

**Paleoclimate (0 to > 14 ka) of W and NW Iceland:
An Iceland/USA Contribution to P.A.L.E.**

**Cruise Report
B9-97
R/V *Bjarni Saemundsson* RE 30
17th -30th July 1997**

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Research objectives and cruise results.

Cruise B9-97 was part of a co-operative project between the Marine Research Institute (MRI) in Iceland, the Institute of Alpine and Arctic Research (INSTAAR) of the University of Colorado in U.S.A., and the University of Iceland. This co-operation project is, in turn, part of the international *Paleoclimate of Arctic Lakes and Eustaries (Shelves)* (P.A.L.E.) program. The title of the co-operative is *Paleoclimate (0 to \geq 14 ka) of W and NW Iceland, A Comparison of Lake and Near-Shore Marine Proxy Records: A USA/Iceland Contribution to P.A.L.E.* INSTAARs participation in the cruise and some of the equipment was funded by the USAs National Science Foundation under PALE/ESH grant ATM-9531397. This cruise was intended to supplement earlier MRI data (seismic profiles and cores from Isafjardardjup/Djupall NW Iceland; cores from Jokuldjup) and cores/seismic material from earlier PALE cruises (HU93030 and JM96). The focus was on the troughs and fjords of W, NW and N Iceland; i.e. areas that link the terrestrial environment with the deeper water continental slopes. We wanted to answer questions like:

1. Can we demonstrate the extent of the late Weichselian ice on the NW and N Iceland shelf?
2. What is the chronology and paleoenvironments during deglaciation?
3. What changes have occurred in Icelandic nearshore waters over the last 10,000 years? How were these changes recorded in marine organisms?
4. How does the history of the last 1,000 years compare with the previous 9,000 years? Are there any trends in the records that might pertain to changes in marine productivity?

During the cruise we collected 500 km of 3.5 KHz profiles and over 170 m of core from 38 sites (total 40); the longest core was 5.4 m. Magnetic susceptibility logging was performed on all cores on board.

The crew of the Bjarni Saemundsson was very supportive and helpful. Thanks to their efforts, the coring operations were completed successfully in spite of the limitations of the Bjarni Saemundsson as a coring platform.

Science complement

| | | |
|----------------------|----------------------|-------------------------|
| Gudrun Helgadóttir | Chief Scientist | MRI |
| John T. Andrews | Co-Chief Scientist | INSTAAR |
| Kjartan Thors | Co-Chief Scientist | Jardfraedistofa K Thors |
| Nancy Weiner | Micropal. Technician | INSTAAR |
| Jorunn Hardardóttir | Ph.D. student | INSTAAR |
| Laryn Michaela Smith | Ph.D. Student | INSTAAR |
| Stephanie Cartee | M.Sc. Student | INSTAAR |
| Greta Bjork | M.Sc. Student | Univ. of Iceland |
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R/V Bjarni Saemundsson RE 30 Crew

| | |
|--------------------------|--------------------------|
| Ingi Larusson | Captain |
| Arni Sverrisson | Chief Mate |
| Jon Marteinn Gudrodarson | 2 nd Mate |
| Sveinn Kristinsson | Chief Engineer |
| Gudjon Magni Einarsson | 2 nd Engineer |
| Matthias Bjarnason | Assistant in engineroom |
| Bjarni Sveinsson | Steward |
| Sigurdur R. Gudmundsson | Cook |
| Leifur Eggert Vigfusson | Boatswain |
| Stefan Valtysson | Deckhand |
| Halfdan Gudrodarson | Deckhand |
| Kristvin Thorsson | Deckhand |

Equipment

CTD*

Bathymetry*

3.5 KHz echo sounder (O.R.E./GeoPulse)**

Grab, (Shipek)*

Small Gravity Corer, (Woods Hole design)*, 7 cm diameter, 50 cm barrel length

Great Gravity Corer, (WHOI Suitcase gravity corer)*, 11 cm diameter, 3 m barrel
length used

Piston Corer, (Benthos Model 2175)***, 7 cm diameter, 6 m max. barrel length; 3m,
4.5m and 6m used

Magnetic susceptibility meter and loop, (Bartington MS2)***

Provided by: * MRI, ** Jardfraedistofa K Thors, *** INSTAAR

Notes from the diary

17 July, Thursday.

Leaving Reykjavik harbour at 2000 hours (8.00 p.m.) in calm weather, steaming for Jokulfirdir NW Iceland. Estimated sailing time about eighteen hours.

18 July, Friday.

Very good weather conditions. All equipment was assembled in the morning and tried at the first station in Jokulfirdir in the following sequence: CTD, grab, gravity corer and piston corer. Water samples were collected 10 meters from the seafloor to obtain 18O values. Surface samples, both Rose Bengal stained and extra surface samples, were collected from the grab. The GGC was deployed from the crane on the port with a 3 meter long barrel. The new piston corer was operated from the big crane on the starboard side. This corer had never been used on this ship and we had difficulties of getting it back on board, when using the 6 meter long barrel and a 4.5 meter long free fall. But all went well and a more than three meter long core was retrieved. The whole procedure took about three hours. The cores were cut into 1 or 1.5 meter long sections and taken to the lab where a whole core magnetic susceptibility logging was performed. The cores were kept in the cold hold for the rest of the cruise. The next station wasn't quite as successful and several different modifications were made to the piston corer which resulted only in a 161 cm long sample. After the experience from this first day we decided to have seven of us on a 12 hours core watch during the daytime and one person (Kjartan) on the echo watch during the night hours. Heading to Djupall in the evening to profile overnight.

19 July, Saturday.

The weather is still fine. The profiler didn't work and early this morning Kjartan had found out at least one thing that was wrong. But he needed time to solve that. Three coring stations in Djupall during the day, choosing coring sites from the MRI seismic data plus the line from the Jan Mayen cruise last year. A tight Rose Bengal series sampling was made with the small gravity corer. We aren't quite happy with the result of the piston corer, something seems to be wrong. The longest cores are about 270 cm. The echo sounder fish was deployed after the coring. It didn't work well enough either. Therefore we decided to head eastward to Eyjafjardarall and gain time to fix the echo sounder.

20 July, Sunday.

Calm and extremely good weather. The seismic gear worked at least during a short try on our way to Eyjafjardarall. Coring stations were put on a line from the deepest part of the transect and towards land, chosen after grab sample data from MRI. Two coring stations were occupied, starting after lunch. We are still not satisfied with the operation of the piston corer. We made several attempts, with different configurations of the corer, but never obtained more than 3 meters of core. On the second station we definitely got into glacial marine sediment and this change could also be seen in the MS values. A Rose Bengal series sampling was done with the small gravity corer like we did on one of the stations in Djupall.

21 July, Monday.

The same good weather. The echo sounder worked for a short time during the night, but then went wrong again. The tow cable isn't working as it should so it has to be shortened. We took three coring stations during the day. Difficulties with the piston corer in the afternoon. All on deck until 2200 hours and still MS measurements to do, but everyone in a very good working mood; the crew too, and the cook rigged up a barbecue on the deck. The echo sounder seemed to work well in the evening.

22 July, Tuesday.

The weather is very good. Seismic measurements during the night with fine records. A strong reflector at about 30 ms depth in the sediment. An ash layer or stiffer bottom? Three coring stations during the day time, in the outer part of Eyjafjardarall and Hunafloadjup.

23 July, Wednesday.

The weather is still extremely good. An iceberg is near. Seismics in Hunafloadjup and Reykjafjardarall during the night. Four coring stations in the daytime, but still problem with the PC corer. It doesn't seem to obtain longer than three meter long cores.

24 July, Thursday.

Seismics in Byrgisvíkurpollur and in Reykjarfjörður during the night. Three stations afterwards. A break for a short land visit in the morning to Hotel Djúpavík on the Zodiac. After an ingenious (and simple) modification of the piston corer, made by the crew, the corer is now doing fine, we are getting up to five and a half meter long cores. The valve on the gravity corer needed a check out.

25 July, Friday.

Seismic profiling north along Hunafloaall and back towards Ingólfsfjörður during night hours. Two coring stations and one grab station in daytime. The GGC is doing fine. Seismic profiling in Drangaall after lunch. A sandy bottom and therefore no core in the GGC. Steam to Djúpall in the evening.

26 July, Saturday.

Seismic in Djúpall from two a.m. Four coring stations with 4 - 5 meters sediment recovery in most of the cores. Heading to Isafjörður town in the afternoon, where we docked overnight.

27 July, Sunday.

Foggy and calm weather. Seismic in Skotufjörður and one coring station in the outer part of the fjord resulting in a 5.3 meter long PC core retrieve. We are definitely getting through the strong reflector at this station. The top 3 meters are sandy with broken shells and gray, mud and silt below. The reflector seems to be the surface of this glaciomarine mud. At the Borgarey station from the beginning of the cruise we now tried to get a longer piston core, and got 382 cm compared to the earlier 160 cm core. Again we obtained a piston core in the Jokulfirðir station with a 4.5 meter retrieve of sediment. The top two meters are sandy and a glaciomarine mud in the lower part like we had in Skotufjörður. A short seismic profile was surveyed out of Jokulfirðir and subsequently we steamed at full speed towards Kolluall overnight.

28 July, Monday.

The wind is stronger, between five and six knots. Seismic profiling in Kolluall in the morning and four coring stations along the trough during the afternoon. The PC was not put out, but the GGC worked well in spite of the weather. Steam to Jokuldjup in the evening.

29 July, Tuesday.

The weather is good, slight breeze. Seismic profiling in Jokuldjup during the night. Four coring stations, with up to five meters long piston cores on all stations. Seismics in the evening. The cores were brought up from the hold and prepared for transport. Heading to Reykjavik.

30 July, Wednesday.

Calm and sunny. In Reykjavik at 0900 hours. Everything put on dock right away; the PC cores were already packed and ready for shipment. The GGC cores were put in the warehouse in Faxaskali. Total length of sediment recovery in the cores over 170 meters.

Fig. 1. Maps of echo track lines and sample stations.

Figs. 2 and 3. CTD data from selected stations.

Fig. 4. MS data from selected cores.

Appendix I. Sample record.

Appendix II. Selected seismic profiles with some of the coring stations.

