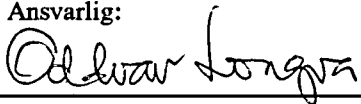


NGU Rapport 92.282

Prøvetakingstokt nr. 9205 i Skagerrak  
1992. M/S "Håkon Mosby". Toktrapport.

Rapport nr. 92.282		ISSN 0800-3416	Gradering: Åpen	
<b>Tittel:</b> Prøvetakingstokt nr. 9205 i Skagerrak 1992. M/S "Håkon Mosby". Toktrapport.				
<b>Forfatter:</b> Matthias Paetzel		<b>Oppdragsgiver:</b> NGU, UiB, Geol.inst. avd. B; Forschungszentrum TerraMare		
<b>Fylke:</b>		<b>Kommune:</b>		
<b>Kartbladnavn (M=1:250.000)</b>		<b>Kartbladnr. og -navn (M=1:50.000)</b>		
<b>Forekomstens navn og koordinater:</b>		<b>Sidetall:</b> 129	<b>Pris:</b> 150,-	
<b>Feltarbeid utført:</b> 17.-25.07.92		<b>Rapportdato:</b> 01.09.92	<b>Prosjektnr.:</b> 66.2301.22	<b>Ansvarlig:</b> 
<b>Sammendrag:</b> Norges geologiske undersøkelse, Universitetet i Bergen, geologisk inst., avd. B og Forschungszentrum TerraMare gjennomførte i perioden 17.-25. juli et prøvetakingstokt (NGU-tokt 9205) i Skagerrak.  Tøktet inngår i det maringeologiske kartleggingsprogrammets undersøkelser om marin forurensning. Rapporten gir en oversikt over og referer til innsamlete felldata.  Toktrapporten er skrevet på engelsk.				
<b>Emneord:</b>	Maringeologi		Forurensning	
			Fagrapport	

**NORGES GEOLOGISKE UNDERSØKELSE (NGU)**

**AND**

**GEOLOGISK INSTITUTT AVD. B (UiB)**

**CRUISE REPORT**

**OF**

**MGK-SKAGERRAK PROJECT**

**(Marin Geologisk Kartlegging)**

**C R U I S E 3**

**(UB-cruise: 14/92)**

**17-25 July 1992**

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## **1. General information**

### **1.1 M/S Håkon Mosby**

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<b>Contact</b>	: At UiB Karen-Sofie Olsen (Tel.: 05-21 26 01)
<b>Cruise responsibility</b>	: Matthias Paetzel, University of Bergen, Geological Institute Dep. B, Allégt. 41, N-5007 Bergen, Norway, (Tel.: 05-21 35 01)
<b>Captain</b>	: Henrik O. Færøy

### **1.2 Schedule (overview)**

<b>Institutions</b>	: NGU: Norges Geologiske Undersøkelse, Trondheim, Norway FTM: Forschungszentrum TerraMare, Wilhelmshafen, F.R.G. UG : University of Greifswald, F.R.G. UB : University of Bergen, Norway
<b>Loading</b>	: Equipment from the University in Bergen on thursday, 16 July 1992, in the afternoon.
<b>Cruise start</b>	: Friday, 17 July 1992, 08 <sup>00</sup> from Bergen
<b>Cruise stop</b>	: Saturday, 25 July 1992, 10 <sup>30</sup> in Bergen
<b>Area</b>	: Norwegian part of the Skagerrak, Raunefjord, Grimstadfjord
<b>Logistics</b>	: The work on board was divided into two six hour shifts: Shift (A) : 06 <sup>00</sup> - 12 <sup>00</sup> and 18 <sup>00</sup> - 24 <sup>00</sup> Shift (B) : 12 <sup>00</sup> - 18 <sup>00</sup> and 00 <sup>00</sup> - 06 <sup>00</sup>

### **1.3 Options**

The profile- and sampling-net (Fig. 1, Fig. 2A & 2B) of this cruise provides the western and northern completion of the pollution monitoring-net established during the last two years by the groups around A. Kuijpers (DSG, Copenhagen, Denmark) and B. Dennegård (University of Göteborg, Sweden, Fig. 4). The options of our cruise were to:

- A Provide a net of sediment surface samples along shallow seismic profiles for sedimentological, mineralogical and geochemical analysis and mapping (grain size, mineralogy, sediment type, trace metals, organic carbon etc.) of the Norwegian part of the Skagerrak.
- B Provide pore water data from key locations for organo-geochemical analysis.
- C Provide sediment samples along shallow seismic profiles for geochemical and isotope analyses from outside the fjord Nordåsvannet (i.e. Raunefjord, Grimstadfjord, Fig. 3).

**1.4 Cruise summary**

- A 17 July, 09<sup>55</sup> - 12<sup>30</sup>  
Seismic profiling and full sampling location in the Raunefjord.
- B 18 July, 16<sup>09</sup> - 24 July, 12<sup>00</sup>  
Mapping surface sediments along a dens sampling-net across the Norwegian part of the Skagerrak (Fig. 1):
- a. Shallow seismic survey along net-gridlines (mainly data used from "Geofjord"-cruise nr. 9101, spring 1991, Table 2A & 2B, Fig. 2A & 2B).
  - b. Selection of sampling locations along these profiles.
  - c. Sampling of 4 parallel surface sediment cores (50 cm long) per location with a Niemistö corer.
  - d. Sampling of 1 gravity core (3 m long) each second location.
  - e. Sampling of cores for pore water analysis (Dr. G. Liebezeit, FTM).
- C 25 July, 06<sup>12</sup> - 07<sup>15</sup>  
Seismic profiling and full sampling location in the Grimstadfjord.

**1.5 Scientific personnel**

<b>Chief scientist:</b>	Matthias Paetzel	(UB)
<b>Co-chief scientist:</b>	Terje Thorsnes	(NGU)
<b>Senior scientist:</b>	Prof. Dr. Hans Schrader	(UB)
<b>Scientific crew (alphabetical):</b>	John Anders Dahl	(NGU)
	Gjert Faye	(NGU)
	Ola Hanø	(NGU)
	Thomas Kraul	(FTM)
	Dr. Gerd Liebezeit	(FTM)
	Geir Atle Lyngvær	(NGU)
	Anne Müller	(UG)
	Ina Paetzel	(UB)
	Knut Solem	(NGU)

\*\*\*\*\*

## **2. Work on board**

### **2.1 Protocol**

Each instrument that collected data was recorded on a protocol, hand written and on computer. Each core got its own, successive station number even if several cores were taken at the same location.

Seismic records were reported on computer and at the record itself during profiling and sampling.

The time was always given in GMT (Greenwich Mean Time).

### **2.2 Labelling of samples and sub-samples**

All samples were labelled on both sides of the core:

A **Cruise number:** S3

B **Instrument:** NC = (Niemistö corer)

GC = (Gravity corer)

C **Station number:**

Each core got its own station number starting with "1" for the first core at the first location.

D **Section:** Long cores (GC) were divided into 150 cm long sections (0-150, 150-300 cm).

E **Arrow (labelled "up"):**

Pointing in upward direction on each section.

### **2.3 Description and handling of instruments**

Core samples were taken on each location in the order:

A NC: Geochemical sub-sampling (clear plastic tube)

B NC: Bulk density sub-sampling (clear plastic tube)

C NC: Unopened standard core (grey plastic tube)

D NC: Unopened standard core (grey plastic tube)

E GC: Gravity corer (grey plastic liner)

#### **A NC geochemical sub-sampling**

These samples will be used for trace metal, organic carbon, CaCO<sub>3</sub> and other geochemical analysis. Sub-sampling was done on a NC standard core (see C&D). The upper 20 cm were cut on a special, water cleaned, cutting device into 2 cm thick slices. Additional sediment slices of 2 cm thickness were taken at 25-27 cm, 35-37 cm, 45-47 cm and 55-57 cm. All slices were stored in clean plastic bags and deep frozen. Medical rubber gloves were used to avoid contamination.

**B NC bulk density sub-sampling**

Bulk density sub-samples will be used for wet and dry bulk density, watercontent and porosity analysis. Sub-sampling was done on standard NC with (taped) holes every 5 cm. Plastic syringes with cut off heads were pushed carefully into these holes and a volume of 10 ml wet sediment was taken at each hole. The sub-samples were pushed into weighted plastic bags and stored in a refrigerator until laboratory analysis.

**C&D NC standard core**

NC standard cores will be needed for the recovery of intact surface sediment samples, including the sediment-water interface.

Pipe length	:	76 cm
Pipe diameter	:	63 mm

NC cores were always treated vertically. All NC cores were stored with recovered water on top.

**E GC gravity corer (3 m)**

The Gravity corer will be used as depth reference for the NC samples.

Pipe length	:	3 m
Pipe diameter	:	110 mm, thick walled

Cores with a recovery of > 150 cm were divided into 150 cm long sections.

**F Acoustic instruments**

The 34.5 kHz echo sounder and the 3.5 kHz ORE precision depth recorder (PDR) recorded continuously data during all profiling and sampling.

The seismic records of locations 6-55 were taken by the RV Geofjord during MGK-cruise nr. 9101. Signal sources were: Airgun (20 inch<sup>3</sup> = AG), Sleevegun (40 inch<sup>3</sup> = SG) and an EG&G Boomer (500 Joule = BO), see Table 2B and Fig. 2B. See also NGU report nr. 91.014 for detailed technical information and grid lines.

**G Pore water analysis**

Results from pore water analysis were not available upon finishing of this report. They will be included at a later stage.

\*\*\*\*\*

### **3. Material**

Following is a list of all the materials we used in the various instruments:

#### **A Plastic**

Core curation: Gray plastic caps, 110 mm (GC, PC)

Type: WIPCO 110, OSLO/NORWAY

Core curation: Red rubber caps, 63 mm (NC)

Type: GJÆRLÅSHETTER NR. 3 <sup>U</sup>/HULL 63 mm-ID-45 mm deep

Coring: Clear plastic liner, 63 mm (NC)

Type: PVC 63 mm

Coring: Gray plastic liner, 63 mm (NC)

Type: PVC 63 mm PN 10 <sup>U</sup>/MUFFE

Coring: Thick walled gray plastic liner, 110 mm (GC)

Type: PVC HT 110 x 6 mm <sup>U</sup>/MUFFE

Coring: White medical tape (NC bulk density samples)

Type: SCANTAPE (NP TAPE) POLYNOR, 50 mm x 25 m

#### **B Metal**

Core catcher GC (110 mm):

Bronze plate (0.35 mm)

Quality: CuSn<sub>5</sub>ZnPb, NS 1589 red metal (Cu = 85%, Sn = 5%, Zn = 5%, Pb = 5%)

Brass tube (115 x 105 mm)

Quality: CuZn<sub>37</sub>-CuZn<sub>39</sub>Pb<sub>3</sub>

Steel top NC:

Stainless steel

\*\*\*\*\*

#### **4. Suggestions, Problems**

- A Most of the gravity cores were overpenetrated by 10-20 cm in spite of the fact that all lead weight was removed. Next time the unleaded core head (at the time being at NGU) will be used.
- B Round "polyfoam" pluggs are needed in order to avoid outflow of surface material in gravity cores.
- C Bulk density sub-sampling: There was water along the inner edge of core barrels. In most cases the water was drained first before taking syringe samples. Large uncertainties may be due to this effect. The inner core catcher diameter has to be matched to the bulk density core liner.
- D The geochemical sub-sampling tool needs to be redesigned: - The cutting sheet needs to have edge extentions so that one can by hand push it, in order to cut core slices. The pushrods are unnecessary. - The whole turning contraption can be taken off.
- E All cores, core catchers must fit into standard size.
- F A bulk density sub-sampling device was requested.
- G A cradle for the GC head will increase security when handling the GC in bad weather.
- H It is necessary to develope a closing mechanism for the NC barrel to hinder the loss of cores.

\*\*\*\*\*

**5. Tables**

Table 1 Station protocol cruise 3. **Note:** Location 41-37 occur in descending order.

Table 2 Seismic protocol:

A Skagerrak cruise 3

B Geofjord cruise 9101

Table 3 Wet/dry bulk density & water content & porosity. **Note:** Location 41-37 occur in descending order

\*\*\*\*\*

## **6. Figures**

- Figure 1        Location map of Skagerrak cruise 3
- Figure 2        Map of seismic profile-net of:  
                  A        Skagerrak cruise 3  
                  B        Geofjord cruise 9101
- Figure 3        Location and seismic profile map of the Raunefjord and Grimstadfjord
- Figure 4        Location map of the Danish/Swedish pollution monitoring program
- Figure 5 a-b    Seismic record of profile A-B, location 1
- Figure 6        Seismic record of profile C-D, location 2
- Figure 7 a-c    Seismic record of profile E-F, location 3-5
- Figure 8        Seismic record of profile G-H, location 56
- Figure 9-58    Seismic record of location 6-55. All locations are positioned on crossing points of seismic profile lines from Geofjord cruise 9101. **Note:** Location 41-37 occur in descending order.
- Figure 59-87   Wet/dry bulk density & water content/porosity of all NC, GC  
**Note:** Location 41-37 in descending order

\*\*\*\*\*



**Table 1**

**Station protocol Skagerrak cruise 3. NOTE: Location 41-37 occur  
in descending order.**

Station (nr.)	date 1992	latitude degree N	longitude degree E	depth (m)	corer	time (GMT)	recovery (cm)	remarks
LOCATION 1 (Raunefjord)								
1	17 July	60 16.54	05 11.56	185	NC CHEM	10:55	50	upper 40 cm in 2 cm slices
2	17 July	60 16.59	05 11.57	185	NC DST	11:33	57	#1 at 5 cm
3	17 July	60 16.53	05 11.35	185	NC GREY	11:53	FULL	stored
4	17 July	60 16.53	05 11.35	185	NC GREY		FULL	stored
5	17 July	60 16.53	05 11.35	185	NC PW		FULL	pore-water
6	17 July	60 16.53	05 11.35	185	GC 3m		320	take off half weight
7	17 July	60 16.53	05 11.35	185	GC 3m		290	ok
LOCATION 2 ("HVALERDYPET")								
8	18 July	58 59.59	10 40.48	460	NC PW	17:10	FULL	pore-water
9	18 July	58 59.66	10 40.44	460	NC CHEM	17:38	76	upper 20 cm in 2 cm slices, 25, 35 etc.
10	18 July	58 59.67	10 40.46	460	NC DST	17:51	FULL	12 samples, #1 at 2.5 cm
11	18 July	58 59.69	10 40.31	460	NC GREY	18:13	FULL	stored
12	18 July	58 59.63	10 40.18	460	NC GREY	18:35	FULL	stored
13	18 July	58 59.62	10 40.19	460	GC 3m	19:02	320	2 sections
14	18 July	58 59.60	10 40.37	460	GC 3m	19:51	310	2 sections
15	18 July	58 59.62	10 40.37	460	GC 4m	20:30	390	pore-water
LOCATION 3								
16	19 July	58 57.81	10 22.70	108	NC CHEM	01:02	47	upper 20 cm in 2 cm slices, 25, 35 etc.
17	19 July	58 57.81	10 22.70	108	NC DST	01:14	50	#1 at 1 cm
18	19 July	58 57.81	10 22.70	105	NC GREY	01:30	FULL	stored
19	19 July	58 57.81	10 22.70	111	NC GREY	01:45	FULL	stored
LOCATION 4								
20	19 July	58 55.098	10 28.861	159	NC CHEM	02:30		upper 20 cm in 2 cm slices, 25, 35 etc.
21	19 July	58 55.098	10 28.861	157	NC DST	02:49		#1 at 1 cm
22	19 July	58 55.098	10 28.861	163	NC GREY		FULL	stored
23	19 July	58 55.098	10 28.861	154	NC GREY		FULL	stored
LOCATION 5								
24	19 July	58 51.34	10 34.86	120	NC CHEM	05:15		upper 20 cm in 2 cm slices, 25, 35 etc.
25	19 July	58 51.31	10 34.83	120	NC DST	05:25	EMPTY	
26	19 July	58 51.33	10 34.95	120	NC DST	06:01		#1 at ? cm
27	19 July	58 51.33	10 34.95	120	NC GREY		FULL	stored
28	19 July	58 51.32	10 34.97	120	NC GREY	06:24	FULL	stored
LOCATION 6								
29A	19 July	58 41.75	10 28.99	140	NC PW	07:42	FULL	pore-water
29B	19 July	58 41.80	10 28.96	140	NC CHEM	07:57	83	upper 20 cm in 2 cm slices, 25, 35 etc.
30	19 July	58 41.80	10 28.90	140	NC GREY	08:05	FULL	stored
31	19 July	58 41.78	10 28.86	140	NC GREY	08:19	FULL	stored
32	19 July	58 41.81	10 28.91	140	NC DST	08:30	66	11 samples
LOCATION 7								
33	19 July	58 45.05	10 20.93	167	NC CHEM	09:18		upper 20 cm in 2 cm slices, 25, 35 etc.
34	19 July	58 44.99	10 20.82	166	NC GREY	09:26	FULL	stored
35	19 July	58 45.07	10 20.88	166	NC GREY	09:42	FULL	stored
36	19 July	58 45.08	10 20.78	166	NC DST	09:53		? samples
LOCATION 8								
37	19 July	58 48.73	10 14.74	184	NC CHEM	11:18	65	upper 20 cm in 2 cm slices, 25, 35 etc.
38	19 July	58 48.73	10 14.74	184	NC DST		70	12 samples, #1 at 6 cm
39	19 July	58 48.73	10 14.74	183	NC GREY	11:55	FULL	stored
40	19 July	58 48.73	10 14.74	185	NC GREY		FULL	stored
41	19 July	58 48.73	10 14.74	185	GC 3m	12:11	300	2 sections
LOCATION 9								
42	19 July	58 53.21	10 04.10	211	NC CHEM	20:12	FULL	upper 20 cm in 2 cm slices, 25, 35 etc.
43	19 July	58 53.17	10 03.96	211	NC GREY	20:24	FULL	stored
44	19 July	58 53.21	10 04.06	211	NC GREY	20:33	FULL	stored
45	19 July	58 53.19	10 04.01	211	NC DST	20:45		8 samples
LOCATION 10								
46	19 July	58 52.45	09 50.52	349	NC CHEM	21:58	FULL	upper 20 cm in 2 cm slices, 25, 35 etc.
47	19 July	58 52.45	09 50.52	349	NC DST		67	10 samples, #1 at 1 cm
48	19 July	58 52.45	09 50.52	349	NC GREY		FULL	stored
49	19 July	58 52.45	09 50.52	349	NC GREY		FULL	stored
50	19 July	58 52.45	09 50.52	351	GC 3m	22:50	310	2 sections, minus upper 10 cm
LOCATION 11								
51	19 July	58 48.46	09 57.84	184	NC CHEM	23:51	60	upper 20 cm in 2 cm slices, 25, 35 etc.
52	20 July	58 48.43	09 57.58	184	NC DST	00:00		4 samples, #1 at 4.5 cm
53	20 July	58 48.42	09 57.59	182	NC GREY	00:10	FULL	stored
54	20 July	58 48.43	09 57.33	177	NC GREY	00:21	FULL	stored
LOCATION 12								
55	20 July	58 44.72	10 05.74	262	NC CHEM	01:05	55	upper 20 cm in 2 cm slices, 25, 35 etc.
56	20 July	58 44.75	10 05.68	262	NC DST	01:22		#1 at 3.5 cm
57	20 July	58 44.74	10 05.59	260	NC GREY	01:33	FULL	stored
58	20 July	58 44.73	10 05.42	260	NC GREY	01:41	FULL	stored
59	20 July	58 44.70	10 05.82	260	GC 3m	02:10	310	2 sections, minus upper 10 cm
LOCATION 13								
60	20 July	58 41.12	10 13.33	277	NC CHEM	02:50	60	upper 20 cm in 2 cm slices, 25, 35 etc.
61	20 July	58 41.27	10 13.53	277	NC DST	03:06		#1 at 1 cm
62	20 July	58 41.23	10 13.57	277	NC GREY		FULL	stored
63	20 July	58 41.26	10 13.67	276	NC GREY	03:35	FULL	stored

LOCATION 14									
64	20 July	58 37.47	10 21.10	242	NC CHEM	04:41	50		upper 20 cm in 2 cm slices, 25, 35 etc.
65	20 July	58 37.47	10 21.10	242	NC GREY	04:51	FULL		stored
66	20 July	58 37.47	10 21.11	242	NC GREY	05:05	FULL		stored
67	20 July	58 37.46	10 21.11	242	NC DST	05:17	63		#1 at 1 cm
68	20 July	58 37.47	10 21.12	240	GC 3m	06:06	330		2 sections, minus upper 10 cm
69	20 July	58 37.47	10 21.10	240	GC 4m	06:40	320		2 sections, minus upper 10 cm
LOCATION 15									
70	20 July	58 33.48	10 14.94	334	NC PW	07:31	FULL		pore-water
71	20 July	58 33.50	10 14.92	334	NC CHEM	07:41	67		upper 20 cm in 2 cm slices, 25, 35 etc.
72	20 July	58 33.50	10 14.91	334	NC GREY	07:53	FULL		stored
73	20 July	58 33.49	10 14.88	334	NC GREY	08:06	FULL		stored
74	20 July	58 33.49	10 14.90	334	NC DST	08:17	65		#1 at 3.5 cm
LOCATION 16									
75	20 July	58 37.08	10 06.11	420	NC CHEM	09:09	58		upper 20 cm in 2 cm slices, 25, 35 etc.
76	20 July	58 37.09	10 06.11	420	NC GREY	09:22	FULL		stored
77	20 July	58 37.11	10 06.16	420	NC GREY	09:36	FULL		stored
78	20 July	58 37.13	10 06.13	420	NC DST	09:50	60		9 samples, #1 at 5.5 cm
79	20 July	58 37.02	10 07.73	423	GC 3m	10:12	300		2 sections
LOCATION 17									
80	20 July	58 40.77	09 58.39	550	NC CHEM	11:14	60		upper 20 cm in 2 cm slices, 25, 35 etc.
81	20 July	58 40.78	09 58.47	550	NC DST	11:31	50		8 samples, #1 at 1 cm
82	20 July	58 40.83	09 58.60	550	NC GREY		FULL		stored
83	20 July	58 40.92	09 58.69	550	NC GREY		FULL		stored
LOCATION 18									
84	20 July	58 44.36	09 50.88	404	NC CHEM	12:56	50		upper 20 cm in 2 cm slices, 25, 35 etc.
85	20 July	58 44.40	09 50.89	405	NC DST	13:30	40		7 samples, #1 at 1 cm
86	20 July	58 44.40	09 50.95	393	NC GREY	13:45	FULL		stored
87	20 July	58 44.32	09 50.90	393	NC GREY	14:00	FULL		stored
88	20 July	58 44.40	09 51.09	381	GC 3m	14:15	310		2 sections, minus upper 10 cm
LOCATION 19									
89	20 July	58 48.03	09 43.27	284	NC CHEM	15:16	57		upper 20 cm in 2 cm slices, 25, 35 etc.
90	20 July	58 48.09	09 43.33	285	NC DST		40		7 samples, #1 at 4.5 cm
91	20 July	58 48.13	09 43.43	284	NC GREY	15:35	FULL		stored
92	20 July	58 48.17	09 43.48	284	NC GREY	15:50	FULL		stored
LOCATION 20									
93	20 July	58 44.70	09 35.57	235	NC CHEM	17:05			upper 20 cm in 2 cm slices, 25, 35 etc.
94	20 July	58 44.75	09 35.58	235	NC GREY	17:14	FULL		stored
95	20 July	58 44.73	09 35.64	235	NC GREY	17:26	FULL		stored
No more sampling because of coarse material (gravel, =>moraine?)									
LOCATION 21									
96	20 July	58 40.51	09 43.81	377	NC DST	18:54			9 samples
97	20 July	58 40.52	09 43.76	377	NC GREY	19:06	FULL		stored
98	20 July	58 40.49	09 43.82	377	NC GREY	19:18	FULL		stored
99	20 July	58 40.49	09 43.84	377	NC CHEM	19:31			upper 20 cm in 2 cm slices, 25, 35 etc.
100	20 July	58 40.49	09 43.84	377	GC 3m	19:48	320		2 sections
LOCATION 22									
101	20 July	58 36.93	09 51.70	455	NC CHEM	21:03			upper 20 cm in 2 cm slices, 25, 35 etc.
102	20 July	58 36.87	09 51.62	455	NC GREY	21:17	FULL		stored
103	20 July	58 36.89	09 51.62	455	NC GREY	21:32	FULL		stored
104	20 July	58 36.87	09 51.63	455	NC DST	21:48			9 samples, #1 at 5 cm
105	20 July	58 36.83	09 51.63	455	GC 3m	22:05	270		2 sections, clear water on top
LOCATION 23									
106	20 July	58 33.21	09 59.31	540	NC POREW	23:08	50		pore-water
107	20 July	58 33.24	09 59.36	531	NC CHEM	23:41	50		upper 20 cm in 2 cm slices, 25, 35 etc.
108	20 July	58 33.23	09 59.40	532	NC DST		50		7 samples, #1 at 3.5 cm
109	21 July	58 33.27	09 59.23	530	NC GREY	00:10	FULL		stored
110	21 July	58 33.26	09 59.35	528	NC GREY	00:31	FULL		stored
LOCATION 24									
111	21 July	58 29.63	10 07.05	491	NC CHEM	01:21	40		upper 20 cm in 2 cm slices, 25, 35 etc.
112	21 July	58 29.64	10 07.06	492	NC DST	01:45	40		7 samples, #1 at 2 cm
113	21 July	58 29.61	10 07.09	496	NC GREY	01:56	FULL		stored
114	21 July	58 29.57	10 07.09	495	NC GREY	02:11	FULL		stored
115	21 July	58 29.53	10 07.01	498	GC 3m	02:25	280		2 sections, clear water on top
LOCATION 25									
116	21 July	58 25.69	09 59.73	551	NC CHEM	03:23	51.5		upper 20 cm in 2 cm slices, 25, 35 etc.
117	21 July	58 25.68	09 59.65	551	NC DST	04:02			10 samples, #1 at 2 cm
118	21 July	58 25.69	09 59.77	550	NC GREY	04:36	FULL		stored
119	21 July	58 25.67	09 59.59	550	NC GREY	04:52	FULL		stored
LOCATION 26									
120	21 July	58 29.37	09 51.91	505	NC CHEM	05:58			upper 20 cm in 2 cm slices, 25, 35 etc.
121	21 July	58 29.32	09 51.90	505	NC GREY	06:14	FULL		stored
122	21 July	58 29.32	09 51.92	504	NC GREY	06:30	FULL		stored
123	21 July	58 29.34	09 52.00	504	NC DST	06:46			10 samples
124	21 July	58 29.41	09 51.97	504	GC 3m	07:05	270		2 sections
LOCATION 27									
125	21 July	58 33.23	09 43.86	481	NC CHEM	08:01			upper 20 cm in 2 cm slices, 25, 35 etc.
126	21 July	58 33.20	09 43.88	481	NC GREY	08:15	FULL		stored
127	21 July	58 33.24	09 43.95	481	NC GREY	08:30	FULL		stored
128	21 July	58 33.27	09 43.78	481	NC DST	08:44			8 samples, #1 at 4 cm
LOCATION 28									
129	21 July	58 36.59	09 36.68	556	NC CHEM	09:32			upper 20 cm in 2 cm slices, 25, 35 etc.
130	21 July	58.36.62	09.36.58	556	NC GREY	09:48	FULL		stored

131	21 July	58 36.60	09 36.70	561	NC GREY	10:07	FULL	stored
132	21 July	58 36.56	09 36.71	558	NC DST	10:22		8 samples, #1 at 1 cm
133	21 July	58 36.55	09 36.78	560	GC 3m	10:39	320	2 sections, minus upper 10 cm
LOCATION 29								
134	21 July	58 40.06	09 28.87	312	NC CHEM	11:18	67	upper 20 cm in 2 cm slices, 25, 35 etc.
135	21 July	58 40.13	09 28.87	312	NC DST	01:50	55	8 samples, #1 at 1 cm
136	21 July	58 40.03	09 28.84	312	NC GREY	12:00	FULL	stored
137	21 July	58 40.08	09 28.86	314	NC GREY	12:20	FULL	stored
LOCATION 30								
138	21 July	58 35.92	09 22.59	281	NC CHEM	15:25	37	upper 20 cm in 2 cm slices, 25, 35 etc.
139	21 July	58 36.88	09 22.57	282	NC DST	15:51		4 samples, #1 at 4 cm
140	21 July	58 35.85	09 22.62	281	NC GREY	16:06	FULL	stored
141	21 July	58 35.83	09 22.71	281	NC GREY	16:17	FULL	stored
142	21 July	58 35.87	09 22.61	281	GC 3m	16:33	320	2 sections, minus upper 10 cm
LOCATION 31								
143	21 July	58 32.40	09 29.56	526	NC CHEM	17:32		upper 20 cm in 2 cm slices, 25, 35 etc.
144	21 July	58 32.39	09 29.51	526	NC GREY	17:53	FULL	stored
145	21 July	58 32.37	09 29.59	526	NC GREY	18:08	FULL	stored
146	21 July	58 32.35	09 29.76	526	NC DST	18:23		11 samples, #1 at 1 cm
LOCATION 32								
147	21 July	58 28.80	09 37.67	596	NC CHEM	19:29		upper 20 cm in 2 cm slices, 25, 35 etc.
148	21 July	58 28.79	09 37.60	594	NC DST	19:46		9 samples, #1 at 4 cm
149	21 July	58 28.84	09 37.60	594	NC GREY	20:03	FULL	stored
150	21 July	58 28.80	09 37.63	594	NC GREY	20:19	FULL	stored
151	21 July	58 28.80	09 37.53	594	GC 3m	21:16	250	2 sections
LOCATION 33								
152	21 July	58 25.37	09 44.97	614	NC PW	22:12	46	pore-water
153	21 July	58 25.32	09 44.88	616	NC CHEM	22:29	56	upper 20 cm in 2 cm slices, 25, 35 etc.
154	21 July	58 25.42	09 44.74	619	NC DST	22:47	52	9 samples, #1 at 4 cm
155	21 July	58 25.36	09 44.76	622	NC GREY	23:05	FULL	stored
156	21 July	58 25.35	09 44.64	622	NC GREY	23:24	FULL	stored
LOCATION 34								
157	22 July	58 21.68	09 52.87	527	NC CHEM	00:16	48	upper 20 cm in 2 cm slices, 25, 35 etc.
158	22 July	58 21.58	09 52.60	528	NC DST	00:32	65	10 samples, #1 at 1 cm
159	22 July	58 21.52	09 52.64	531	NC GREY	00:47	FULL	stored
160	22 July	58 21.68	09 52.57	530	NC GREY	01:06	FULL	stored
161	22 July	58 21.64	09 52.63	527	GC 3m	01:21	265	2 sections
LOCATION 35								
162	22 July	58 17.10	10 02.49	488	NC CHEM	02:36	62	upper 20 cm in 2 cm slices, 25, 35 etc.
163	22 July	58 17.25	10 02.52	483	NC DST	02:52	62	9 samples, #1 at 4.5 cm
164	22 July	58 17.08	10 02.59	492	NC GREY	03:13	FULL	stored
165	22 July	58 17.21	10 02.71	490	NC GREY	03:28	FULL	stored
LOCATION 36								
166	22 July	58 13.00	09 55.61	461	NC CHEM	04:33	FULL	upper 20 cm in 2 cm slices, 25, 35 etc.
167	22 July	58 13.01	09 55.58	466	NC DST	04:49		9 samples, #1 at 3 cm
168	22 July	58 13.01	09 55.60	465	NC GREY	05:03	FULL	stored
169	22 July	58 13.01	09 55.64	466	NC GREY	05:17	FULL	stored
170	22 July	58 12.99	09 55.66	466	GC 3m	06:09	250	2 sections
LOCATION 37								
171	22 July	58 31.97	09 15.99	296	NC CHEM	20:25		upper 20 cm in 2 cm slices, 25, 35 etc.
172	22 July	58 31.98	09 15.96	296	NC DST	20:35		11 samples, #1 at 4.5 cm
173	22 July	58 32.00	09 16.02	296	NC GREY	20:46	FULL	stored
174	22 July	58 32.00	09 15.95	294	NC GREY	20:57	FULL	stored
LOCATION 40								
175	22 July	58 28.49	09 23.60	414	NC CHEM	21:43	FULL	upper 20 cm in 2 cm slices, 25, 35 etc.
176	22 July	58 28.49	09 23.60	412	NC DST	21:57		10 samples, #1 at 10 cm
177	22 July	58 28.48	09 23.64	418	NC GREY	22:12	FULL	stored
178	22 July	58 28.43	09 23.68	418	NC GREY	22:21	FULL	stored
179	22 July	58 28.37	09 23.69	424	GC 3m	22:33	310	2 sections, minus upper 10 cm
LOCATION 39								
180	22 July	58 24.91	09 30.33	538	NC CHEM	23:36	55	upper 20 cm in 2 cm slices, 25, 35 etc.
181	22 July	58 24.90	09 30.31	536	NC DST	23:51	60	10 samples, #1 at 4 cm
182	23 July	58 24.91	09 30.37	536	NC GREY	00:06	FULL	stored
183	23 July	58 24.89	09 30.35	537	NC GREY	00:21	FULL	stored
LOCATION 40								
184	23 July	58 21.26	09 37.47	649	NC PW	01:13	61	pore-water
185	23 July	58 21.28	09 37.77	648	NC CHEM	01:37	61	upper 20 cm in 2 cm slices, 25, 35 etc.
186	23 July	58 21.30	09 37.61	648	NC DST	01:46	60	10 samples, #1 at 1 cm
187	23 July	58 21.31	09 37.52	647	NC GREY	02:05	FULL	stored
188	23 July	58 21.29	09 37.59	646	NC GREY	02:24	FULL	stored
189	23 July	58 21.41	09 37.64	645	GC 3m	02:46	310	2 sections, minus upper 10 cm
190	23 July	58 21.21	09 37.63	648	GC PW 4m	03:20	330	2 sections, opened, pore-water, dst, pH
LOCATION 41								
191	23 July	58 17.80	09 45.47	609	NC CHEM	04:33	61	upper 20 cm in 2 cm slices, 25, 35 etc.
192	23 July	58 17.83	09 45.36	610	NC DST	04:49	58.5	#1 at 7 cm
193	23 July	58 17.81	09 45.39	610	NC GREY	05:06	FULL	stored
194	23 July	58 17.86	09 45.35	610	NC GREY	05:25	FULL	stored
LOCATION 42								
195	23 July	58 09.70	09 47.20	463	NC CHEM	06:32		upper 20 cm in 2 cm slices, 25, 35 etc.
196	23 July	58 09.48	09 47.19	463	NC DST	06:46	63	10 samples, #1 at 2 cm
197	23 July	58 09.54	09 47.25	463	NC GREY	06:59	FULL	stored
198	23 July	58 09.61	09 47.32	463	NC GREY	07:15	FULL	stored

LOCATION 43									
199	23 July	58 13.94	09 38.07	565	NC CHEM	08:09	FULL		upper 20 cm in 2 cm slices, 25, 35 etc.
200	23 July	58 13.89	09 38.03	565	NC DST	08:27			7 samples, #1 at 5 cm
201	23 July	58 13.91	09 38.01	565	NC GREY	08:45	FULL		stored
202	23 July	58 13.90	09 38.05	565	NC GREY	09:02	FULL		stored
203	23 July	58 13.87	09 38.06	565	GC 3m	09:22	320		2 sections
LOCATION 44									
204	23 July	58 17.78	09 30.68	662	NC CHEM	10:41	55		upper 20 cm in 2 cm slices, 25, 35 etc.
205	23 July	58 17.63	09 30.55	662	NC DST	11:14	50		9 samples, #1 at 3.5 cm
206	23 July	58 17.66	09 30.68	662	NC GREY	11:57	FULL		stored
207	23 July	58 17.57	09 30.50	662	NC GREY	12:15	FULL		stored
LOCATION 45									
208	23 July	58 21.21	09 22.83	538	NC CHEM	13:10	56		upper 20 cm in 2 cm slices, 25, 35 etc.
209	23 July	58 21.30	09 22.95	539	NC DST	13:27	58		10 samples, #1 at 1 cm
210	23 July	58 21.32	09 22.99	538	NC GREY	13:42	FULL		stored
211	23 July	58 21.08	09 22.85	554	NC GREY	14:05	FULL		stored
212	23 July	58 21.11	09 22.99	550	GC 3m	14:21	300		2 sections
LOCATION 46									
213	23 July	58 24.59	09 16.69	414	NC CHEM	15:14	59		upper 20 cm in 2 cm slices, 25, 35 etc.
214	23 July	58 24.60	09 16.80	412	NC DST	15:25	60		9 samples, #1 at 1 cm
215	23 July	58 24.58	09 16.88	410	NC GREY	15:36	FULL		stored
216	23 July	58 24.54	09 17.03	409	NC GREY	15:53	FULL		stored
LOCATION 47									
217	23 July	58 28.75	09 07.69	263	NC CHEM	17:00	FULL		upper 20 cm in 2 cm slices, 25, 35 etc.
218	23 July	58 28.66	09 07.76	263	NC DST	17:11			10 samples, #1 at 1.5 cm
219	23 July	58 28.70	09 07.60	263	NC GREY	17:23	FULL		stored
220	23 July	58 28.71	09 07.70	261	NC GREY	17:35	FULL		stored
LOCATION 48									
221	23 July	58 24.36	09 01.56	283	NC CHEM	18:18			upper 20 cm in 2 cm slices, 25, 35 etc.
222	23 July	58 24.38	09 01.49	283	NC DST	18:30			8 samples, #1 at 4 cm
223	23 July	58 24.41	09 01.57	283	NC GREY	18:41	FULL		stored
224	23 July	58 24.41	09 01.52	283	NC GREY	18:53	FULL		stored
LOCATION 49									
225	23 July	58 20.30	09 09.57	394	NC CHEM	19:39			upper 20 cm in 2 cm slices, 25, 35 etc.
226	23 July	58 20.36	09 09.73	394	NC DST	19:55			10 samples, #1 at 1 cm
227	23 July	58 20.36	09 09.63	394	NC GREY	20:11	FULL		stored
228	23 July	58 20.33	09 09.41	394	NC GREY	20:25	FULL		stored
LOCATION 50									
229	23 July	58 16.90	09 16.82	560	NC CHEM	21:07			upper 20 cm in 2 cm slices, 25, 35 etc.
230	23 July	58 16.95	09 16.65	560	NC DST	21:24			13 samples, #1 at 3 cm
231	23 July	58 16.94	09 16.67	558	NC GREY	21:40	FULL		stored
232	23 July	58 16.97	09 16.78	555	NC GREY	21:56	FULL		stored
LOCATION 51									
233	23 July	58 13.52	09 24.25	666	NC CHEM	23:10	60		upper 20 cm in 2 cm slices, 25, 35 etc.
234	23 July	58 13.60	09 23.86	665	NC DST	23:29	62		9 samples, #1 at 3 cm
235	23 July	58 13.33	09 23.99	666	NC GREY	23:51	FULL		stored
236	24 July	58 13.35	09 23.95	666	NC GREY	00:12	FULL		stored
237	24 July	58 13.35	09 23.94	665	GC 3m	00:31	310		2 sections, minus upper 10 cm
LOCATION 52									
238	24 July	58 09.70	09 31.37	594	NC CHEM	01:38	57		upper 20 cm in 2 cm slices, 25, 35 etc.
239	24 July	58 09.77	09 31.34	596	NC DST	01:54	65		10 samples, #1 at 3 cm
240	24 July	58 09.87	09 31.08	598	NC GREY	02:10	FULL		stored
241	24 July	58 09.68	09 31.28	595	NC GREY	02:31	FULL		stored
LOCATION 53									
242	24 July	58 06.34	09 39.83	425	NC CHEM	03:24	70		upper 20 cm in 2 cm slices, 25, 35 etc.
243	24 July	58 06.44	09 39.71	428	NC DST	03:37	53		7 samples, #1 at 5 cm
244	24 July	58 06.44	09 39.64	431	NC GREY	03:51	FULL		stored
245	24 July	58 06.55	09 39.57	431	NC GREY	04:08	FULL		stored
246	24 July	58 06.36	09 39.79	431	GC 3m	04:27			2 sections
LOCATION 54									
247	24 July	58 02.68	09 31.07	419	NC CHEM	05:24	FULL		upper 20 cm in 2 cm slices, 25, 35 etc.
248	24 July	58 02.62	09 31.07	419	NC DST	06:02			9 samples, #1 at 3.5 cm
249	24 July	58 02.66	09 31.06	419	NC GREY	06:14	FULL		stored
250	24 July	58 02.58	09 31.08	419	NC GREY	06:30	FULL		stored
LOCATION 55									
251	24 July	58 05.75	09 24.76	571	NC PW	07:13			pore-water
252	24 July	58 05.80	09 24.82	571	NC GREY	07:31	FULL		stored
253	24 July	58 05.79	09 24.88	571	NC CHEM	07:51			upper 20 cm in 2 cm slices, 25, 35 etc.
254	24 July	58 05.79	09 24.84	571	NC DST	08:10			10 samples, #1 at 5 cm, #1-6 = 9 ml
255	24 July	58 05.80	09 24.89	571	NC GREY	08:29	FULL		stored
256	24 July	58 05.87	09 24.99	571	GC 3m	08:55			2 sections
LOCATION 56									
257	25 July	60 19.45	05 14.40	73	NC CHEM	06:33	48		upper 20 cm in 2 cm slices, 25, 35 etc.
258	25 July	60 19.33	05 14.48	73	NC DST	06:37			7 samples, #1 at 4.5 cm
259	25 July	60 19.37	05 14.38	73	NC GREY	06:45			stored
260	25 July	60 19.39	05 14.43	73	NC GREY	06:55			stored
261	25 July	60 19.39	05 14.36	73	GC 3m	07:05	290		2 sections

