodation was rather cramped, one scientist having to sleep on a stretcher.
3. The ship proceeded South through Rottnest Island South Passage rendezvousing with R.V. VEMA at 1200 Wednesday 2nd March in position 35°00'OS, 115°00'OE.
4. Seismic Profiles were carried out with VEMA along the one hundred fathom line off D'Entrecasteaux Point and then South along the 116°E meridian (until 0800 Friday 4th March). Very satisfactory results were obtained there being less electronic equipment hold ups than there were in the previous runs off Cape Naturaliste.
5. Mr. J. HENNION, the Columbia University scientist onboard DIAMANTINA, has been at all times very easy to work with - in fact the whole exercises with VEMA have progressed most satisfactorily, relations being excellent at all times.
6. The first hydrology station of the cruise was commenced at 0350, 4th March. VEMA was detached from DIAMANTINA at 1200 to proceed independently to the next rendezvous point at 37°00'OS, 134°00'OE.
7. Oceanographic stations were carried out for the next seven days, the route covered being South along the 116°E meridian, East along 40°S, North on the 138°E meridian to 38°30'OS and thence West to position 38°30'OS, 136°00'OE before turning to course 314° to make good the rendezvous position. Fair weather was experienced for the whole period and a big South Westerly swell along 40°S gave the ship an additional speed of about 1.5 knots.
8. A total of 40 stations were completed comprising 17 Hydrology stations, 6 productivity stations and 17 deep "bathy dips". The average casts were of 5000 metres but four were of 5500 metres.
9. Oceanic soundings and additional Ship's Bathy dips were carried out during the period 4th March to 11th March, it not being possible to do these whilst seismic profiles were in progress. The soundings indicated that the sea bed across the Bight was a vast abyssal plain (2850 fathoms to 3100 fathoms recorded) with practically no variation in depth - it was interesting to note also that "VEMA" who proceeded East across the Bight on the 38th parallel recorded a steady depth of 2900 fathoms for the passage - which would indicate that the plain probably extended between the two parallels of 38° and 40° South.
10. On R/V with Vema at 0700/ 11th March, seismic reversed profiles were again begun and continued until 0200/13th March in an area to the South-West of Kangaroo Island on and to seaward of the Continental Shelf.
11. At 1845/ 12th March a dusk 4" X 40M.M. firing was carried out utilizing an A/S smoke marker and Rocket parachute flares as targets.



12. On completion of profile "firings" I proceeded at 10 knots to an anchorage between Cape Forbin and Cape Torrens on the North Western end of Kangaroo Island which afforded a good lee from the South West swell and at 0725 "Vema" secured alongside whereupon all stores and equipment loaned by the American Research Ship for the seismic profile work were transferred and a short conference was held on the work completed by the scientists of both ships. Arrangements were also made for "Diamantina" to fire 3 in No. "SO FAR" charges (300lb Depth Charges) on the return passage to Fremantle by Professor Nafe, the American leader, which it was hoped would be recorded in Bermuda by their Research Station. Of great interest is the fact that Six "SO FAR" charges (200lbs T.N.T.) were fired by "Vema" on the 1st March off Cape Naturaliste and were recorded in Bermuda by their Oceanographic Research Station.

13. "VEMA" slipped at 0915 whereupon I weighed anchor and proceeded at 15 knots for Port Adelaide direct - arriving at Outer Harbour at 1600 and proceeded up river berthing at No. 1 Wharf, Birkenhead at 1700.

14. At 0900/ 14th March I called on Commander J.D. HOPE. R.N. in "Cavalier" and at 1000 the Naval Officer-in-Charge, South Australia A/Cdr. C.J. COCKRANE R.A.N. who returned my call at 1145 accompanied by Major LUCAS, R.M. Liaison Officer at W.R.E. Salisbury. The Master of the "Vema" Captain Calder and Professor Nafe of Columbia University called at 1200.

15. For the remainder of my period in command "Diamantina" remained alongside at "No.1 East, Port Adelaide. Appendices will be forwarded at the end of the month.