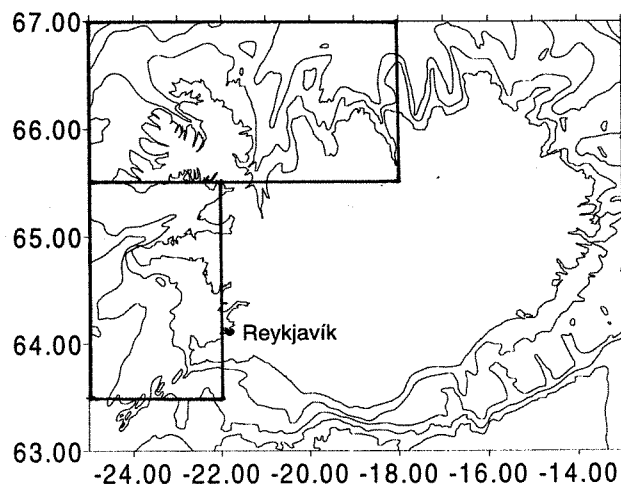
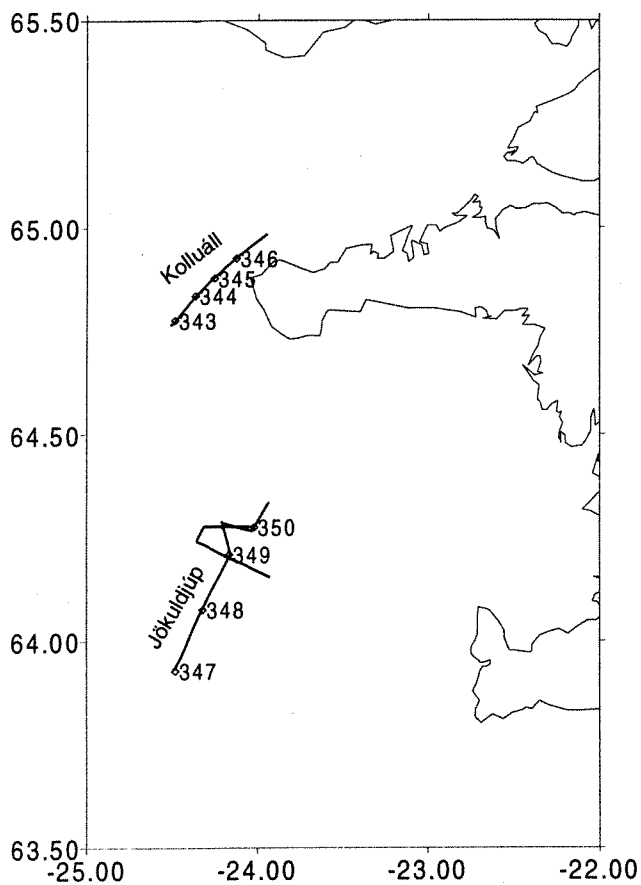
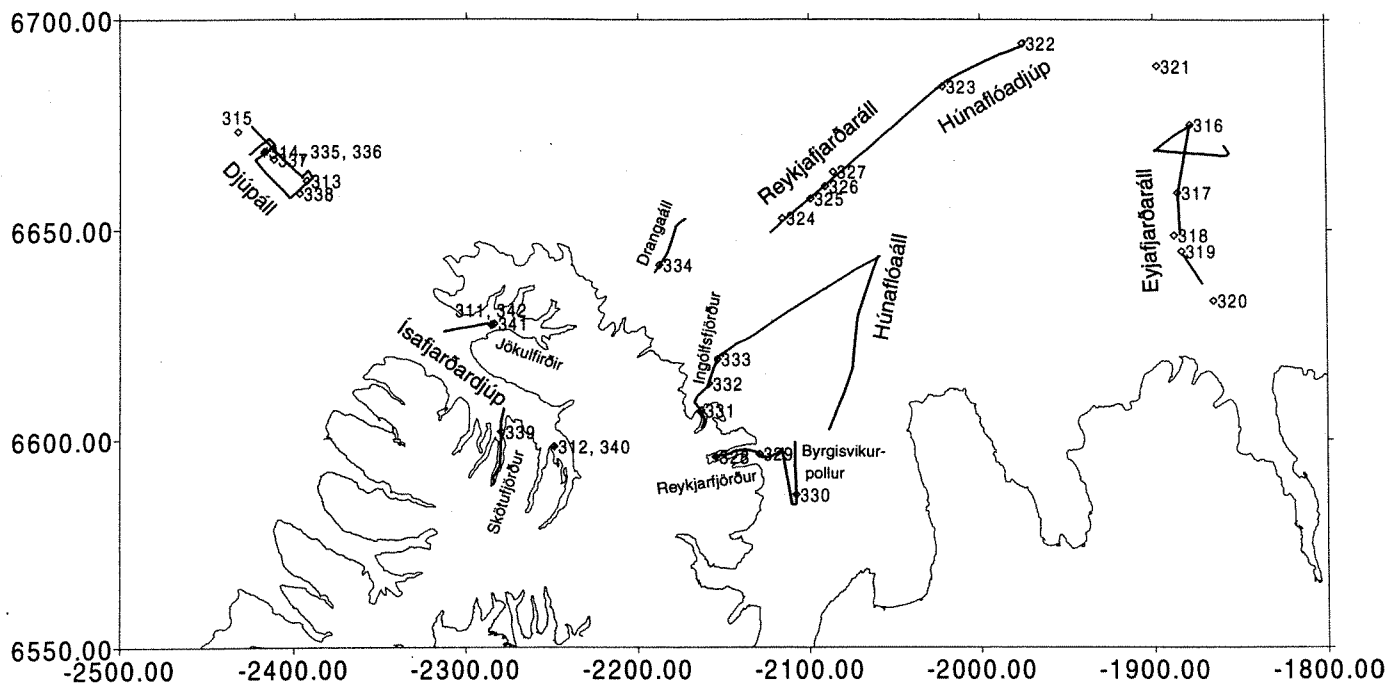


Fig. 1. Maps of echo track lines and sample stations.

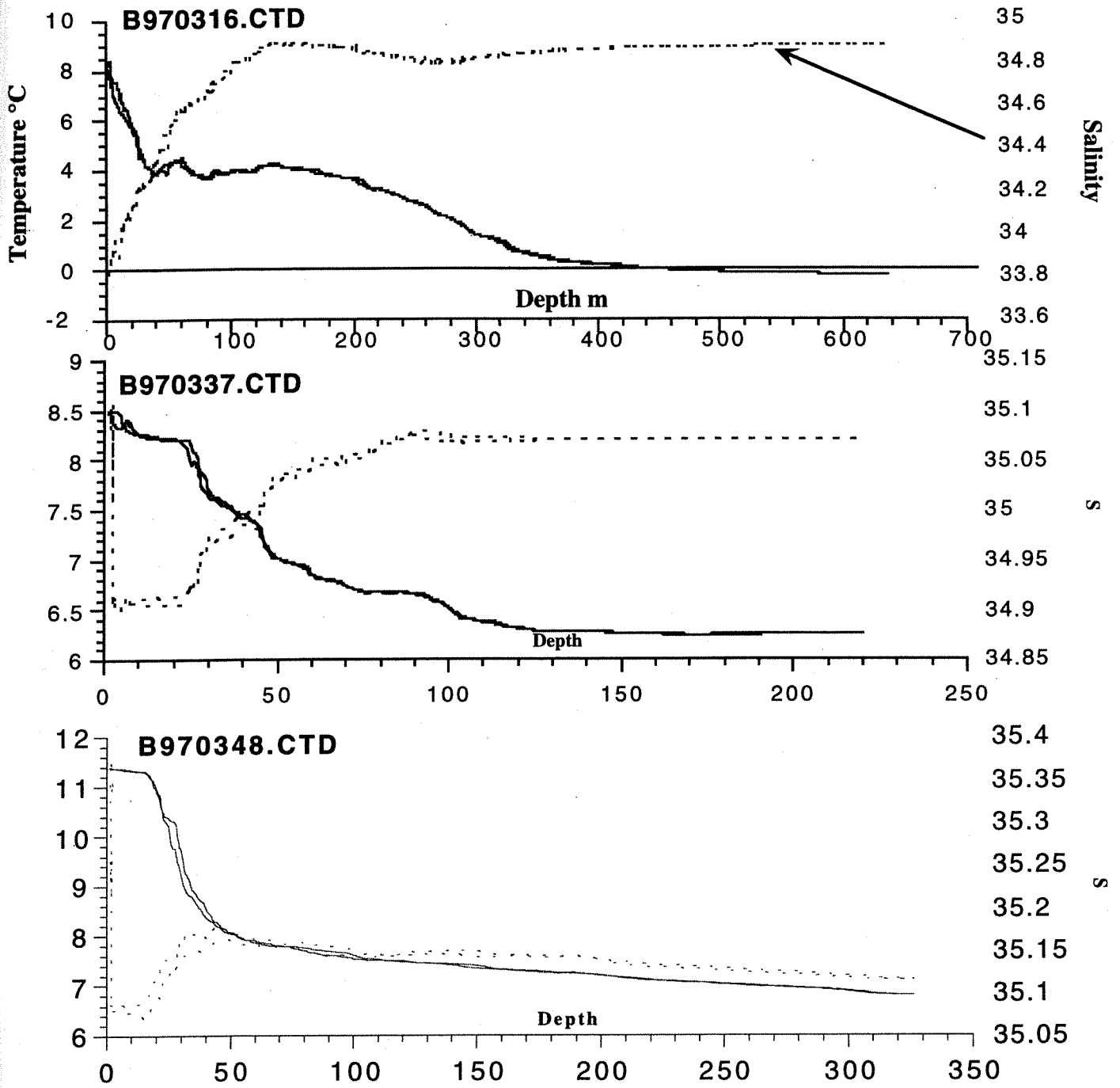


Fig. 2. CTD data from selected stations (see fig. 1 for locations).

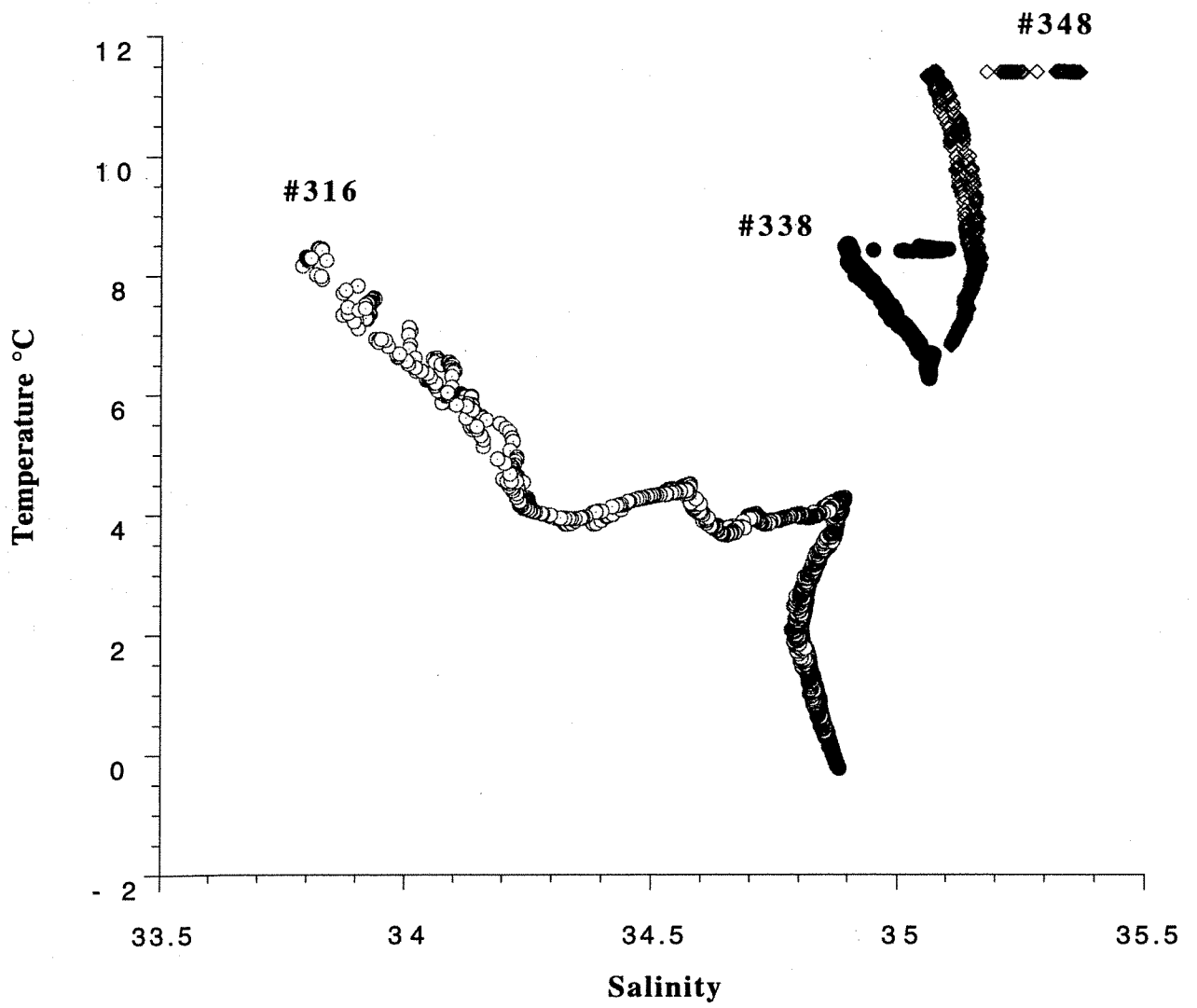
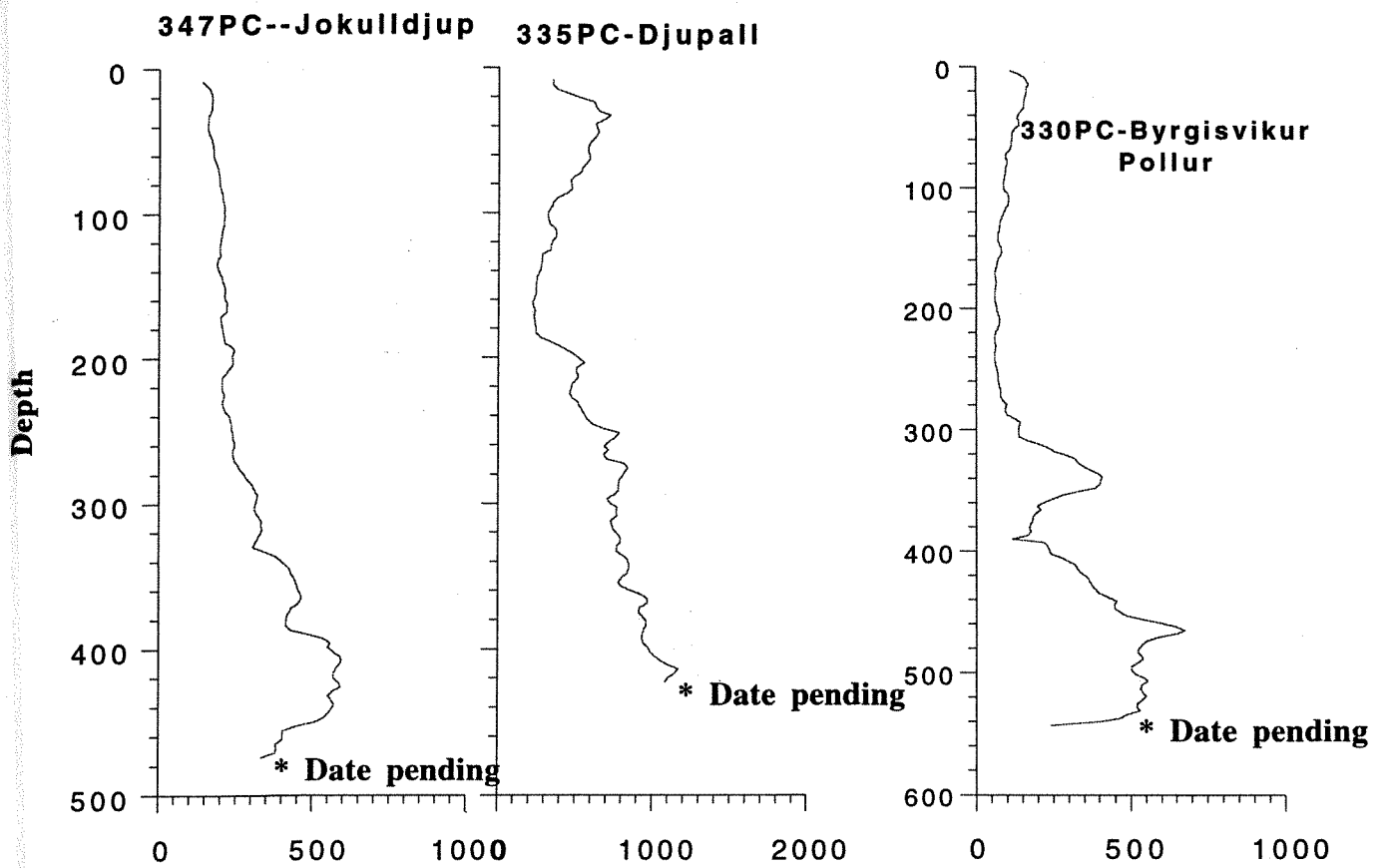