NC = Niemistoe corer      PW = pore-water      DST = bulk density  
GC = Gravity corer      CHEM = geochemistry      GREY = grey plastic tubes

## **Table 2**

### **Seismic protocol:**

- A Skagerrak cruise 3**
- B Geofjord cruise 9101**

SKAGERRAK CRUISE 3 (HM 14/92)  
SEISMIC PROTOCOL

TABLE 2 A

Profile (nr.)	date 1992	latitude degree N	longitude degree E	time (GMT)	speed (knots)	heading degree	remarks
Raunefjord							
A-B	17 July	60 17.95	05 11.77	09:55	8	199	SOL A-B
	17 July	60 17.72	05 11.58	10:05	8	190	on line
	17 July	60 17.38	05 11.52	10:10	8	190	on line
	17 July	60 16.88	05 11.29	10:12	8	190	on line
	17 July	60 16.54	05 11.08	10:15	8	193	on line
	17 July	60 16.23	05 10.97	10:18	8	191	EOL A-B
"Hvalerdypet"							
C-D	18 July	58 58.99	10 39.82	16:09	8	61	SOL C-D
	18 July	58 59.56	10 42.14	16:19	8	62	on line
	18 July	59 00.33	10 45.24	16:32	8	62	EOL C-D
SE Sandefjord							
E-F	18 July	58 50.98	10 36.98	23:10	8		SOL E-F
	18 July	58 51.32	10 34.96	23:20	8		on line
	18 July	58 52.41	10 32.92	23:30	8		on line
	18 July	58 53.30	10 30.92	23:40	8		on line
	18 July	58 54.23	10 28.98	23:50	8		on line
	19 July	58 55.16	10 27.07	00:00	8		on line
	19 July	58 56.05	10 25.10	00:10	8		on line
	19 July	58 56.93	10 23.09	00:20	8		on line
	19 July	58 57.89	10 21.08	00:30	8		on line
	19 July	58 58.31	10 19.87	00:37	8		EOL E-F
Grimstadfjord							
G-H	25 July	60 19.47	05 12.26	06:12	8	92.2	SOL G-H
	25 July	60 19.44	05 13.14	06:15	8	88.8	on line
	25 July	60 19.41	05 13.73	06:18	8	91.9	on line
	25 July	60 19.40	05 14.40	06:20	8	90.0	on line
	25 July	60 19.31	05 15.02	06:22	8	90.0	EOL G-H

## SKAGERRAK CRUISE 3

Protocol of seismic record of locations 6-55

Adopted from NGU-REPORT NR. 91.014, 1991

Profile lines and points refer to map nr. 1 of report 91.014

Location (nr.)	signal AG	source SG BO	sweep (ms)	profile line	profile point	
6		x	500	9101-057	66	
7		x	500	9101-057	30	
8		x	500	9101-051	96	
9		x	500	9101-051	53	
10		x	500	9101-018	59	
11		x	500	9101-018	24	
12		x	500	9101-018	1	
13	x		500	9101-017	33	
14	x		500	9101-017	9	
15	x		500	9101-015	26	
16	x		500	9101-015	2	
17	x		500	9101-020	10	
18	x		500	9101-020	46	
19	x		500	9101-020	73	
20		x	500	9101-026	153	
21		x	500	9101-026	113	
22		x	500	9101-026	76	
23		x	500	9101-026	46	
24		x	500	9101-026	14	
25	x		500	9101-023	45	
26	x		500	9101-023	18	
27	x		500	9101-022	85	
28	x		500	9101-022	62	
29	x		500	9101-022	25	
30		x	500	9101-053	75	
31		x	500	9101-053	41	
32		x	500	9101-053	1	
33		x	250	9101-059	40	
34		x	250	9101-059	1	
35		x	250	9101-068	1	
36		x	250	9101-066	150	
37		x	250	9101-066	107	
38		x	250	9101-066	70	
39		x	250	9101-066	36	
40		x	250	9101-066	1	
41	x10		250	9101-080	35	
42		x	250	9101-070	195	
43		x	250	9101-070	160	
44		x	250	9101-070	131	
45		x	250	9101-070	102	
46		x	250	9101-070	67	
47			x	250	9101-070	28
48		x	250	9101-072	157	
49		x	250	9101-072	121	
50		x	250	9101-072	93	
51		x	250	9101-072	65	
52		x	250	9101-072	33	
53		x	250	9101-072	1	
54		x	250	9101-077	110	
55		x	250	9101-077	76	

AG = Airgun, 40 cubic inches, x10 = 10 cubic inches

SG = Sleevegun, 40 cubic inches

BO = Boomer, 500 Joule



### **Table 3**

**Wet/dry bulk density & water content/porosity. NOTE: Location  
41-37 occur in descending order.**

Skagerrak cruise 3  
 Wet and dry bulk density  
 Water content and porosity

depth cm	wet density g/ccm	dry density g/ccm	water content %	porosity %	wet weight g	dry weight g	wet volume ml
Location 1, NC-2							
5	1.32	2.28	59.7	76.7	13.17	5.31	10.0
10	1.33	2.19	57.3	74.1	13.27	5.67	10.0
15	1.36	2.36	56.0	74.6	12.95	5.69	9.5
20	1.40	2.47	54.0	73.9	12.62	5.80	9.0
25	1.33	1.87	48.8	63.5	12.01	6.15	9.0
30	1.34	1.94	50.6	66.0	13.37	6.60	10.0
35	1.45	2.59	51.9	73.2	14.45	6.95	10.0
Location 2, NC-10							
2.5	1.17	1.80	70.7	80.9	11.72	3.43	10.0
7.5	1.24	2.01	64.8	78.3	12.39	4.36	10.0
12.5	1.27	2.07	62.4	77.0	12.65	4.76	10.0
17.5	1.26	2.03	62.6	76.9	12.58	4.70	10.0
22.5	1.28	2.19	62.3	78.0	12.82	4.83	10.0
27.5	1.29	2.12	60.8	76.3	12.85	5.03	10.0
32.5	1.28	1.82	53.8	67.4	12.84	5.93	10.0
37.5	1.26	2.03	61.9	76.3	12.63	4.81	10.0
42.5	1.29	1.95	56.5	71.2	12.92	5.62	10.0
47.5	1.34	2.14	55.5	72.3	13.35	5.94	10.0
52.5	1.34	2.24	56.2	73.7	13.44	5.89	10.0
57.5	1.31	2.09	57.8	73.7	13.05	5.50	10.0
Location 2, GC-15							
5	1.36	2.33	55.6	74.0	9.55	4.24	7.0
10	1.33	2.11	55.6	72.1	9.96	4.42	7.5
20	1.43	2.83	55.5	77.5	10.73	4.77	7.5
30	1.43	2.65	54.1	75.2	11.41	5.24	8.0
40	1.30	1.80	51.1	64.8	9.74	4.76	7.5
50	1.41	2.37	52.0	71.5	11.26	5.40	8.0
60	1.38	2.26	53.5	71.7	11.00	5.12	8.0
70	1.34	1.95	50.6	66.1	10.71	5.29	8.0
80	1.42	2.60	54.2	75.0	11.35	5.20	8.0
90	1.37	2.29	54.9	73.0	10.92	4.93	8.0
100	1.35	2.10	53.4	70.1	12.11	5.64	9.0
110	1.40	2.42	53.7	73.2	10.49	4.86	7.5
120	1.38	2.27	53.0	71.4	11.74	5.52	8.5
130	1.36	2.15	53.2	70.5	11.54	5.40	8.5
140	1.39	2.66	57.5	77.9	13.87	5.89	10.0
150	1.33	2.16	56.7	73.4	13.26	5.74	10.0
160	1.36	2.43	57.6	76.3	13.57	5.75	10.0
170	1.32	2.18	58.0	74.6	13.18	5.53	10.0
180	1.28	1.84	55.5	69.1	12.76	5.68	10.0
190	1.48	3.47	56.5	81.5	14.78	6.43	10.0
200	1.34	2.13	54.9	71.7	13.39	6.04	10.0
210	1.36	2.27	55.2	73.2	13.58	6.08	10.0
220	1.35	2.15	54.3	71.4	13.47	6.15	10.0
230	1.32	2.06	55.4	71.4	13.22	5.90	10.0
240	1.34	2.14	54.5	71.4	12.09	5.50	9.0
250	1.32	1.95	52.7	67.9	13.21	6.25	10.0
260	1.29	1.95	56.4	71.1	11.64	5.08	9.0
270	1.32	2.15	57.6	74.0	11.20	4.75	8.5
280	1.28	1.83	54.6	68.2	12.80	5.81	10.0
290	1.30	2.05	57.4	72.9	10.41	4.43	8.0
300	1.31	2.30	60.7	77.6	7.86	3.09	6.0
310	1.22	1.70	59.1	70.6	7.34	3.00	6.0
320	1.32	2.20	58.4	75.1	10.54	4.38	8.0
330	1.54	4.04	55.5	83.1	9.21	4.10	6.0
340	1.34	2.24	56.6	74.0	9.38	4.07	7.0
350	1.32	2.20	57.8	74.6	10.58	4.46	8.0
360	1.31	2.17	58.8	75.1	9.17	3.78	7.0
370	1.27	2.08	62.1	76.8	10.15	3.85	8.0
380	1.25	1.90	61.1	74.4	9.99	3.89	8.0
Location 3, NC-17							
1	1.36	2.30	55.2	73.5	12.27	5.49	9.0
6	1.44	2.27	47.9	67.1	11.48	5.98	8.0
11	1.49	2.36	45.0	65.3	14.87	8.18	10.0
16	1.52	2.35	42.3	62.7	15.18	8.75	10.0
21	1.44	2.25	47.1	66.1	14.38	7.60	10.0
26	1.49	2.49	46.9	68.2	14.90	7.91	10.0
31	1.50	2.56	47.1	69.0	15.01	7.94	10.0
36	1.49	2.47	46.9	68.0	14.87	7.90	10.0
41	1.48	2.38	46.3	66.6	14.76	7.93	10.0
46	1.47	2.32	45.6	65.5	14.72	8.01	10.0
Location 4, NC-21							
1	1.19	1.89	69.8	81.0	9.51	2.87	8.0
6	1.30	2.15	59.6	75.6	12.99	5.24	10.0
11	1.30	2.06	58.1	73.6	12.98	5.44	10.0
16	1.33	2.21	57.2	74.2	13.29	5.68	10.0
21	1.37	2.31	54.8	73.2	13.69	6.19	10.0
26	1.40	2.29	51.7	70.5	13.97	6.74	10.0
31	1.35	2.22	55.7	73.2	13.45	5.95	10.0
36	1.34	2.25	56.7	74.2	13.41	5.80	10.0
41	1.36	2.32	55.5	73.9	13.63	6.06	10.0
46	1.37	2.30	54.8	73.2	13.68	6.18	10.0
51	1.31	2.07	56.8	72.6	13.10	5.66	10.0

56	1.39	2.42	54.9	74.1	13.85	6.25	10.0
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## Location 5, NC-26

2.5	1.20	1.81	66.4	77.8	12.00	4.03	10.0
7.5	1.24	1.99	63.9	77.5	12.42	4.48	10.0
12.5	1.23	1.69	58.3	69.7	12.25	5.11	10.0
17.5	1.31	2.07	57.3	73.1	13.06	5.57	10.0
22.5	1.35	2.32	56.6	74.6	13.52	5.87	10.0
27.5	1.41	2.08	46.5	63.9	14.07	7.52	10.0
32.5	1.39	2.30	52.6	71.3	13.90	6.59	10.0
37.5	1.36	2.24	55.1	72.9	13.55	6.08	10.0
42.5	1.40	2.20	49.4	67.7	14.04	7.10	10.0
47.5	1.36	2.03	50.7	67.0	13.56	6.69	10.0
52.5	1.42	2.08	44.7	62.1	14.24	7.87	10.0

## Location 6, NC-32

2.5	1.28	2.12	61.0	76.4	12.83	5.00	10.0
7.5	1.34	2.16	55.1	72.1	13.41	6.02	10.0
12.5	1.35	2.18	54.3	71.6	13.52	6.18	10.0
17.5	1.37	2.20	53.1	70.8	13.68	6.42	10.0
22.5	1.38	2.19	52.0	69.9	13.77	6.61	10.0
27.5	1.42	2.30	50.2	69.4	14.15	7.04	10.0
32.5	1.43	2.26	48.4	67.4	14.26	7.35	10.0
37.5	1.38	2.15	50.6	68.3	13.82	6.82	10.0
42.5	1.41	2.24	49.4	68.0	14.12	7.15	10.0
47.5	1.42	2.31	50.1	69.4	14.19	7.08	10.0
52.5	1.44	2.37	48.9	68.9	14.42	7.36	10.0

## Location 7, NC-36

2.5	1.32	2.21	57.8	74.7	11.92	5.03	9.0
7.5	1.31	2.17	58.9	75.2	13.09	5.38	10.0
12.5	1.32	2.29	59.8	76.8	10.54	4.24	8.0
17.5	1.29	1.90	55.3	69.6	12.90	5.77	10.0
22.5	1.36	2.26	54.6	72.6	13.62	6.18	10.0
27.5	1.37	2.30	54.5	72.9	13.71	6.24	10.0
32.5	1.36	2.13	53.0	70.1	13.56	6.37	10.0
37.5	1.38	2.24	52.9	71.0	13.77	6.49	10.0
42.5	1.32	2.08	55.8	71.9	13.21	5.84	10.0

## Location 8, NC-38

6	1.31	2.46	63.0	80.4	10.45	3.86	8.0
11	1.33	2.31	59.2	76.6	13.25	5.40	10.0
16	1.34	2.64	61.1	80.2	13.44	5.22	10.0
21	1.34	2.43	59.8	77.9	13.35	5.37	10.0
26	1.34	2.43	59.3	77.6	13.40	5.45	10.0
31	1.37	2.68	59.6	79.4	13.65	5.51	10.0
36	1.29	2.46	64.5	81.4	12.93	4.59	10.0
41	1.33	2.09	54.8	71.2	13.31	6.01	10.0
46	1.37	2.87	61.0	81.4	13.68	5.34	10.0
51	1.36	2.32	55.5	73.9	13.63	6.06	10.0
56	1.37	2.50	57.4	76.7	13.68	5.82	10.0
61	1.37	2.65	58.7	78.6	13.72	5.66	10.0

## Location 9, NC-45

2.5	1.30	2.33	62.2	78.9	13.00	4.91	10.0
7.5	1.31	2.29	61.0	77.8	13.07	5.10	10.0
12.5	1.36	2.36	56.7	75.0	13.57	5.88	10.0
17.5	1.35	2.24	55.9	73.5	13.46	5.93	10.0
22.5	1.35	2.50	59.0	77.9	13.52	5.54	10.0
27.5	1.36	2.29	55.3	73.5	13.61	6.08	10.0
32.5	1.36	2.46	57.3	76.3	13.64	5.82	10.0
37.5	1.39	2.30	52.8	71.5	13.88	6.55	10.0

## Location 10, NC-47

1	1.21	1.88	65.7	77.9	8.50	2.91	7.0
6	1.24	1.89	62.5	75.5	9.90	3.71	8.0
11	1.24	2.07	66.2	79.8	11.12	3.76	9.0
16	1.31	2.15	58.8	74.9	13.06	5.38	10.0
21	1.29	2.15	60.4	76.2	12.92	5.11	10.0
26	1.28	2.04	59.8	74.7	12.80	5.14	10.0
31	1.30	2.15	59.5	75.5	13.00	5.26	10.0
36	1.31	2.21	58.9	75.5	13.14	5.40	10.0
41	1.32	2.22	58.2	75.1	13.23	5.53	10.0
46	1.33	2.23	57.1	74.3	13.34	5.72	10.0

## Location 11, NC-52

4.5	1.52	2.37	42.6	63.1	15.19	8.72	10.0
9.5	1.53	2.56	45.4	67.5	15.25	8.33	10.0
14.5	1.70	2.54	33.2	55.1	17.04	11.39	10.0
19.5	1.68	2.42	32.3	53.0	16.79	11.36	10.0

## Location 12, NC-56

3.5	1.28	2.08	60.8	75.9	12.80	5.02	10.0
8.5	1.27	2.15	62.5	77.8	12.74	4.77	10.0
13.5	1.31	2.12	57.6	73.8	13.12	5.56	10.0
18.5	1.39	2.19	50.9	68.9	13.88	6.82	10.0
23.5	1.38	2.18	51.5	69.4	13.79	6.68	10.0

## Location 13, NC-61

1	1.27	2.25	64.7	80.1	12.69	4.48	10.0
6	1.33	2.80	64.3	83.1	13.25	4.73	10.0
11	1.33	2.23	58.0	75.0	13.26	5.57	10.0
16	1.36	2.24	54.8	72.6	13.57	6.13	10.0
21	1.37	2.60	58.1	77.9	13.73	5.75	10.0
26	1.38	2.35	54.3	73.2	13.80	6.30	10.0
31	1.47	2.70	51.2	73.5	14.69	7.16	10.0

Location 14, NC-67							
1	1.21	2.04	69.7	82.0	12.07	3.66	10.0
6	1.27	2.01	60.6	75.1	12.70	5.00	10.0
11	1.27	2.06	61.4	76.2	12.72	4.91	10.0
16	1.35	2.25	55.8	73.5	13.49	5.96	10.0
21	1.36	2.16	53.4	70.7	13.57	6.32	10.0
26	1.39	2.56	56.1	76.1	13.91	6.11	10.0
31	1.34	2.53	60.1	78.8	13.44	5.36	10.0
36	1.37	2.29	54.9	73.1	13.65	6.16	10.0
41	1.36	2.47	58.2	77.1	13.57	5.67	10.0
46	1.42	2.46	52.4	72.6	14.19	6.75	10.0

Location 15, NC-74							
3.5	1.12	1.36	67.0	73.0	11.16	3.68	10.0
8.5	1.30	1.99	56.5	71.6	12.99	5.65	10.0
13.5	1.46	3.22	56.3	80.2	14.60	6.38	10.0
18.5	1.40	3.00	59.1	80.9	14.02	5.73	10.0
23.5	1.35	2.51	59.7	78.3	13.46	5.43	10.0
28.5	1.35	2.73	61.8	81.2	13.46	5.14	10.0
33.5	1.33	2.61	62.4	80.9	13.28	4.99	10.0
38.5	1.37	3.15	62.4	83.6	13.74	5.17	10.0
43.5	1.33	2.40	59.6	77.6	13.34	5.39	10.0
48.5	1.33	2.39	59.5	77.4	13.33	5.40	10.0
53.5	1.38	2.73	59.0	79.3	13.77	5.64	10.0

Location 16, NC-78							
5.5	1.29	2.23	62.3	78.2	12.88	4.86	10.0
10.5	1.33	2.20	57.2	74.1	13.28	5.68	10.0
15.5	1.37	2.48	57.1	76.3	13.70	5.88	10.0
20.5	1.31	2.11	57.5	73.6	13.11	5.57	10.0
25.5	1.32	2.20	58.2	74.9	13.20	5.52	10.0
30.5	1.34	2.26	57.4	74.8	13.36	5.69	10.0
35.5	1.29	2.11	59.7	75.3	12.94	5.22	10.0
40.5	1.35	2.27	56.7	74.3	13.45	5.83	10.0
45.5	1.31	2.12	57.5	73.7	13.14	5.59	10.0

Location 17, NC-81							
1	1.14	1.54	69.0	77.0	11.43	3.54	10.0
6	1.35	2.55	59.4	78.4	13.54	5.50	10.0
11	1.40	2.96	59.3	80.8	13.97	5.69	10.0
16	1.34	2.20	56.1	73.3	13.39	5.88	10.0
21	1.32	2.15	57.0	73.6	13.22	5.68	10.0
26	1.37	2.18	52.9	70.5	13.66	6.43	10.0
31	1.30	2.09	58.2	74.0	13.02	5.44	10.0
36	1.34	2.19	56.1	73.2	13.37	5.87	10.0

Location 18, NC-85							
1	1.17	1.58	64.5	73.7	9.36	3.32	8.0
6	1.30	2.11	58.7	74.5	13.01	5.37	10.0
11	1.30	2.19	60.2	76.4	13.00	5.17	10.0
16	1.29	2.11	60.4	75.8	12.87	5.10	10.0
21	1.32	2.19	58.0	74.6	13.20	5.55	10.0
26	1.34	2.35	58.4	76.3	13.40	5.58	10.0
31	1.37	2.24	53.6	71.7	13.70	6.35	10.0

Location 19, NC-90							
4.5	1.24	1.94	64.0	77.2	12.35	4.44	10.0
9.5	1.35	2.23	56.0	73.5	13.45	5.92	10.0
14.5	1.30	2.12	58.7	74.6	13.04	5.39	10.0
19.5	1.34	2.27	57.2	74.7	13.39	5.73	10.0
24.5	1.34	2.11	54.3	70.9	13.39	6.12	10.0
29.5	1.39	2.13	49.8	67.3	13.85	6.95	10.0
34.5	1.46	2.29	46.1	65.7	14.61	7.88	10.0

## Location 20, no bulk density samples

Location 21, NC-96							
2.5	1.24	2.11	65.8	79.8	12.44	4.26	10.0
7.5	1.29	2.00	57.9	72.9	12.90	5.43	10.0
12.5	1.32	2.16	57.2	73.8	13.22	5.66	10.0
17.5	1.33	2.27	58.1	75.4	13.31	5.58	10.0
22.5	1.30	2.10	59.0	74.6	12.97	5.32	10.0
27.5	1.30	2.13	59.0	74.9	13.01	5.33	10.0
32.5	1.33	2.18	57.2	74.0	13.26	5.67	10.0
37.5	1.33	2.17	56.4	73.3	13.32	5.81	10.0
42.5	1.30	2.04	57.1	72.6	13.02	5.58	10.0

Location 22, NC-104							
5	1.25	2.05	64.5	78.4	12.47	4.43	10.0
10	1.33	2.25	57.5	74.8	13.33	5.66	10.0
15	1.26	1.91	60.4	74.0	12.55	4.97	10.0
20	1.32	2.12	57.0	73.3	13.18	5.67	10.0
25	1.33	2.17	56.3	73.2	13.31	5.81	10.0
30	1.36	2.19	53.4	71.0	13.64	6.36	10.0
35	1.35	2.29	56.2	74.1	13.53	5.93	10.0
40	1.34	2.19	55.5	72.8	13.43	5.97	10.0

Location 23, NC-108							
3.5	1.25	2.04	64.5	78.3	12.45	4.42	10.0
8.5	1.28	2.07	60.8	75.8	12.79	5.02	10.0
13.5	1.29	2.13	60.1	75.8	12.92	5.15	10.0
18.5	1.32	2.26	58.6	75.7	13.24	5.48	10.0
23.5	1.33	2.13	56.3	72.9	13.26	5.79	10.0
28.5	1.35	2.29	56.0	74.0	13.54	5.96	10.0
32.5	1.32	2.18	58.0	74.6	13.18	5.53	10.0

## Location 24, NC-112

2	1.21	1.93	66.9	79.2	12.13	4.01	10.0
7	1.30	2.07	57.9	73.6	13.02	5.48	10.0
12	1.33	2.14	56.5	73.1	13.25	5.76	10.0
17	1.32	2.11	56.5	72.8	13.20	5.74	10.0
22	1.36	2.21	54.3	71.9	13.57	6.20	10.0
27	1.34	2.23	56.8	74.1	13.37	5.77	10.0

## Location 25, NC-117

2	1.23	2.04	66.7	79.9	12.28	4.09	10.0
7	1.30	2.21	60.0	76.4	13.04	5.21	10.0
12	1.31	2.23	60.2	76.7	13.05	5.19	10.0
17	1.28	2.19	62.1	77.8	12.84	4.87	10.0
22	1.28	2.09	60.9	76.0	12.80	5.01	10.0
27	1.31	2.08	57.4	73.3	13.08	5.57	10.0
32	1.32	2.21	58.4	75.1	13.19	5.49	10.0
37	1.32	2.15	57.8	74.2	13.16	5.55	10.0
42	1.32	2.13	57.4	73.7	13.16	5.61	10.0
47	1.30	2.14	59.5	75.4	12.99	5.26	10.0

## Location 26, NC-123

2.5	1.25	1.95	61.6	75.3	12.53	4.81	10.0
7.5	1.28	1.98	58.2	72.9	12.84	5.37	10.0
12.5	1.35	2.01	51.4	67.4	13.45	6.54	10.0
17.5	1.38	2.45	56.2	75.4	13.76	6.03	10.0
22.5	1.33	2.25	57.9	75.1	13.29	5.59	10.0
27.5	1.31	2.15	58.3	74.5	13.11	5.47	10.0
32.5	1.33	2.23	57.5	74.6	13.31	5.66	10.0
37.5	1.29	2.03	58.4	73.6	12.91	5.37	10.0
42.5	1.32	2.12	56.9	73.2	13.19	5.69	10.0
47.5	1.36	2.71	60.0	79.9	13.64	5.45	10.0

## Location 27, NC-128

4	1.31	2.25	59.8	76.6	13.12	5.27	10.0
9	1.23	1.98	65.4	78.4	12.30	4.26	10.0
14	1.34	2.26	57.4	74.8	13.36	5.69	10.0
19	1.31	2.16	58.3	74.6	13.13	5.48	10.0
24	1.34	2.22	56.6	73.9	13.37	5.80	10.0
29	1.32	2.21	57.9	74.7	13.24	5.58	10.0
34	1.32	2.16	57.1	73.8	13.24	5.68	10.0
39	1.32	2.14	57.2	73.6	13.19	5.65	10.0

## Location 28, NC-132

1	1.18	2.00	73.2	84.2	11.79	3.16	10.0
6	1.26	2.13	64.6	79.1	12.56	4.45	10.0
11	1.35	2.31	56.7	74.7	13.50	5.84	10.0
16	1.33	2.08	55.2	71.4	13.27	5.95	10.0
21	1.35	2.27	56.4	74.1	13.47	5.87	10.0
26	1.33	2.16	56.8	73.5	13.26	5.73	10.0
31	1.32	2.09	55.7	71.9	13.24	5.87	10.0
36	1.34	2.16	55.1	72.1	13.41	6.02	10.0

## Location 29, NC-135

1	1.22	2.10	69.4	82.2	12.15	3.72	10.0
6	1.23	2.08	66.7	80.3	12.33	4.10	10.0
11	1.36	2.19	53.7	71.2	13.59	6.29	10.0
16	1.32	2.09	55.8	72.0	13.23	5.85	10.0
21	1.36	2.33	56.5	74.7	13.55	5.89	10.0
26	1.45	2.36	48.0	68.0	14.52	7.55	10.0
31	1.40	2.30	52.0	70.9	13.97	6.70	10.0
36	1.36	2.21	54.3	72.0	13.58	6.20	10.0

## Location 30, NC-139

4	1.37	2.72	59.3	79.5	12.36	5.03	9.0
9	1.38	2.31	54.2	72.7	13.75	6.30	10.0
14	1.38	2.22	52.1	70.2	13.81	6.61	10.0
19	1.42	2.32	50.4	69.7	14.17	7.03	10.0

## Location 31, NC-146

1	1.23	2.61	72.3	86.9	12.32	3.41	10.0
6	1.24	1.95	63.9	77.2	12.37	4.46	10.0
11	1.36	2.56	58.7	78.0	13.63	5.63	10.0
16	1.35	2.22	55.6	73.1	13.46	5.97	10.0
21	1.34	2.22	56.3	73.6	13.40	5.86	10.0
26	1.33	2.17	56.8	73.6	13.27	5.73	10.0
31	1.34	2.24	57.2	74.5	13.35	5.71	10.0
36	1.30	1.90	54.5	69.0	12.97	5.90	10.0
41	1.33	2.17	56.9	73.7	13.27	5.72	10.0
46	1.35	2.09	53.2	69.9	13.47	6.31	10.0
51	1.34	2.16	55.1	72.1	13.41	6.02	10.0

## Location 32, NC-148

4	1.34	2.81	63.3	82.5	13.36	4.90	10.0
9	1.30	2.33	61.8	78.6	6.52	2.49	5.0
14	1.28	1.97	59.1	73.5	12.75	5.22	10.0
19	1.34	2.21	56.1	73.4	13.41	5.89	10.0
24	1.31	2.05	56.2	72.0	13.12	5.74	10.0
29	1.32	2.18	57.4	74.1	13.24	5.64	10.0
34	1.32	2.14	57.6	74.0	13.15	5.57	10.0
39	1.35	2.33	57.0	75.0	13.50	5.81	10.0
44	1.34	2.20	55.7	73.0	13.42	5.94	10.0

## Location 33, NC-154

4	1.23	2.10	68.0	81.4	12.26	3.92	10.0
9	1.27	2.08	62.0	76.9	12.70	4.82	10.0
14	1.30	2.13	59.1	75.0	13.02	5.33	10.0
19	1.28	2.13	61.7	77.0	12.79	4.90	10.0
24	1.27	2.11	62.6	77.6	12.69	4.74	10.0

29	1.33	2.22	57.6	74.6	13.29	5.64	10.0
34	1.31	2.24	59.4	76.2	13.14	5.33	10.0
39	1.30	2.18	60.1	76.2	12.99	5.18	10.0
44	1.31	2.26	60.2	77.0	13.10	5.21	10.0

## Location 34, NC-158

1	1.22	1.99	66.9	79.7	12.21	4.04	10.0
6	1.31	2.10	57.2	73.3	13.12	5.61	10.0
11	1.31	2.22	59.3	75.9	13.12	5.34	10.0
16	1.28	2.08	61.4	76.4	12.75	4.92	10.0
21	1.31	2.14	58.4	74.5	13.09	5.45	10.0
26	1.33	2.20	57.0	74.0	13.30	5.72	10.0
31	1.35	2.25	55.8	73.5	13.50	5.97	10.0
36	1.33	2.23	57.4	74.5	13.32	5.68	10.0
41	1.32	2.19	58.0	74.6	13.20	5.55	10.0
46	1.33	2.23	58.0	75.0	13.26	5.57	10.0

## Location 35, NC-163

4.5	1.30	2.17	60.2	76.2	12.98	5.17	10.0
9.5	1.33	2.15	56.7	73.3	13.25	5.74	10.0
14.5	1.33	2.09	55.3	71.6	13.28	5.94	10.0
19.5	1.34	2.19	55.7	72.9	13.41	5.94	10.0
24.5	1.36	2.21	54.5	72.1	13.55	6.16	10.0
29.5	1.34	2.18	55.6	72.7	13.40	5.95	10.0
34.5	1.34	2.13	54.2	71.0	13.44	6.16	10.0
39.5	1.37	2.24	53.5	71.6	13.71	6.37	10.0
44.5	1.34	2.13	55.3	72.0	13.35	5.97	10.0

## Location 36, NC-167

3	1.36	2.60	58.9	78.4	13.64	5.60	10.0
8	1.50	3.85	57.0	83.3	14.97	6.43	10.0
13	1.31	2.10	58.0	73.9	13.05	5.48	10.0
18	1.33	2.17	56.5	73.4	13.31	5.79	10.0
23	1.33	2.22	57.0	74.1	13.33	5.73	10.0
28	1.32	2.08	55.6	71.8	13.23	5.87	10.0
33	1.35	2.17	54.3	71.6	13.51	6.17	10.0
38	1.39	2.43	54.9	74.2	13.86	6.25	10.0
43	1.32	2.13	56.4	72.9	13.24	5.77	10.0

## Location 41, NC-172

4.5	1.26	2.02	62.1	76.4	12.61	4.78	10.0
9.5	1.28	2.20	62.3	78.0	12.84	4.84	10.0
14.5	1.29	2.01	58.2	73.2	12.88	5.38	10.0
19.5	1.33	2.16	56.5	73.3	13.29	5.78	10.0
24.5	1.35	2.20	54.5	72.0	13.54	6.16	10.0
29.5	1.35	2.24	55.5	73.2	13.51	6.01	10.0
34.5	1.30	2.20	60.1	76.4	13.03	5.20	10.0
39.5	1.38	2.25	52.6	70.8	13.81	6.55	10.0
44.5	1.40	2.22	50.0	68.5	14.03	7.01	10.0
49.5	1.35	2.13	53.9	70.8	13.48	6.22	10.0
54.5	1.41	2.26	50.2	69.0	14.09	7.02	10.0

## Location 40, NC-176

10	1.29	2.21	61.3	77.4	12.93	5.00	10.0
15	1.34	2.36	58.6	76.5	13.39	5.55	10.0
20	1.32	2.13	57.2	73.5	13.17	5.64	10.0
25	1.25	1.96	61.8	75.6	12.54	4.79	10.0
30	1.34	2.27	57.0	74.6	13.42	5.77	10.0
35	1.36	2.26	55.3	73.2	13.56	6.06	10.0
40	1.37	2.27	54.7	72.8	13.65	6.19	10.0
45	1.34	2.14	55.4	72.2	13.36	5.96	10.0
50	1.33	2.23	57.6	74.7	13.30	5.64	10.0

## Location 39, NC-181

4	1.31	2.22	59.7	76.3	13.09	5.27	10.0
9	1.30	2.08	58.3	74.0	13.00	5.42	10.0
14	1.32	2.23	58.4	75.3	13.22	5.50	10.0
19	1.30	2.13	58.8	74.7	13.03	5.37	10.0
24	1.31	2.15	58.4	74.6	13.11	5.46	10.0
29	1.32	2.32	59.9	77.2	13.20	5.29	10.0
34	1.37	2.32	55.0	73.5	13.68	6.15	10.0
39	1.36	2.27	55.6	73.5	13.55	6.02	10.0
44	1.37	2.34	55.3	73.9	13.69	6.12	10.0
49	1.37	2.33	55.0	73.6	13.70	6.16	10.0

## Location 38, NC-186

1	1.18	1.97	72.0	83.2	11.84	3.31	10.0
6	1.21	1.93	67.8	79.8	12.07	3.89	10.0
11	1.28	2.14	62.2	77.5	12.76	4.82	10.0
16	1.28	2.14	61.6	77.0	12.81	4.92	10.0
21	1.27	2.26	64.3	79.9	12.73	4.54	10.0
26	1.26	2.12	64.5	78.9	12.55	4.46	10.0
31	1.29	2.16	60.9	76.6	12.90	5.05	10.0
36	1.30	2.19	60.5	76.6	12.97	5.12	10.0
41	1.30	2.29	61.6	78.2	13.01	4.99	10.0
46	1.29	2.17	61.0	76.8	12.91	5.04	10.0

## Location 38, GC-190

10	1.13	1.43	66.3	73.4	5.67	1.91	5.0
15	1.23	2.09	67.3	80.8	6.15	2.01	5.0
25	1.24	1.94	63.2	76.5	6.20	2.28	5.0
35	1.28	2.13	62.1	77.3	6.38	2.42	5.0
45	1.26	1.91	59.7	73.4	6.30	2.54	5.0
55	1.32	2.29	59.5	76.7	6.60	2.67	5.0
65	1.29	2.12	60.1	75.7	6.46	2.58	5.0
75	1.30	2.24	60.6	77.1	6.52	2.57	5.0
85	1.25	1.95	61.8	75.5	6.26	2.39	5.0

95	1.34	2.36	58.5	76.5	6.70	2.78	5.0
105	1.32	2.20	58.7	75.3	6.58	2.72	5.0
115	1.29	2.04	58.5	73.8	6.46	2.68	5.0
125	1.26	1.69	52.7	64.8	6.30	2.98	5.0
135	1.27	1.74	52.9	65.6	6.35	2.99	5.0
145	1.34	2.21	56.6	73.8	6.68	2.90	5.0
155	1.29	1.95	56.1	70.8	6.47	2.84	5.0
165	1.30	2.03	56.7	72.2	6.52	2.82	5.0
175	1.34	2.14	54.7	71.6	6.71	3.04	5.0
180	1.32	1.99	54.2	69.7	6.59	3.02	5.0
190	1.32	2.06	55.6	71.6	6.60	2.93	5.0
200	1.34	2.07	53.9	70.2	6.68	3.08	5.0
210	1.38	2.28	53.2	71.6	6.90	3.23	5.0
220	1.34	2.06	53.1	69.5	6.71	3.15	5.0
230	1.33	1.97	52.4	67.9	6.64	3.16	5.0
240	1.29	1.42	25.5	32.2	6.46	4.81	5.0
250	1.34	2.07	53.9	70.2	6.68	3.08	5.0
260	1.38	2.32	53.7	72.4	6.91	3.20	5.0
270	1.37	2.17	52.3	69.9	6.85	3.27	5.0
280	1.33	2.01	53.2	69.1	6.65	3.11	5.0
290	1.38	2.17	51.5	69.3	6.89	3.34	5.0
300	1.40	2.29	51.6	70.4	6.99	3.38	5.0
310	1.35	1.97	50.0	65.8	6.74	3.37	5.0
320	1.39	2.23	51.1	69.5	6.97	3.41	5.0
330	1.38	2.02	48.3	64.8	6.88	3.56	5.0