I have the honour to be,

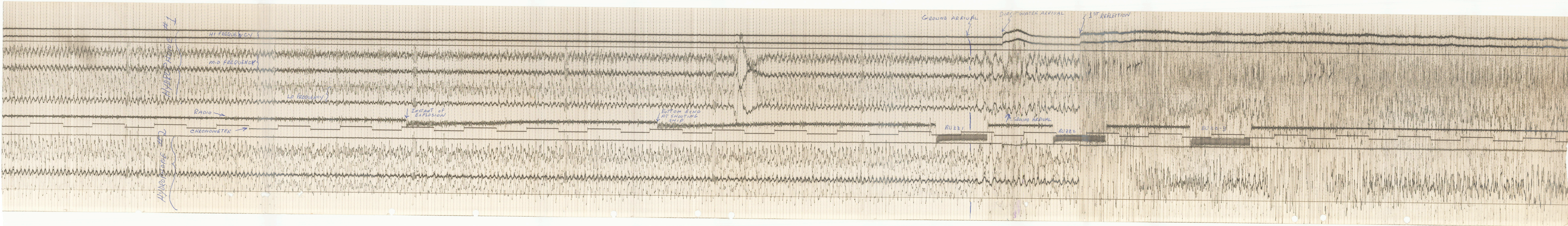
Sir,

Your obedient servant.



LIEUTENANT COMMANDER. R.A.N.  
CAPTAIN.







1285/3/206.1

## MINUTE PAPER.

154-31-MARCH  
1960.

H.M.A.S. DIAMANTINA

- Report of Proceedings

DTSP

DSD

DMT

DMT

HPB

DCNP

DOA

DMT

DDM

DPS

DGS

INR

MDG

DCNFS

DEE

DME

DNC

DNES

DW

HNB (N5)

REGISTRAR

HNB

DOD

DCNS

1STNM

2NDNM

3RDNM

4THNM

DEPSEC

CNPR

HNB (N5)

REGISTRAR

Action on 16/1/2011  
could copy of SOFAR's letter be passed to HARMAN, as  
requested by SOFAR, per.

HMS

Separate Report Circulating.

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## DEPARTMENT OF THE NAVY

## MINUTE PAPER

154-31d Marshal  
1960H.M.A.S. DIAMANTINA - Report of Proceedings~~HNB~~ 20/5

DOD 23/5

DCNS 24/5

1STNM 24/5

2NDNM 26/5

3RDNM 30/5

4THNM 1/6

DEPSEC 8/6

DNPR

HNB(N5)

REGISTRAR

DP

DTSR

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~~DEPSEC~~

DNI

HPB

DCNP

LOA

DMT

DLM

DPS

DGS

INR

MDG

DCNTS

DEE

DME

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DNES

HNB(N5)

REGISTRAR

Separate Report circulating

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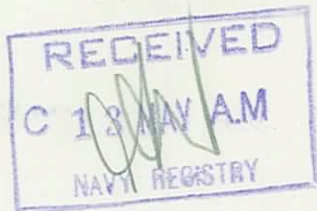
(b) The report will be given to Board Members with Director's comments if there is any matter of special interest in those comments.



COMMONWEALTH OF AUSTRALIA



DEPARTMENT OF THE NAVY



DEPT. OF THE  
NAVY

1285

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206

IN REPLY  
QUOTE

No. WA 56/9/16

NAVAL STAFF OFFICE,  
FREMANTLE, W.A.

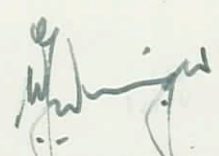
11 MAY 1960

The Secretary,  
Department of the Navy,  
CANBERRA.....A.C.T.

840

H.M.A.S. DIAMANTINA - REPORT OF PROCEEDING - 15th - 31st  
MARCH, 1960.

Submitted for the information of the  
Naval Board the Report of Proceeding of H.M.A.S.  
DIAMANTINA for the period 15th to 31st March, 1960.

  
NAVAL OFFICER IN CHARGE  
WEST AUSTRALIAN AREA.