Fig. 3. CTD data from selected stations (see fig. 1 for locations).

Fig. 4. MS Data from selected cores B9-97 (see map for core locations)



Appendix I. Sample record.

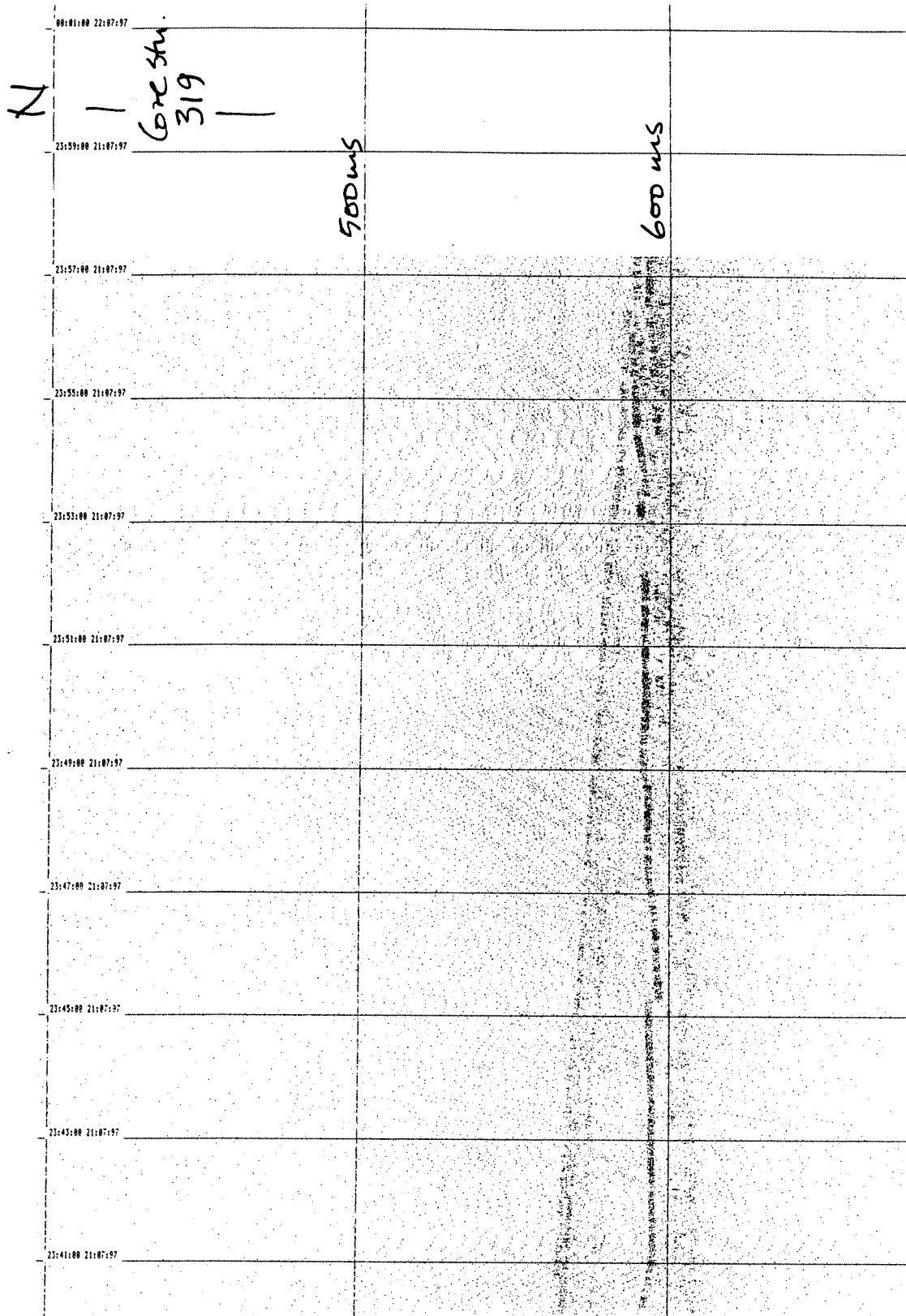
| Station | Sample no | Date | Time | Longitude | Latitude | Water depth, m | Grab sample | Core length, cm | | | RB bottle no | CTD bottle no |
|---------|-----------|-----------|-------|-----------|----------|----------------|-------------|-----------------|-------|----|--------------|---------------|
| | | | | | | | | SGC | GGC | PC | | |
| 311 | 311S | 18-Jul-97 | 13:55 | 2251.400 | 6616.460 | 100 | full | | | | RB 1 | 769 |
| 311 | 311GGC | 18-Jul-97 | 14:25 | 2250.940 | 6616.430 | 100 | | 283.0 | | | | |
| 311 | 311PC | 18-Jul-97 | 15:35 | 2250.580 | 6616.500 | 100 | | | 328.0 | | | |
| 312 | 312S | 18-Jul-97 | 19:13 | 2229.500 | 6558.950 | 72 | full | | | | RB 2 | 770 |
| 312 | 312GGC | 18-Jul-97 | 19:50 | 2229.400 | 6558.900 | 74 | | 209.0 | | | | |
| 312 | 312PC1 | 18-Jul-97 | 20:35 | 2229.400 | 6558.900 | 73 | | | 0.0 | | | |
| 312 | 312PC2 | 18-Jul-97 | 21:30 | 2229.440 | 6558.920 | 73 | | | 0.0 | | | |
| 312 | 312PC3 | 18-Jul-97 | 22:12 | 2229.300 | 6558.890 | 73 | | | 160.0 | | | |
| 313 | 313S | 19-Jul-97 | 8:30 | 2356.000 | 6637.000 | 213 | full | | | | RB 3 | 771 |
| 313 | 313GGC1 | 19-Jul-97 | 9:25 | 2355.800 | 6637.200 | 213 | | 128.0 | | | | |
| 313 | 313GGC2 | 19-Jul-97 | 10:27 | 2356.200 | 6637.200 | 212 | | 150.0 | | | | |
| 313 | 313PC | 19-Jul-97 | 11:20 | 2355.600 | 6637.120 | 212 | | | 169.0 | | | |
| 314 | 314S | 19-Jul-97 | 13:17 | 2410.800 | 6641.000 | 233 | full | | | | RB 4 | 772 |
| 314 | 314SGC | 19-Jul-97 | 13:40 | 2410.800 | 6641.100 | 234 | | 27.0 | | | RB 26-35 | |
| 314 | 314GGC1 | 19-Jul-97 | 14:25 | 2410.800 | 6641.100 | 232 | | | 10.0 | | | |
| 314 | 314GGC2 | 19-Jul-97 | 15:30 | 2411.010 | 6641.000 | 228 | | | 98.0 | | | |
| 314 | 314PC | 19-Jul-97 | 16:15 | 2411.170 | 6641.020 | 228 | | | 269.0 | | | |
| 315 | 315S | 19-Jul-97 | 17:25 | 2419.900 | 6644.000 | 217 | half full | | | | RB 5 | 773 |
| 315 | 315GGC1 | 19-Jul-97 | 17:45 | 2420.600 | 6644.150 | 220 | | | 20.0 | | | |
| 315 | 315GGC2 | 19-Jul-97 | 18:15 | 2418.980 | 6643.850 | 220 | | | 51.0 | | | |
| 315 | 315PC | 19-Jul-97 | 19:10 | 2420.130 | 6643.960 | 217 | | | 267.5 | | | |
| 316 | 316S | 20-Jul-97 | 11:40 | 1847.530 | 6645.040 | 656 | full | | | | RB 6 | 774 |
| 316 | 316GGC | 20-Jul-97 | 12:05 | 1847.520 | 6644.750 | 658 | | | 247.0 | | | |
| 316 | 316PC1 | 20-Jul-97 | 13:15 | 1847.240 | 6645.030 | 629 | | | 268.0 | | | |
| 316 | 316SGC | 20-Jul-97 | 14:15 | 1847.210 | 6645.170 | 631 | | 50.0 | | | RB 36-45 | |
| 316 | 316PC2 | 20-Jul-97 | 14:40 | 1847.260 | 6645.070 | 630 | | | | | | |
| 316 | 316PC3 | 20-Jul-97 | 16:05 | 1846.870 | 6645.000 | 622 | | | 281.0 | | | |
| 317 | 317S | 20-Jul-97 | 18:30 | 1851.940 | 6635.330 | 495 | full | | | | RB 7 | 775 |
| 317 | 317GGC | 20-Jul-97 | 18:50 | 1852.170 | 6635.410 | 494 | | | 127.0 | | | |
| 317 | 317PC1 | 20-Jul-97 | 19:48 | 1851.900 | 6635.270 | 494 | | | 248.0 | | | |
| 317 | 317PC2 | 20-Jul-97 | 20:15 | 1851.850 | 6635.170 | 498 | | | 0.0 | | | |

