Natural Environment Research Council

Institute of Oceanographic Sciences
Crossway, Taunton, Somerset. TA1 2DW

PROVISIONAL CRUISE REPORT

VESSEL: M.T. REUL NA MAIDNE

OWNER: D.B. MACLEOD
Oiteag na Mara,
Bruernish,
North Bay,
Barra,
Outer Hebrides,
Scotland.

Tel: North Bay (08715) 384

LOCATION: Waverider sites, West of S Uist, Hebrides.

CRUISE PERIOD: 1755 on 17/1/81 to 0400 on 18/1/81.

PERSONNEL: J.D. Humphery H.S.O. Senior Scientist
E.J. Moore P. and T.O. III

OBJECTIVES: To recover current offshore Waverider.
To deploy new Offshore Waverider on new mooring.
To perform survey lines to SW of Inshore Waverider position.
To investigate reasons for non-reception of Inshore Waverider at receiving station.

PROCEDURE AND METHODS:

17/1/81 Reul na Maidne sailed to Lochboisdale from North Bay, Barra, arriving 1700. Started loading 90 cm Waverider and mooring onto Reul na Maidne. Reeled lowering-wire onto trawl-winch and slung anchor-chain from after-gallows. Sailed from Lochboisdale at 1755.

Sailed for Offshore Waverider position via Sound of Barra, setting up complete mooring in calm water. Wind N 0-1.

Arrived at Offshore position, lifted old 70 cm Waverider with jilson; recovered rubbercord by hand and by using winch. Cut mooring below rubbercord-mooring lost.

Lowered new 90 cm Waverider over side by hand, paid out mooring while moving gently ahead. Dropped sub-surface float over side, ensuring that mooring did not foul. Paid out riser chain to end, then lowered anchor clump on wire rope from winch. When clump on bottom, moved slightly ahead and cut wire, allowing end to fall free and clear. Wind N 1, no sea, but swell 3-4 m from W. Deployment effected at 2129.

Steamed S to survey start-point. Performed echo-sounder survey NE towards Inshore Waverider position. Start of line at 2206. At Inshore Waverider approximately 2320, noted whip aerial missing.

Lifted Waverider onto deck, maintaining ship in position. Removed old aerial stub, fitted new whip aerial. Lowered Waverider into water, watched buoy as mooring accumulation was taken up.

Checked buoy-transmission on portable D/F receiver. Performed survey towards SW away from Inshore Waverider position, finishing at 0043 on 18.1.81. Returned to Lochboisdale via Sound of Barra, arriving approximately 0400. Unloaded equipment, and Reul na Maidne sailed for North Bay, Barra.

EQUIPMENT PERFORMANCE:

Old Offshore Waverider had been giving large intermittent deviations from the mean line - this is the reason why it was replaced. New Waverider was energised at 1457 on 17.1.81, and is clocked on every three hours. Transmission monitored OK at 1457 on 18.1.81. Buoy and mooring were prepared at IOS Taunton and deployment was achieved in about 3 minutes.

Old Inshore Waverider had lost its aerial (fibreglass whip had pulled out of brass end-fitting). Replacement aerial was fitted easily - transmissions thereafter were received at full strength.

Decca Navigator, Furuno radar and Furuno echo sounder on Reul na Maidne worked well throughout.

Note: Inshore Waverider was washed up on South Uist Beach near Drimsdale Rock on 20.1.81. Although the mooring appeared intact on releasing the Waverider, it must be assumed that severe mooring damage was caused during the lifting operation to replace the aerial.

ITINERARY:

17.1.81.

1700 Rendezvous with Reul na Maidne at Lockboisdale. Started loading equipment.
1755 Sailed for Waverider positions via Sound of Barra and Washington Channel.
2115 approximately. Old Offshore Waverider recovered.
2129 New Offshore Waverider deployed.
2205 Started echo-sounder survey NE towards Inshore Waverider position.
2311 End of first survey line.
2330 approximately. Replaced Inshore Waverider aerial.
2335 Redeployed Inshore Waverider
2341 Started second echo-sounder survey line towards SW from Inshore Waverider position.

18.1.81.

0043 End of second survey line. Started for Lochboisdale.
0400 approximately. Arrived Lochboisdale. Unloaded equipment. Reul na Maidne sailed for North Bay, Barra.

WEATHER

Weather forecasts and weather reports from Prestwick Meteorological Office had been monitored closely prior to a departure decision being made. At departure from Lochboisdale, calm conditions prevailed, outside a light Northerly air was blowing. Conditions

remained the same until about midnight when a SW breeze (~force 3) started to blow; this increased slowly but steadily to a full SW gale by midday following. A 3-4 m swell prevailed throughout the cruise period.

POSITIONS: Offshore Waverider

Decca chain 8E/MP (Hebridean)
Green D 32.30
Purple A 58.96
Time: 2129 on 17.1.81.
Depth: 48.7 m mid-tide

Inshore Waverider

Decca chain 8E/MP (Hebridean)
Green D 37.25
Purple A 53.6
Time: 2335 on 17.1.81.
Depth: 24 m approximately mid-tide

PREPARED BY: John Humphery (J D HUMPHERY)

APPROVED BY: A.P. Salkield (A P SALKIELD)

DATE: 27/1/81

ECHO SOUNDER SURVEY, WEST OF SOUTH UIST, 17-18 January 1981

Echo Sounder - Furuno

Decca Navigator Mk 21

Station List. Run I, Decca Chain 8E/MP (Hebridean)

Fix	Time GMT	Green	Purple	Comments
1	2205	C 37.7	A 62.8	SOL
2	2208	C 38.4	A 62.4	
3	2211	C 38.1	A 61.9	
4	2214	C 39.8	A 61.6	
5	2217	C 40.7	A 61.4	
6	2220	C 41.5	A 60.9	
7	2223	C 42.4	A 60.6	
8	2226	C 43.3	A 60.3	
9	2229	C 44.2	A 59.8	
10	2232	C 44.8	A 59.5	
11	2235	C 45.6	A 59.1	
12	2238	C 46.2	A 58.8	
13	2241	C 46.8	A 58.5	
14	2244	C 47.7	A 58.0	
15	2247	D 30.3	A 57.5	
16	2250	D 30.9	A 56.8	Fix doubtful
17	2253	D 31.8	A 56.9	
18	2256	D 32.5	A 56.7	
19	2258	D 33.3	A 56.4	
20	2301	D 34.0	A 56.1	
21	2305	D 34.9	A 55.8	
22	2308	D 35.6	A 55.5	
23	2311	D 36.4	A 55.0	EOL

Station List. Run II, Decca Chain 8E/MP (Hebridean)

24	2341	D 37.2	A 53.8	SOL
25	2343	D 36.8	A 53.9	
26	2346	D 36.0	A 54.1	
27	2349	D 35.3	A 54.2	
28	2352	D 34.7	A 54.5	
29	2354	D 34.3	A 54.9	
30	2357	D 33.7	A 55.2	
31	2359	D 33.1	A 55.5	
32	0003	D 32.2	A 55.8	
33	0007	D 31.0	A 56.0	
34	0011	D 30.0	A 56.3	
35	0014	C 47.0	A 56.5	
36	0018	C 46.0	A 56.9	
37	0022	C 45.0	A 57.3	
38	0026	C 44.0	A 57.5	
39	0030	C 43.0	A 57.9	
40	0034	C42.0	A 58.4	
41	0038	C 41.0	A 58.9	
42	0043	C 40.0	A 59.6	EOL

Echo Sounder transducer depth approximately 3 m
Speed approximately 6 kt
Engine RPM = 800