## Location 37, NC-192

7	1.29	2.37	63.6	80.2	12.92	4.70	10.0
12	1.28	2.14	61.8	77.2	12.79	4.88	10.0
17	1.28	2.01	60.0	74.6	12.76	5.11	10.0
22	1.31	2.22	59.3	75.9	13.12	5.34	10.0
27	1.32	2.30	59.8	77.0	13.19	5.30	10.0
32	1.30	2.20	60.1	76.4	13.02	5.19	10.0
37	1.32	2.15	57.3	73.8	13.20	5.64	10.0
42	1.34	2.33	58.2	76.0	13.39	5.60	10.0

## Location 42, NC-196

2	1.26	2.42	67.2	82.9	12.64	4.14	10.0
7	1.29	2.12	60.3	75.8	12.89	5.12	10.0
12	1.35	2.25	55.9	73.6	13.50	5.96	10.0
17	1.35	2.26	55.5	73.4	13.54	6.02	10.0
22	1.31	2.10	57.5	73.5	13.10	5.57	10.0
27	1.31	2.10	57.5	73.5	13.10	5.57	10.0
32	1.33	2.28	58.2	75.6	13.32	5.57	10.0
37	1.30	2.05	57.2	72.8	13.04	5.58	10.0
42	1.31	2.08	56.8	72.8	13.13	5.67	10.0
47	1.33	2.13	55.9	72.5	13.30	5.87	10.0

## Location 43, NC-200

5	1.28	2.10	61.3	76.5	12.78	4.94	10.0
10	1.33	2.16	56.6	73.3	13.28	5.77	10.0
15	1.32	2.08	55.8	71.9	13.21	5.84	10.0
20	1.36	2.35	56.0	74.4	13.63	6.00	10.0
25	1.32	2.26	59.3	76.3	13.18	5.36	10.0
30	1.31	2.08	57.0	72.9	13.10	5.63	10.0
35	1.30	2.11	58.4	74.2	13.04	5.43	10.0

## Location 44, NC-205

3.5	1.23	2.09	67.6	81.0	12.27	3.97	10.0
8.5	1.24	2.06	66.0	79.6	12.37	4.21	10.0
13.5	1.24	2.02	64.8	78.3	12.40	4.37	10.0
18.5	1.25	2.04	63.9	77.9	12.49	4.51	10.0
23.5	1.26	2.12	63.9	78.5	12.59	4.54	10.0
28.5	1.29	2.21	61.3	77.4	12.94	5.01	10.0
33.5	1.30	1.69	46.2	58.6	13.00	6.99	10.0
38.5	1.27	2.10	62.1	77.1	12.72	4.82	10.0
43.5	1.21	1.57	56.5	66.5	12.07	5.25	10.0

## Location 45, NC-209

1	1.25	2.22	66.2	81.0	12.53	4.23	10.0
6	1.33	2.24	57.6	74.8	13.32	5.65	10.0
11	1.35	2.24	55.3	73.0	13.53	6.05	10.0
16	1.36	1.95	48.6	64.3	13.56	6.97	10.0
21	1.34	2.24	57.2	74.5	13.35	5.71	10.0
26	1.34	2.20	56.1	73.3	13.38	5.87	10.0
31	1.36	2.25	54.6	72.5	13.62	6.19	10.0
36	1.35	2.27	56.1	73.9	13.50	5.93	10.0
41	1.33	2.15	55.9	72.7	13.33	5.88	10.0
46	1.38	2.27	53.2	71.6	13.79	6.45	10.0

## Location 46, NC-214

1	1.19	2.00	71.5	83.0	11.91	3.40	10.0
6	1.33	2.32	58.5	76.2	13.34	5.53	10.0
11	1.35	2.23	55.9	73.4	13.46	5.94	10.0
16	1.32	2.11	57.1	73.3	13.16	5.65	10.0
21	1.34	2.26	56.6	74.2	13.44	5.83	10.0
26	1.33	2.26	58.2	75.4	13.29	5.56	10.0
31	1.35	2.29	56.8	74.6	13.47	5.82	10.0
36	1.33	2.25	57.7	75.0	13.32	5.63	10.0
41	1.33	2.18	56.5	73.5	13.32	5.79	10.0

## Location 47, NC-218

1.5	1.29	2.17	61.3	77.0	12.88	4.99	10.0
6.5	1.38	2.28	53.1	71.6	13.82	6.48	10.0
11.5	1.33	2.25	58.1	75.2	13.28	5.57	10.0
16.5	1.31	2.04	55.9	71.6	13.13	5.79	10.0
21.5	1.34	2.24	57.0	74.3	13.36	5.74	10.0

26.5	1.38	2.29	53.5	72.0	13.79	6.41	10.0
31.5	1.35	2.21	54.7	72.3	13.54	6.13	10.0
36.5	1.33	2.11	55.3	71.8	13.32	5.96	10.0
41.5	1.36	2.29	55.1	73.3	13.63	6.12	10.0
46.5	1.36	2.06	50.6	67.2	13.63	6.74	10.0

Location 48, NC-222

4	1.28	2.13	61.9	77.2	12.77	4.86	10.0
9	1.30	2.14	59.5	75.4	13.00	5.27	10.0
14	1.34	2.45	59.8	78.0	13.38	5.38	10.0
19	1.32	2.17	57.7	74.3	13.20	5.58	10.0
24	1.39	2.23	51.1	69.5	13.94	6.82	10.0
29	1.37	2.27	54.4	72.6	13.67	6.23	10.0
34	1.36	2.21	54.0	71.7	13.61	6.26	10.0
39	1.40	2.25	50.9	69.5	13.98	6.86	10.0

Location 49, NC-226

1	1.29	2.21	61.9	77.8	12.88	4.91	10.0
6	1.29	2.14	61.1	76.6	12.85	5.00	10.0
11	1.32	2.15	57.0	73.6	13.22	5.68	10.0
16	1.35	2.32	56.5	74.6	13.53	5.88	10.0
21	1.34	2.21	56.1	73.4	13.41	5.89	10.0
26	1.30	2.15	59.9	75.8	12.98	5.21	10.0
31	1.32	2.12	56.3	72.7	13.23	5.78	10.0
36	1.34	2.21	56.3	73.6	13.39	5.85	10.0
41	1.33	1.88	49.2	64.0	13.34	6.78	10.0
46	1.32	2.13	56.9	73.3	13.20	5.69	10.0

Location 50, NC-230

3	1.32	2.43	61.8	79.3	13.16	5.03	10.0
8	1.33	2.12	55.1	71.7	13.34	5.99	10.0
13	1.36	2.27	54.6	72.7	13.64	6.19	10.0
18	1.40	2.36	52.5	71.8	14.02	6.66	10.0
23	1.46	2.39	47.8	68.1	14.60	7.62	10.0
28	1.52	2.48	44.9	66.3	15.16	8.36	10.0
33	1.39	2.39	54.4	73.6	13.87	6.33	10.0
38	1.42	2.30	50.0	69.2	14.19	7.10	10.0
43	1.47	2.43	47.3	68.0	14.74	7.77	10.0
48	1.52	2.37	42.4	62.9	15.23	8.78	10.0
53	1.49	2.35	44.7	65.0	14.90	8.24	10.0
58	1.51	2.46	44.7	66.0	15.13	8.36	10.0
63	1.57	2.46	40.7	62.2	15.68	9.30	10.0

Location 51, NC-234

3	1.22	2.02	67.9	80.7	12.18	3.91	10.0
8	1.26	2.05	62.6	77.0	12.60	4.71	10.0
13	1.28	2.18	62.7	78.1	12.77	4.76	10.0
18	1.27	2.19	63.4	78.7	12.72	4.65	10.0
23	1.28	2.19	63.1	78.5	12.76	4.71	10.0
28	1.28	2.01	59.6	74.3	12.78	5.16	10.0
33	1.29	2.08	59.0	74.5	12.94	5.30	10.0
38	1.28	2.03	60.4	75.1	12.75	5.05	10.0
43	1.27	2.11	62.7	77.6	12.68	4.73	10.0

Location 52, NC-239

3	1.24	2.02	65.1	78.6	12.38	4.32	10.0
8	1.30	2.13	59.5	75.3	12.97	5.25	10.0
13	1.32	2.26	59.5	76.4	13.17	5.34	10.0
18	1.30	2.11	59.5	75.1	12.95	5.25	10.0
23	1.30	2.10	58.3	74.1	13.04	5.44	10.0
28	1.31	2.15	58.8	74.9	13.07	5.39	10.0
33	1.34	2.23	57.0	74.2	13.35	5.74	10.0
38	1.32	2.10	56.1	72.3	13.22	5.81	10.0
43	1.34	2.22	56.9	74.1	13.35	5.75	10.0
48	1.31	2.16	58.9	75.1	13.07	5.37	10.0

Location 53, NC-243

5	1.30	2.15	60.0	75.8	12.96	5.19	10.0
10	1.32	2.14	57.0	73.5	13.20	5.67	10.0
15	1.39	3.51	62.8	85.3	13.91	5.17	10.0
20	1.34	2.22	56.0	73.4	13.44	5.92	10.0
25	1.35	2.18	55.0	72.2	13.46	6.06	10.0
30	1.34	2.18	55.6	72.7	13.41	5.96	10.0
35	1.35	2.29	56.9	74.6	13.45	5.80	10.0

Location 54, NC-248

3.5	1.31	2.03	56.6	72.1	13.05	5.66	10.0
8.5	1.31	2.17	58.8	75.1	13.09	5.39	10.0
13.5	1.32	2.19	58.2	74.8	13.19	5.52	10.0
18.5	1.32	2.17	57.7	74.3	13.20	5.58	10.0
23.5	1.34	2.14	54.9	71.7	13.40	6.05	10.0
28.5	1.35	2.21	55.2	72.7	13.50	6.05	10.0
33.5	1.35	2.20	54.8	72.2	13.51	6.11	10.0
38.5	1.38	2.17	51.3	69.1	13.79	6.71	10.0
43.5	1.32	2.17	57.3	74.0	13.23	5.65	10.0

Location 55, NC-254

5	1.26	2.14	63.9	78.7	12.63	4.56	10.0
10	1.34	2.30	57.7	75.3	13.39	5.67	10.0
15	1.32	2.18	58.3	74.8	13.16	5.49	10.0
20	1.33	2.27	58.1	75.4	13.30	5.57	10.0
25	1.33	2.20	56.8	73.9	13.32	5.75	10.0
30	1.34	2.19	56.2	73.3	12.02	5.26	9.0
35	1.32	2.28	59.2	76.3	13.22	5.40	10.0
40	1.29	2.10	59.8	75.3	12.90	5.18	10.0
45	1.30	2.08	58.4	74.0	13.00	5.41	10.0
50	1.33	2.18	57.2	74.0	13.25	5.67	10.0



TABLE 3h

---

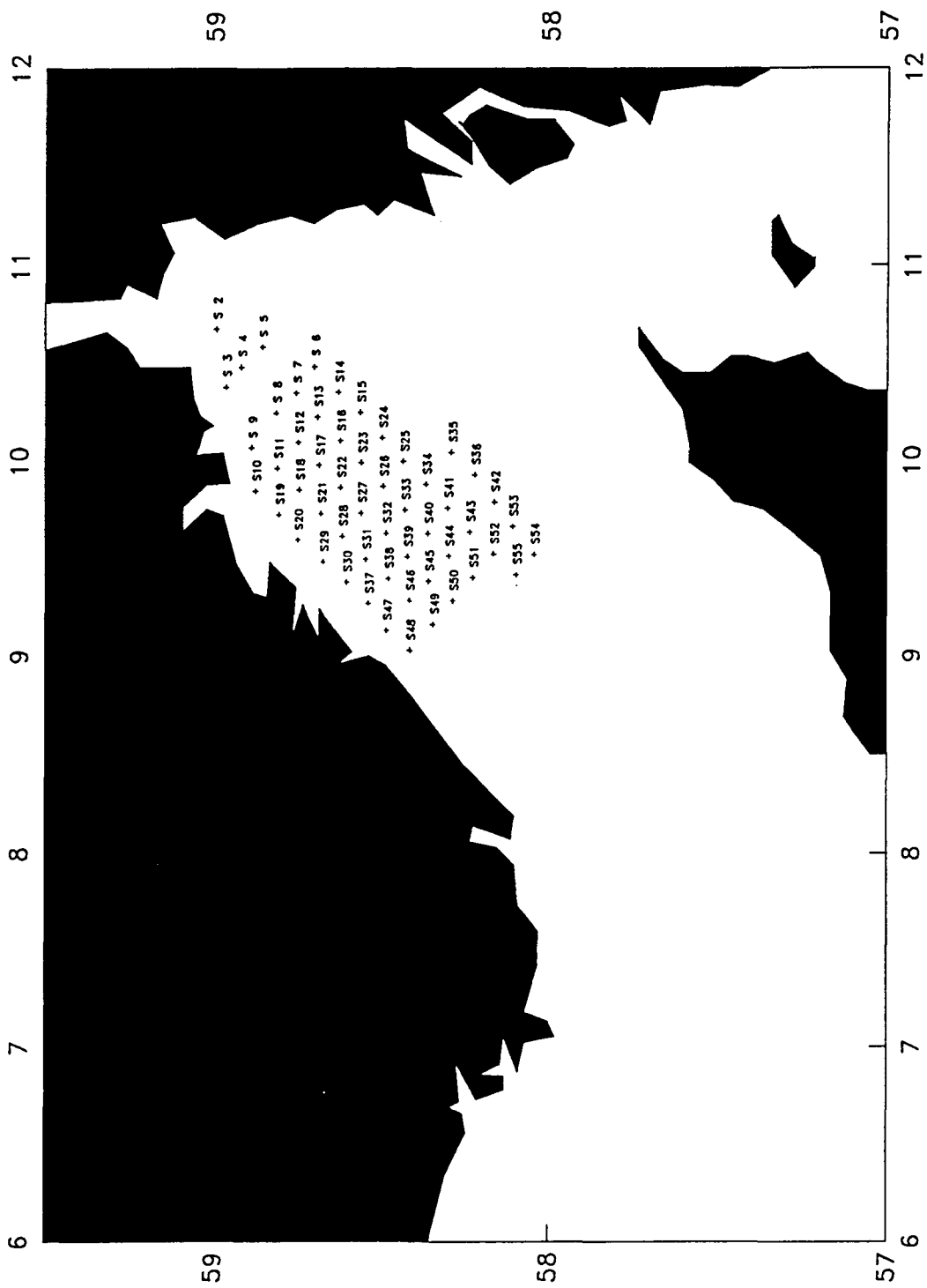
Location 56, NC-258							
4.5	1.20	1.93	69.1	80.8	11.99	3.71	10.0
9.5	1.24	2.15	66.3	80.5	12.44	4.19	10.0
14.5	1.28	2.22	62.8	78.5	12.81	4.76	10.0
19.5	1.29	2.06	59.7	74.8	12.85	5.18	10.0
24.5	1.32	2.23	58.2	75.1	13.24	5.54	10.0
29.5	1.29	2.12	60.3	75.8	12.89	5.12	10.0
34.5	1.33	2.22	57.6	74.6	13.27	5.62	10.0

---

**Figure 1**

**Location map of Skagerrak cruise 3. NOTE: Location 41-37 occur  
in descending order.**

FIG. 1



## **Figure 2**

**Map of seismic profile-net of**

**A Skagerrak cruise 3**

**B Geofjord cruise 9101**

FIG. 2 A

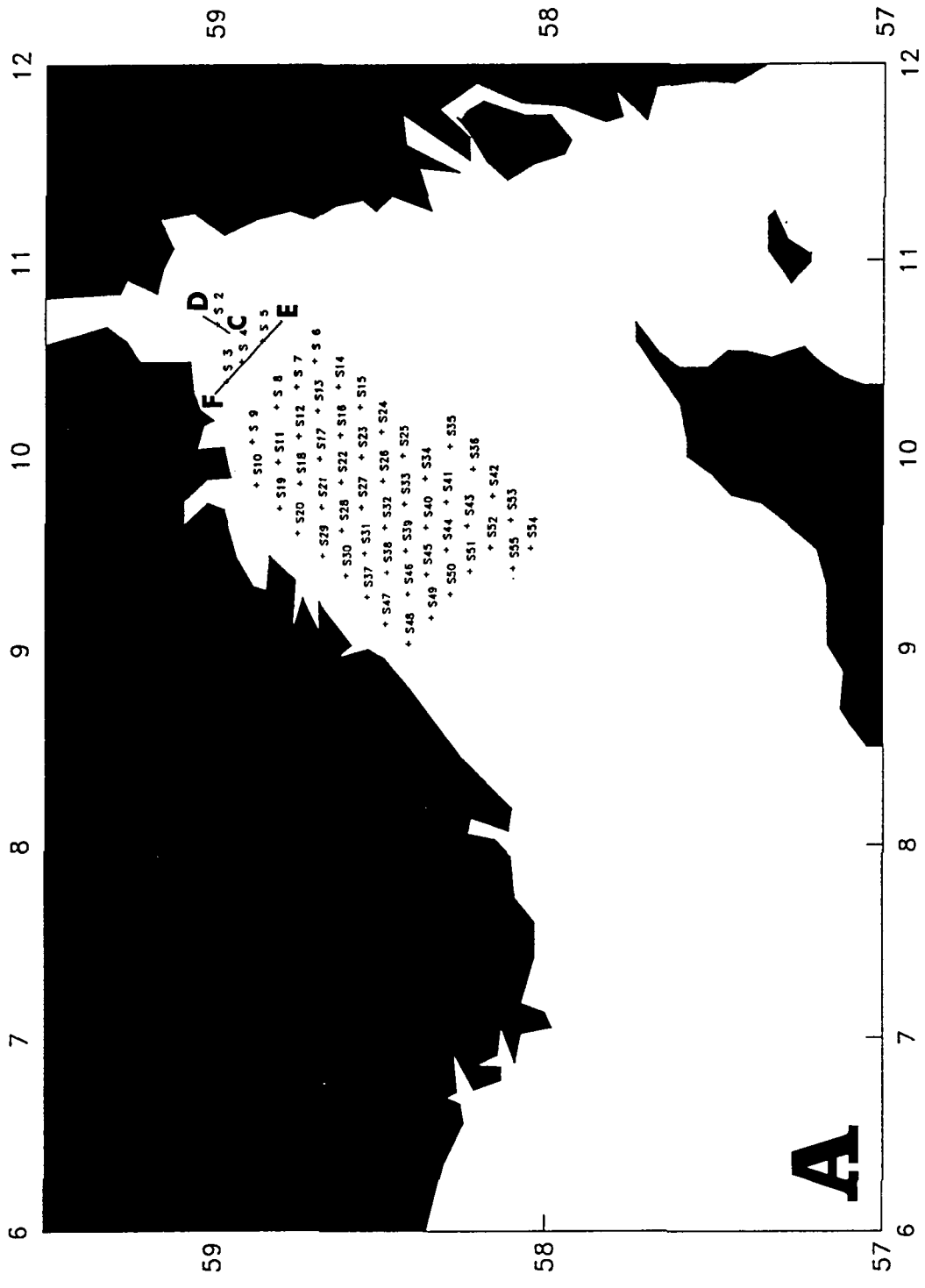
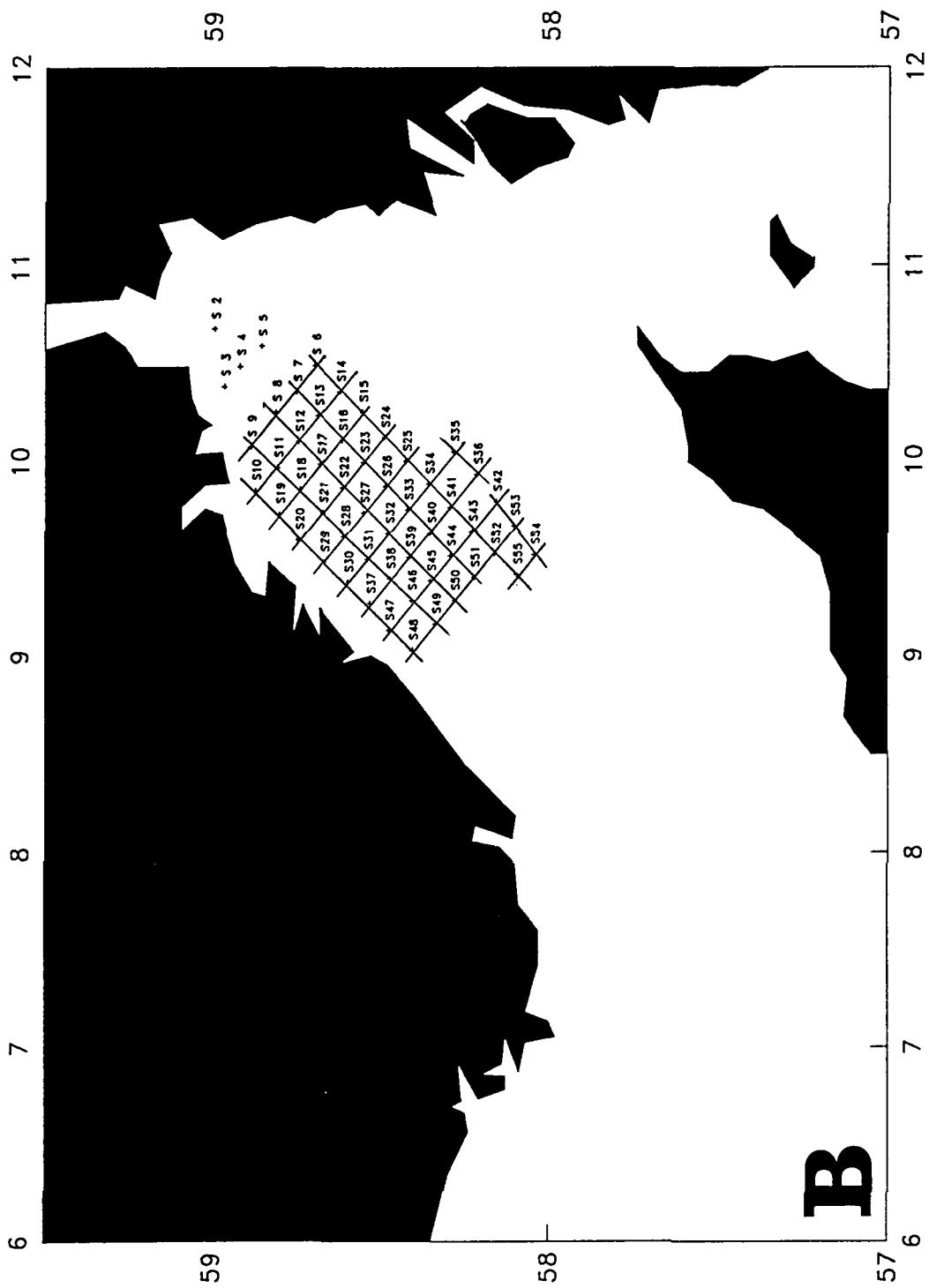


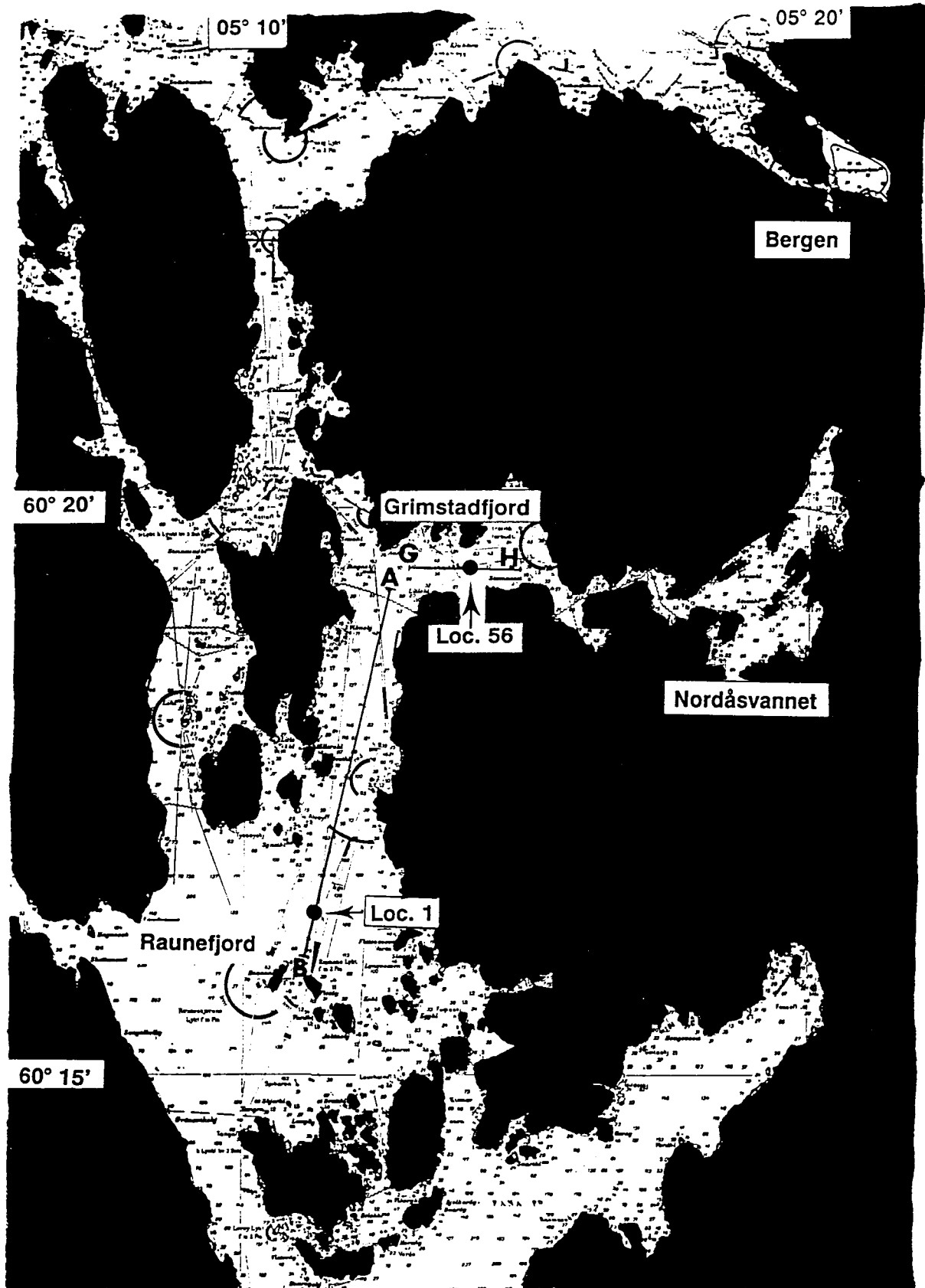
FIG. 2 B



**Figure 3**

**Location and seismic profile map of the Raunefjord and  
Grimstadjord**

FIG. 3

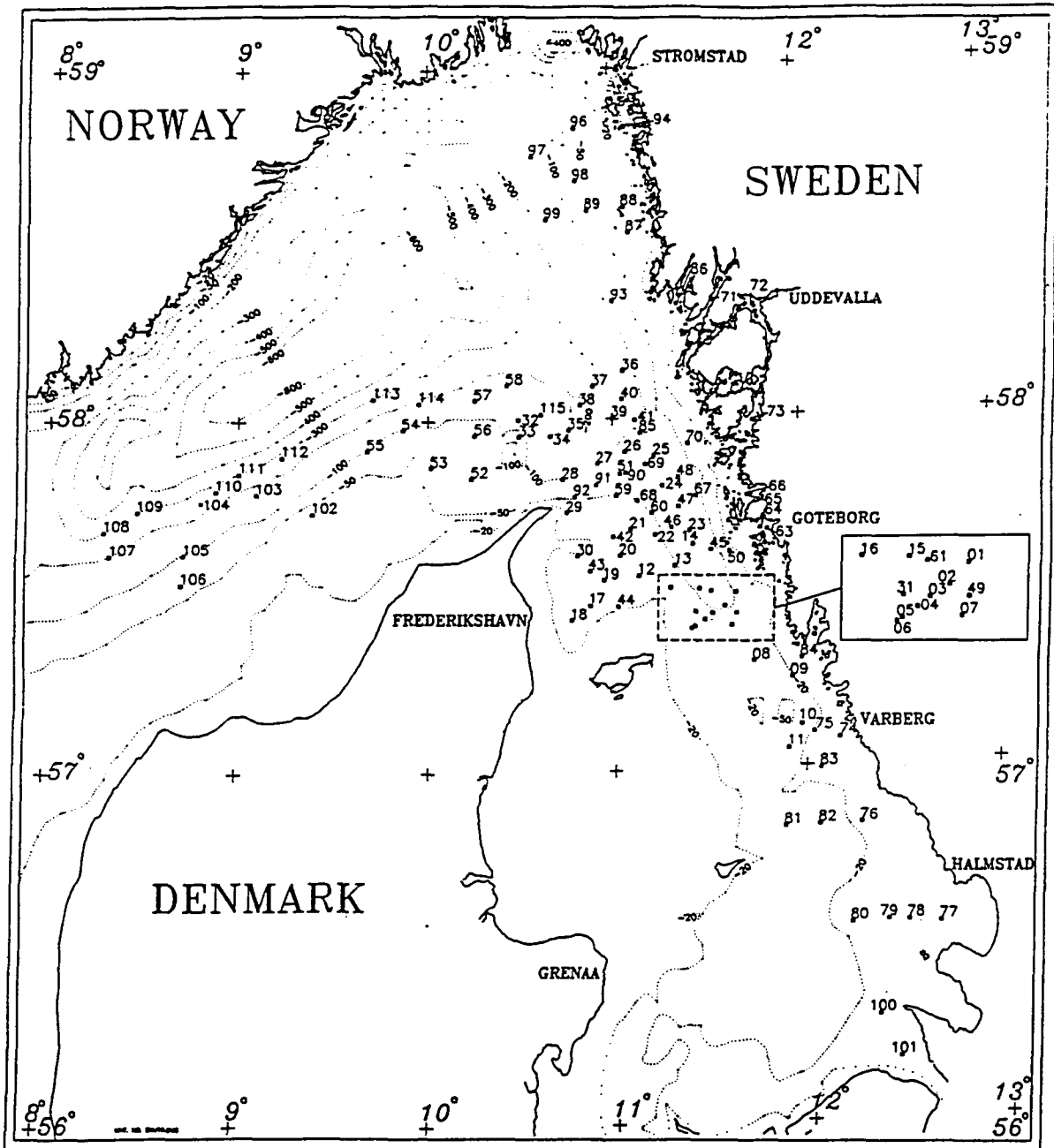




**Figure 4**

**Location map of the Danish/Swedish monitoring program**

FIG. 4



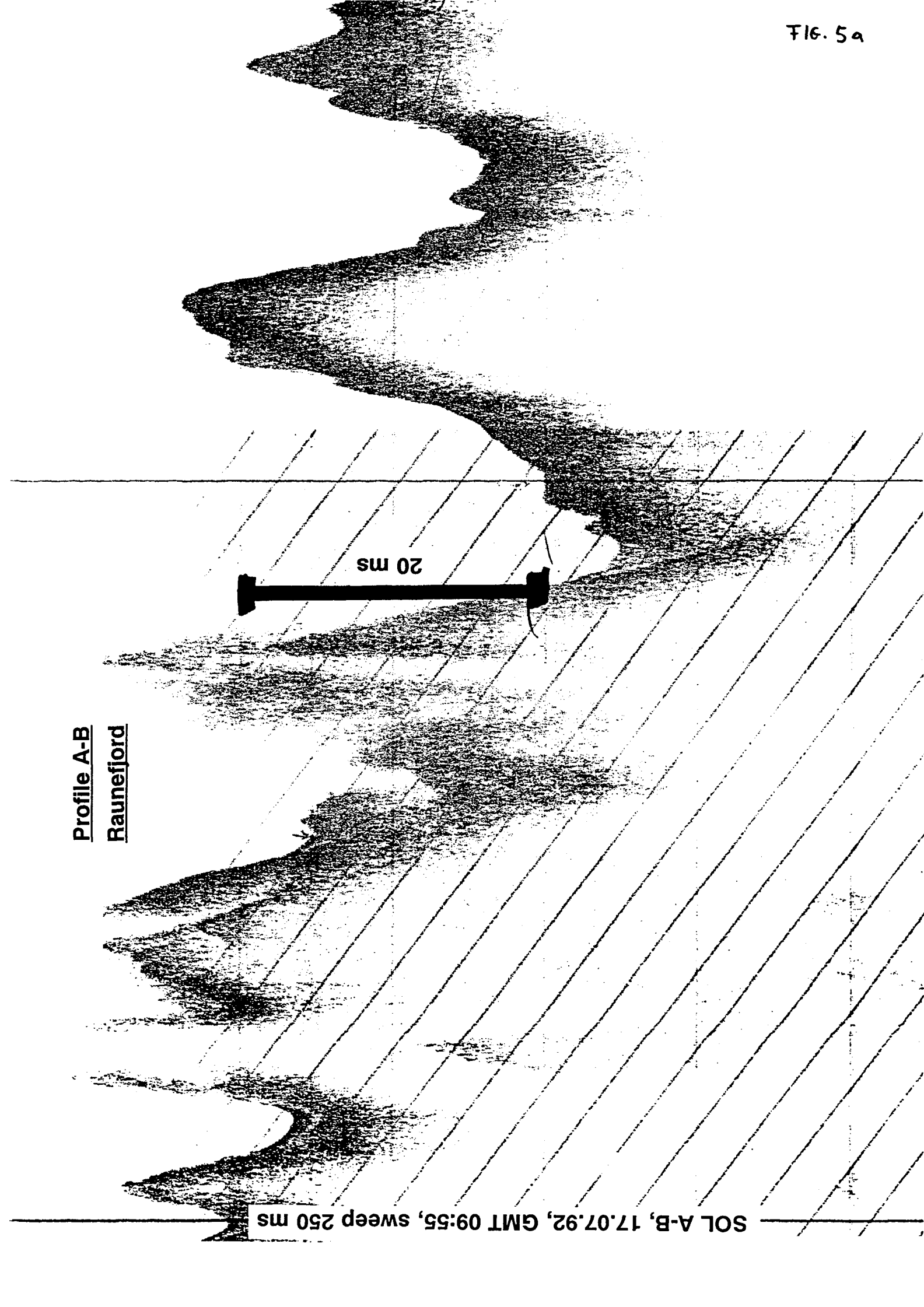
**Figure 5 a-b**

**Seismic record of profile A-B, location 1**

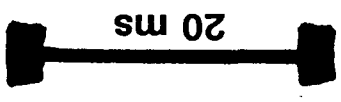
Profile A-B  
Raunefjord

20 ms

SOL A-B, 17.07.92, GMT 09:55, sweep 250 ms



EOL A-B, 17.07.92, GMT 10:18

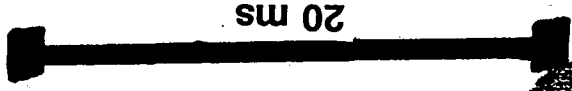


Location 1

GMT 10:14, sweep 500 ms

Profile A-B (cont.)