| Station | Sample no | Date | Time | Longitude | Latitude | Water depth, m | Grab sample | Core length, cm | | | | CTD bottle no |
|---------|-----------|-----------|-------|-----------|----------|----------------|--------------|-----------------|-------|---------|-------------------|---------------|
| | | | | | | | | SGC | GGC | PC | RB bottle no | |
| 318 | 318S1 | 21-Jul-97 | 8:30 | 1853.140 | 6629.240 | 450 | small sample | | | | | 776 |
| 318 | 318S2 | 21-Jul-97 | 8:47 | | | 451 | empty | | | | | |
| 318 | 318S3 | 21-Jul-97 | 9:00 | | | 452 | full | | | | RB 8 | |
| 318 | 318GGC | 21-Jul-97 | 9:12 | 1852.840 | 6629.310 | 453 | | 143.5 | | | | |
| 318 | 318PC1 | 21-Jul-97 | 10:10 | 1853.160 | 6629.230 | 451 | | | | ca. 5.0 | | |
| 318 | 318PC2 | 21-Jul-97 | 11:15 | 1851.800 | 6629.150 | 460 | | | | 0.0 | | |
| 318 | 318PC3 | 21-Jul-97 | 12:03 | 1853.110 | 6628.980 | 450 | | | | ca. 5.0 | RB 9 | |
| 319 | 319S | 21-Jul-97 | 13:00 | 1850.550 | 6626.950 | 422 | full | | | | | |
| 319 | 319GGC | 21-Jul-97 | 13:38 | 1850.240 | 6626.820 | 418 | | 192.0 | | | | |
| 319 | 319PC1 | 21-Jul-97 | 14:35 | 1850.820 | 6629.910 | 423 | | | | 0.0 | | |
| 319 | 319P2 | 21-Jul-97 | 15:42 | 1851.060 | 6626.530 | 422 | | | | 227.0 | | |
| 319 | 319PC3 | 21-Jul-97 | 17:00 | 1851.520 | 6626.620 | 429 | | | | 143.0 | | 777 |
| 320 | 320S | 21-Jul-97 | 19:30 | 1839.500 | 6620.000 | 385 | full | | | | RB 10 | 778 |
| 320 | 320GGC1 | 21-Jul-97 | 19:45 | 1839.710 | 6619.890 | 385 | | | 80.0 | | | |
| 320 | 320GG2 | 21-Jul-97 | 20:27 | 1839.900 | 6620.080 | 386 | | | 160.5 | | | |
| 320 | 320PC | 21-Jul-97 | 21:15 | 1839.040 | 6620.100 | 388 | | | | 327.0 | | |
| 321 | 321S | 22-Jul-97 | 8:48 | 1858.675 | 6653.395 | 487 | full | | | | RB 11 | |
| 321 | 321GGC | 22-Jul-97 | 9:11 | 1858.856 | 6653.486 | 484 | | | 138.0 | | | |
| 321 | 321PC | 22-Jul-97 | 10:02 | 1858.470 | 6653.470 | 480 | | | | 300.0 | | 779 |
| 322 | 322S | 22-Jul-97 | 13:01 | 1945.500 | 6656.600 | 357 | ca full | | | | RB 12 | |
| 322 | 322GGC1 | 22-Jul-97 | 13:20 | 1944.725 | 6656.369 | 358 | | | 5.0 | | | |
| 322 | 322GGC2 | 22-Jul-97 | 13:45 | 1945.500 | 6656.600 | 358 | | | 15.0 | | | |
| 322 | 322PC1 | 22-Jul-97 | 14:32 | 1945.685 | 6656.068 | 358 | | | | 5.0 | | |
| 322 | 322PC2 | 22-Jul-97 | 15:25 | 1946.554 | 6656.294 | 357 | | | | 161.0 | | 780 |
| 323 | 323S | 22-Jul-97 | 17:44 | 2013.251 | 6650.432 | 391 | ca full | | | | RB 13 | 781 |
| 323 | 323GGC | 22-Jul-97 | 18:05 | 2013.330 | 6650.650 | 393 | | | 170.0 | | | |
| 323 | 323PC | 22-Jul-97 | 19:00 | 2013.644 | 6650.788 | 397 | | | | 292.0 | | |
| 323 | 323PC2 | 22-Jul-97 | 20:16 | 2013.984 | 6650.829 | 398 | | | | 230.5 | | |
| 324 | 324S | 23-Jul-97 | 8:49 | 2109.110 | 6631.450 | 281 | full | | | | RB 14 | 782 |
| 324 | 324SGC | 23-Jul-97 | 9:00 | 2109.680 | 6631.600 | 280 | | 40.0 | | | ten RB*, RB 46-50 | |
| 324 | 324GGC | 23-Jul-97 | 9:25 | 2110.061 | 6631.673 | 284 | | | 167.0 | | | |
| 324 | 324PC1 | 23-Jul-97 | 10:10 | 2109.133 | 6631.426 | 282 | | | | 300.0 | | |
| 324 | 324PC2 | 23-Jul-97 | 11:05 | 2108.668 | 6631.519 | 281 | | | | 320.0 | | |

| Station | Sample no | Date | Time | Longitude | Latitude | Water depth, m | Grab sample | Core length, cm | | | | CTD bottle no |
|---------|-----------|-----------|-------|-----------|----------|----------------|--------------|-----------------|-------|-------|--------------|---------------|
| | | | | | | | | SGC | GGC | PC | RB bottle no | |
| 325 | 325S | 23-Jul-97 | 12:30 | 2059.837 | 6634.403 | 350 | ca full | | | | RB 15 | 783 |
| 325 | 325GGC | 23-Jul-97 | 12:50 | 2059.994 | 6634.508 | 348 | | 171.0 | | | | |
| 325 | 325PC1 | 23-Jul-97 | 13:33 | 2100.068 | 6634.496 | 348 | | | | 0.0 | | |
| 325 | 325PC2 | 23-Jul-97 | 14:28 | 2100.197 | 6634.545 | 349 | | | | 271.0 | | |
| 326 | 326S | 23-Jul-97 | 15:41 | 2054.675 | 6636.193 | 355 | full | | | | RB 16 | 784 |
| 326 | 326GGC | 23-Jul-97 | 16:05 | 2054.328 | 6636.293 | 360 | | 142.5 | | | | |
| 326 | 326PC1 | 23-Jul-97 | 16:50 | 2054.822 | 6636.350 | 358 | | | | 297.0 | | |
| 326 | 326PC2 | 23-Jul-97 | 17:57 | 2055.435 | 6636.333 | 351 | | | | 167.0 | | |
| 327 | 327S | 23-Jul-97 | 19:06 | 2051.956 | 6638.267 | 368 | full | | | | RB 17 | 785 |
| 327 | 327GGC | 23-Jul-97 | 19:24 | 2051.651 | 6638.370 | 367 | | 116.0 | | | | |
| 327 | 327PC | 23-Jul-97 | 20:05 | 2051.793 | 6638.485 | 373 | | | | 329.5 | | |
| 328 | 328S | 24-Jul-97 | 8:39 | 2133.079 | 6557.456 | 94 | full | | | | RB 18 | 786 |
| 328 | 328GGC | 24-Jul-97 | 8:54 | 2133.176 | 6557.474 | 91 | | 102.0 | | | | |
| 328 | 328PC | 24-Jul-97 | 12:58 | 2132.903 | 6557.416 | 96 | | | | 422.0 | | |
| 329 | 329S | 24-Jul-97 | 14:00 | 2117.867 | 6557.902 | 110 | ca full | | | | RB 19 | 787 |
| 329 | 329GGC1 | 24-Jul-97 | 14:14 | 2117.780 | 6557.929 | 108 | | 0.0 | | | | |
| 329 | 329GGC2 | 24-Jul-97 | 14:27 | 2117.647 | 6557.805 | 104 | | 0.0 | | | | |
| 329 | 329GGC3 | 24-Jul-97 | 15:42 | 2117.660 | 6558.000 | 111 | | 0.0 | | | | |
| 329 | 329GGC4 | 24-Jul-97 | 15:54 | 2117.780 | 6558.108 | 112 | | 20.0 | | | | |
| 329 | 329PC | 24-Jul-97 | 16:30 | 2117.917 | 6558.002 | 111 | | | | 447.0 | | |
| 330 | 330S | 24-Jul-97 | 17:56 | 2104.913 | 6552.016 | 165 | ca full | | | | RB 20 | 788 |
| 330 | 330SGC | 24-Jul-97 | 18:17 | 2104.829 | 6552.103 | 163 | | 50.0 | | | twenty RB | |
| 330 | 330GGC | 24-Jul-97 | 18:48 | 2104.626 | 6552.366 | 162 | | | 153.0 | | | |
| 330 | 330PC | 24-Jul-97 | 19:08 | 2105.284 | 6552.006 | 170 | | | | 540.0 | | |
| 331 | 331S | 25-Jul-97 | 10:10 | 2138.177 | 6604.085 | 44 | ca full | | | | RB 21 | 789 |
| 331 | 331GGC1 | 25-Jul-97 | 10:18 | 2138.194 | 6604.020 | 43 | | 10.0 | | | | |
| 331 | 331GGC2 | 25-Jul-97 | 10:35 | 2138.500 | 6604.100 | 46 | | 10.0 | | | | |
| 331 | 331PC | 25-Jul-97 | 10:46 | 2138.422 | 6604.095 | 46 | | | | 210.0 | | |
| 332 | 332S | 25-Jul-97 | 12:00 | 2135.460 | 6608.177 | 104 | full | | | | RB 22 | 790 |
| 332 | 332GGC | 25-Jul-97 | 12:20 | 2135.655 | 6608.059 | 112 | | 221.0 | | | | |
| 332 | 332PC | 25-Jul-97 | 12:55 | 2135.085 | 6608.198 | 108 | | | | 530.0 | | |
| 333 | 333S | 25-Jul-97 | 13:42 | 2132.539 | 6611.514 | 75 | nearly empty | | | | | |

| Station | Sample no | Date | Time | Longitude | Latitude | Water depth, m | Grab sample | Core length, cm | | | RB bottle no | CTD bottle no |
|---------|-----------|-----------|-------|-----------|----------|----------------|----------------|-----------------|-----------|----|--------------|---------------|
| | | | | | | | | SGC | GGC | PC | | |
| 334 | 334S | 25-Jul-97 | 19:26 | 2152.734 | 6625.013 | 131 | nearly empty | | | | RB 23 | 791 |
| 334 | 334GGC1 | 25-Jul-97 | 19:34 | 2152.731 | 6625.039 | 132 | | 0.0 | | | | |
| 334 | 334GGC2 | 25-Jul-97 | 19:46 | 2152.824 | 6625.007 | 132 | | 0.0 | | | | |
| 335 | 335PC | 26-Jul-97 | 9:22 | 2410.698 | 6641.207 | 239 | | | 427.5 | | | |
| 336 | 336PC1 | 26-Jul-97 | 10:10 | 2409.978 | 6641.301 | 242 | | | 10.0 | | | |
| 336 | 336PC2 | 26-Jul-97 | 10:58 | 2409.796 | 6641.303 | 242 | | | 20.0 | | | |
| 336 | 336PC3 | 26-Jul-97 | 11:35 | 2409.700 | 6641.214 | 242 | | | 501.0 | | | |
| 337 | 337S | 26-Jul-97 | 12:34 | 2407.544 | 6640.056 | 220 | ca full | | | | Rb 24 | 792 |
| 337 | 337GGC1 | 26-Jul-97 | 12:48 | 2407.780 | 6640.150 | 223 | | 10.0 | | | | |
| 337 | 337GGC2 | 26-Jul-97 | 13:08 | 2407.728 | 6640.159 | 221 | | 10.0 | | | | |
| 337 | 337PC | 26-Jul-97 | 13:28 | 2407.630 | 6640.162 | 221 | | | 321.0 | | | |
| 338 | 338S1 | 26-Jul-97 | 14:48 | 2358.546 | 6635.154 | 209 | one fifth full | | | | | 721 |
| 338 | 338S2 | 26-Jul-97 | 14:58 | 2358.626 | 6635.242 | 209 | ca full | | | | | |
| 338 | 338GGC | 26-Jul-97 | 15:08 | 2358.593 | 6635.332 | 212 | | 105.0 | | | | |
| 338 | 338PC | 26-Jul-97 | 15:47 | 2358.606 | 6635.227 | 209 | | | 412.0 | | | |
| 339 | 339S | 27-Jul-97 | 13:14 | 2247.995 | 6601.075 | 104 | full | | | | RB 25 | 722 |
| 339 | 339GGC | 27-Jul-97 | 13:27 | 2248.102 | 6601.071 | 104 | | 202.0 | | | | |
| 339 | 339PC1 | 27-Jul-97 | 14:07 | 2248.073 | 6601.120 | 104 | | | ca 170.0 | | | |
| 339 | 339PC2 | 27-Jul-97 | 14:57 | 2248.038 | 6601.106 | 104 | | | 527.0 | | | |
| 340 | 340PC | 27-Jul-97 | 16:57 | 2229.500 | 6558.950 | 73 | | | 382.0 | | | |
| 341 | 341PC1 | 27-Jul-97 | 20:26 | 2250.536 | 6616.612 | 95 | | | ca. 100.0 | | | |
| 341 | 341PC2 | 27-Jul-97 | 20:56 | 2250.520 | 6616.654 | 94 | | | failed | | | |
| 341 | 341PC3 | 27-Jul-97 | 21:26 | 2250.528 | 6616.620 | 96 | | | 220.0 | | | |
| 342 | 342PC | 27-Jul-97 | 22:10 | 2251.674 | 6616.510 | 94 | | | 444.0 | | | |
| 343 | 343S | 28-Jul-97 | 14:27 | 2429.306 | 6446.604 | 273 | full | | | | two RB | 723 |
| 343 | 343GGC | 28-Jul-97 | 14:43 | 2429.140 | 6446.559 | 268 | | 154.0 | | | | |
| 344 | 344S | 28-Jul-97 | 16:38 | 2422.114 | 6450.178 | 282 | half full | | | | two RB | 724 |
| 344 | 344GGC | 28-Jul-97 | 16:50 | 2421.826 | 6450.211 | 284 | | 10.0 | | | | |
| 345 | 345S | 28-Jul-97 | 18:05 | 2415.481 | 6452.716 | 322 | ca full | | | | two RB | 725 |
| 345 | 345GGC | 28-Jul-97 | 18:28 | 2415.920 | 6452.739 | 320 | | 61.0 | | | | |
| 346 | 346S | 28-Jul-97 | 19:55 | 2407.707 | 6455.615 | 320 | full | | | | two RB | 726 |
| 346 | 346GGC | 28-Jul-97 | 20:15 | 2407.437 | 6455.812 | 318 | | 148.0 | | | | |
| 347 | 347S | 29-Jul-97 | 9:03 | 2428.945 | 6355.701 | 321 | full | | | | one RB | 727 |
| 347 | 347GGC | 29-Jul-97 | 9:20 | 2429.019 | 6355.886 | 372 | | 241.0 | | | | |
| 347 | 347PC | 29-Jul-97 | 10:04 | 2429.362 | 6355.828 | 371 | | | 480.0 | | | |