H.M.  
NS

1960/5/16 198



H.M.A.S. DIAMANTINA,  
At Fremantle,

1st March, 1960.

The Naval Officer-in-Charge,  
West Australian Area,  
FREMANTLE. W.A.

Copies to: The Naval Officer-in-Charge, South Australian Area.  
The Hydrographer, R.A.N. Garden Island.

H.M.A.S. DIAMANTINA - REPORT OF PROCEEDINGS - 15TH - 31ST MARCH, 1960.

Sir,

I have the honour to submit the Report of Proceedings of H.M.A. Ship under my command for the period 15th - 31st March, 1960.

2. DIAMANTINA slipped from No.1 Berth, Port Adelaide at 0800, Wednesday 16th March and proceeded down stream to C.O.R. fuelling Berth securing alongside Port side to at 0915.
3. I assumed command of H.M.A.S. DIAMANTINA at 1000, Wednesday 16th March. Lieutenant Commander. B.D. GORDON. R.A.N. left the ship at 1030 to proceed by rail to Melbourne, there to assume command of H.M.A.S. ANZAC.
4. On the same morning Mr. J. HENNICH, the seismic scientist from Columbia University left the ship to return to the U.S.A. via Melbourne. The two Australian seismic scientists Mr. H. DOYLE from the National University, Canberra and Mr. E. JESSON from the Bureau of Mineralogy, Melbourne left the ship on Monday 14th March.
5. Lieutenant J. MILNE-FOWLER. R.A.N.R. also left the ship on the 16th March to return to Perth having completed 6 weeks A.C.T. This Officer was awarded a Restricted Watchkeeping Certificate whilst he was onboard.
6. VHA, the American Research Vessel, left Port Adelaide at 1200, 16th March to proceed to Wellington carrying out magnetic and topography surveys enroute.
7. Having embarked Furnace Fuel Oil and Fresh Provisions and Stores DIAMANTINA slipped from C.O.R. jetty at 1300, 16th March and proceeded to sea. After clearing Outer Harbour the opportunity was taken to exercise approaches on a dam buoy.
8. The first oceanographic station was commenced at 1000 the following day. The route for this part of the cruise was along  $37^{\circ}00'0S$  carrying out oceanographic Hydrology stations at  $132^{\circ}$ ,  $130^{\circ}$ ,  $128^{\circ}$ ,  $126^{\circ}$ ,  $124^{\circ}$ ,  $122^{\circ}$ ,  $120^{\circ}$  and  $118^{\circ}E$ . A productivity station and Plankton tow was carried out at 1000 daily. Also C.S.I.R.O. Bathythermograph dips were carried out at regular intervals throughout the cruise.
9. Ships Bathythermograph Dips and Oceanographic soundings were continued during this part of the cruise. Oceanographic soundings charts completed during the whole of the second oceanographic cruise have been forwarded under separate cover to the Hydrographer. R.A.N.
10. During the period at sea from Adelaide to Fremantle Action Stations, sea boats crew and Damage Control Parties were regularly exercised. Pre setting was included in the A.B.C. exercises.
11. The Hydrology station at  $37^{\circ}00'0S$ ,  $118^{\circ}00'0E$  was completed at 0230/ 21st March and ship steered  $317^{\circ}$  to make a landfall on Cape Leeuwin. Cape Leeuwin was rounded at 1750/ 21st and a course of  $325^{\circ}$  was steered to position  $33^{\circ}13'0S$ ,  $113^{\circ}43'0E$ .