Raunefjord



GMT 10:12

GMT 10:10

GMT 10:05

**Figure 6**

**Seismic record of profile C-D, location 2**

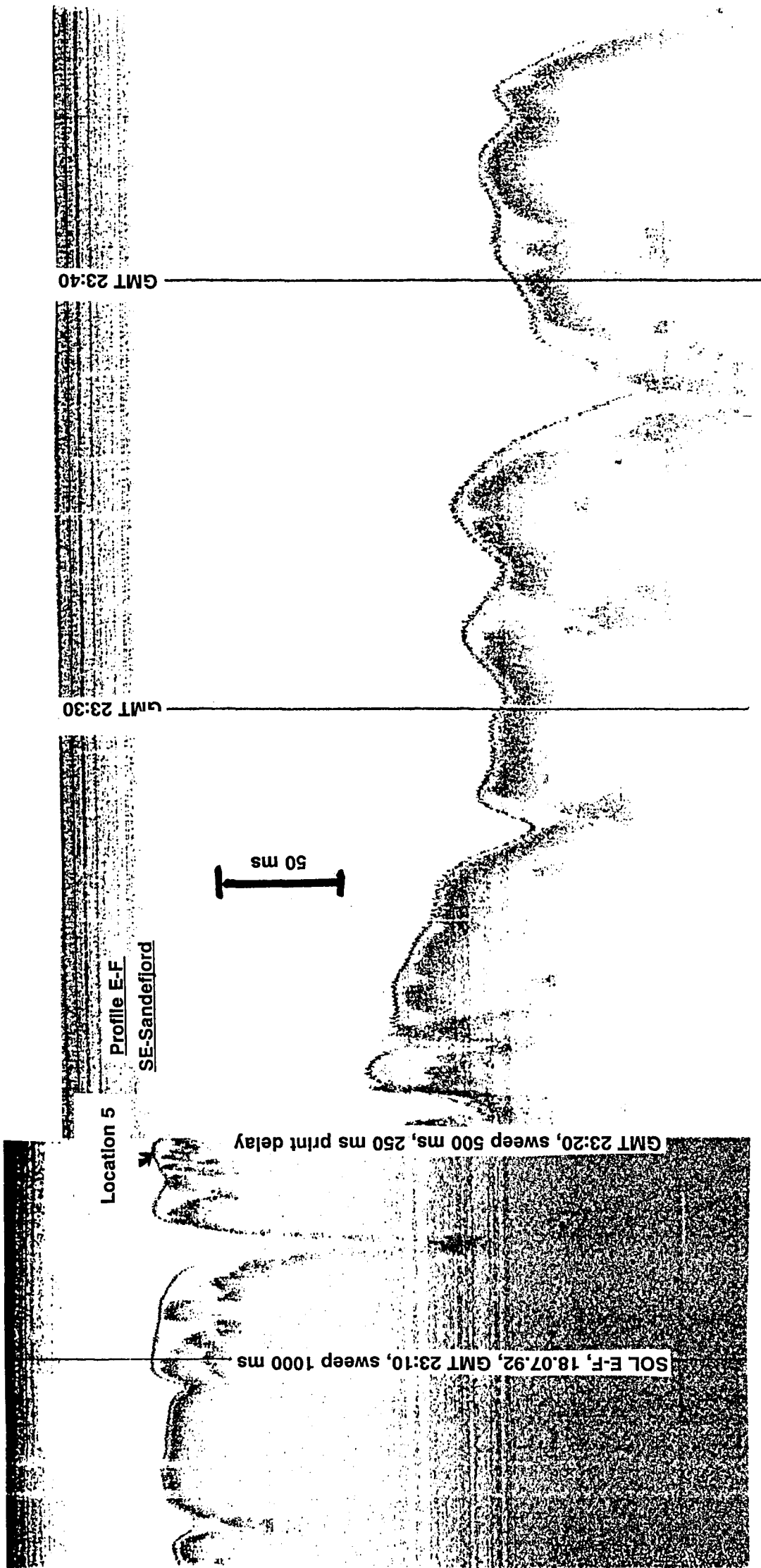
**Profile C-D**

**No good PDR record. For shallow seismic record of location and profiling see NGU cruise report 92.006 from Skagerrak cruise 1 (NGU 9103), location IX, figure 3.10.**

**Figure 7 a-c**

**Selismic record of profile E-F, location 3-5**

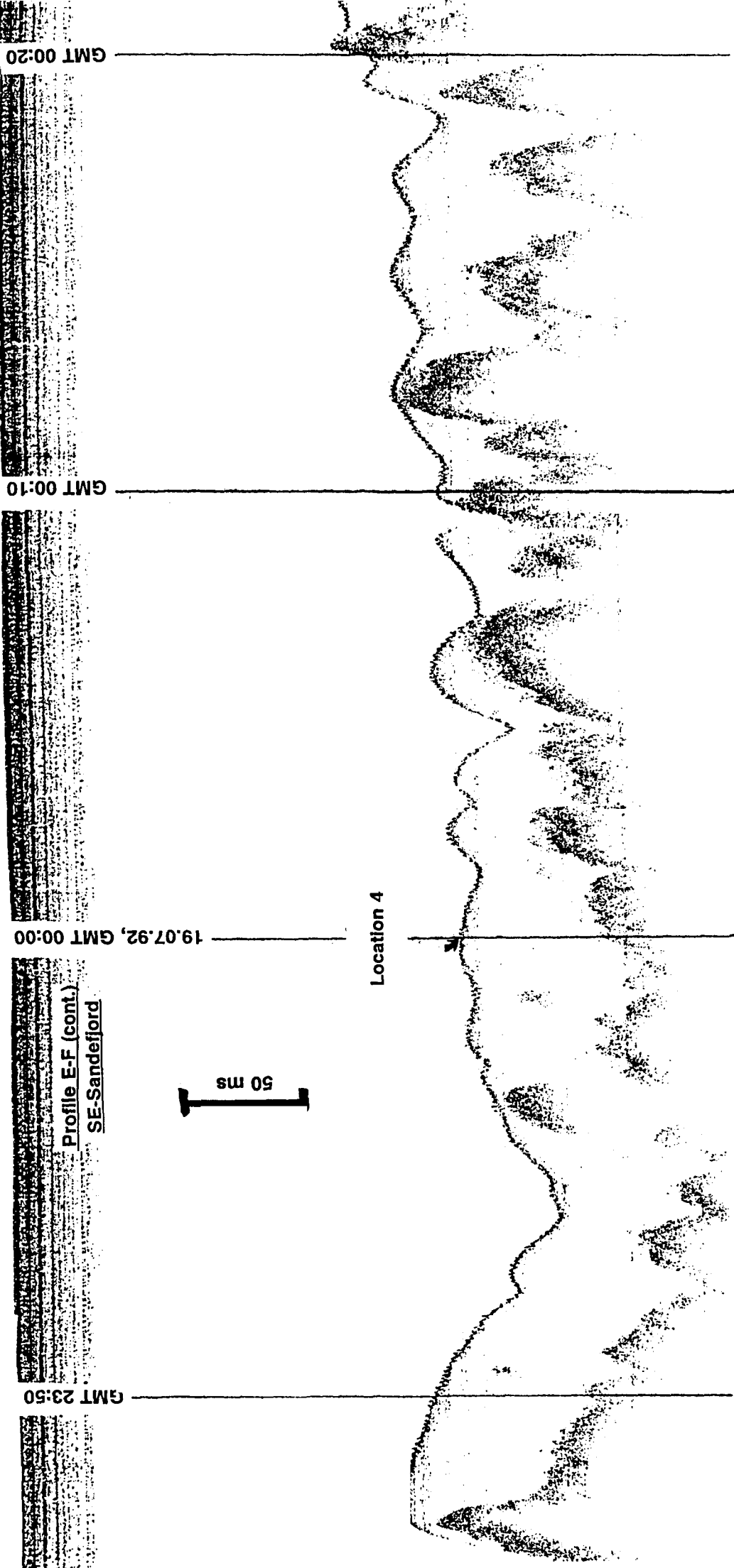




Location 5

Profile E-F  
SE-Sandefjord

50 ms



GMT 00:20

GMT 00:10

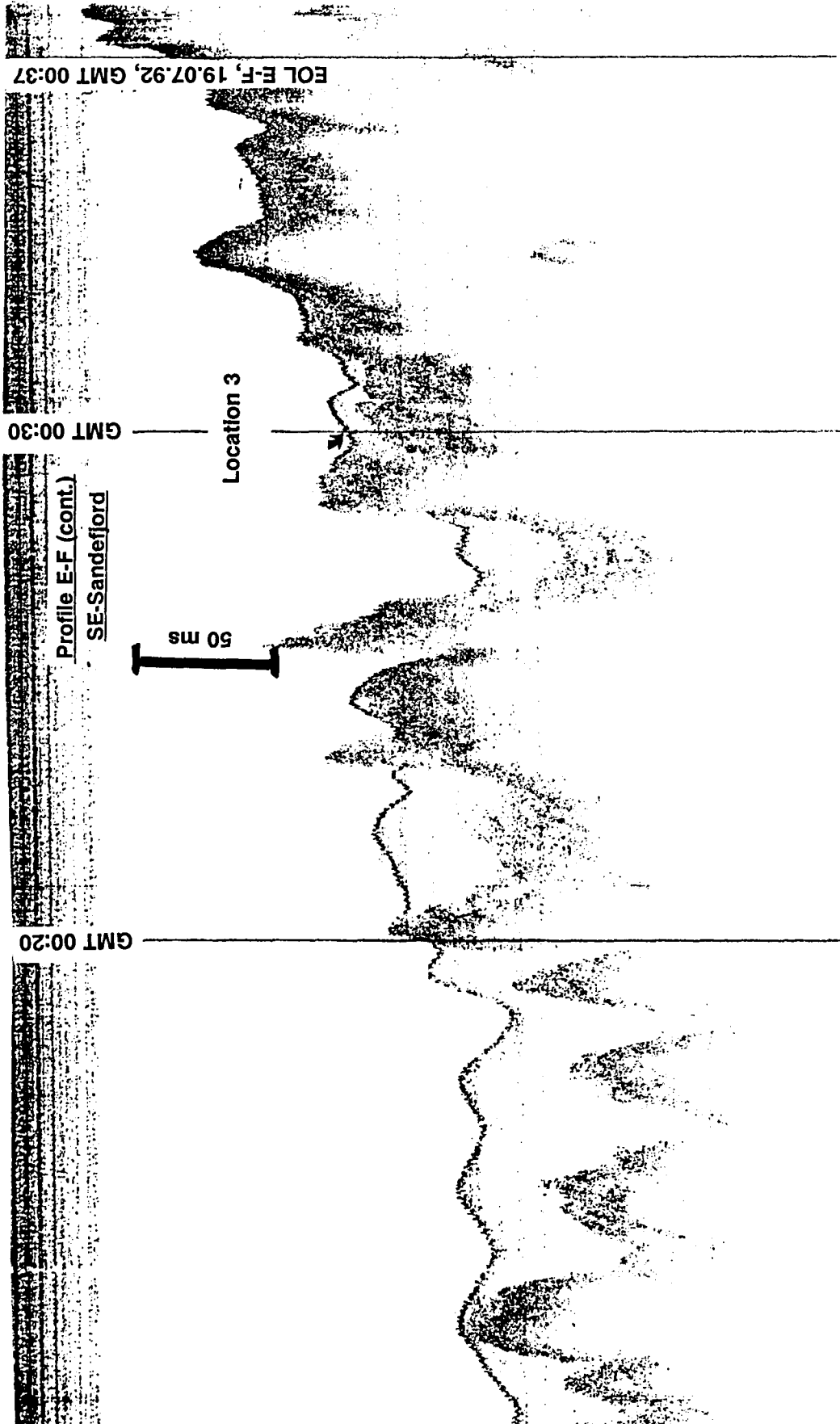
19.07.92, GMT 00:00

GMT 23:50

Profile E-F (cont.)  
SE-Sandefjord

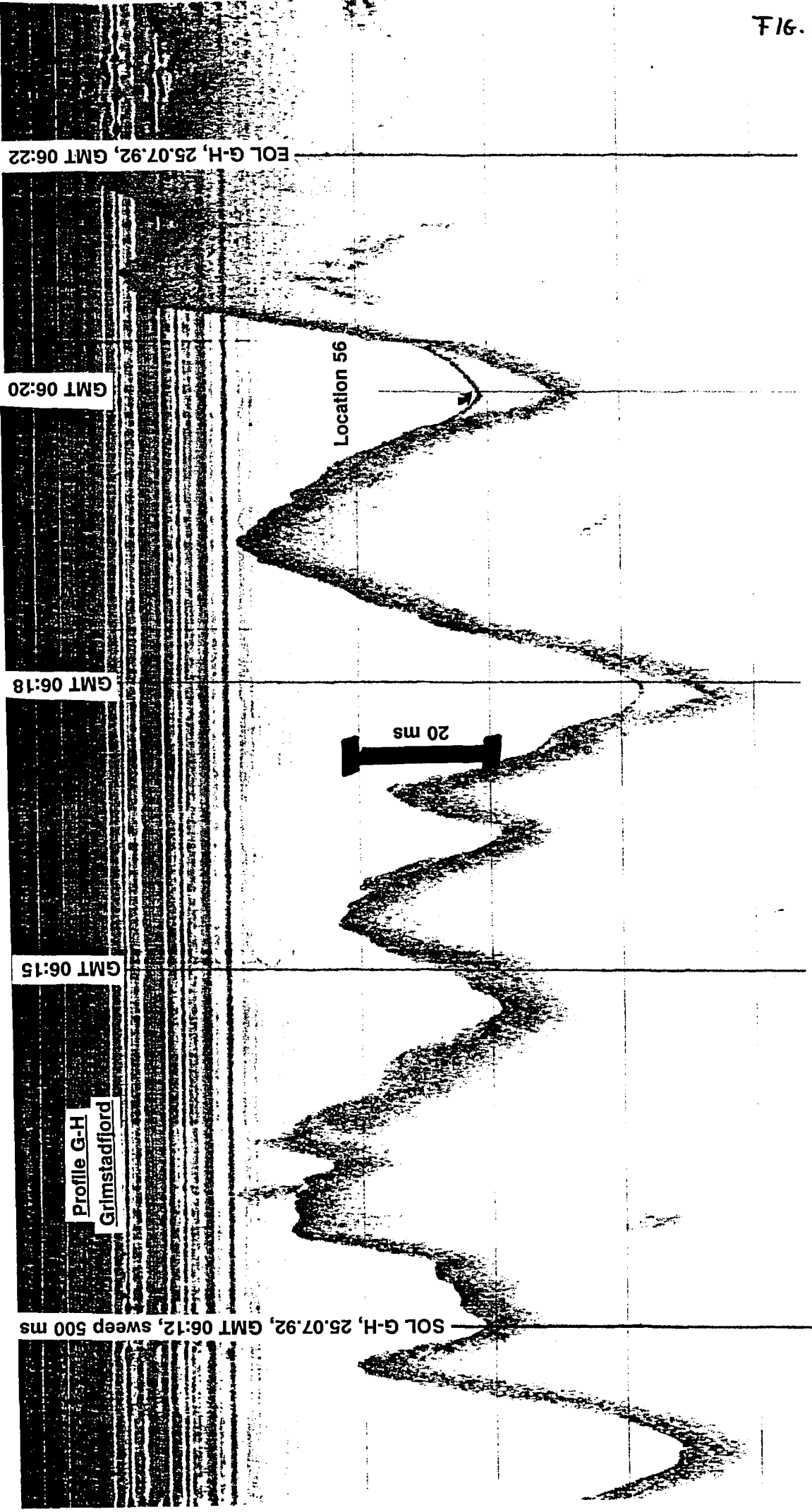
50 ms

Location 4



**Figure 8**

**Seismic record of profile G-H, location 56**



EOL G-H, 25.07.92, GMT 06:22

GMT 06:20

GMT 06:18

GMT 06:15

SOL G-H, 25.07.92, GMT 06:12, sweep 500 ms

Profile G-H  
Grimstadford

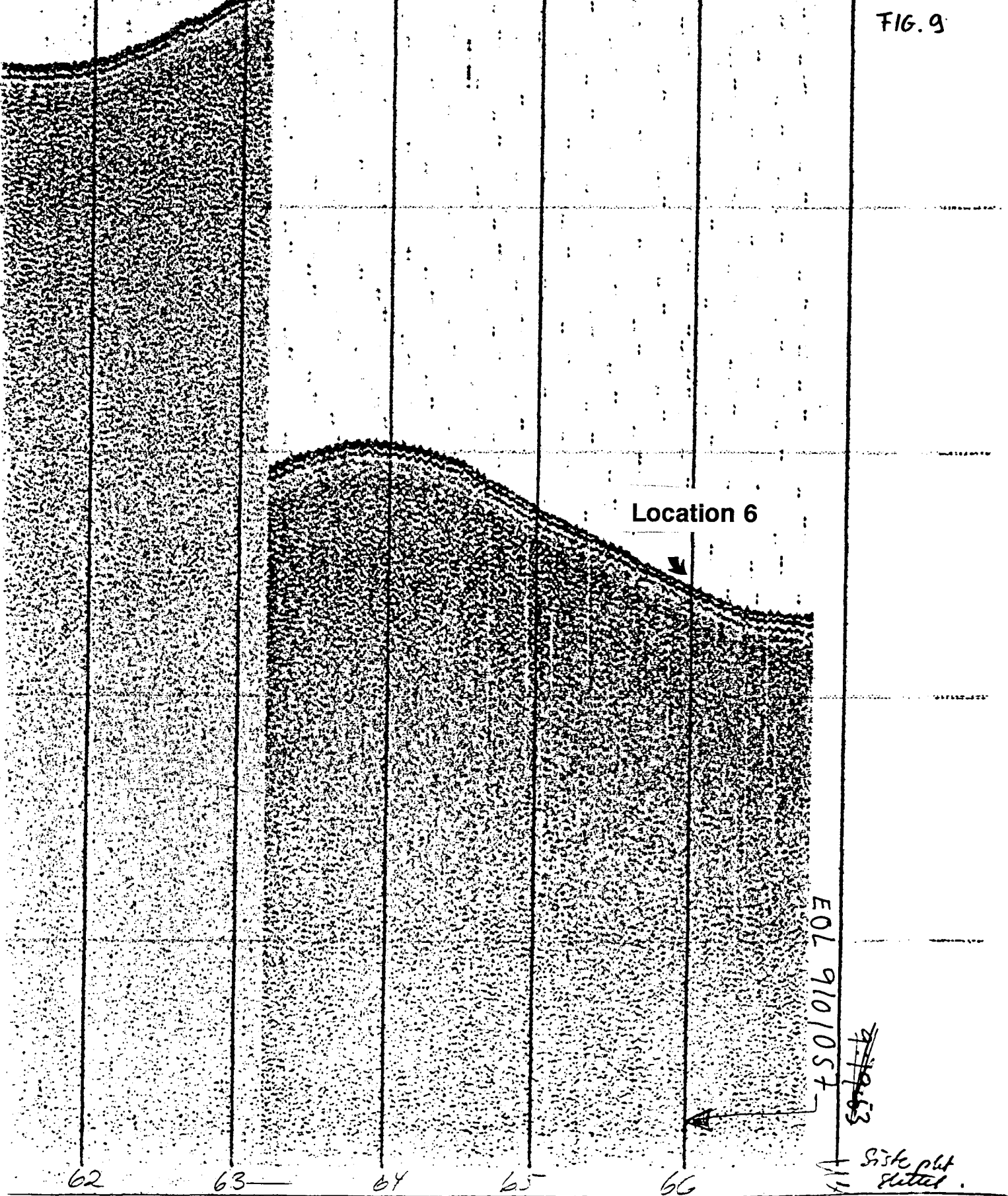
Location 56

20 ms

**Figure 9-58**

**Seismic record of location 6-55. All locations are positioned on crossing points of seismic profile lines from Geofjord cruise 9101. NOTE: Location 41-37 occur in descending order.**