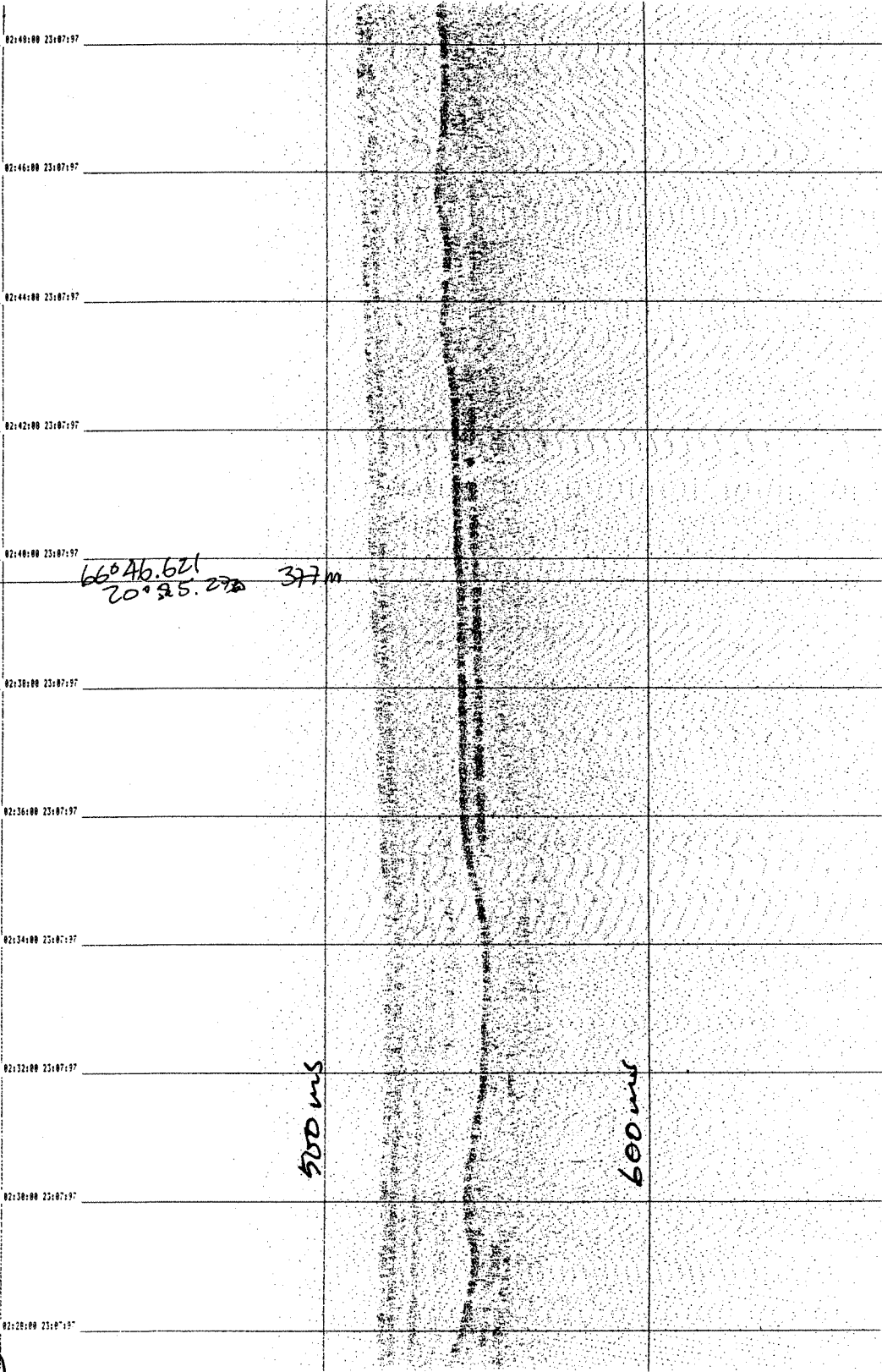
| Station | Sample no | Date | Time | Longitude | Latitude | Water depth, m | Grab sample | Core length, cm | | | RB bottle no | CTD bottle no |
|------------------------------|-----------|-----------|-------|-----------|----------|----------------|--------------|-----------------|--------|---------|--------------|---------------|
| | | | | | | | | SGC | GGC | PC | | |
| 348 | 348S1 | 29-Jul-97 | 11:56 | 2419.371 | 6404.563 | 332 | small sample | | | | | |
| 348 | 348S2 | 29-Jul-97 | 12:12 | 2419.567 | 6404.773 | 327 | full | | | | one RB | 728 |
| 348 | 348GGC | 29-Jul-97 | 12:22 | 2419.345 | 6404.792 | 327 | | | 212.0 | | | |
| 348 | 348PC | 29-Jul-97 | 13:10 | 2419.642 | 6404.711 | 328 | | | | 491.0 | | |
| 349 | 349S | 29-Jul-97 | 14:56 | 2410.044 | 6412.538 | 266 | full | | | | one RB | 729 |
| 349 | 349GGC | 29-Jul-97 | 15:26 | 2410.202 | 6412.456 | 267 | | | 200.0 | | | |
| 349 | 349PC | 29-Jul-97 | 16:00 | 2410.182 | 6412.502 | 266 | | | | 474.0 | | |
| 350 | 350S | 29-Jul-97 | 17:24 | 2401.389 | 6416.479 | 239 | ca full | | | | | 730 |
| 350 | 350GGC | 29-Jul-97 | 17:36 | 2401.373 | 6416.569 | 239 | | | 199.0 | | | |
| 350 | 350PC | 29-Jul-97 | 18:00 | 2401.491 | 6416.606 | 238 | | | | 430.0 | | |
| Sum, cm | | | | | | | | 167.0 | 4891.5 | 12649.0 | | |
| Total core length: | | 17707.5 | | | | | | | | | | |
| S=Shipek grab | | | | | | | | | | | | |
| SGC= Small Gravity Corer | | | | | | | | | | | | |
| GGC= Great Gravity Corer | | | | | | | | | | | | |
| PC= Piston Corer | | | | | | | | | | | | |
| RB= Rose Bengal sample | | | | | | | | | | | | |
| * Amount of 60 ml RB bottles | | | | | | | | | | | | |



Eyjafjarðaráll

Appendix II. Selected seismic profiles with some of the coring stations.