12. Prior to departure from Port Adelaide the ship was requested by the senior scientist onboard "VEMA", Professor J. HAFE, to drop three 300 pound depth charges in a pre-determined position off Cape Naturaliste and the U.S. Navy Sofar station at Bermuda would pick up the sound waves from the explosion. As the position to drop these charges was on the route of the oceanographic cruise VEMA was informed that their request could be carried out. Signals were passed to the SOFAR Station at Bermuda through Canberra Radio informing the time of dropping charges.
13. Accordingly at 0300/H 22nd March three depth charges were dropped at 5 minute intervals set to explode at 800 fathoms, the ship steering 135°, speed 4 knots. Plastic Pressure detonators to fire the charges at 800 fathoms were supplied by VEMA. The position of the centre charge was 33°13'08", 113°43'08".
14. Exact times of the charges exploding were passed the SOFAR station after the completion of the run. A letter which has been subsequently received from the U.S. Navy Sofar Station at Bermuda is attached as Appendix C.
15. Having completed the SOFAR run the ship made for the datum oceanographic position at 32°00'08", 111°50'08" where a full oceanographic station was carried out. On the completion of this station the ship steered 090, speed 13 knots to make a landfall on Rottnest High Light before entering Fremantle.
16. Rottnest High Light was raised at 0410/H, 23rd and the ship secured alongside No. 10A berth Fremantle at 1100.
17. I called on the Naval Officer-in-Charge, West Australian Area at 1130 the same day. I called on the Mayor of Fremantle, Mr. W.F. HANSON at 0930 on Friday 28th March, he returning the call the same morning.
18. The ship remained alongside at No. 10A berth until Monday 26th March during which time general maintenance was effected and F.F.O. and stores were embarked.
19. During the following week DIAMANTINA was employed ammunition dumping. On Monday 28th and Tuesday 29th this was done from No. 10A berth as it was not possible to get a crane onto Rockingham Jetty to lift the heavy ammunition onboard. During these first two days a total of 198 Mine charge cases Mk.4 and 497 5616 Smoke floats were dumped. The ship proceeded to sea at approximately 1230 and returned alongside just before sunset. The ammunition was all dumped in position 31°57'08", 114°10'08" in 305 fathoms.
20. At 0830/ 30th March the ship slipped from No. 10A berth and proceeded down Cockburn Channel to Rockingham securing alongside at the Naval Jetty at 1000. The ship remained alongside embarking small ammunition for dumping. The opportunity was also taken to replenish the ships outfit.
21. The ship slipped from Rockingham at 1500 and proceeded to the dumping position via Cockburn Channel. Having dumped the ammunition the ship anchored off North Mole at the entrance to Fremantle harbour at 2130 that night. A total of 38 tons 11 cwt of various small ammunition 4" and below was dumped.
22. DIAMANTINA entered Fremantle Harbour at 0600 the following morning securing alongside No. 10A berth at 0825.
23. Sub-Lieutenant C.H.S. THOMSON, R.A.N. was married in St. Marys C of E Church, South Perth at 1830/ 23rd March. Good Press Publicity was obtained as the traditional Naval Guard of Honour was televised.
24. The health of the ships company has been Very Good and the morale excellent. The standard of Victualling has been most satisfactory.
25. Attached as Appendices A and B are steering figures and Occasions of Exceeding Economical Speed. Copies of correspondence interchanged with the U.S. Navy SOFAR station are attached as Appendix C. Four photographs of "VEMA" are attached also.



I have the honour to be,

Sir,

Your obedient servant,



LIEUTENANT COMMANDER. R.A.N.  
CAPTAIN.



APPENDIX "A".

(a) Miles steamed during the month	4268.9 miles
(b) Total Miles steamed	19954.2 miles
(c) Hours underway during the month	470 hours 06 minutes
(d) Total Hours underway	2049 hours 27 minutes
(e) Miles per ton of Furnace Fuel Oil	8.024

APPENDIX "B".

NIL OCCASIONS OF EXCEEDING ECONOMICAL SPEED.



NAVY SOFAR STATION.

A.P.O. 856 N.Y., N.Y.

Local Address:  
KINDLEY AIR FORCE BASE  
St. DAVIDS. Bermuda.

Tel.: 3-7191 ext 2118

MARCH 22, 1960.

Commanding Officer,  
H.M.A.S. DIAMANTINA,  
c/- Royal Australian Naval Headquarters,  
Canberra, New South Wales,  
AUSTRALIA.