FIG. 9



Location 6

EOL 9101057

~~9101053~~

Site plot tilted

62

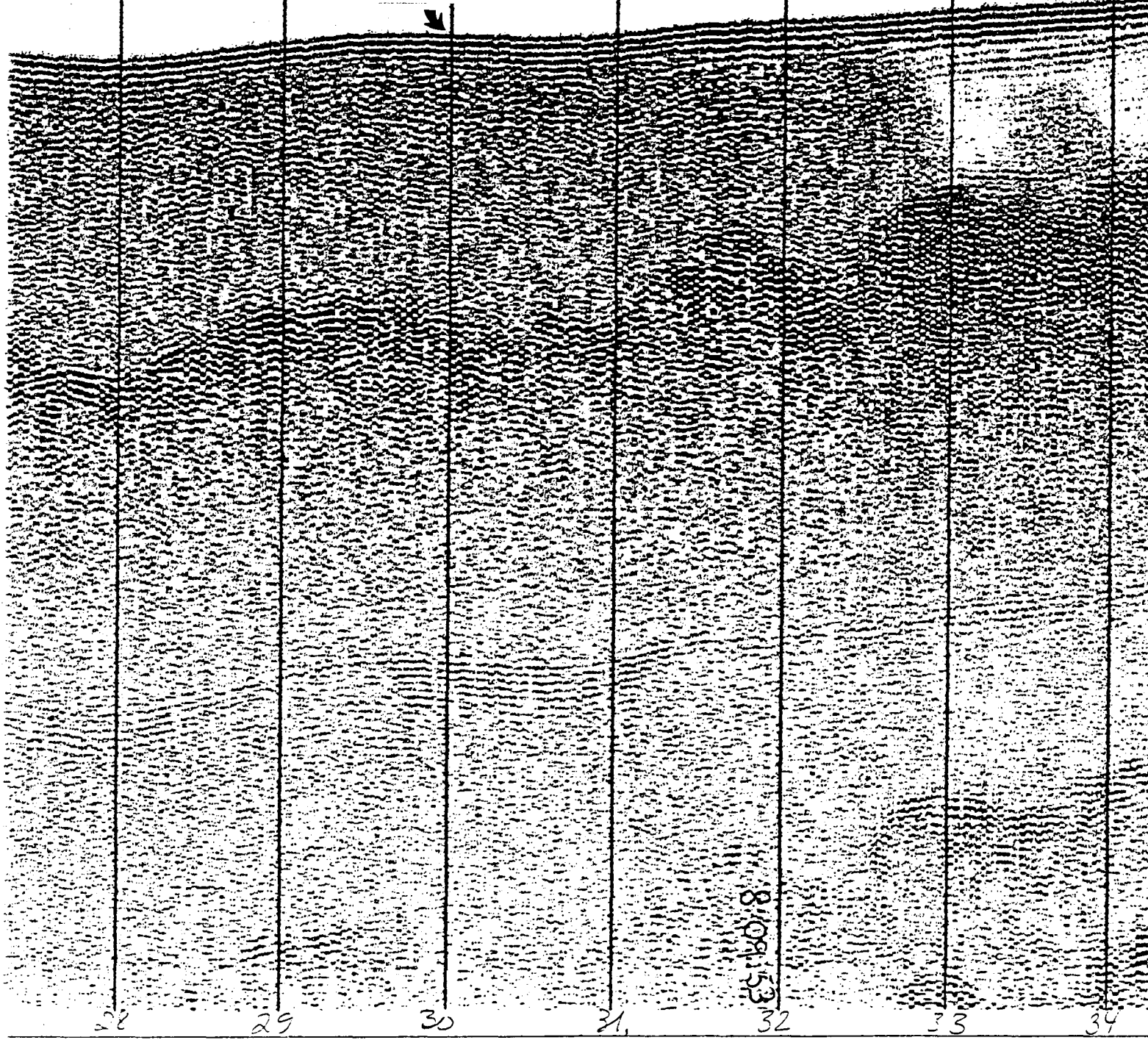
63

64

65

66

Location 7



28

29

30

31

32

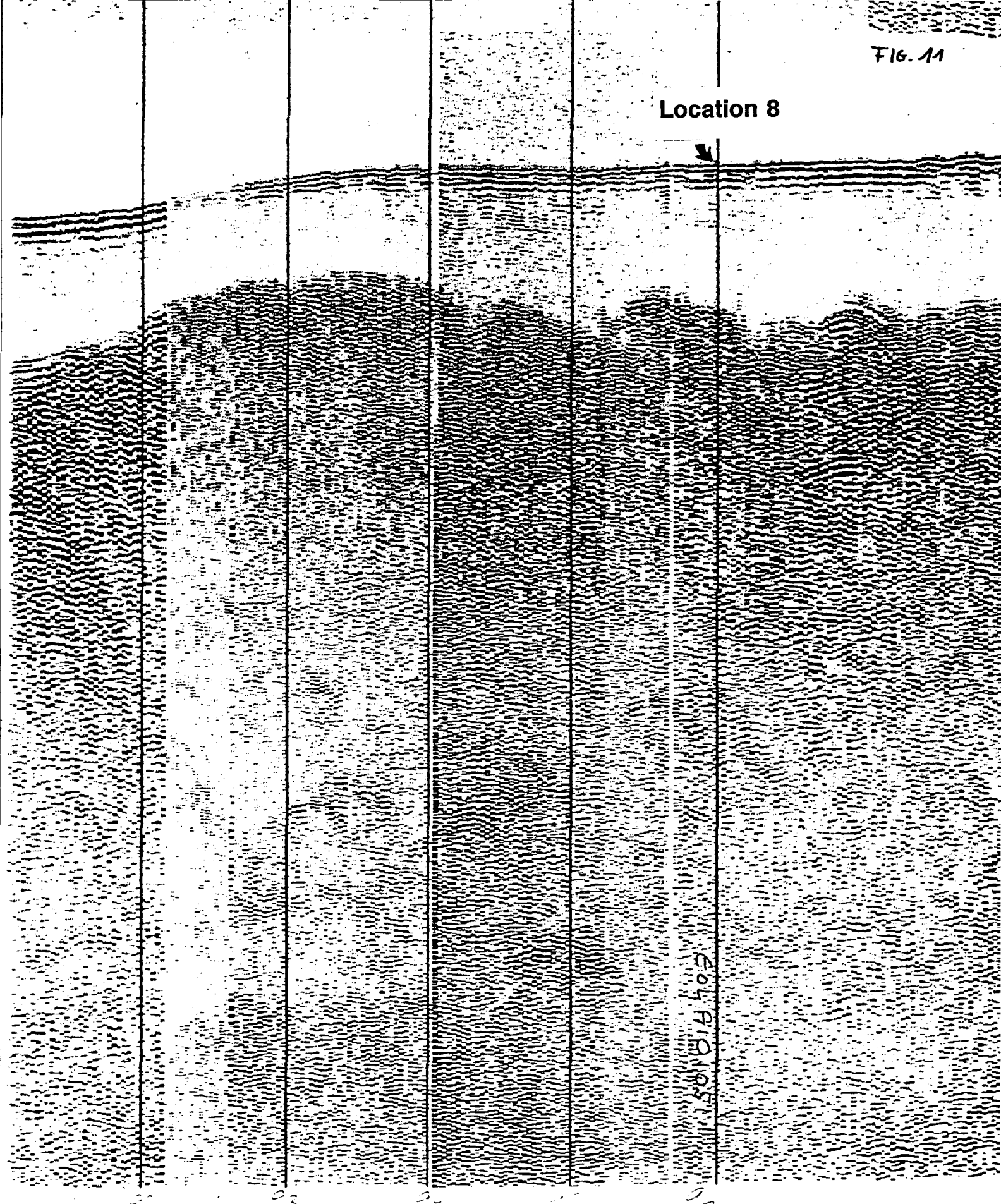
33

34

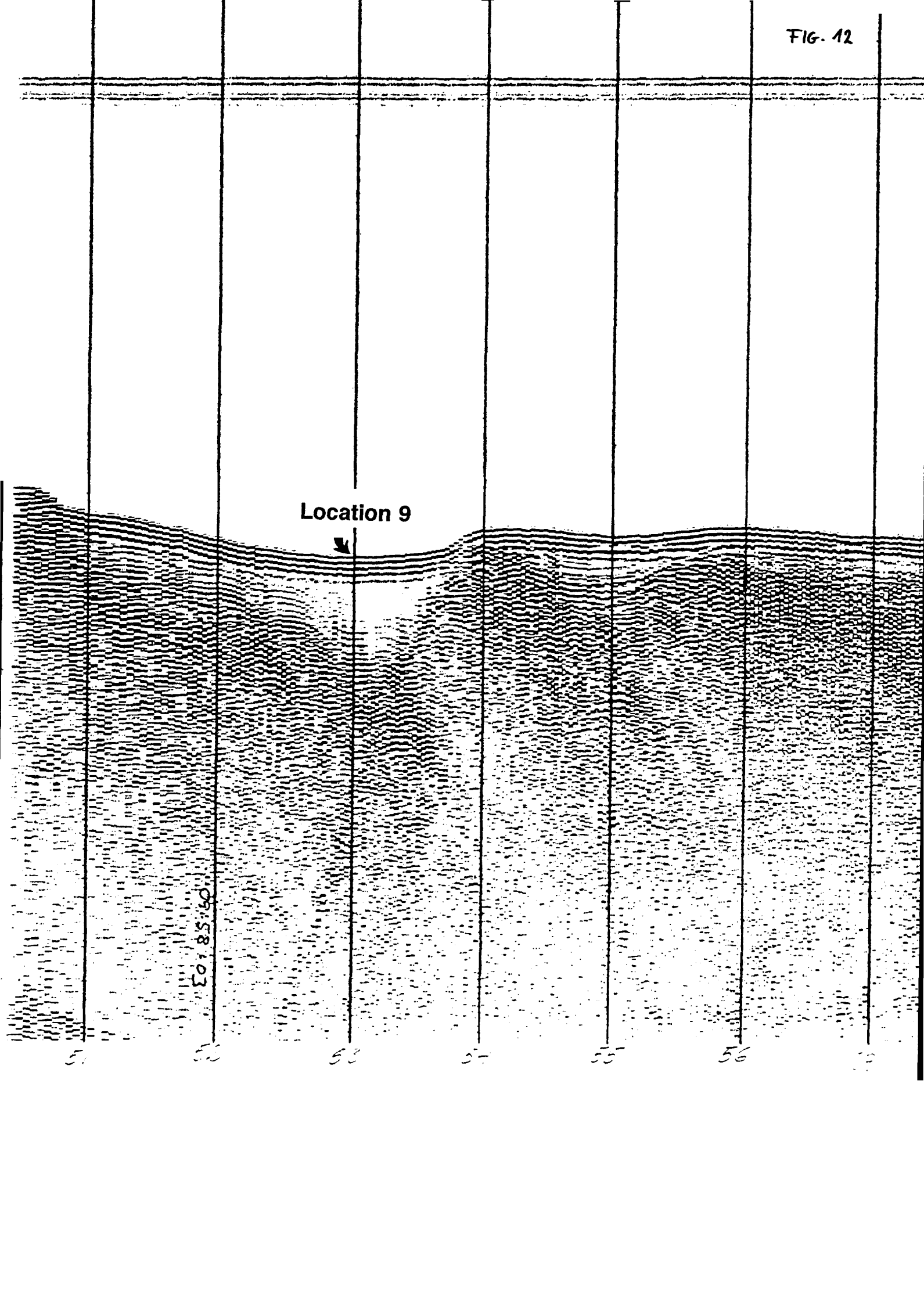
8:09:53



Location 8



COL 11 1951



Location 10

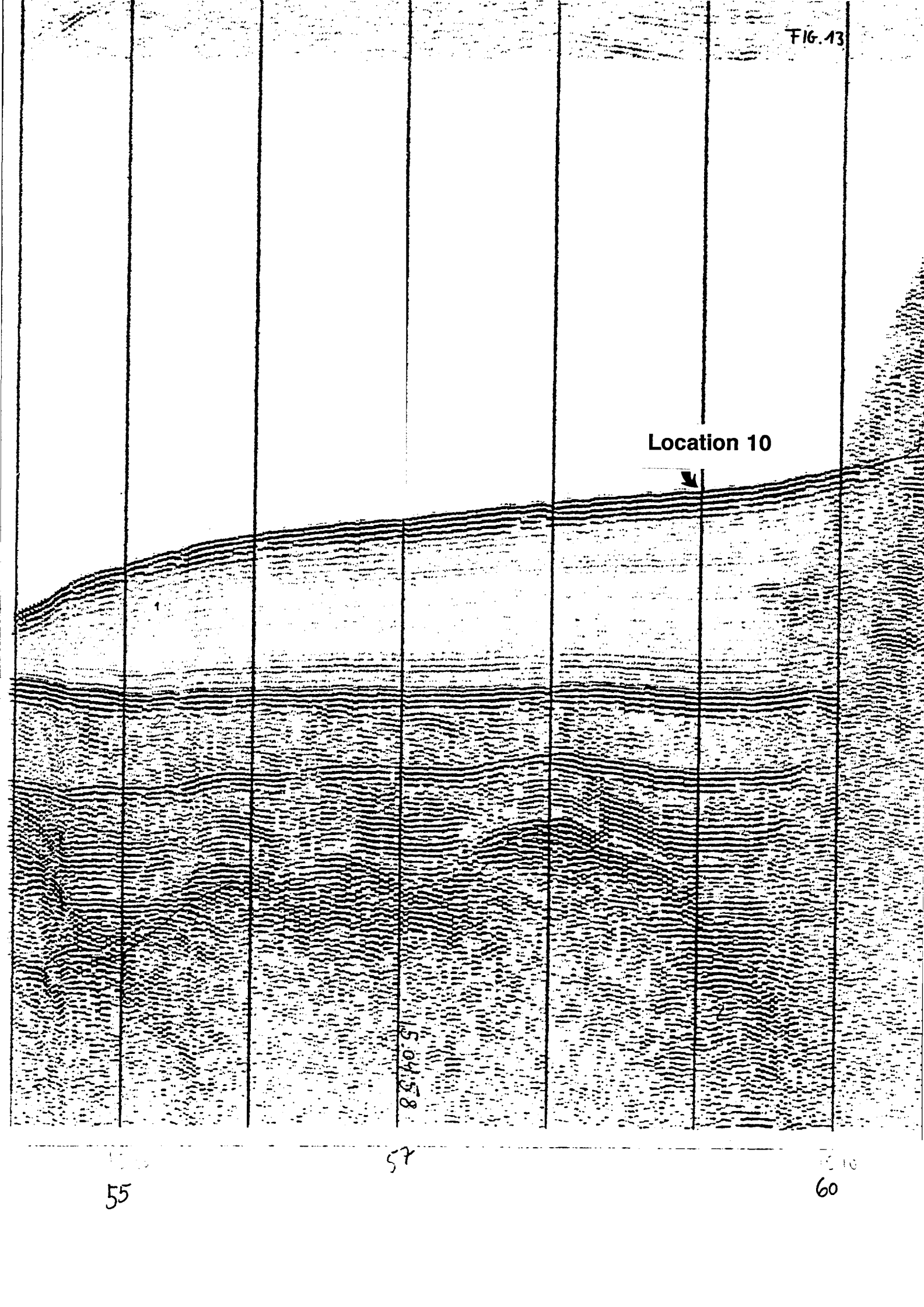


50458

55

57

60



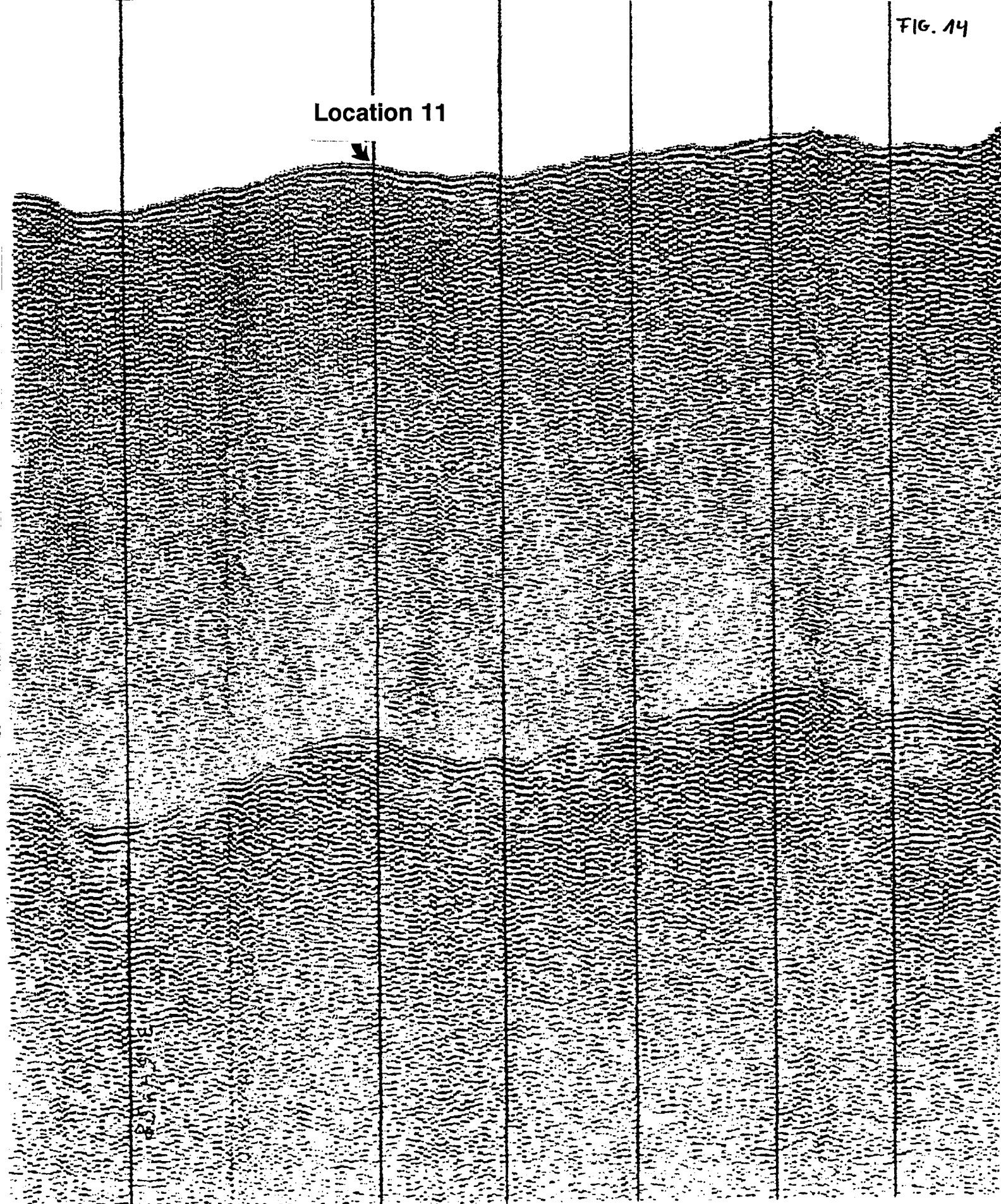
Location 11



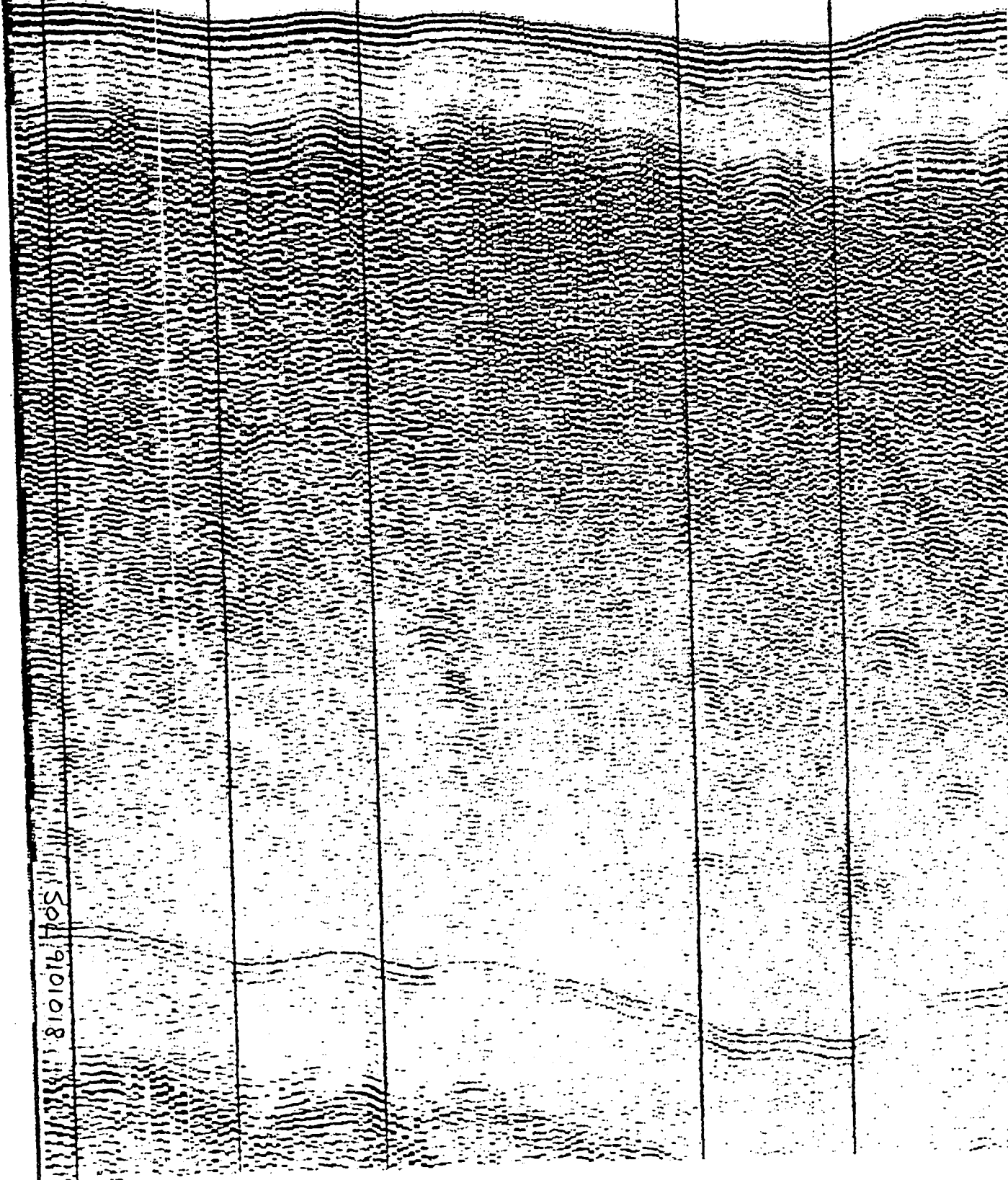
FIG. 14

23

25



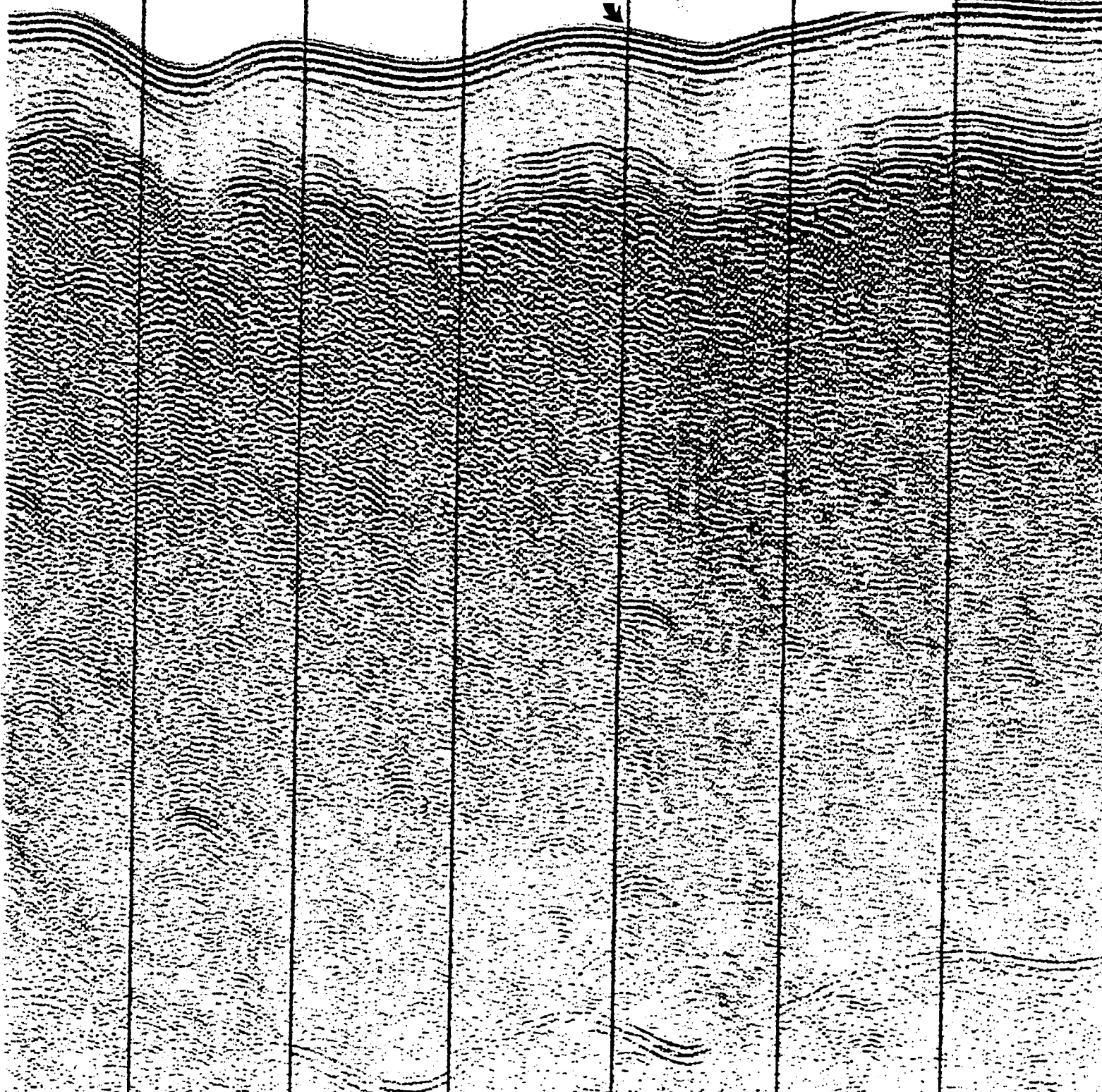
Location 12



8101016 TOS



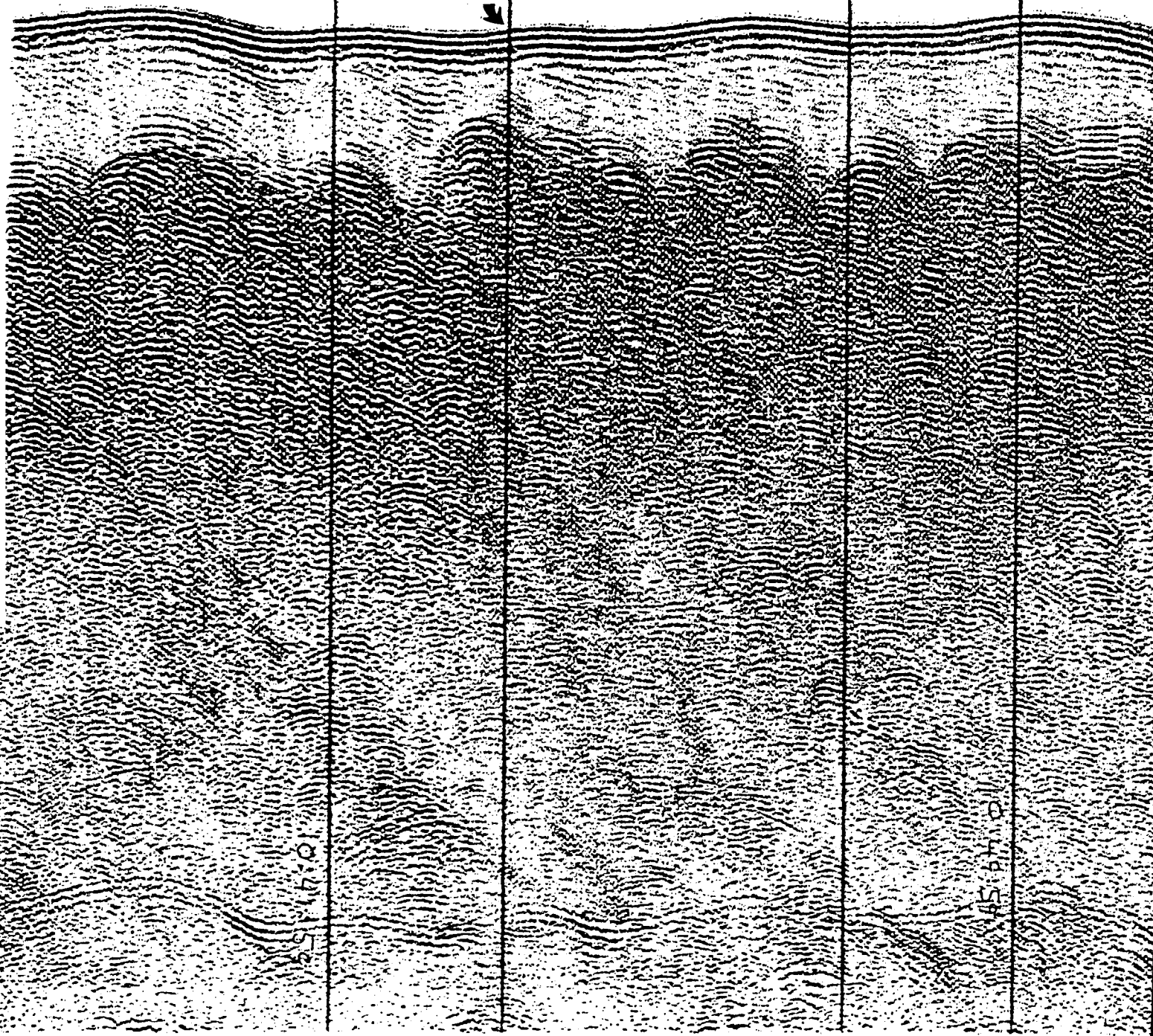
Location 13



30

35

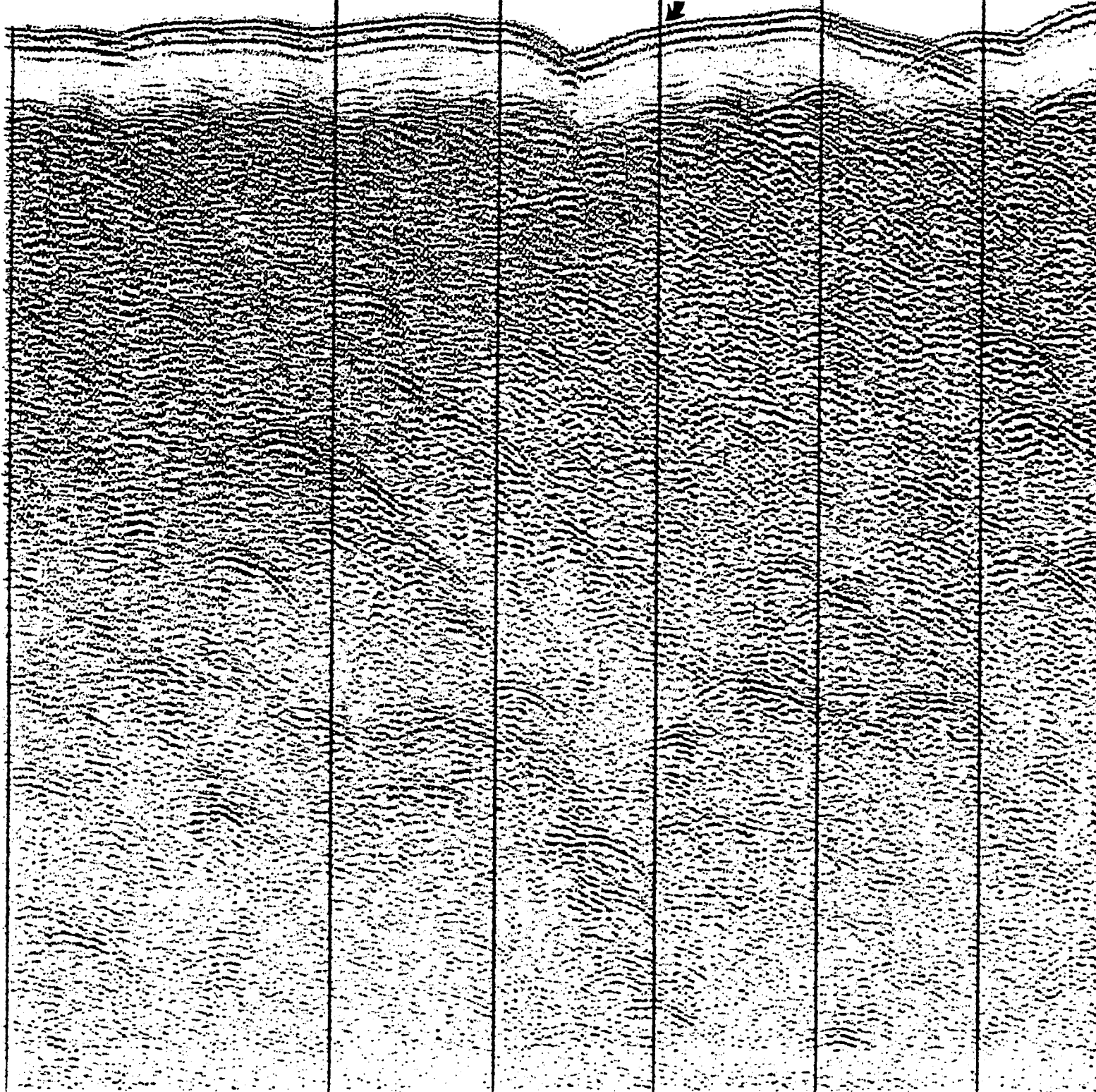
ocation 14



15-5-11-01

15-5-11-01

Location 15

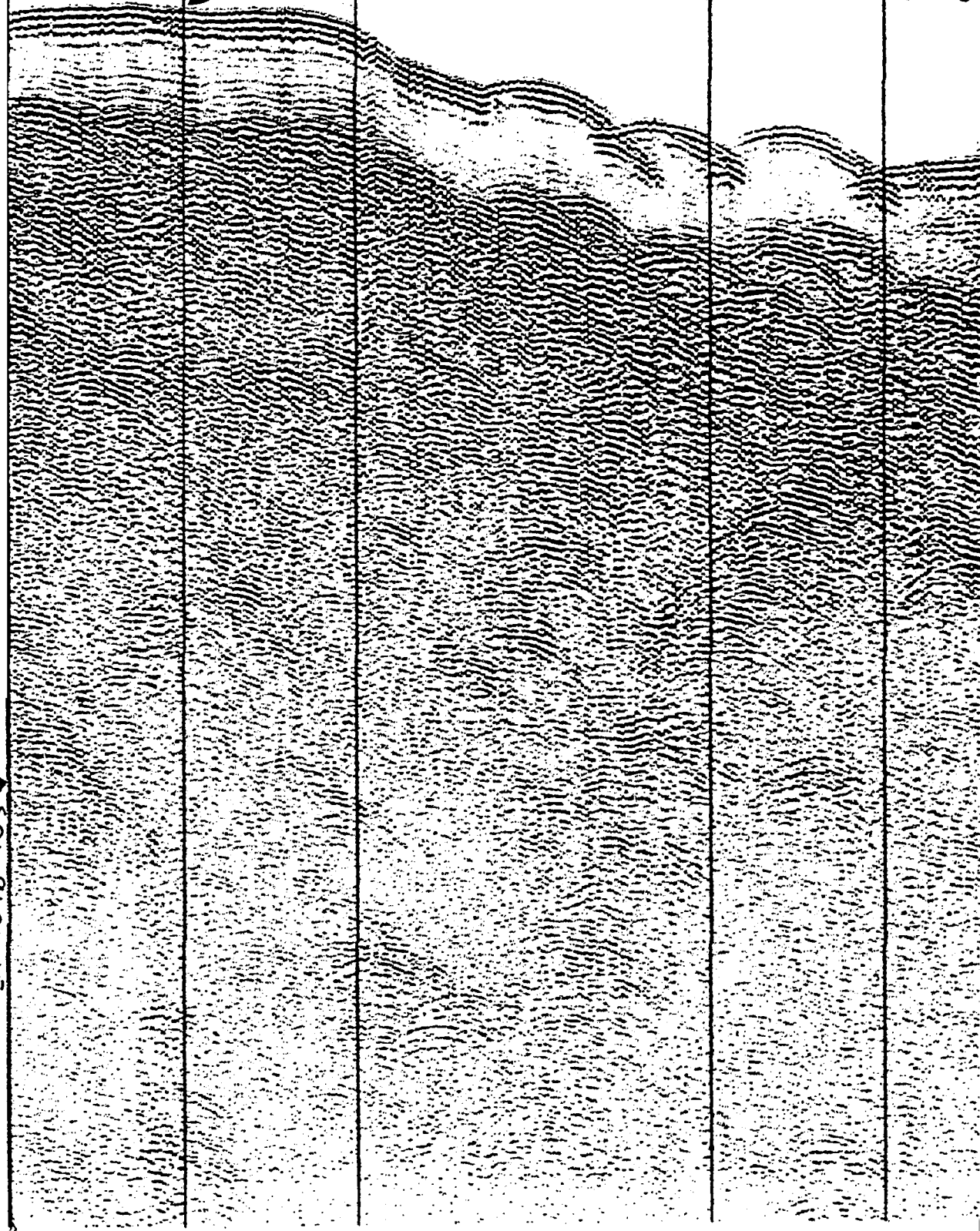