SW



66° Ab. 621
20° 25. 270 377 m

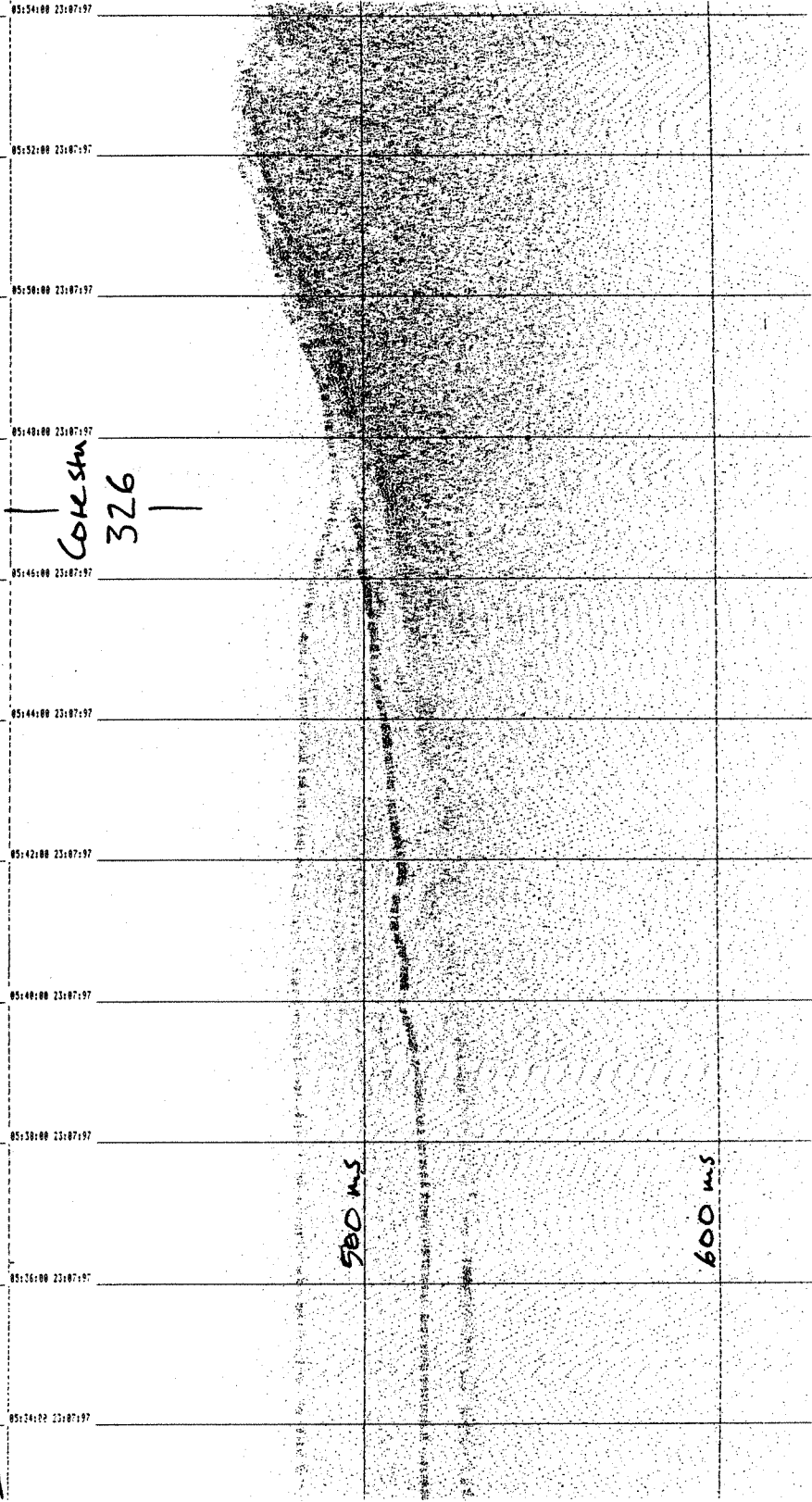
500 ms

600 ms

NE

Húnaflóadjúp

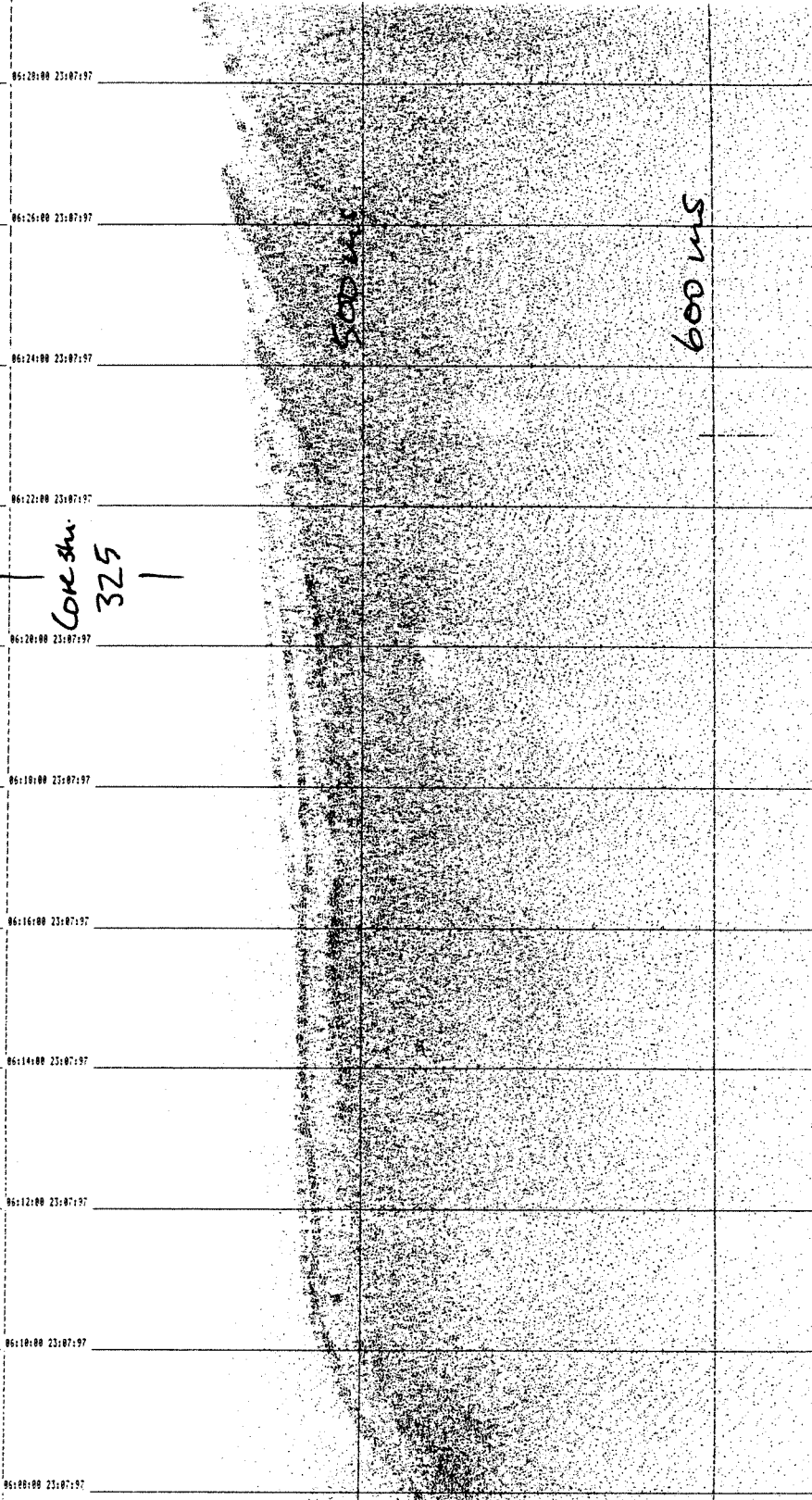
SW



N/E

Reykjafjarðaráll

SW

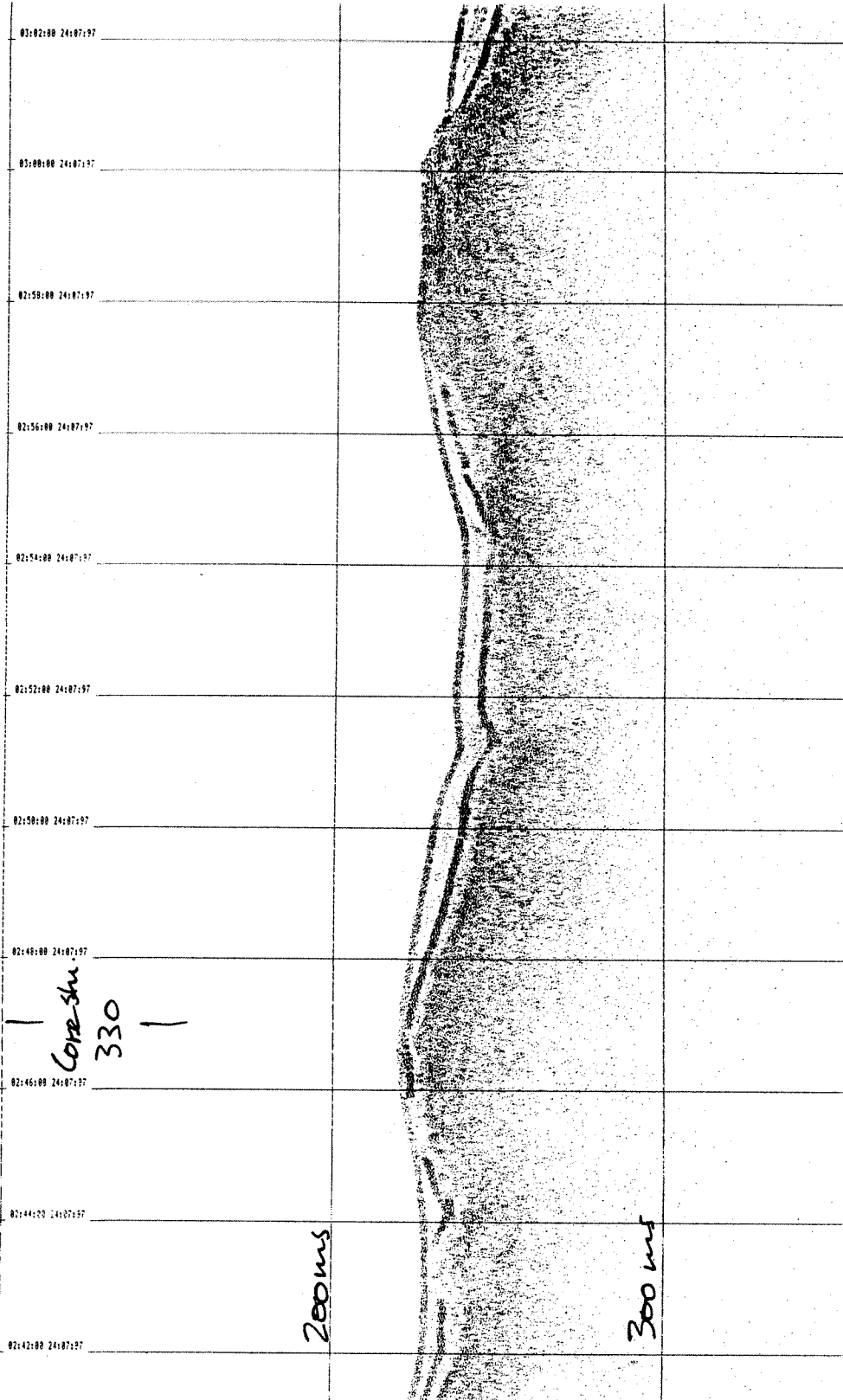


NE

Reykjafjarðaráll

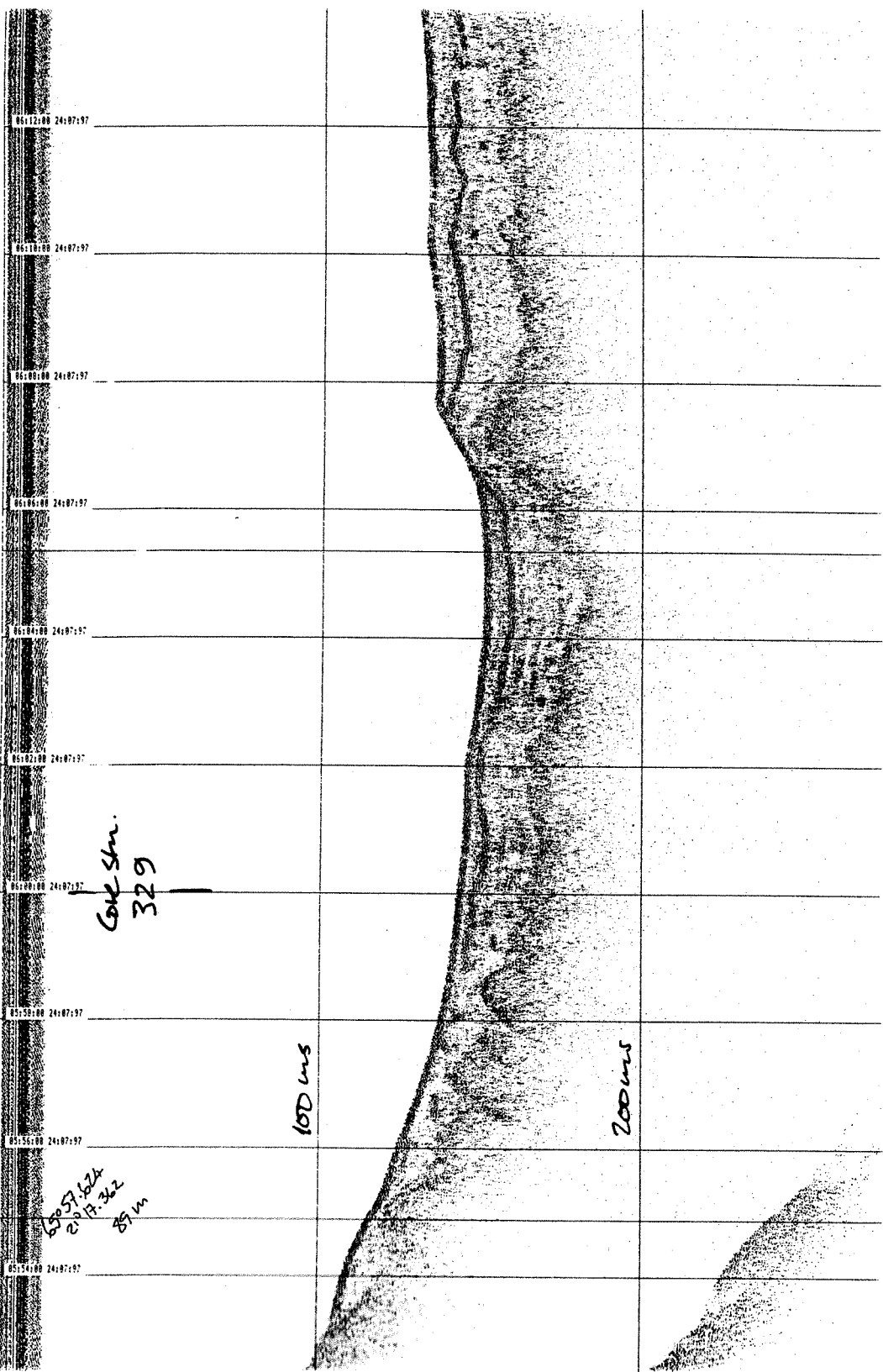
N

S



Byrgisvíkurpollur

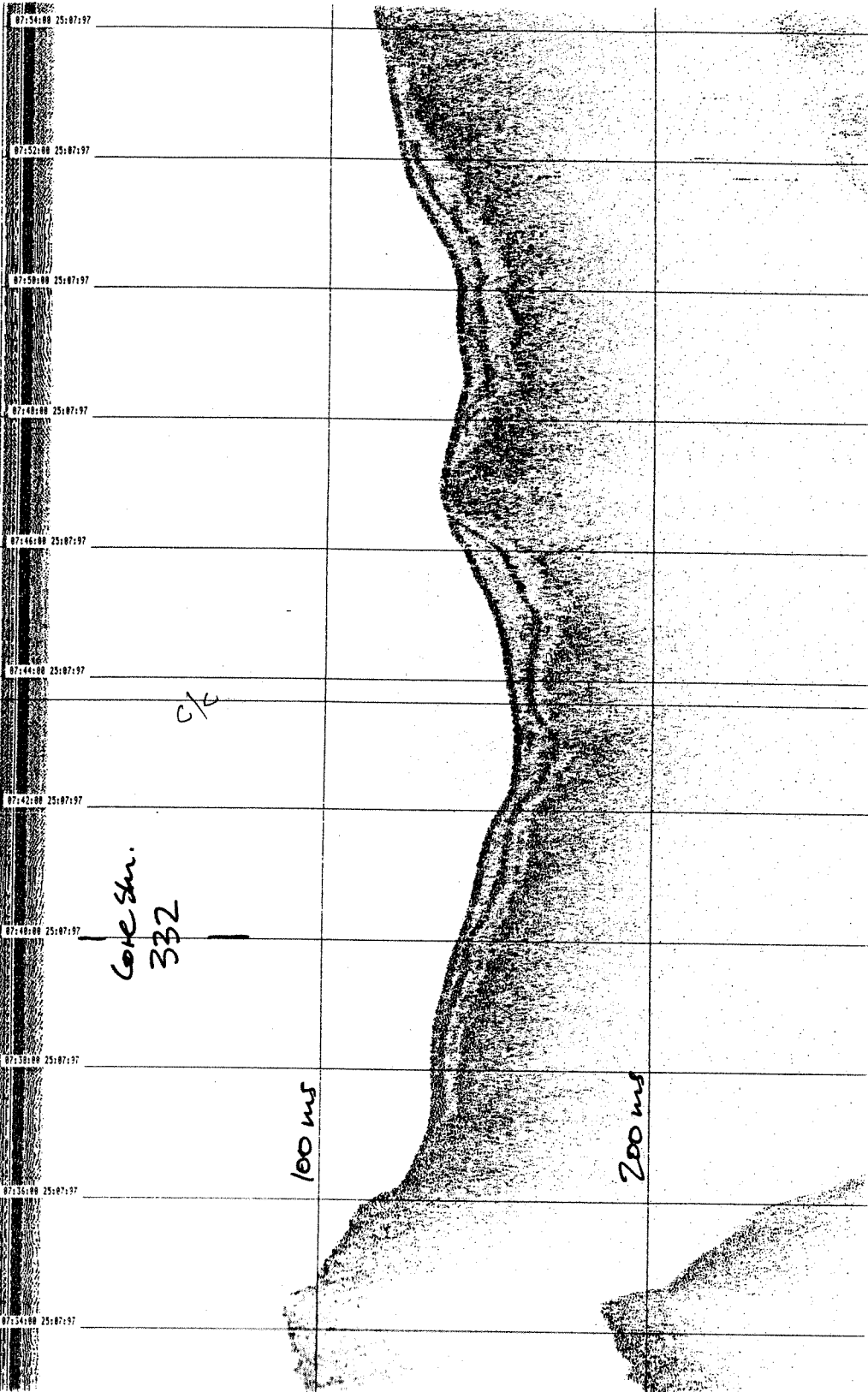