Dear Captain,

All of us here have a great deal of admiration for the way you were able to make sense and organise so nicely our recent shooting operation. The shots we received here apparently came north of the Kerguelen Island, south of Crozet Island, North of Prince Edward Island and followed by the previous track which the Vema had shot, arriving in Bermuda 3 hours and 43 minutes and off New Jersey in 3 hours and 54 minutes. I have not yet heard from our friends in Fernando De Noronha. This, however is a small island off the tip of Brazil, manned by Air Force types and you know how slow they are. ||

The third shot however took a minute longer than the first two on both our records and those at Acpe May, and I wondered if we had a garble in that firing time, which was received here as 19 hours, 14 minutes and 7 seconds. We certainly had a garble in the longitude numbers which read on my message  $163^{\circ}43.0'$  and of course I assumed  $113^{\circ}43.0'$ . I assume you time by a watch rather than with some type of recorder.

Since Jack Nafe's letter indicated that you did not have any way of measuring the depth of shot, I assume the depth you mentioned in your firing message (1350 fathoms) was the depth of water.

In any case, we apparently found a much better hole for the energy to go through than we had when the VIEMA shot, for the signal here and off the Jersey coast was well distinguishable. When the Vema shot we had to rerun the magnetic tape several times and look for it in the mud. One of the uncertainties, of course, in both the series is how badly the fact that we had the explosion well below the sound channel hurt us. We are in the process of getting some special detonators made that would give us some more flexibility in our choice of explosion depth and I should like to try the problem again with an explosion somewhere around 500 fathoms. It is thought that this will greatly improve the signal strength received here, since no matter what path we find we are going to run into 500 or 600 fathom water somewhere along it.

In any case, I do appreciate your efficient help and I should be obliged if you would pass along to your Naval Radio people my appreciation to them for their excellent handling of my vague communications.

Sincerely,

Carl Hartdegen  
ASSOCIATE DIRECTOR.

CH:BJF



D25/4  
H.M.A.S. DIAMANTINA,  
C/- G.P.O.  
Fremantle. W.A.  
AUSTRALIA.

30th March, 1960.

The Superintendent,  
SOFAR STATION APO 856,  
NEW YORK. U.S.A.

GEOPHYSICAL SOFAR FIRING RUN.

Reference: BERMUDA Signal 220325Z March, 1960.

Forwarded for information the following data relevant to the "SOFAR RUN" carried out by H.M.A.S. DIAMANTINA at approximately 1900Z 21st March, 1960

2. Three 300lb depth charges were dropped at five minute intervals, the ship steering  $235^{\circ}$ , speed 4 knots. The centre charge was dropped in position  $33^{\circ} 13' OS$ ,  $113^{\circ} 43' OE$ . The depth of water was 1350 fathoms, the depth charges being set to explode at 800 fathoms.

3. Each depth charge consisted of 300lbs of Amatol, three pressure detonators, two primers, one  $\frac{1}{2}$ lb charge T.N.T. and one lb of Plastic explosive

4. The following firing times were recorded. All times G.M.T.

Firing Time First Charge	19 hours 04 mins 11 secs
Second "	19 hours 09 mins 43 secs
Third "	19 hours 14 mins 07 secs.

(Sgd.) G. McC. JUDE

LIEUTENANT COMMANDER. R.A.N.  
CAPTAIN.



D25/4  
H.M.A.S. DIAMANTINA,  
C/- G.P.O.  
PERTH.  
Western Australia.

1st April, 1960.

The Associate Director,  
Navy Sofar Station,  
Kindley Air Force Base,  
St. Davids,  
BRUNDA.

Dear Mr. Hartdegen,

Thank you very much for your letter dated March 22nd, 1960  
I am glad the shots were so successful.

With regard to the time of the dropping the third shot we  
now think the time should have been 19 hours 15 minutes and 7 seconds - I  
apologise for any trouble that we have caused you over this. The times were  
taken with a chronometer deck watch under difficult conditions.

When you have perfected the new special detonators we  
would be very glad to drop some further shots for you, but of course this  
would have to be arranged with the Australian Commonwealth Naval Board, Canberra.

Thank you very much for the kind remarks in your letter.

Yours Sincerely,

(Sgd.) G. McC. JUDE  
LIEUTENANT COMMANDER. R.A.N.  
CAPTAIN.