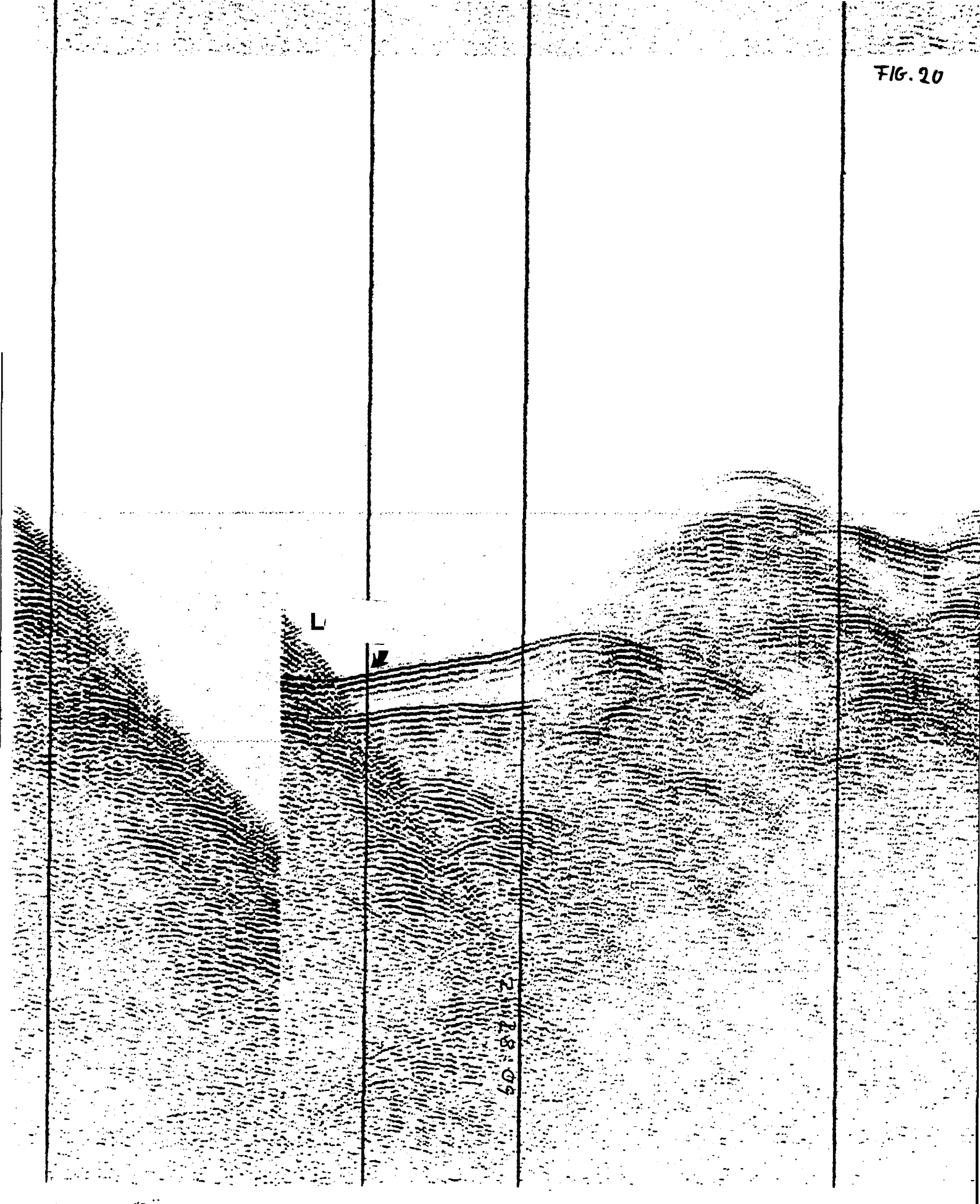


Location 16

FIG. 19

↓ SOL 9101015



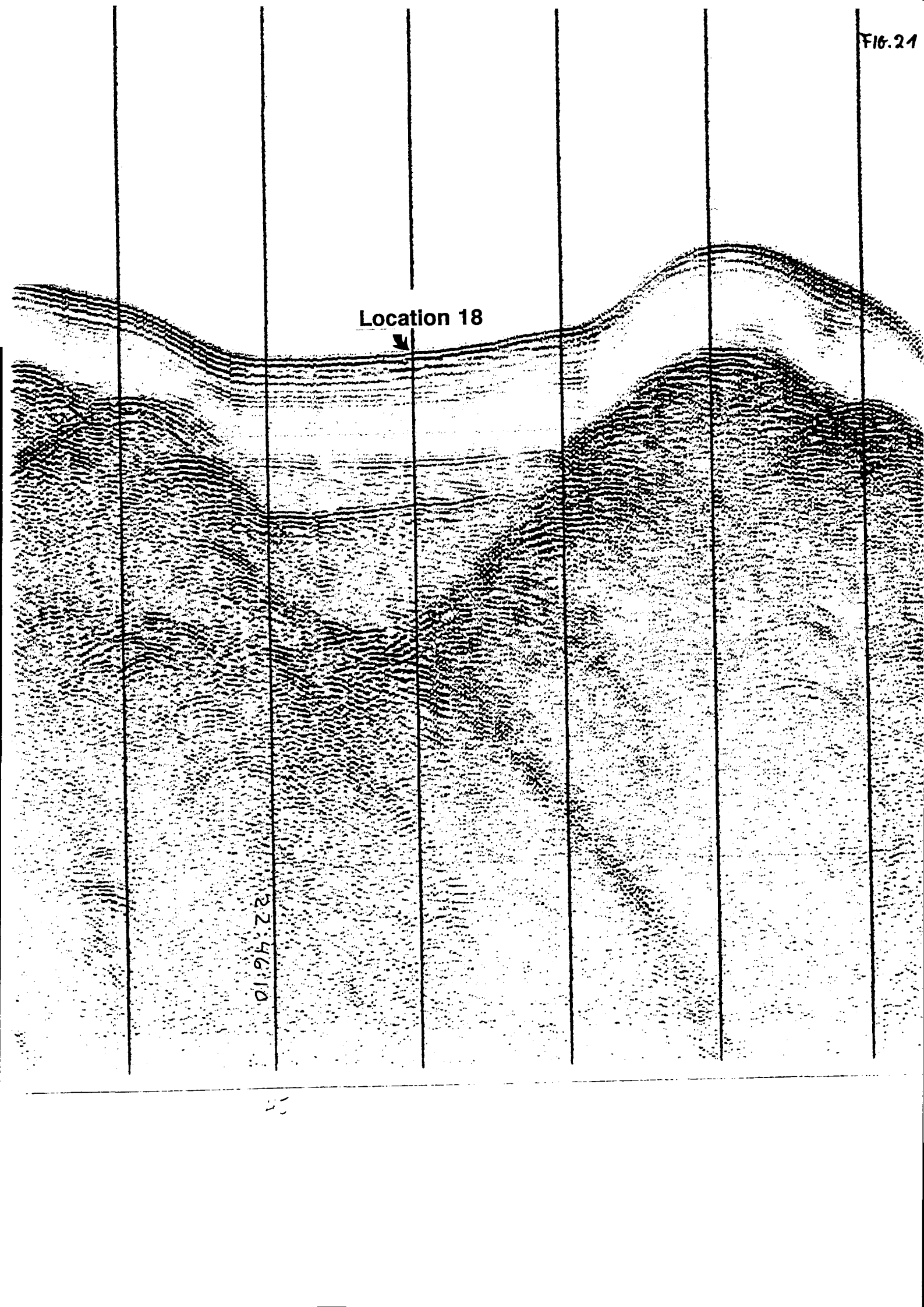


2112809

Location 18

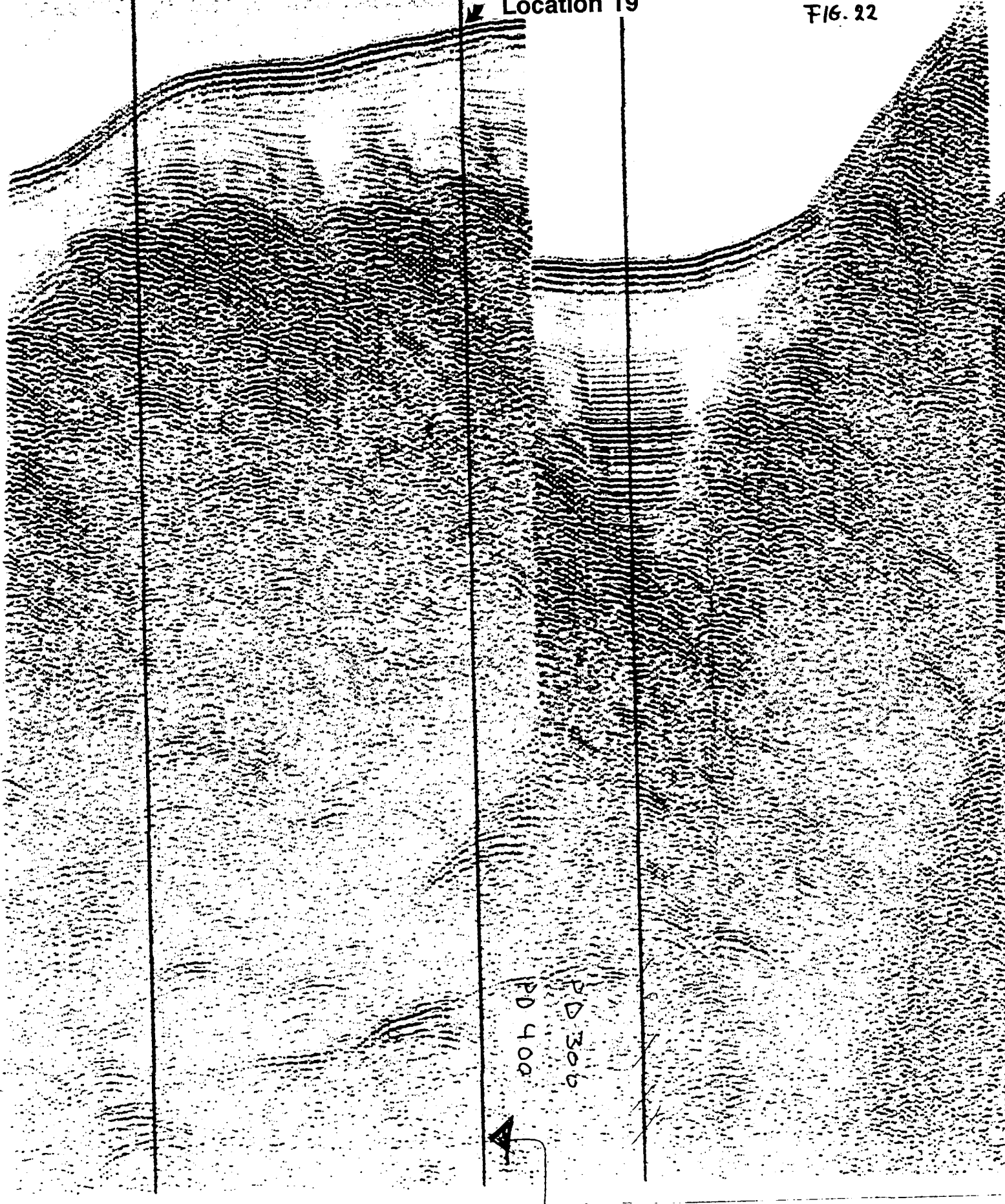


22:46:10



Location 19

FIG. 22



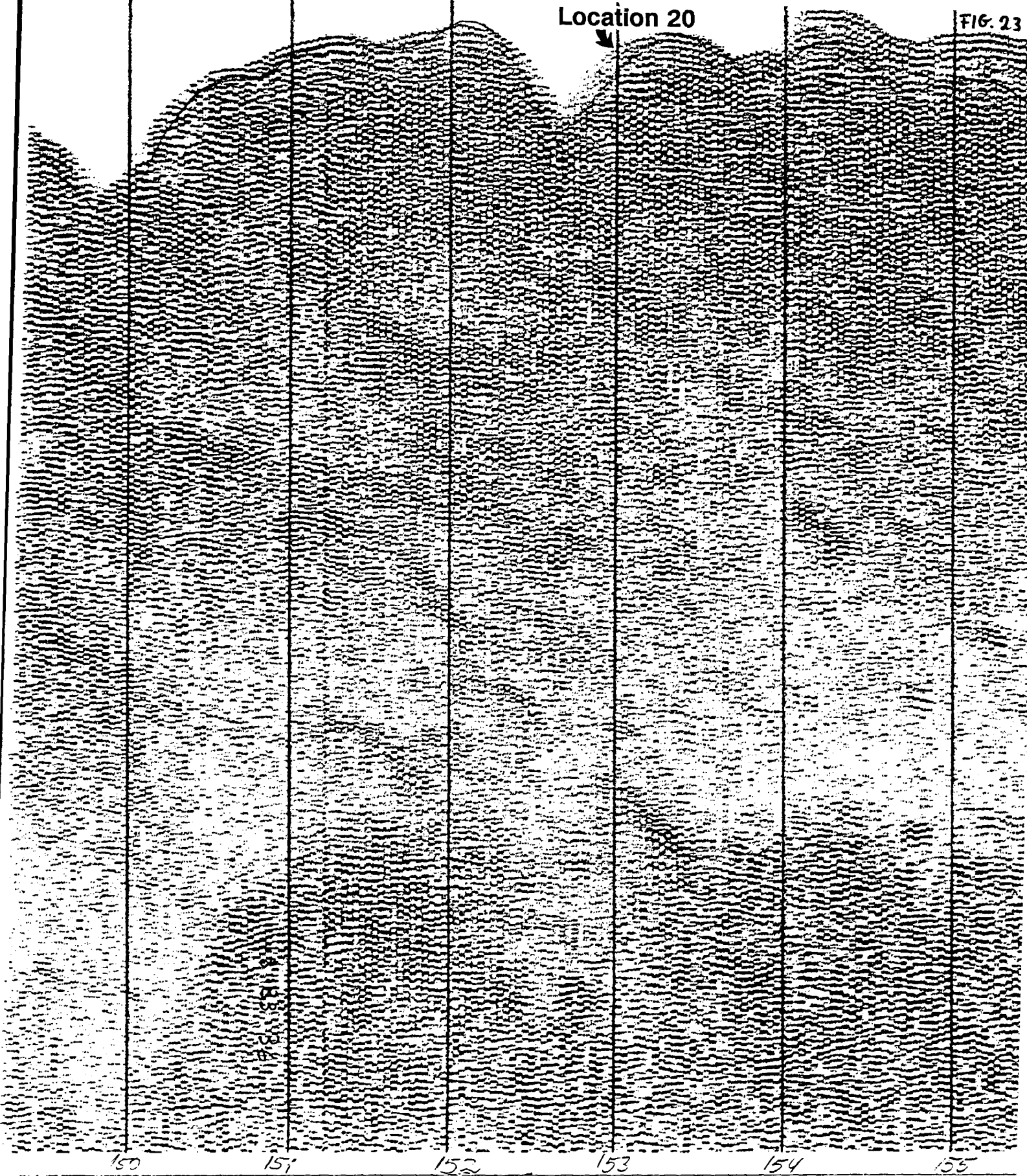
PD 300  
PD 400

73

EDL 01000

Location 20

FIG. 23



150

151

152

153

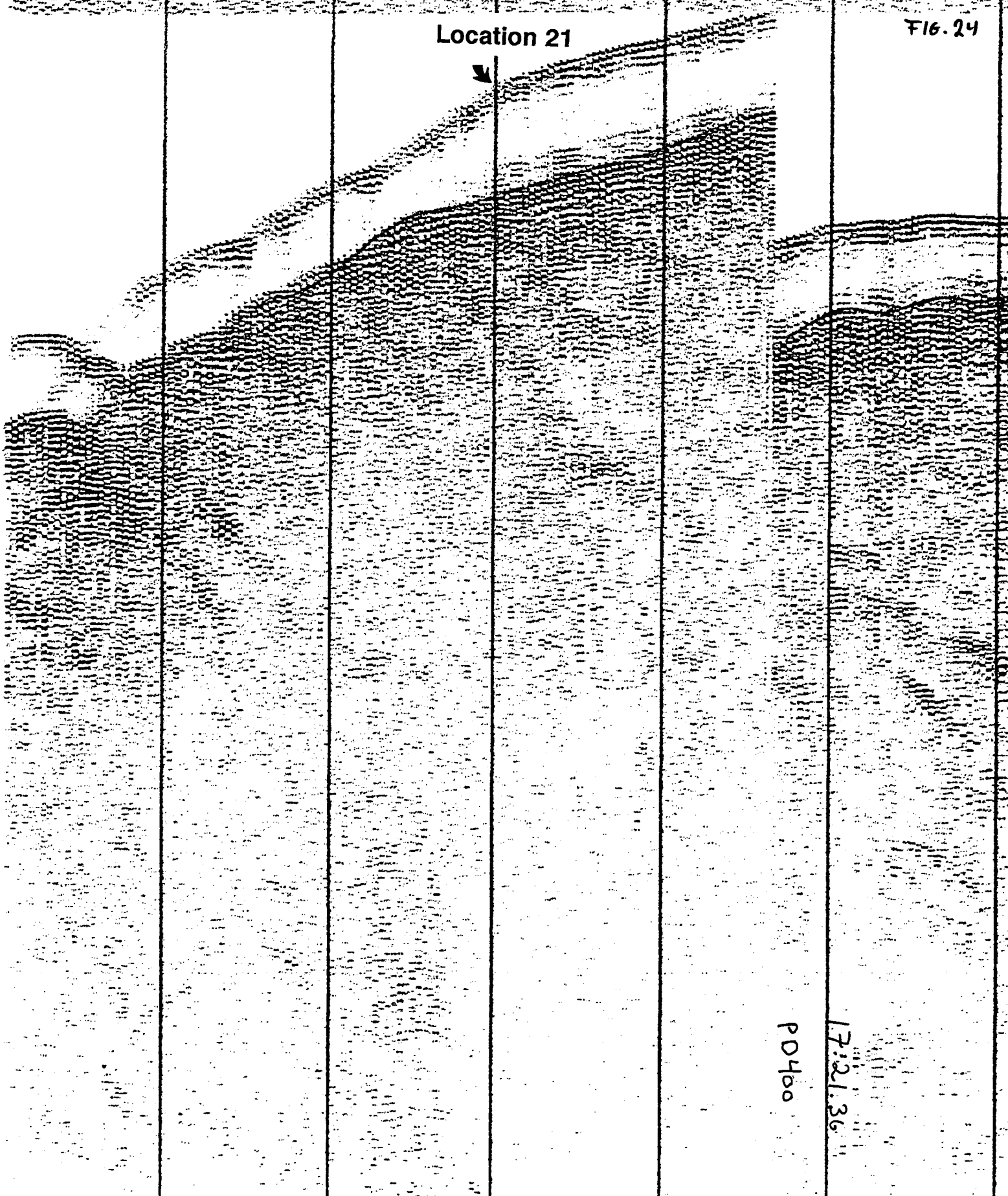
154

155



FIG. 24

Location 21



111

112

113

114

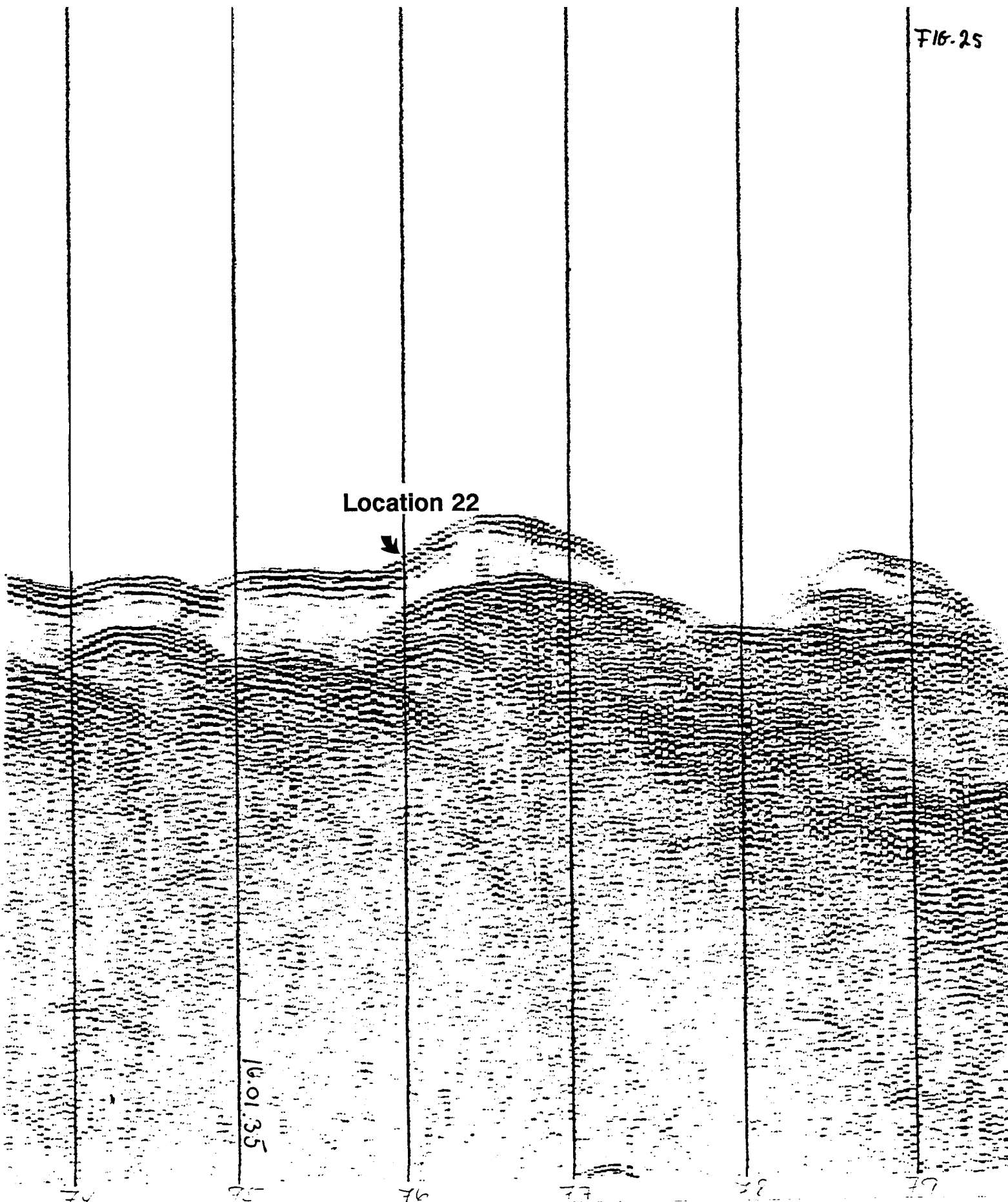
115

116

PD400

17:21.36

Location 22



16.01.35

7 2 9 7 3 6

FIG. 26

Location 23



44

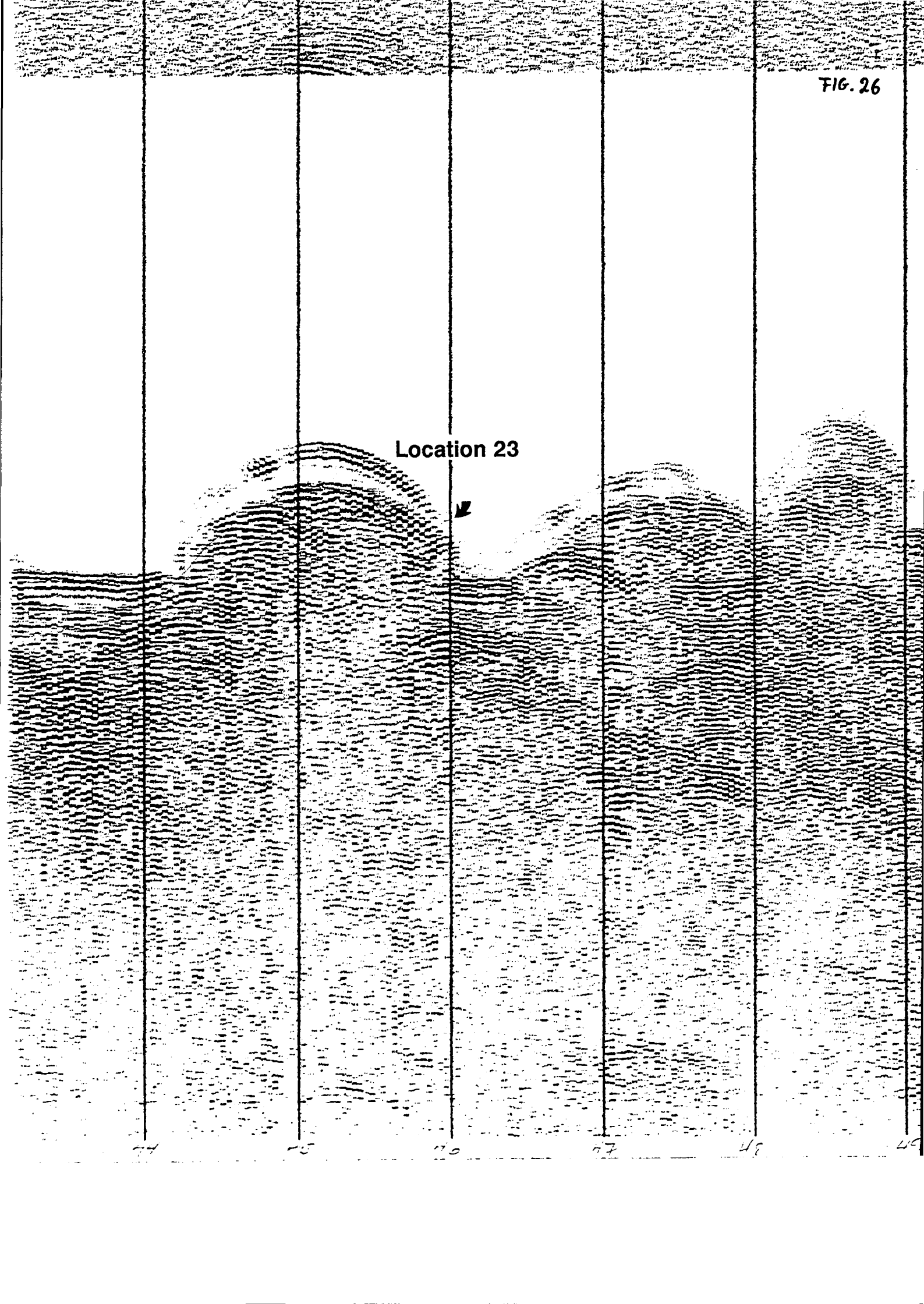
45

46

47

48

49





Location 24



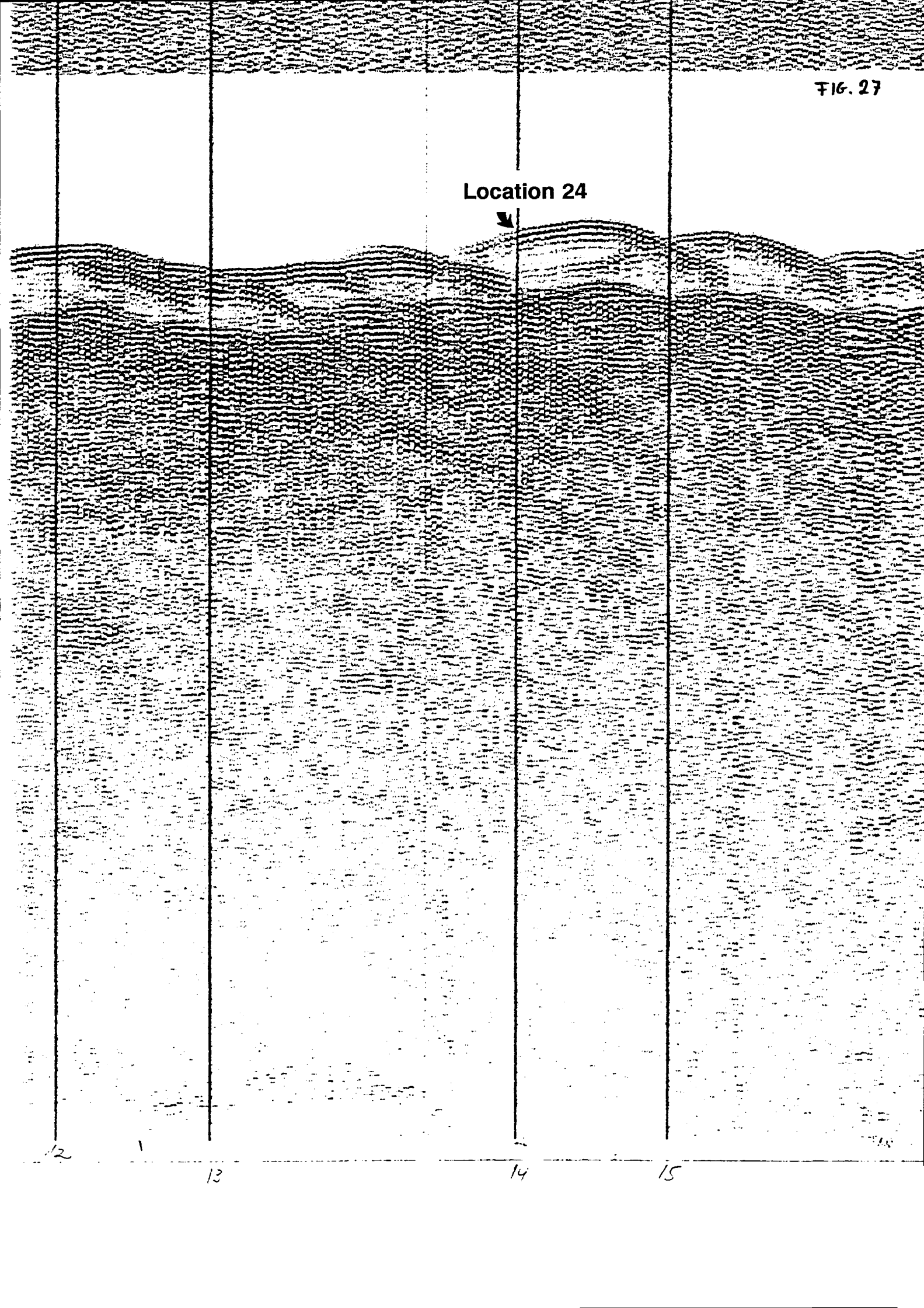
12

1

13

14

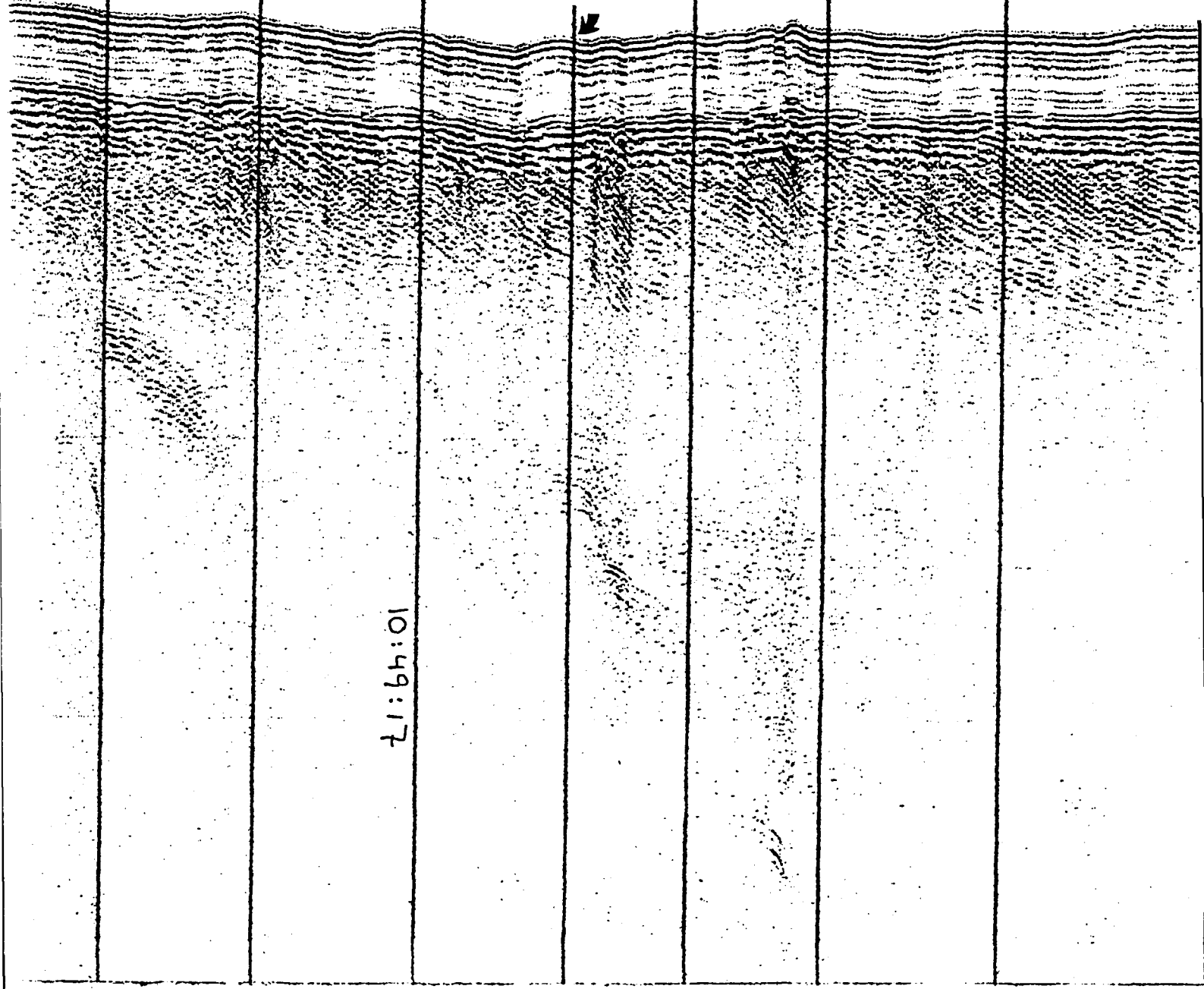
15



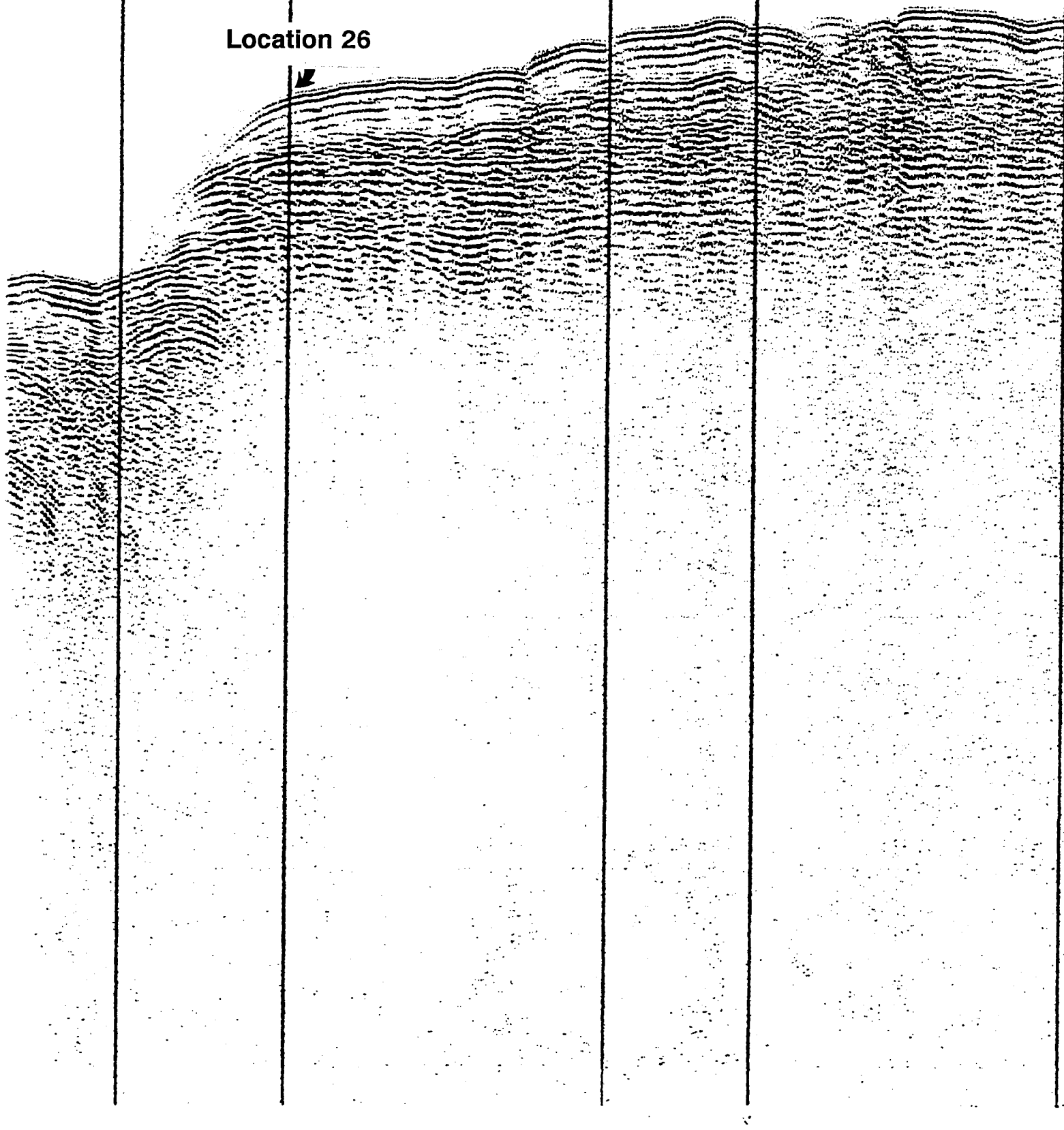