W



E

Reykjarfjörður

S

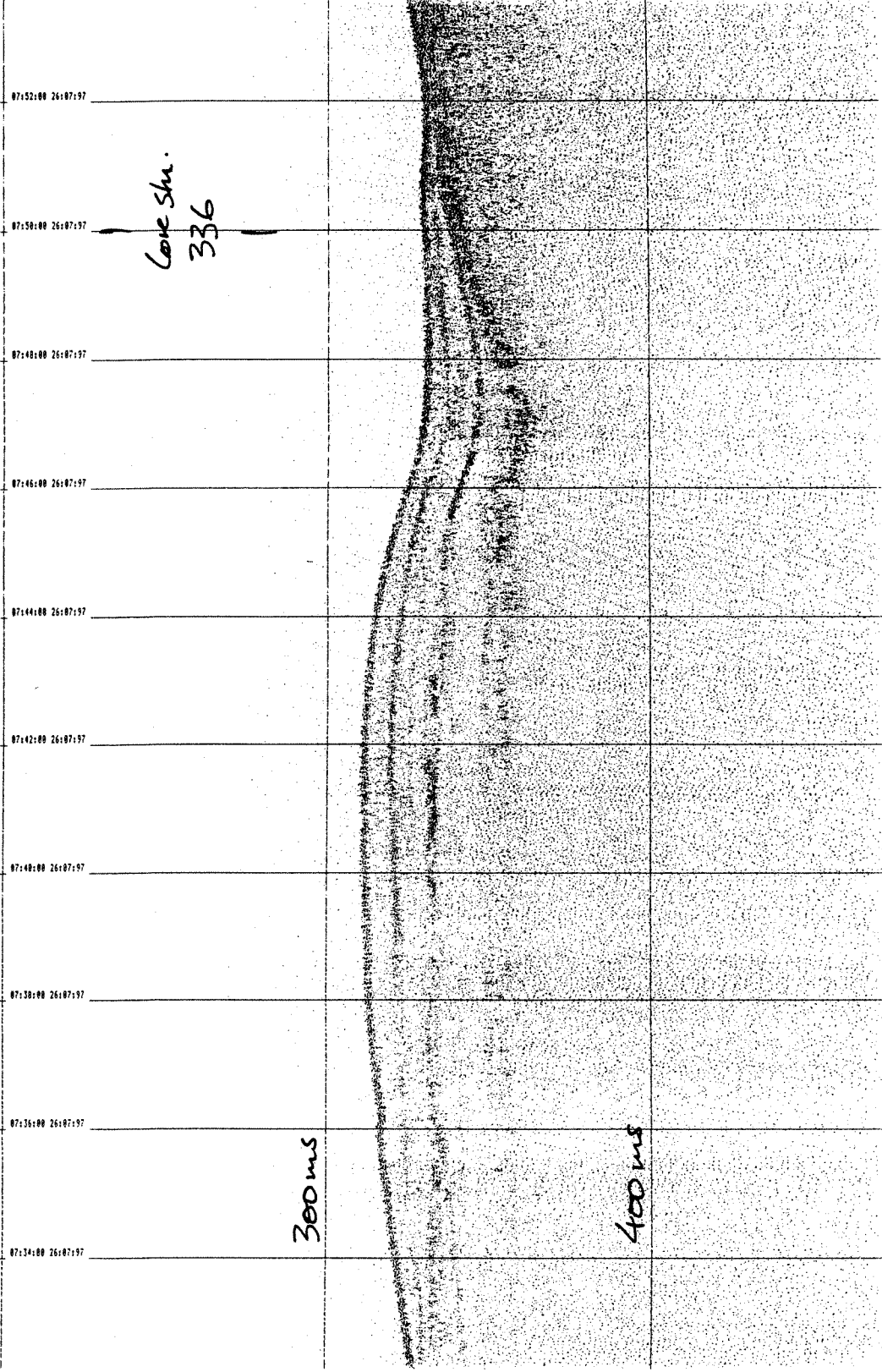


N

Off Ingólfsvörður

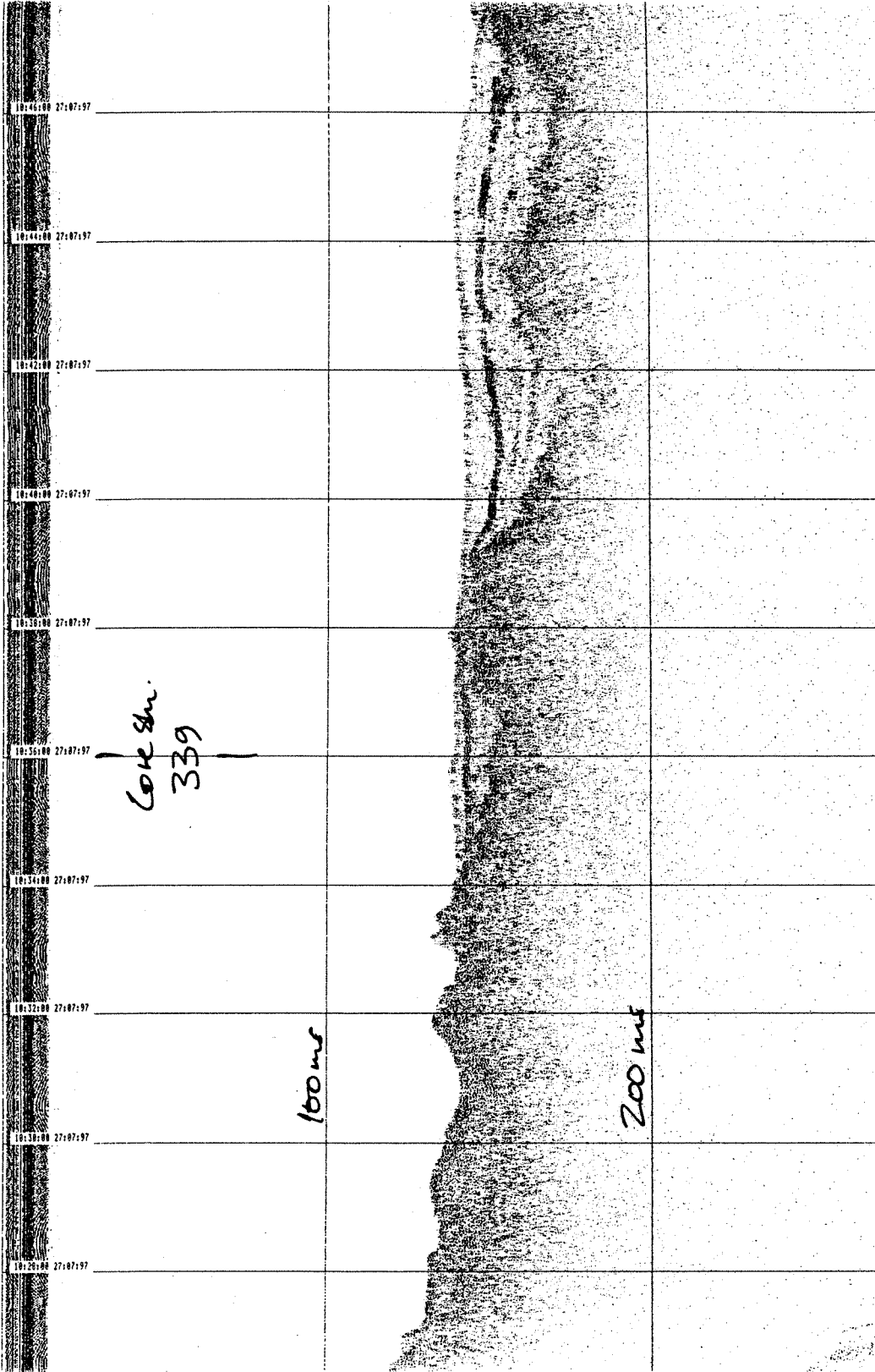
NE

SW



Djúpáll

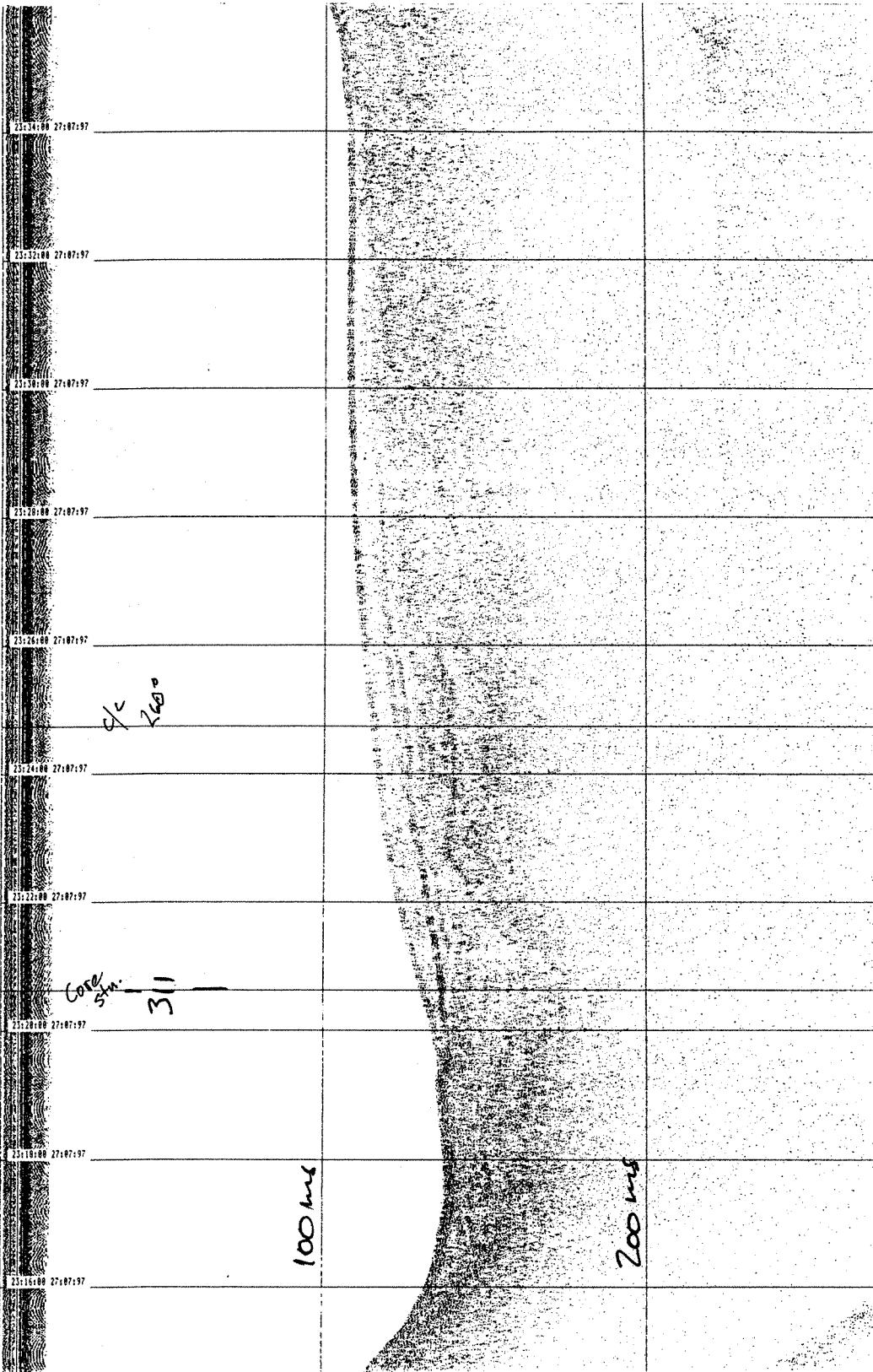
S



N

Skötufjörður

3

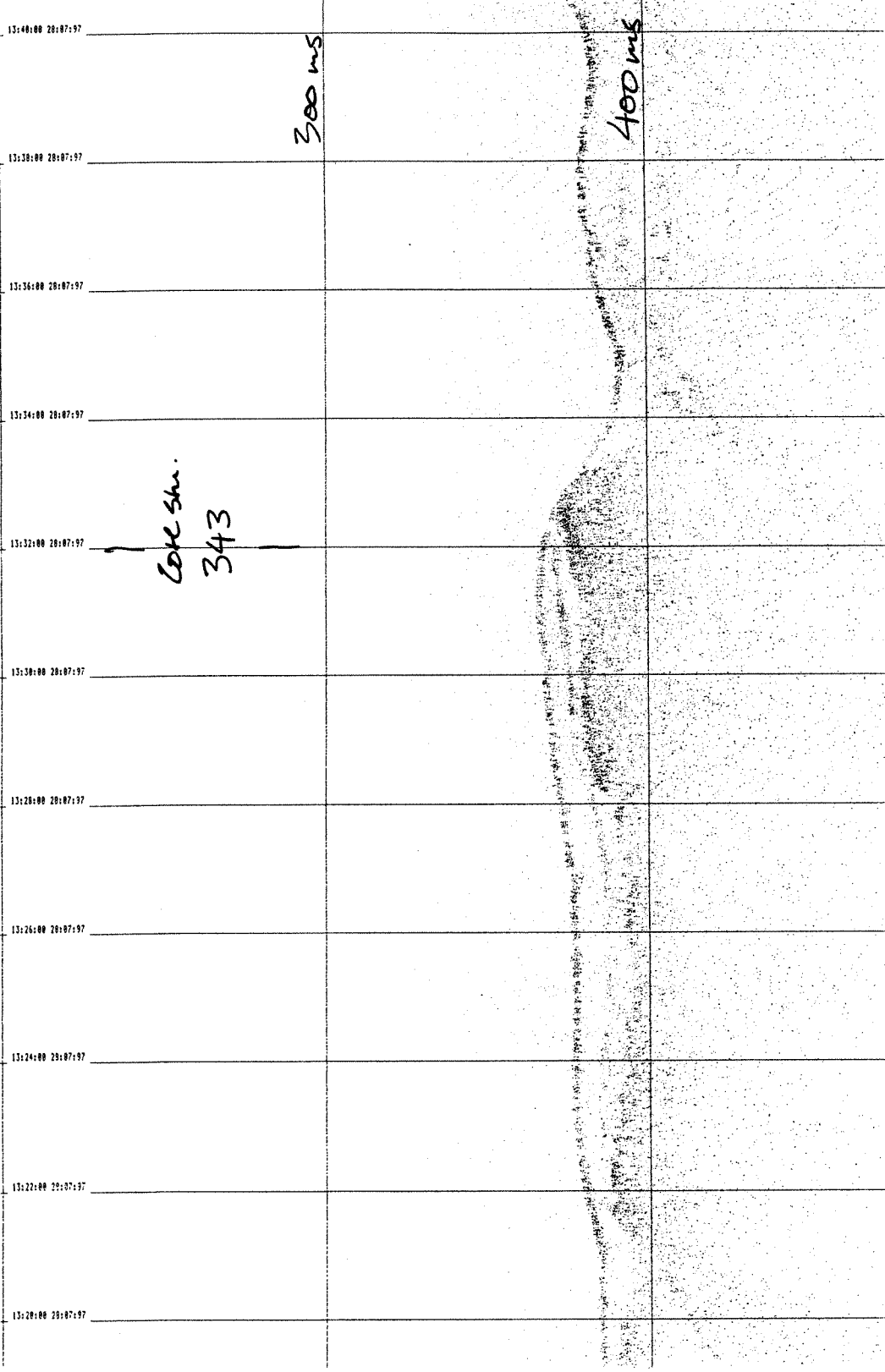


W

Jökulfirðir

SW

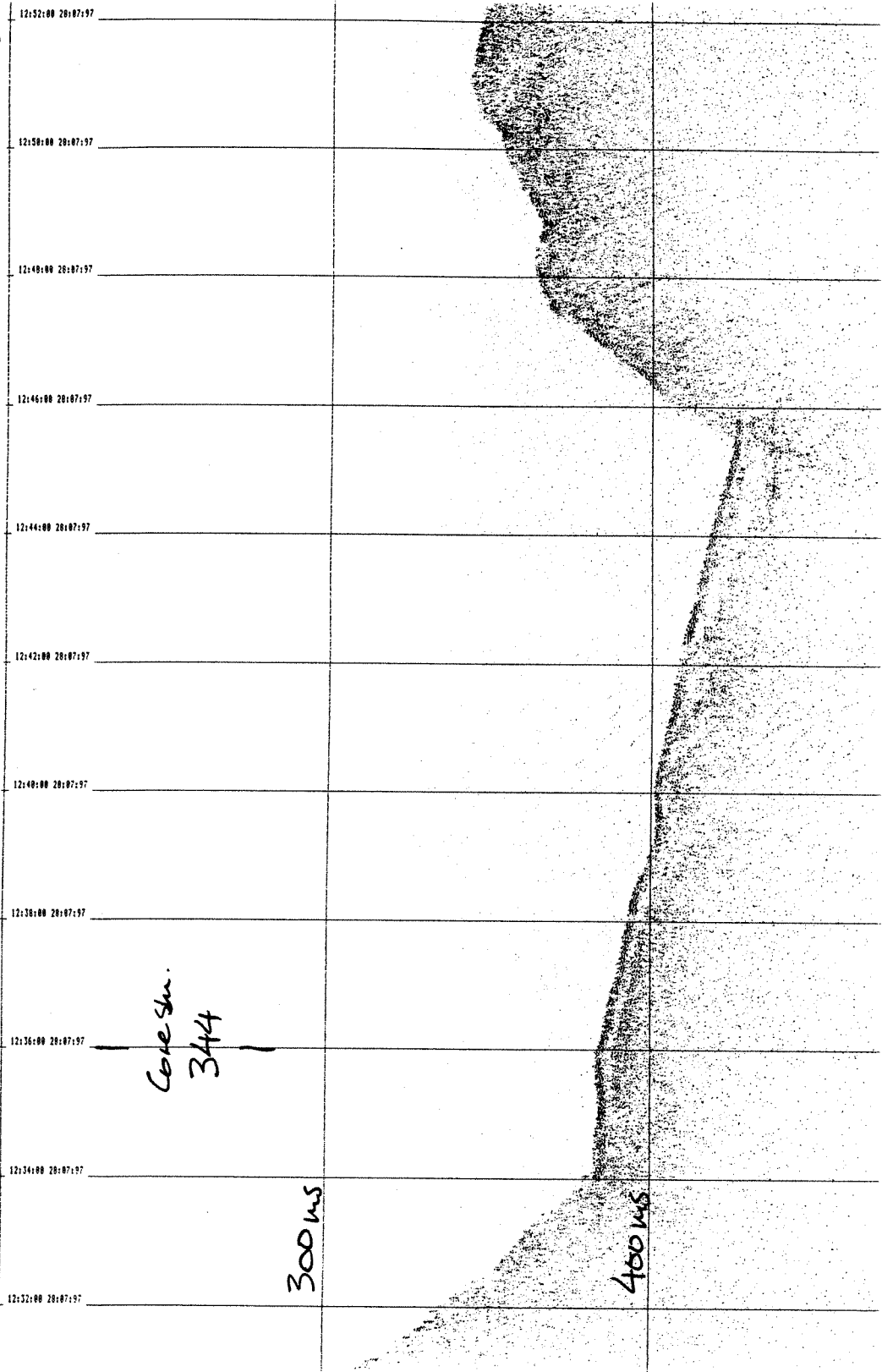
NE



Kolluáli

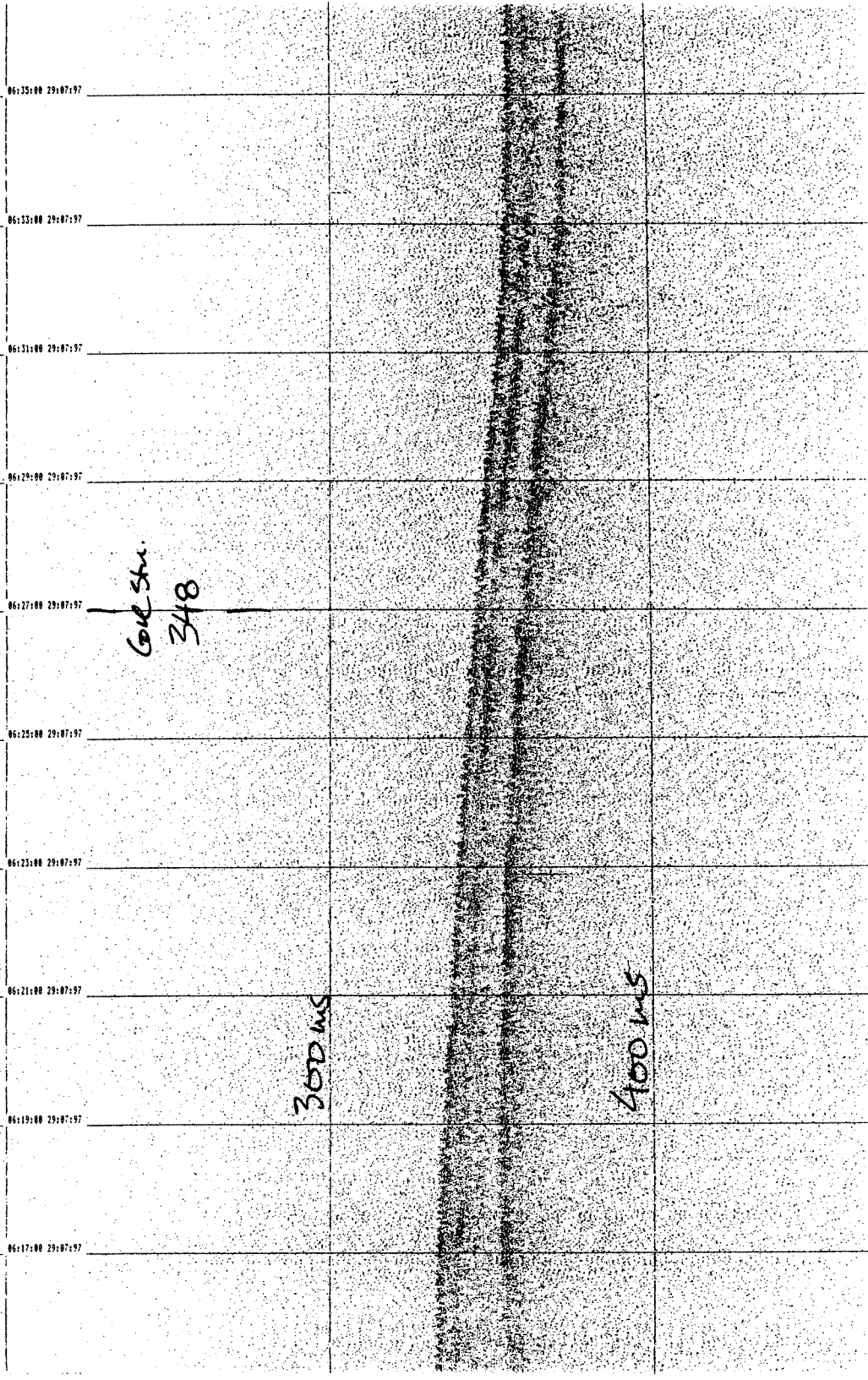
NE

SW



Kolluáil

SW



NE

Jökuldjúp

SW

02:51:00 29:07:97

02:49:00 29:07:97

02:47:00 29:07:97

02:45:00 29:07:97

02:43:00 29:07:97

02:41:00 29:07:97

02:39:00 29:07:97

02:37:00 29:07:97

02:35:00 29:07:97

02:33:00 29:07:97

02:31:00 29:07:97

NE

Core stu.
350

300ms

400ms

Jökuldjúp