Location 25

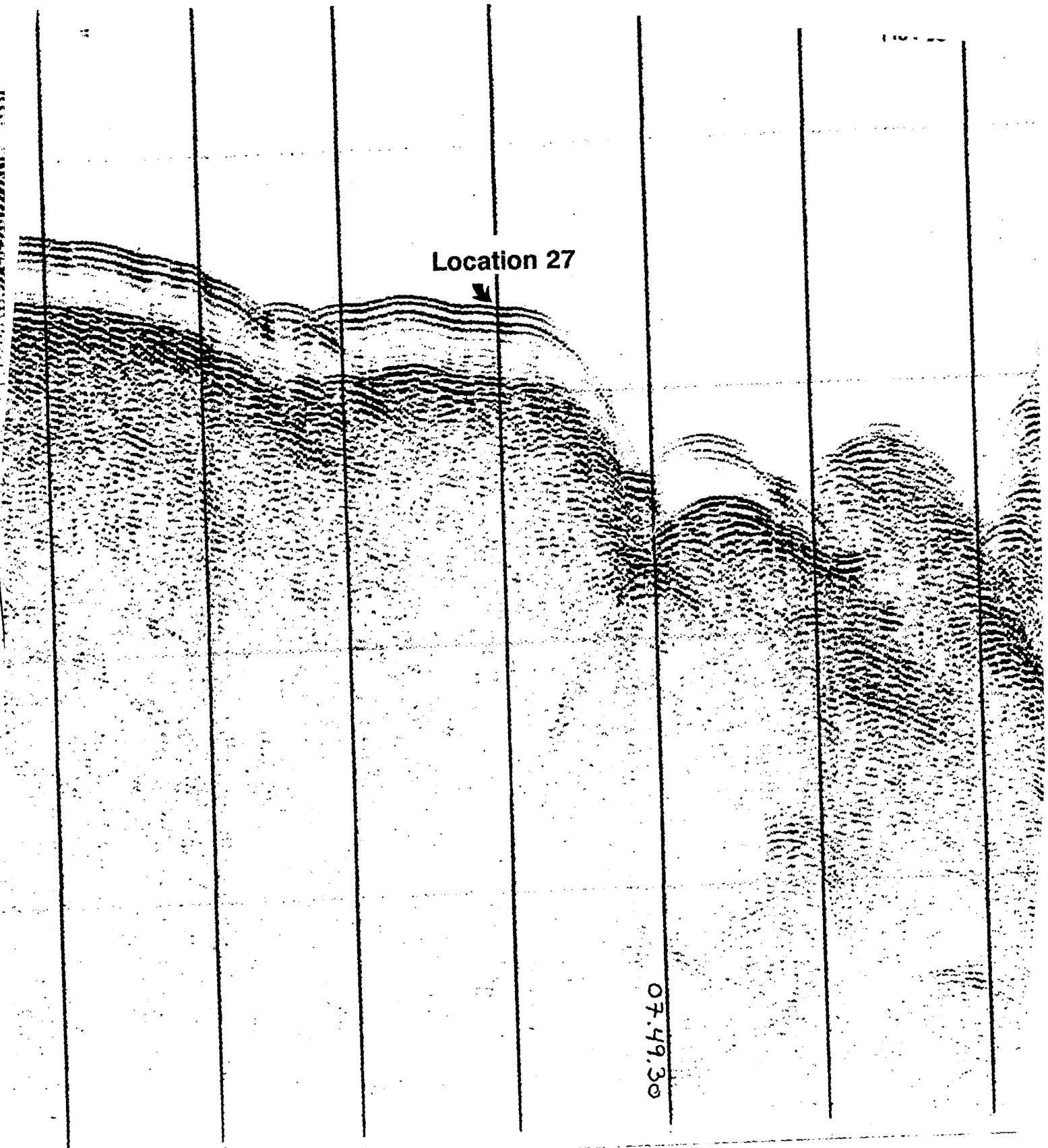


10:49:17



Location 26



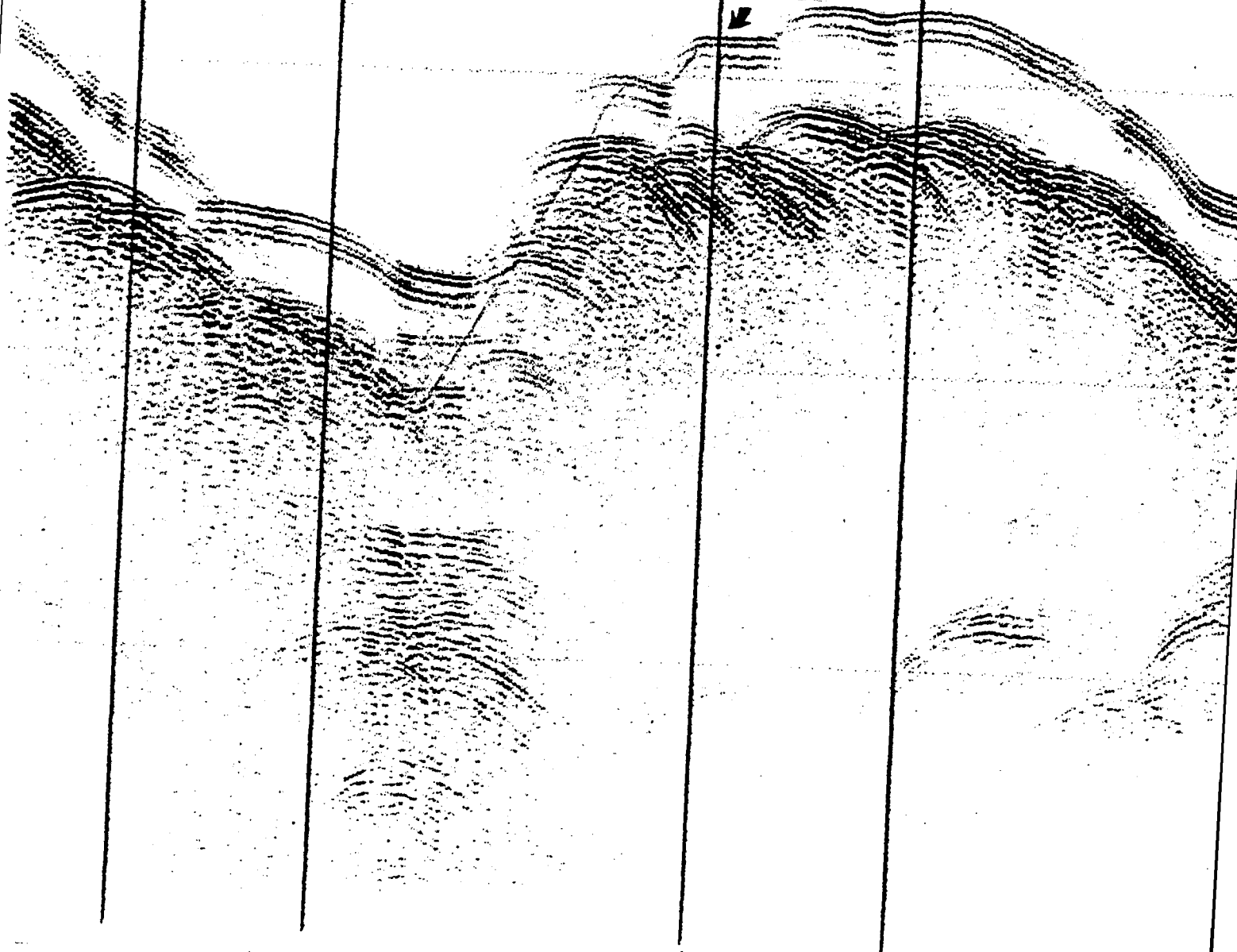


Location 27



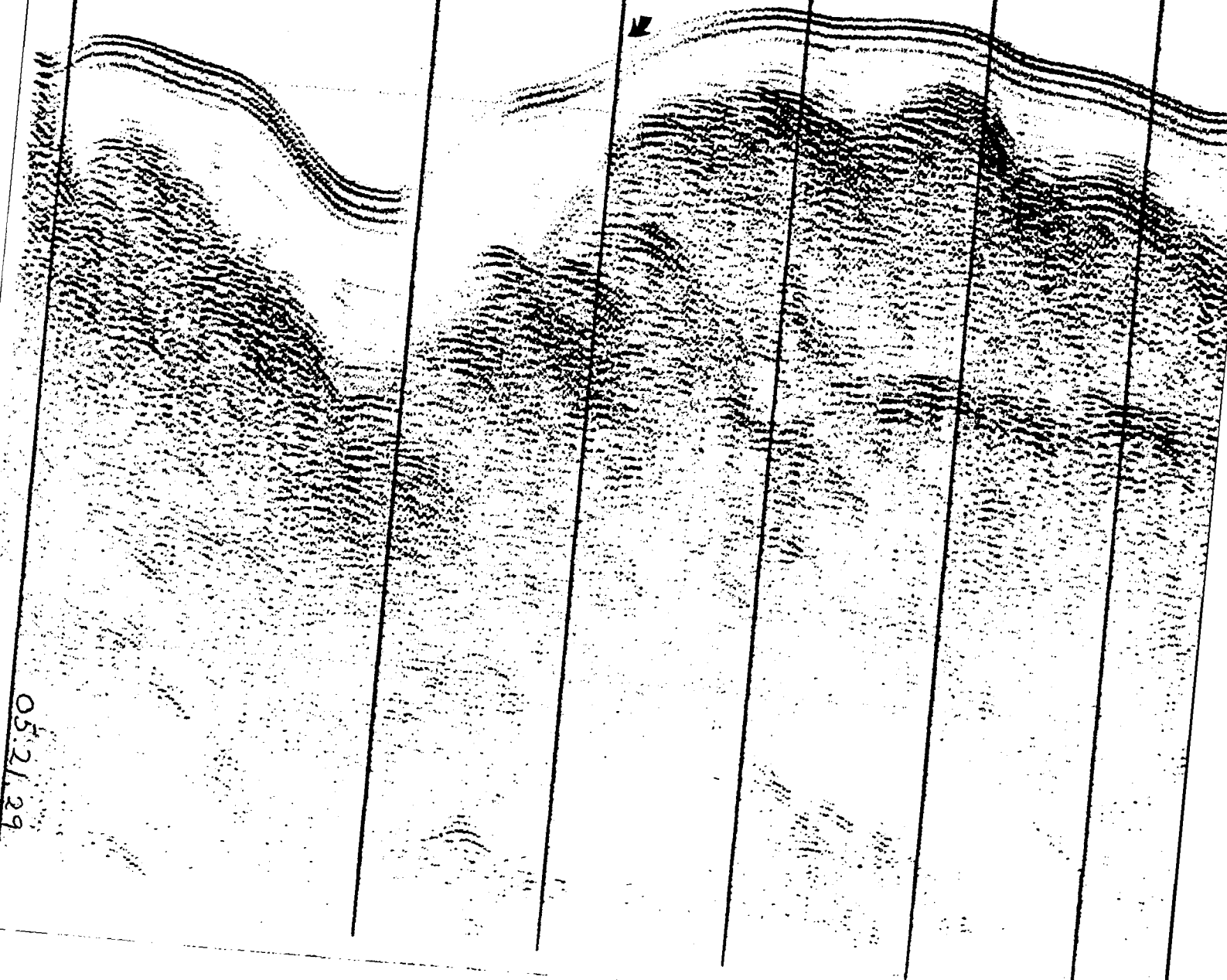
07.49.30

Location 28



60

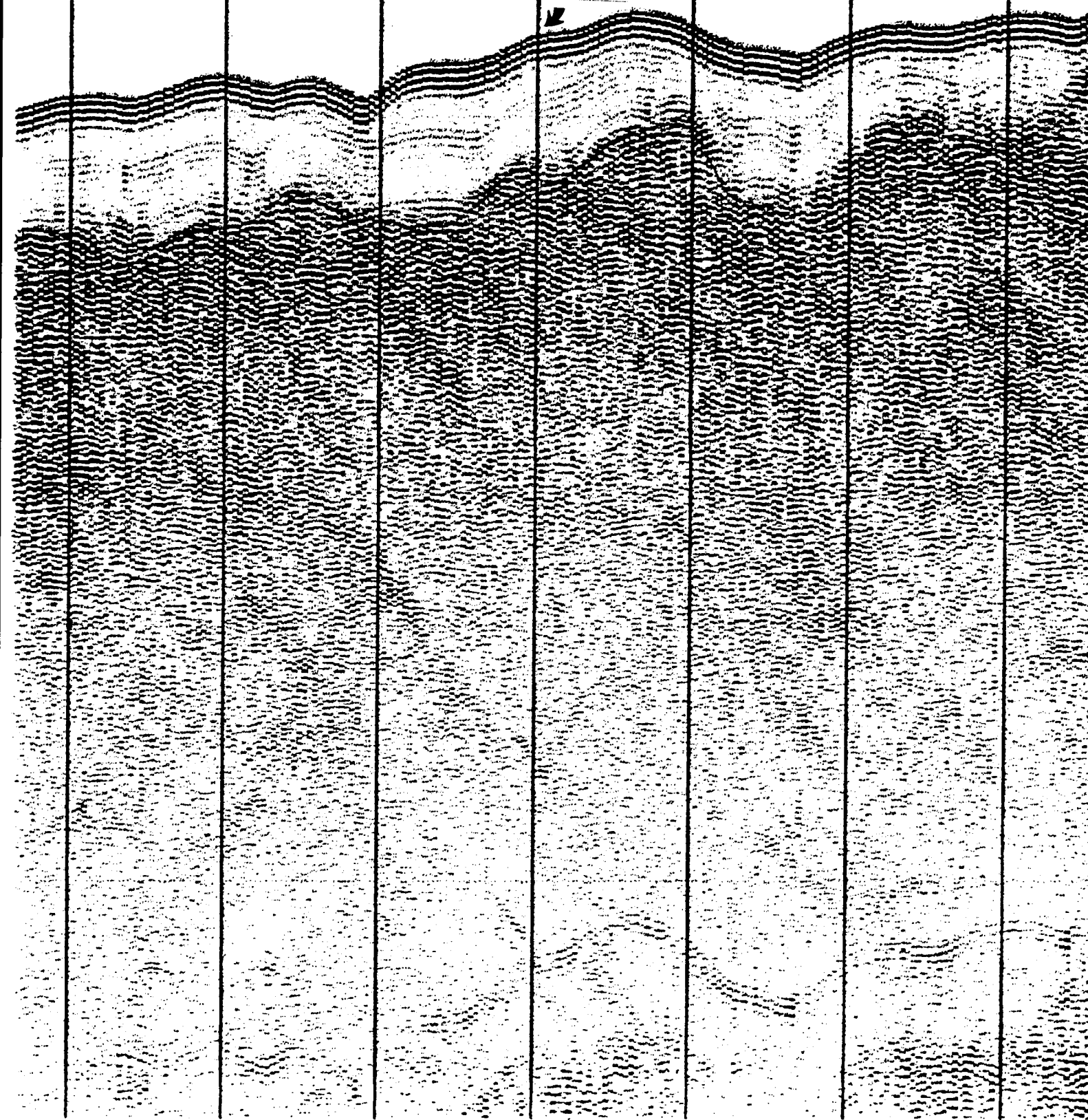
Location 29



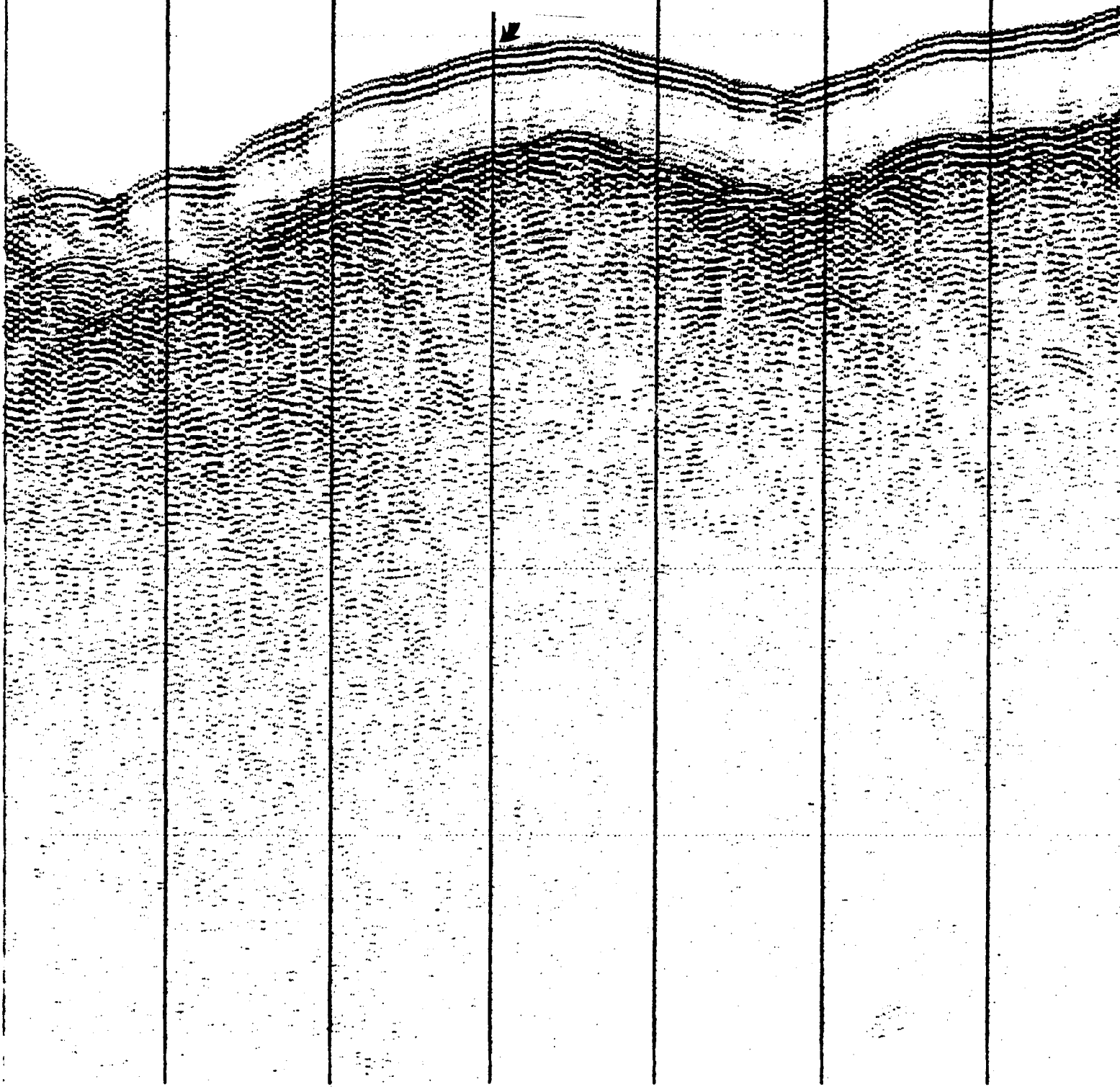
05.21.29

25

ocation 30



Location 31



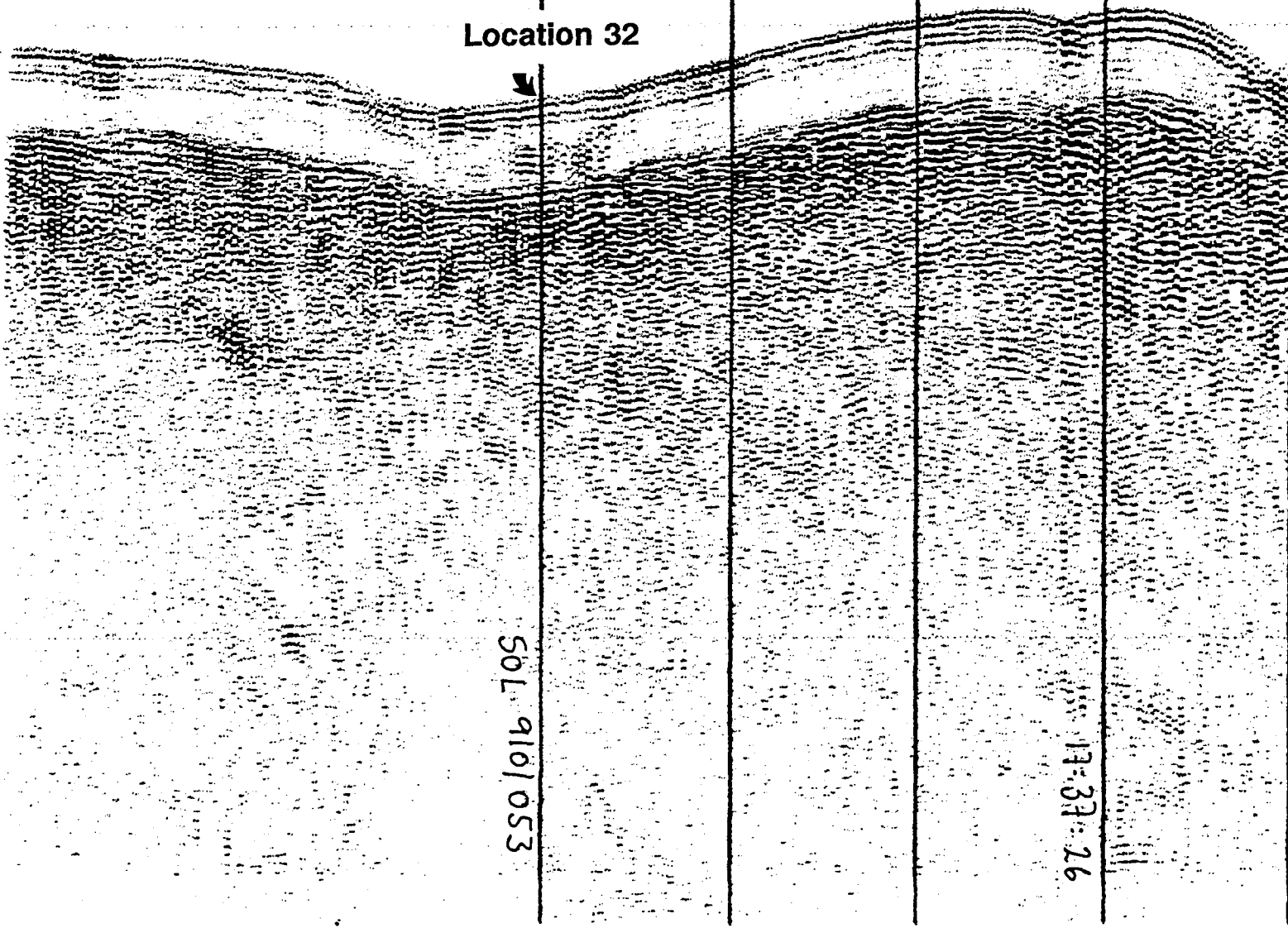


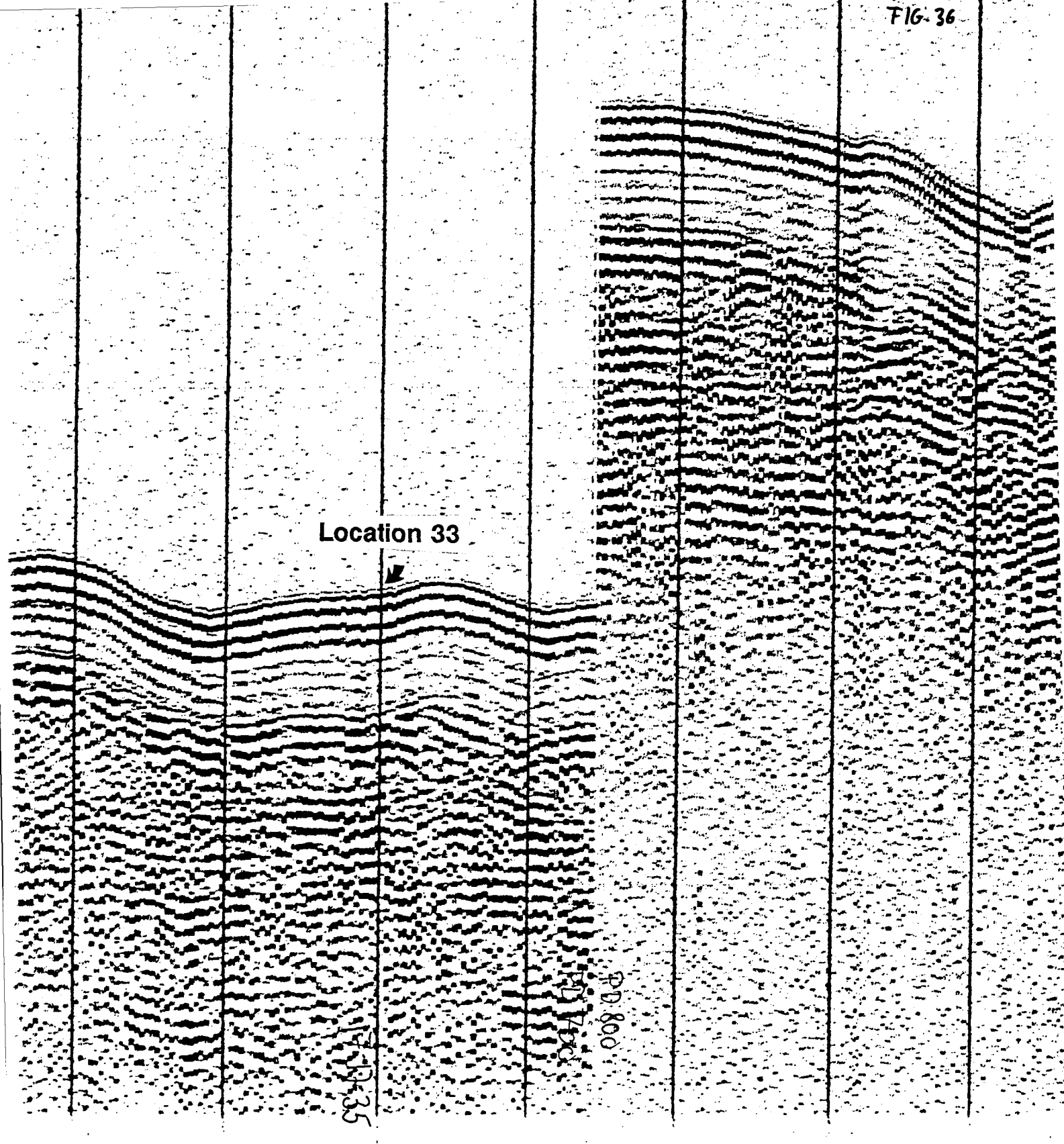
Location 32



SOL 910/053

13:32:26





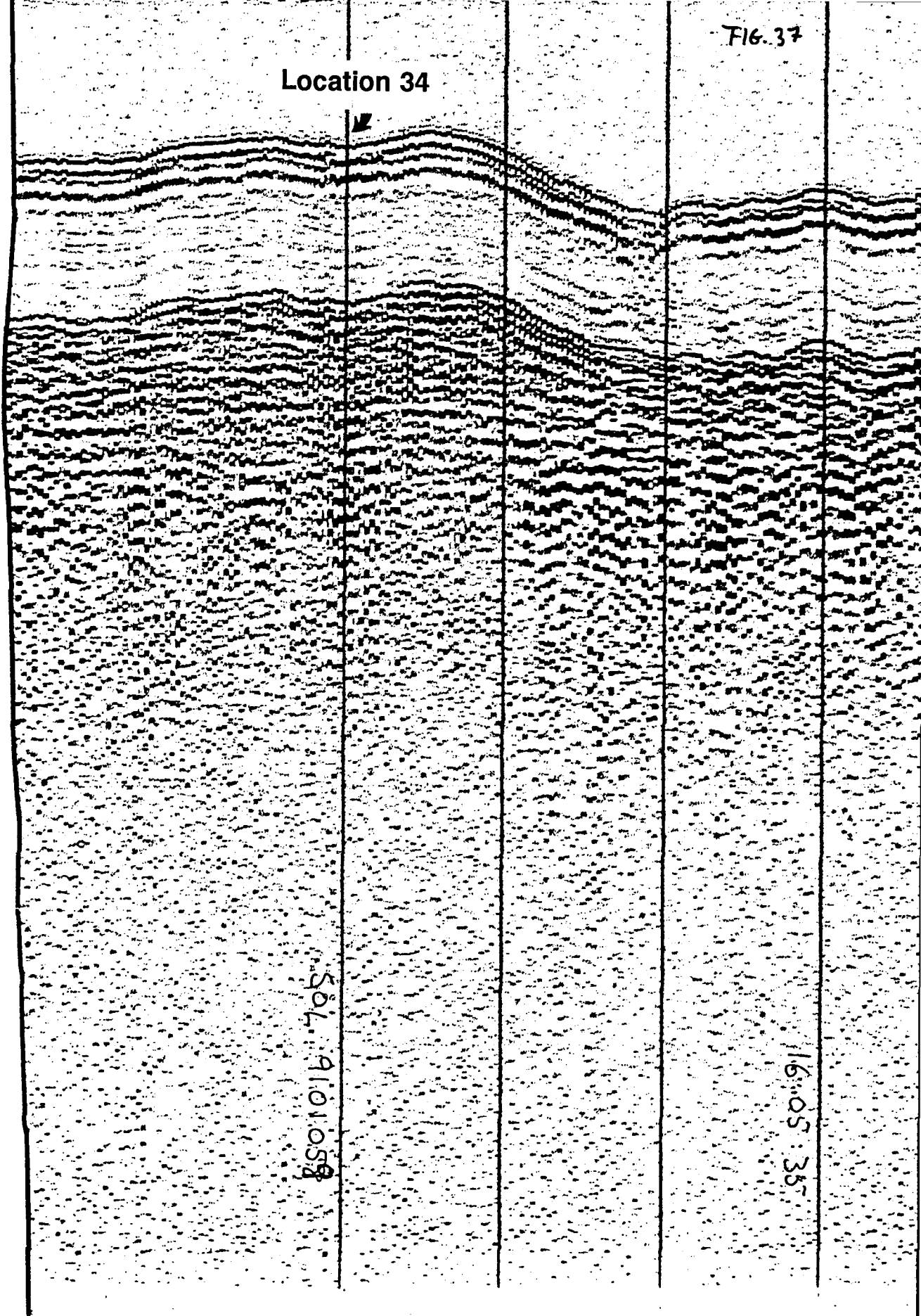
Location 33



PD 700  
PD 800

17-10-35

Location 34



504. 91.01.058

16.05.35

1 2 3 4

FIG. 38

Location 35



15:29:21

15:29:21

about 3

8

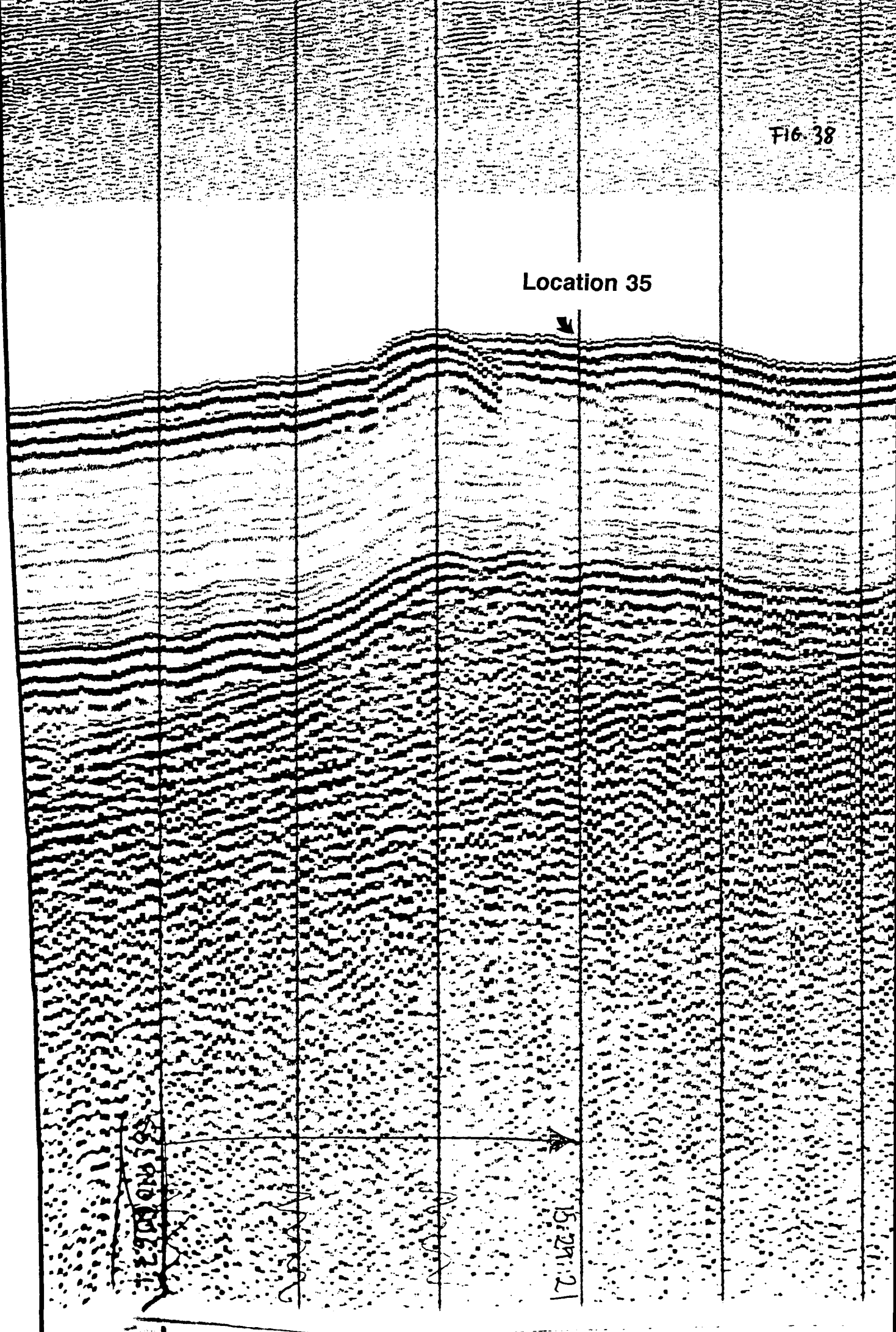
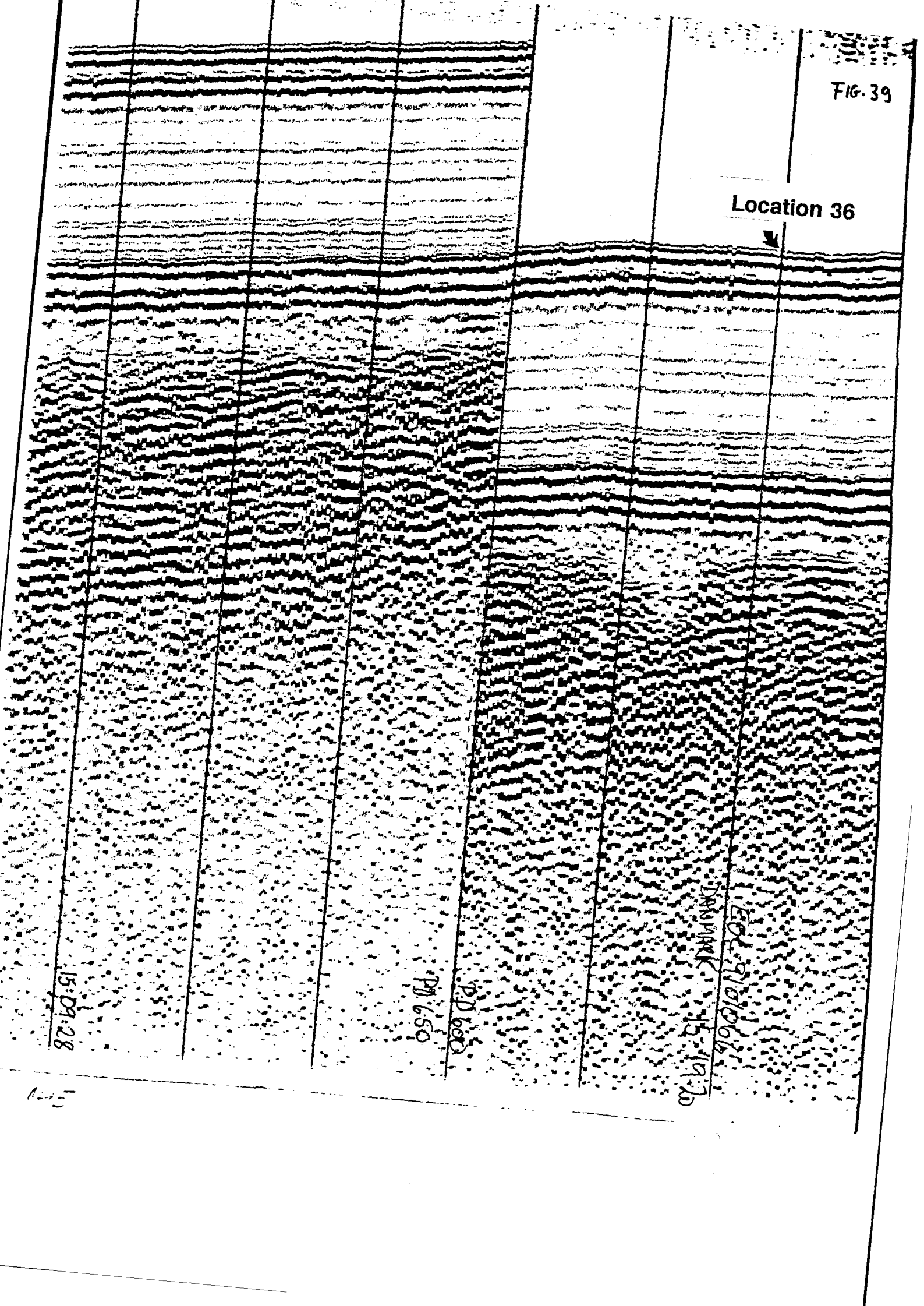


FIG. 39

Location 36



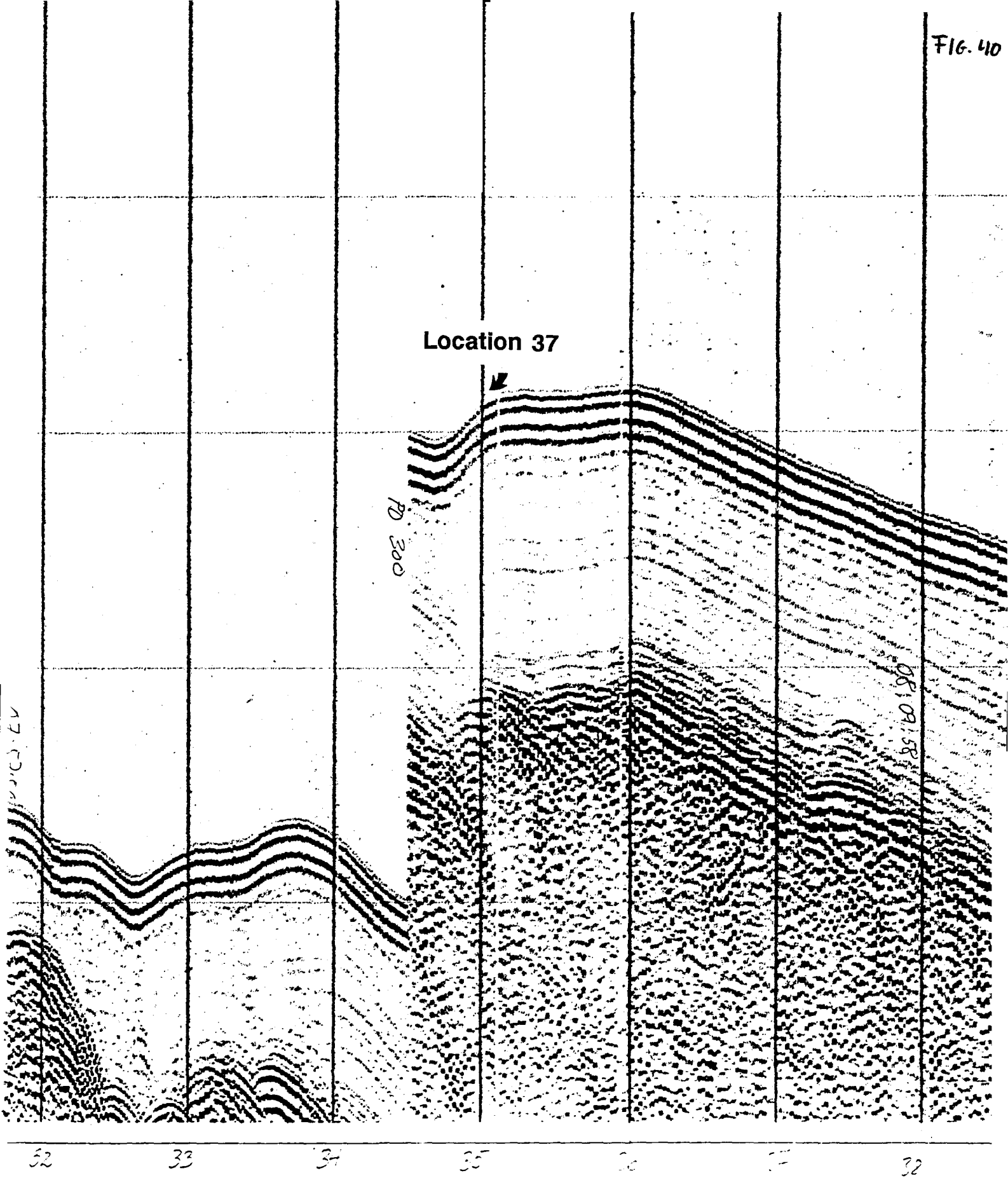
15:09:28

PD 650

PD 600

EDL 91010671  
DANMARK  
15:19:30

1



17.0000

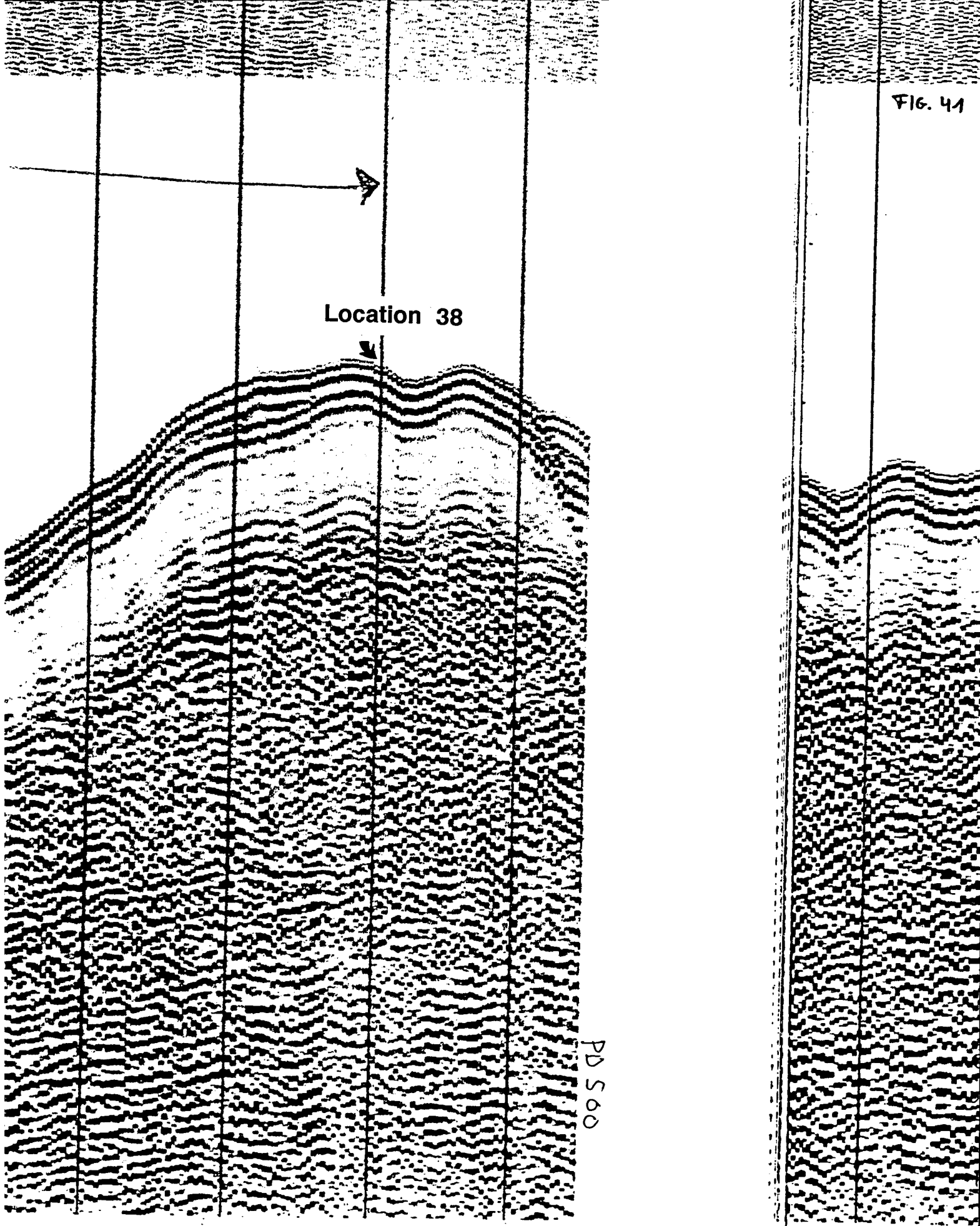
Location 38



PD 560

*after 07 /*

Page 3 of 4  
overleaf





Location 39



116-800 (A) PD750  
100-800

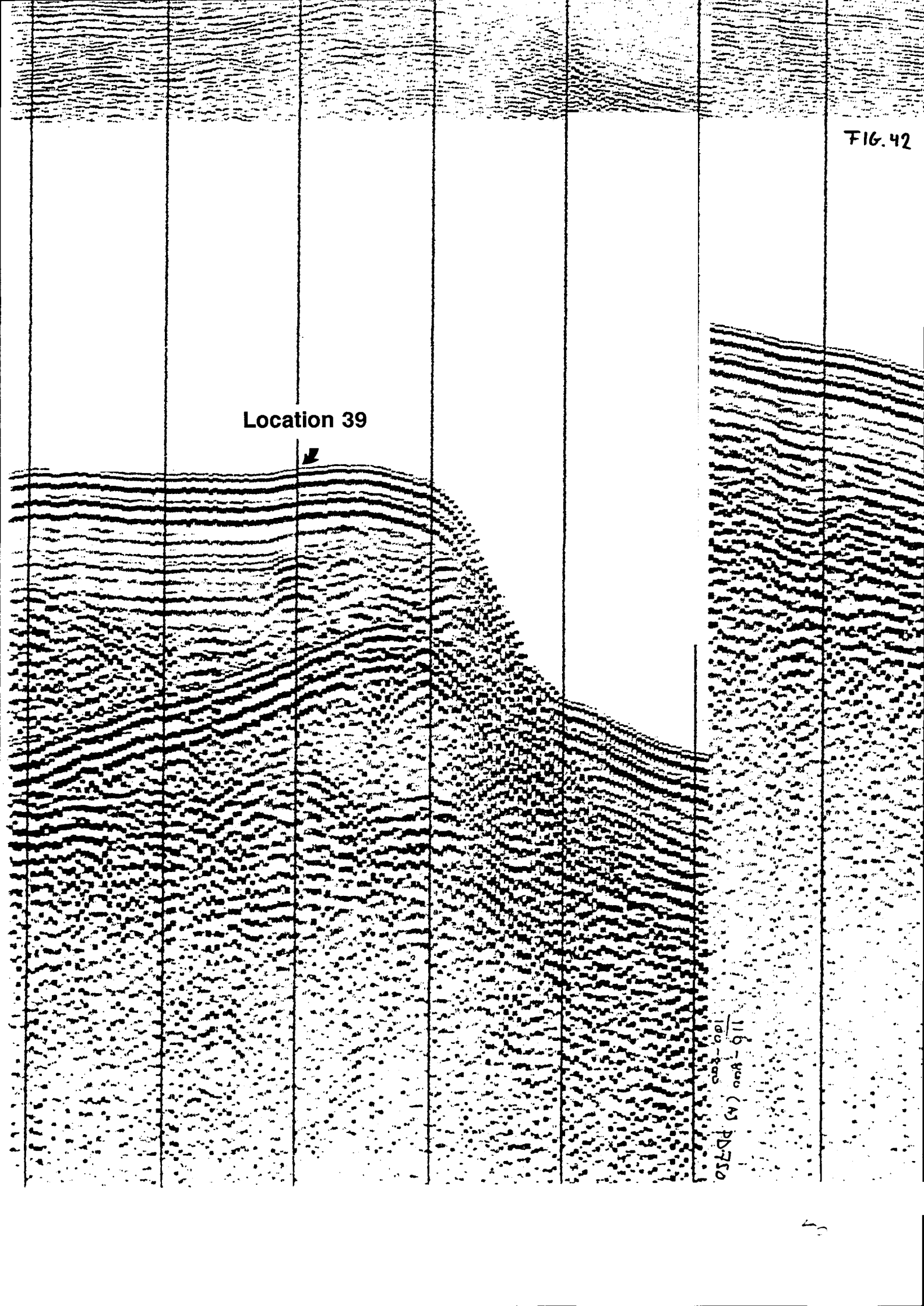


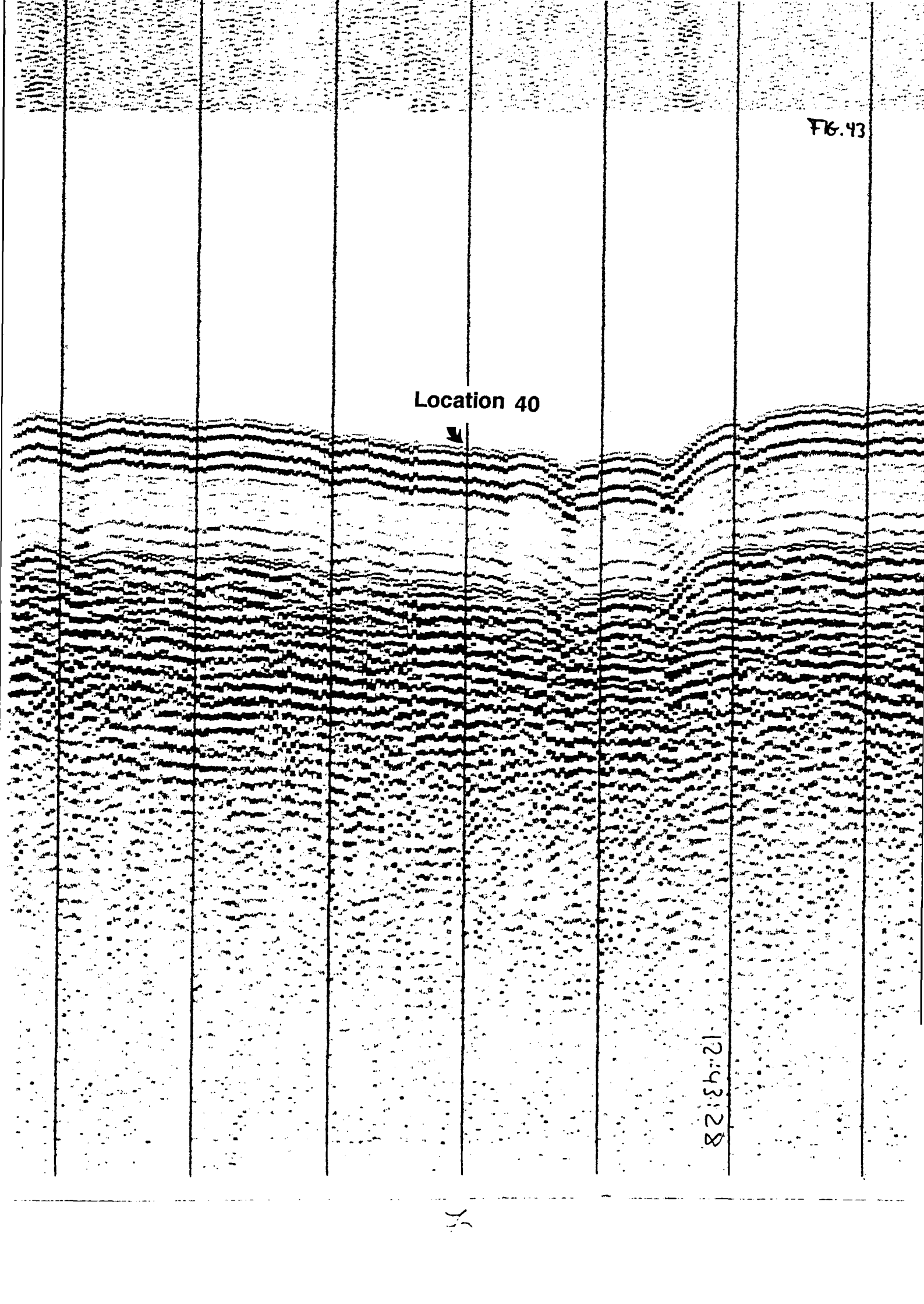


FIG. 43

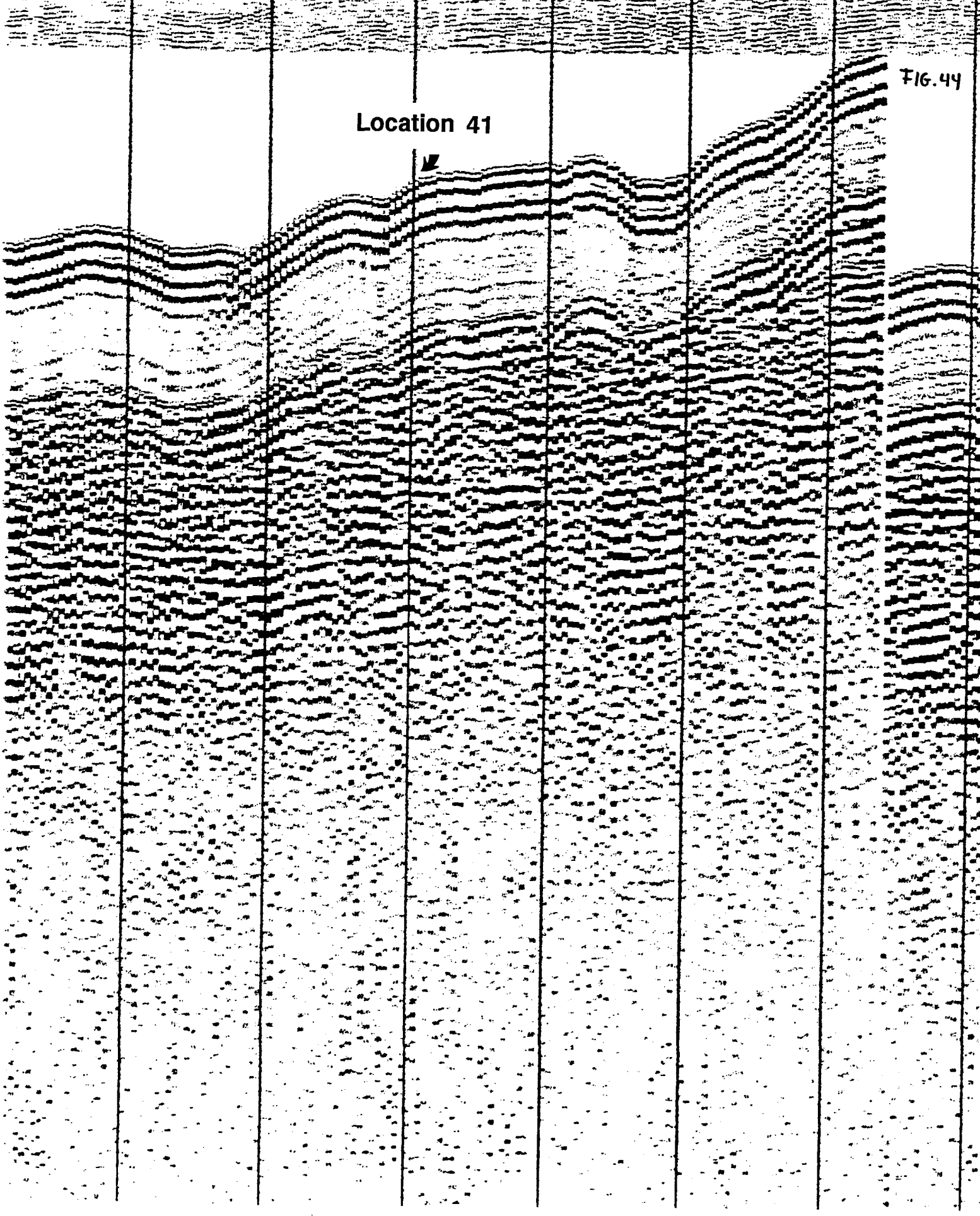
Location 40



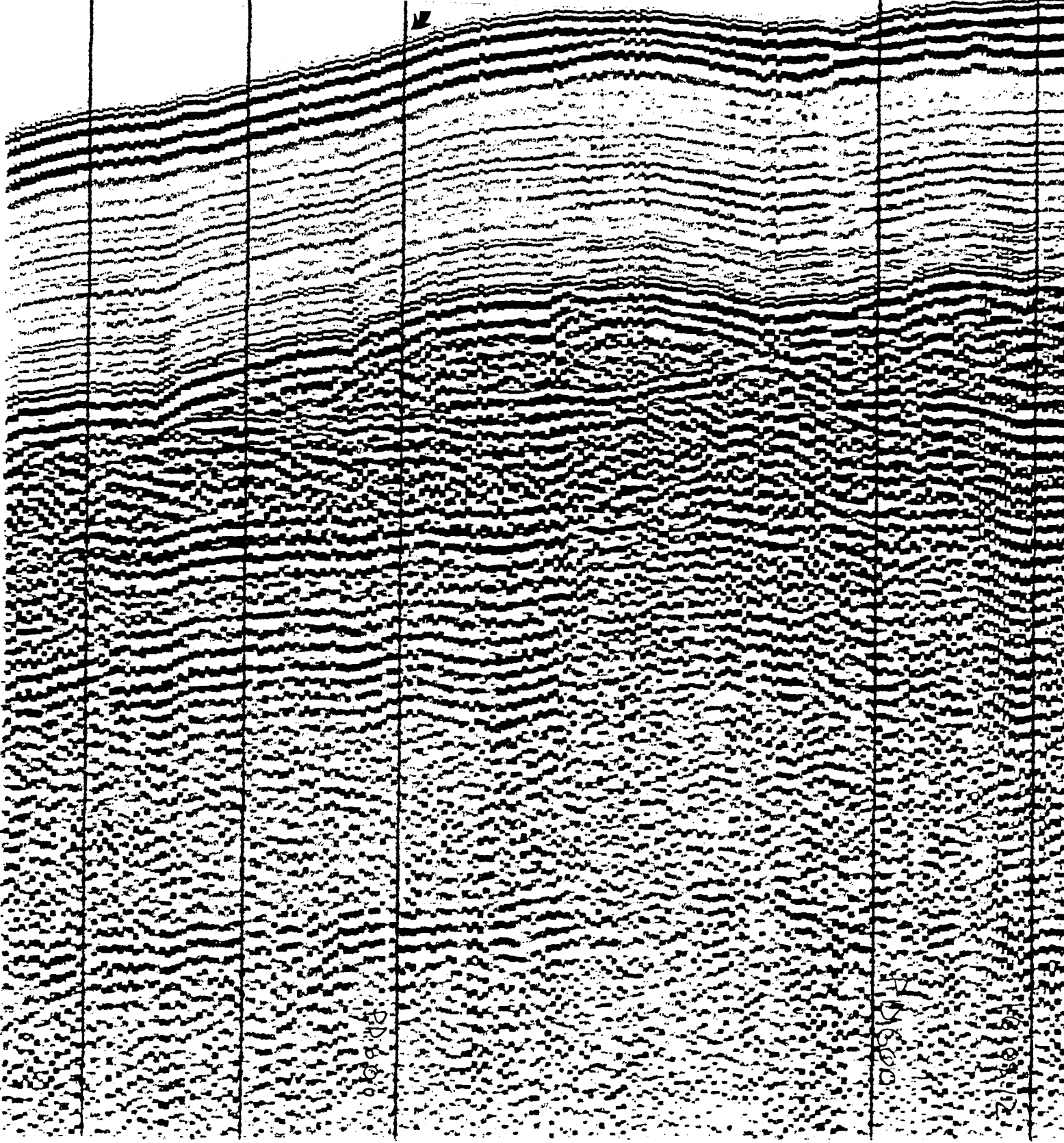
12:43:28



Location 41



Location 42



PD 800

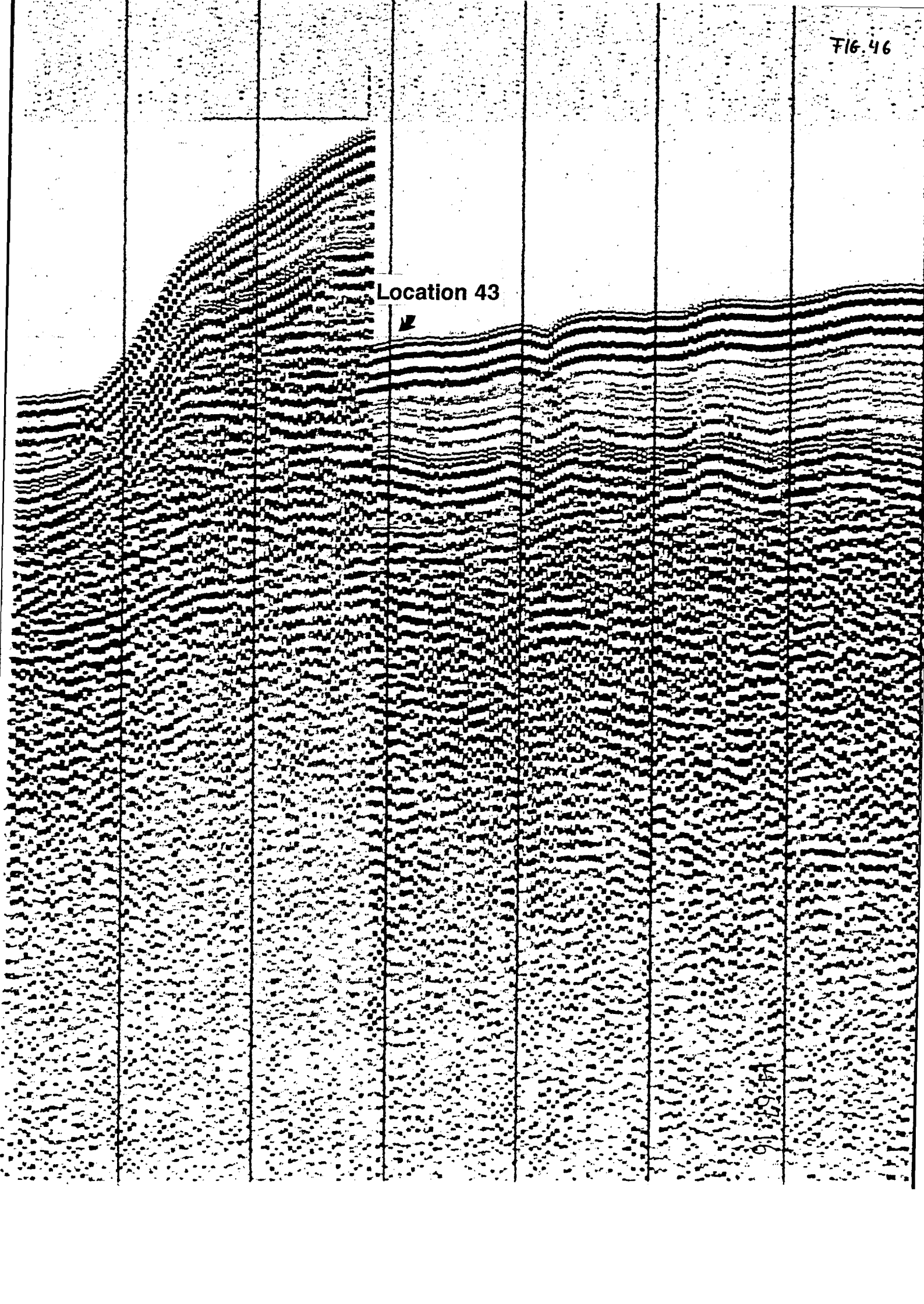
PD 800

PD 800

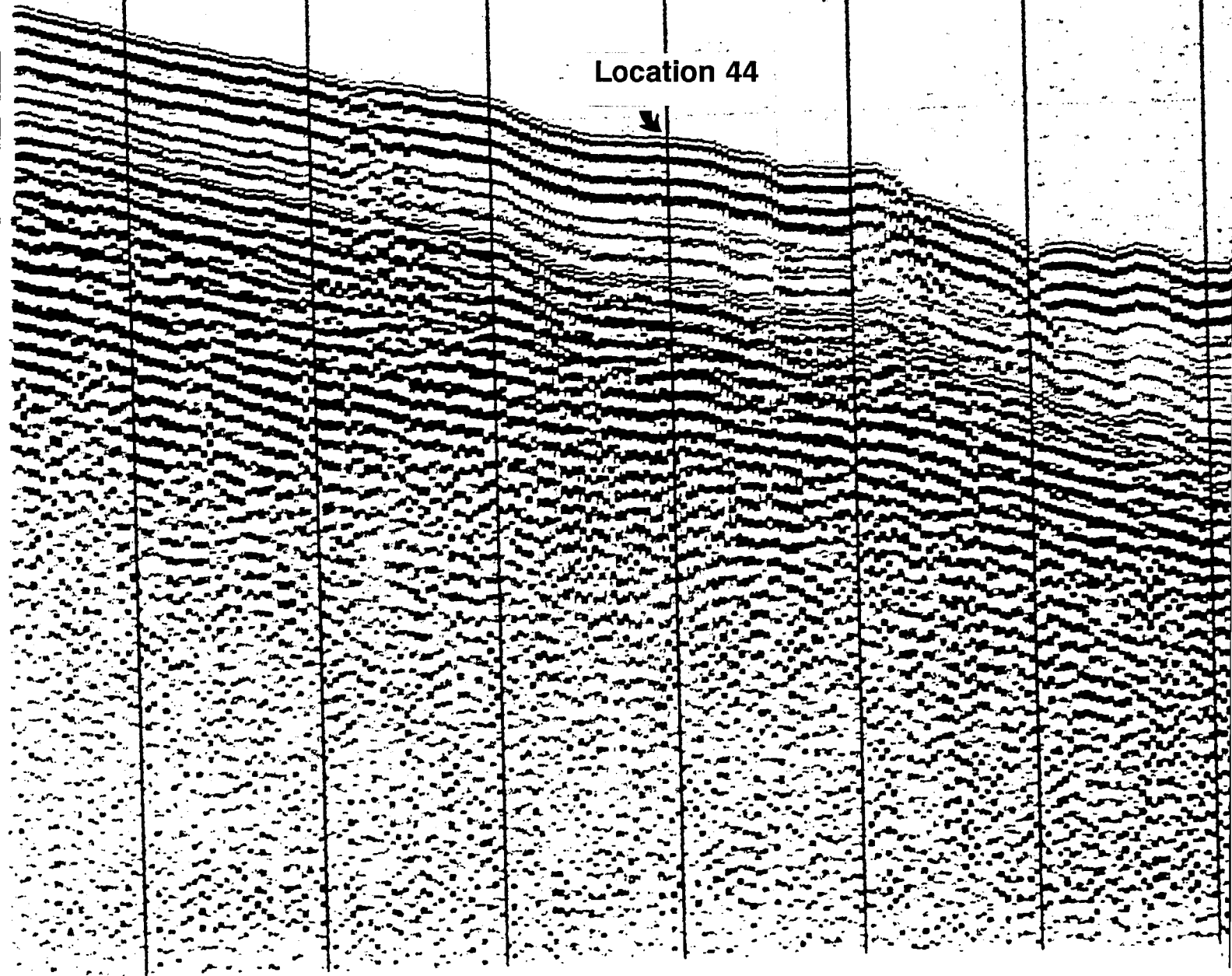
Location 43



14-01-16



Location 44

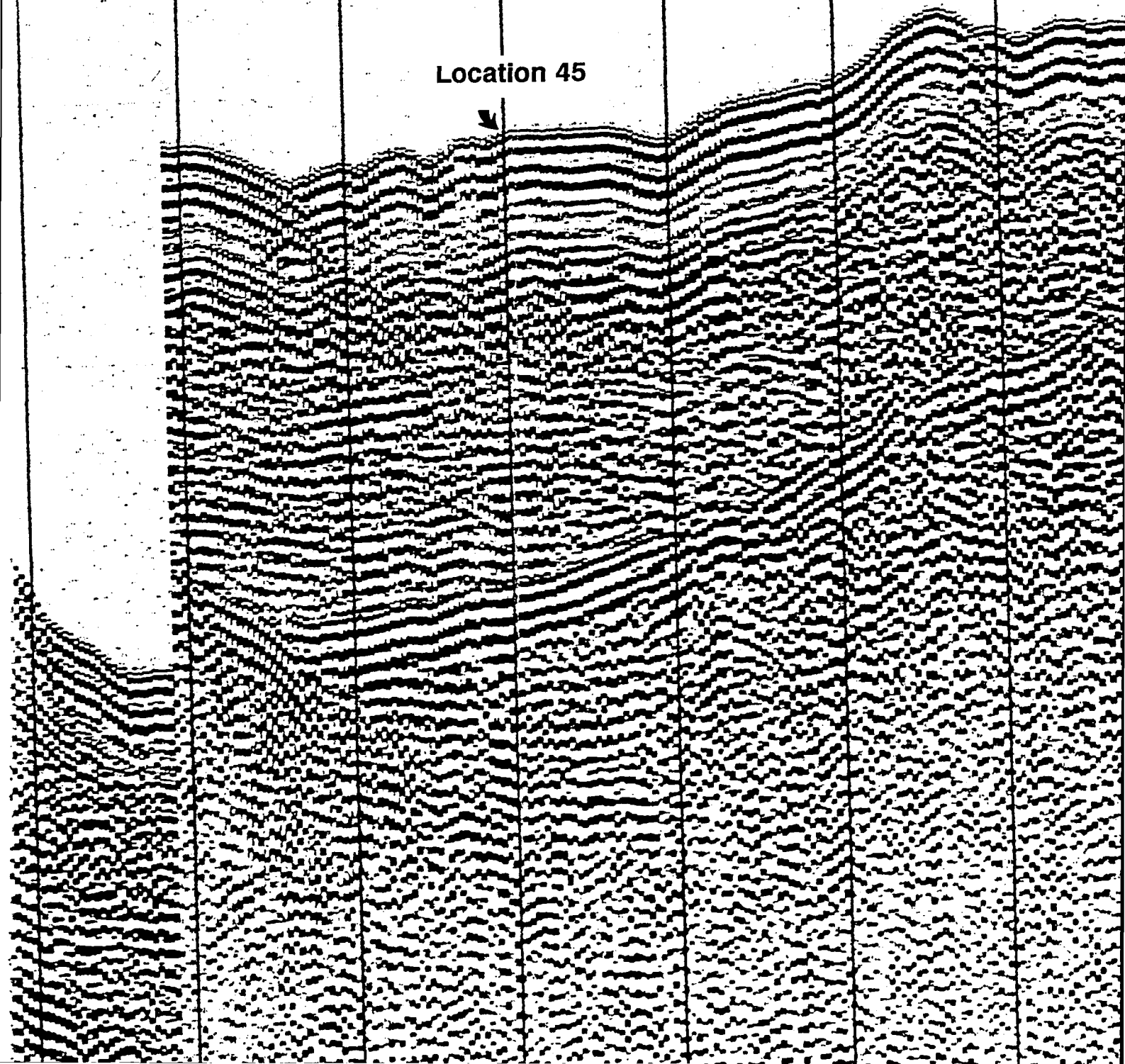


12:51:15

Pd700

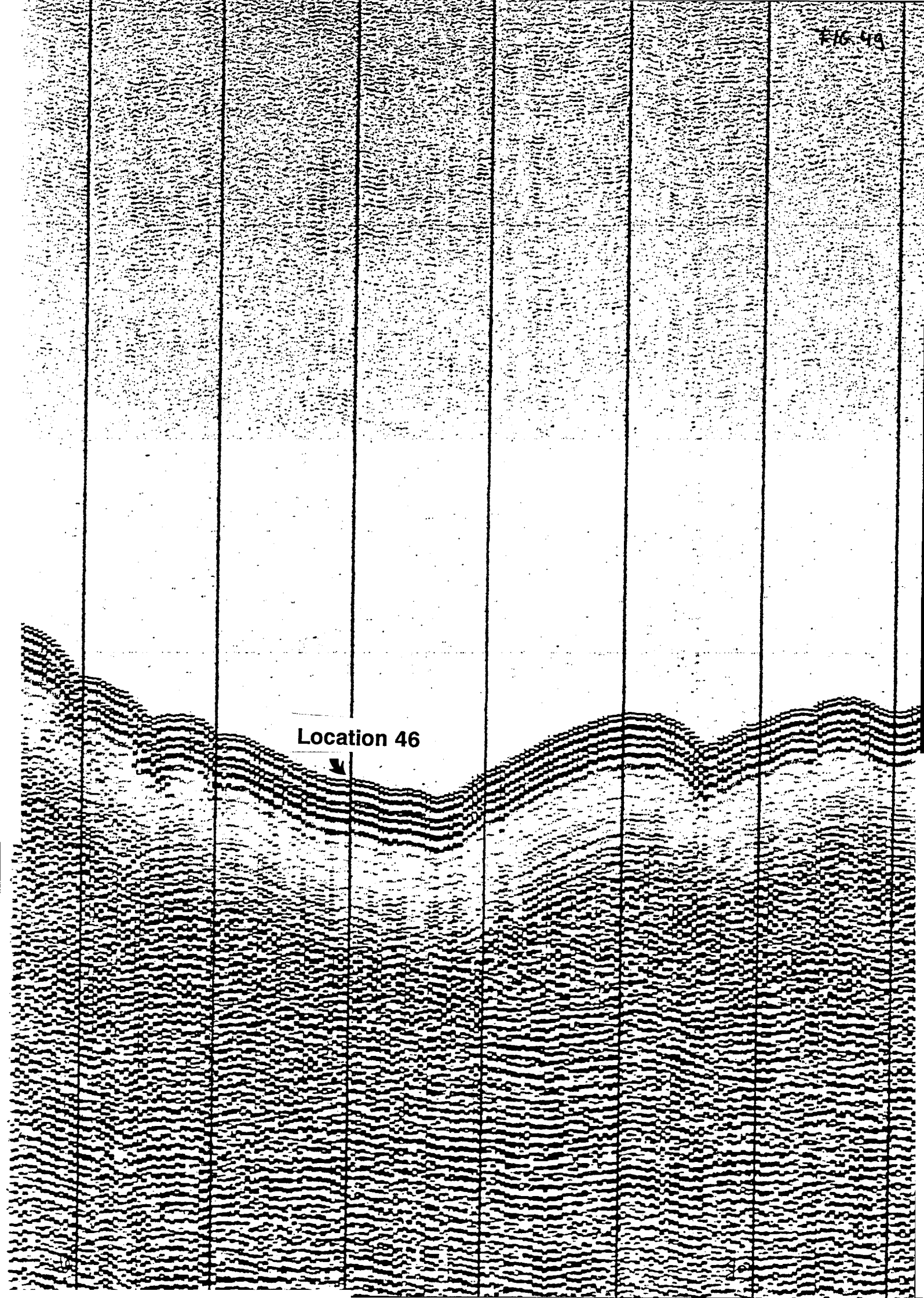
Pd600

Location 45

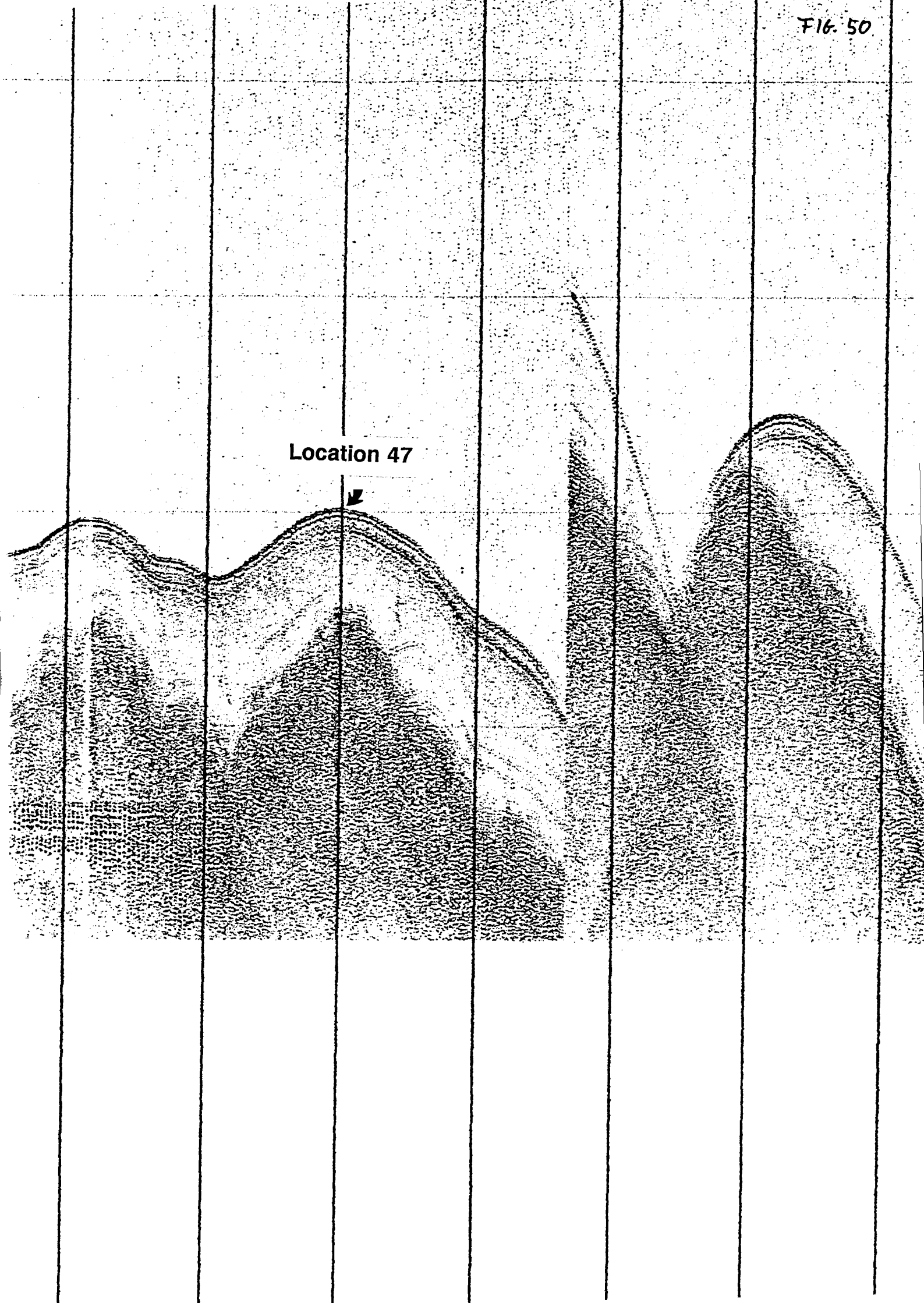




Location 46

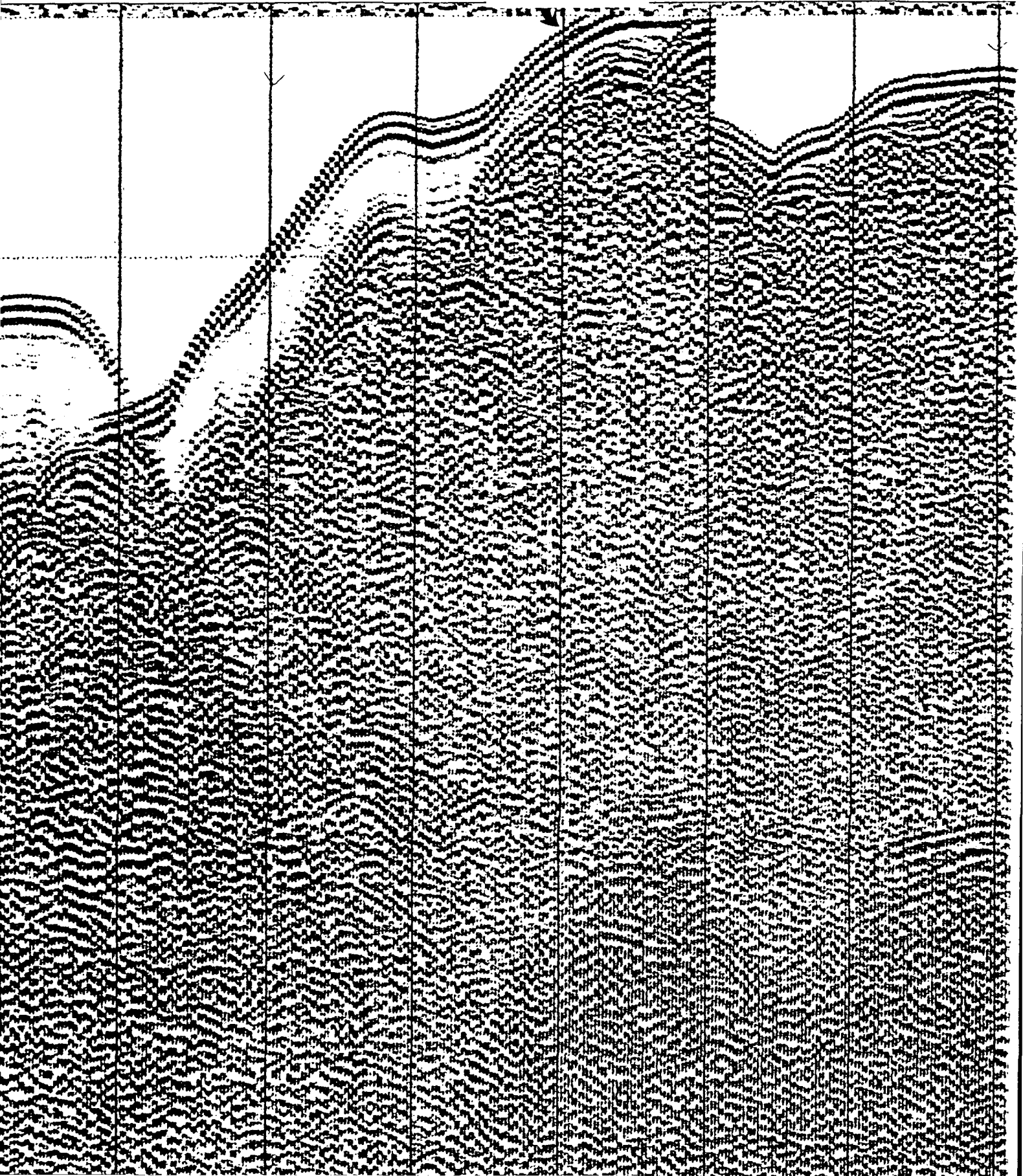


Location 47

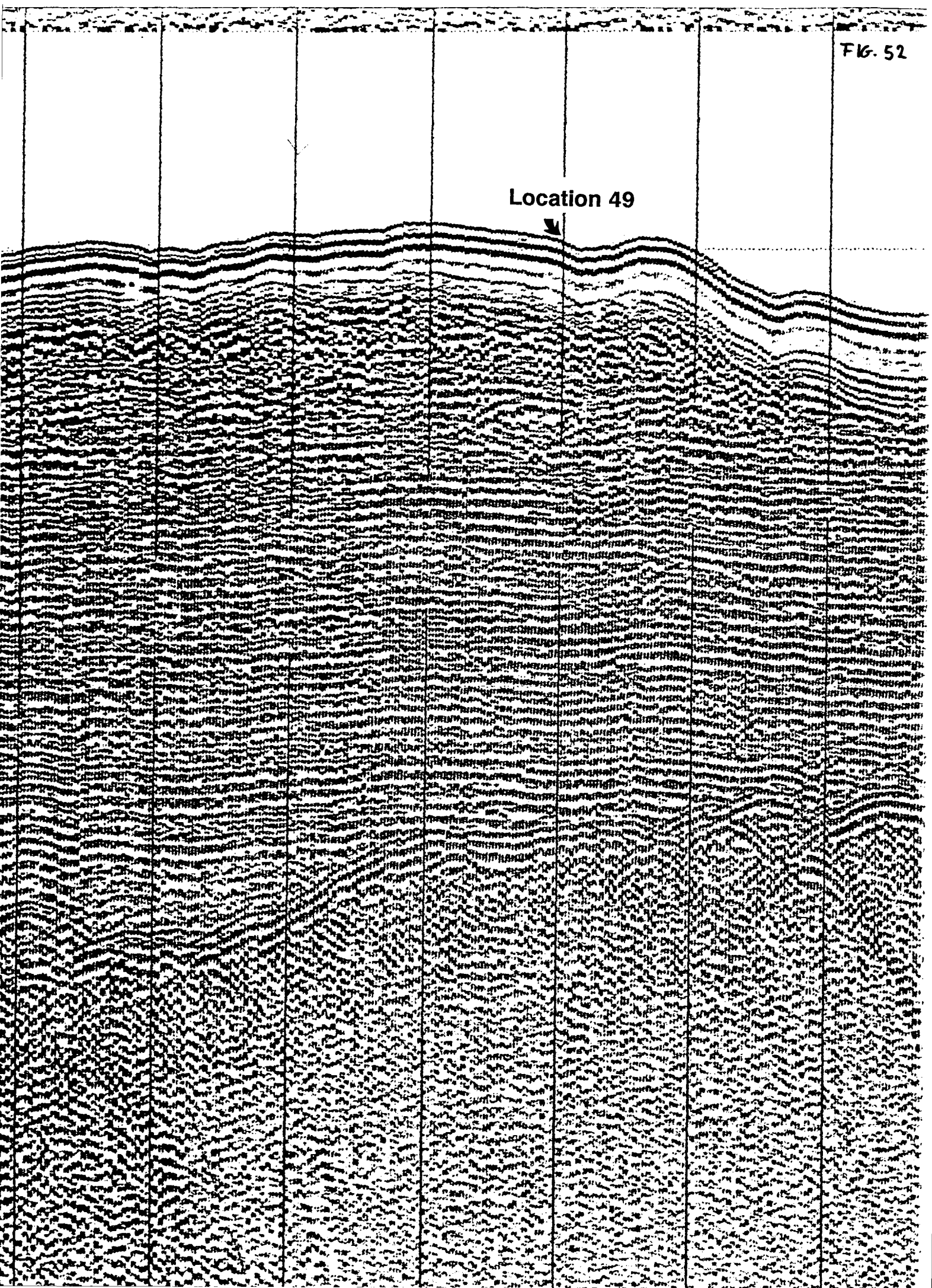


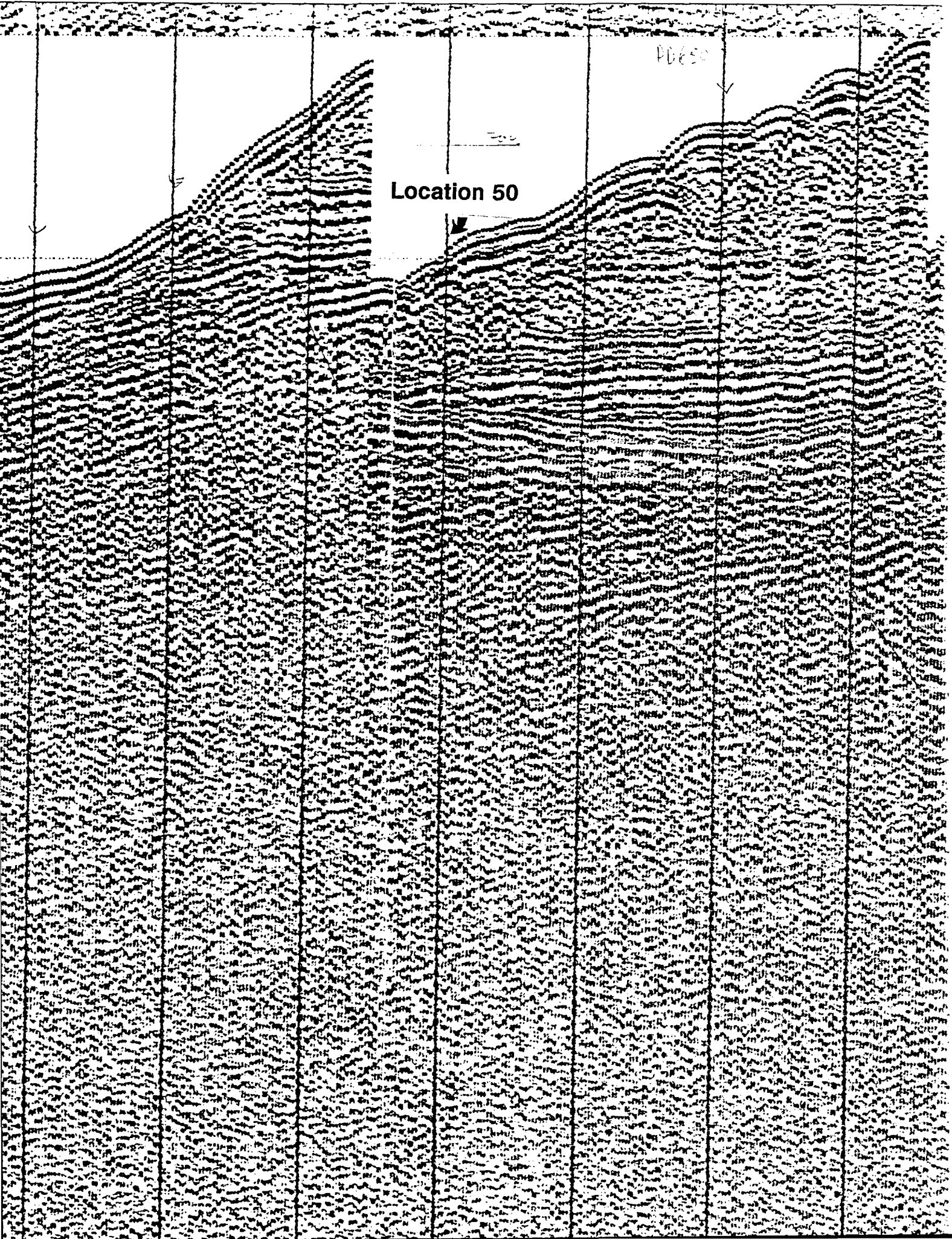


Location 48



Location 49



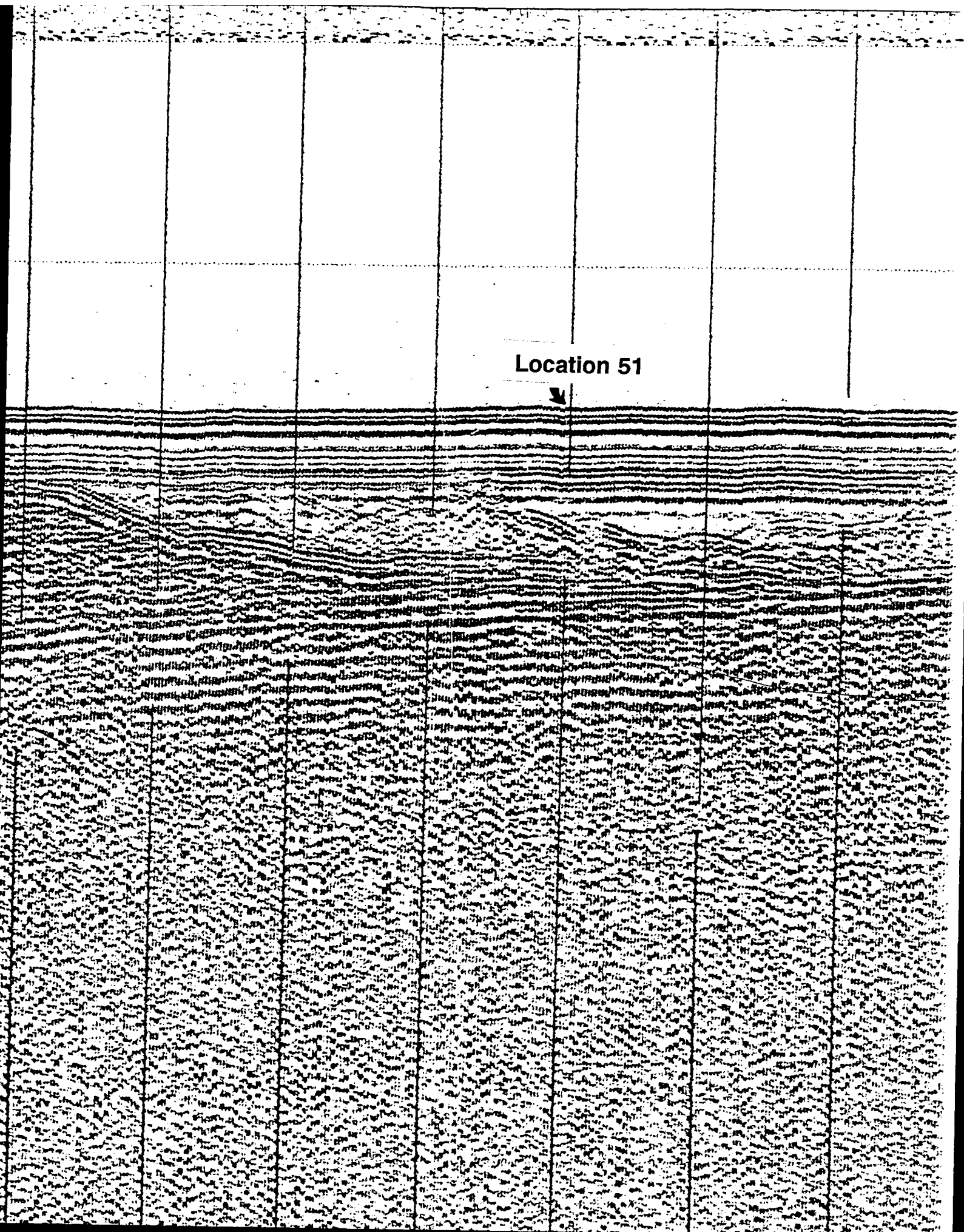


Location 50

PD 650

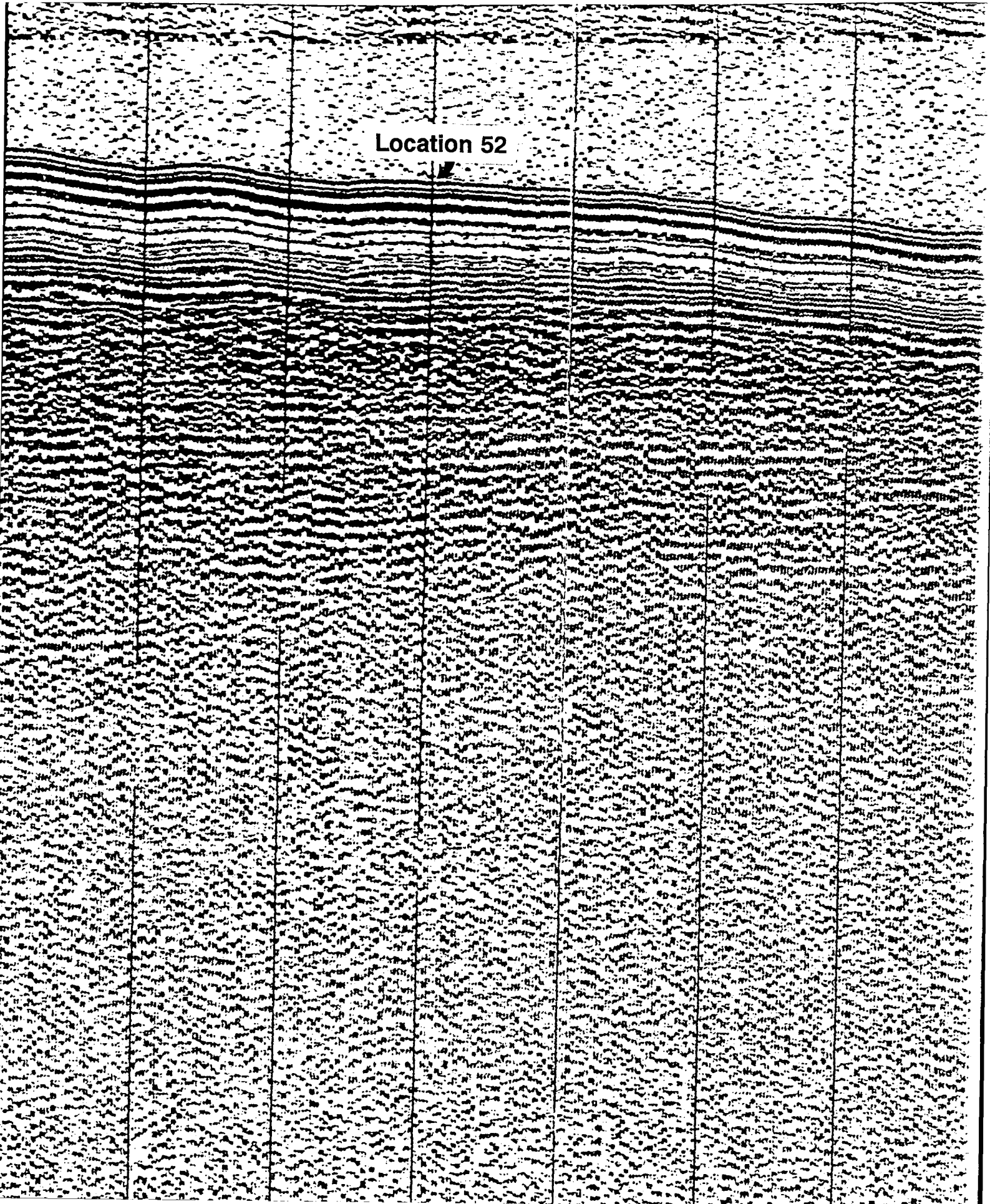
700

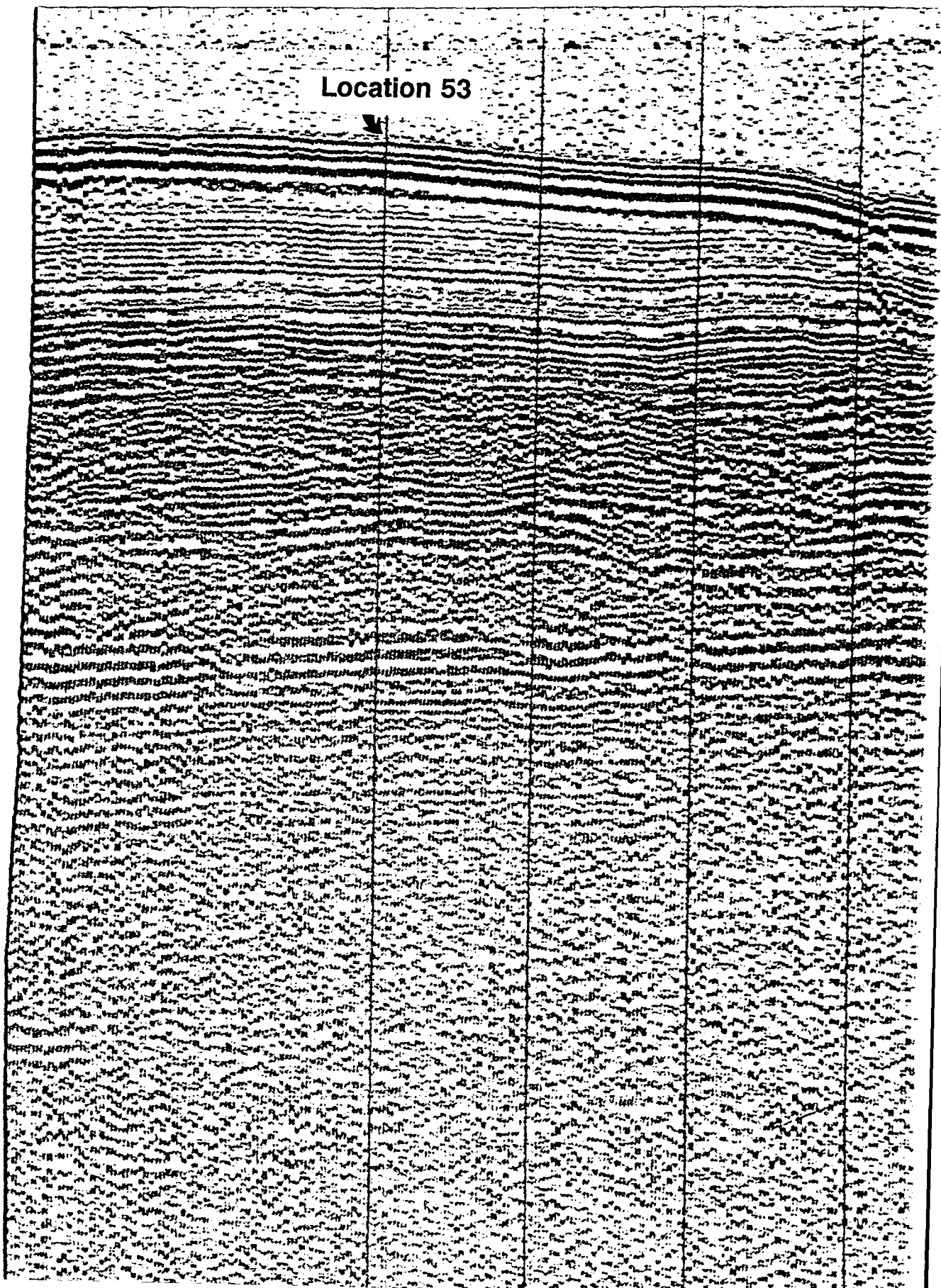




AP-71010

Location 52



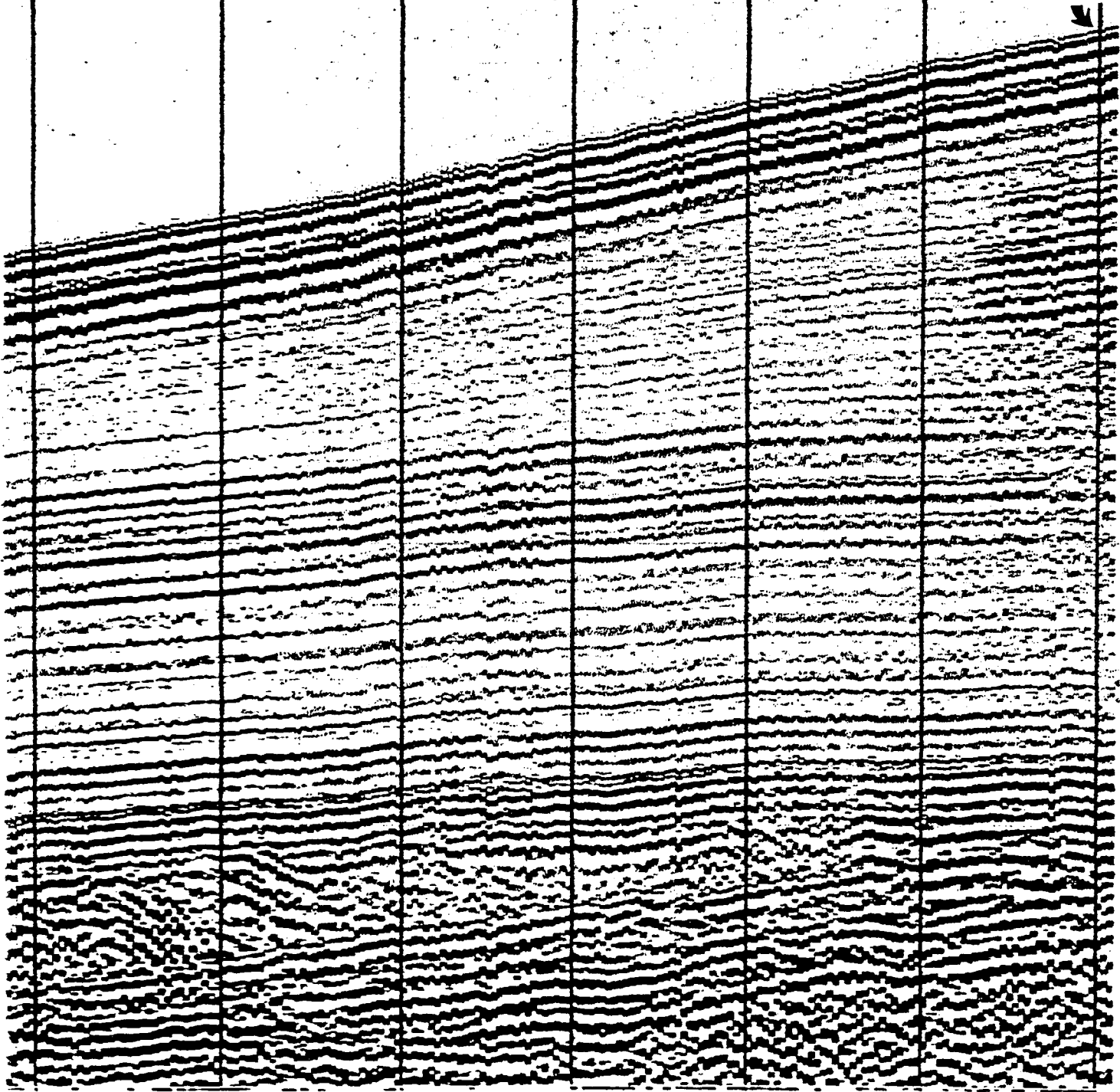


COL 9101787

FIG. 57

8:19:58

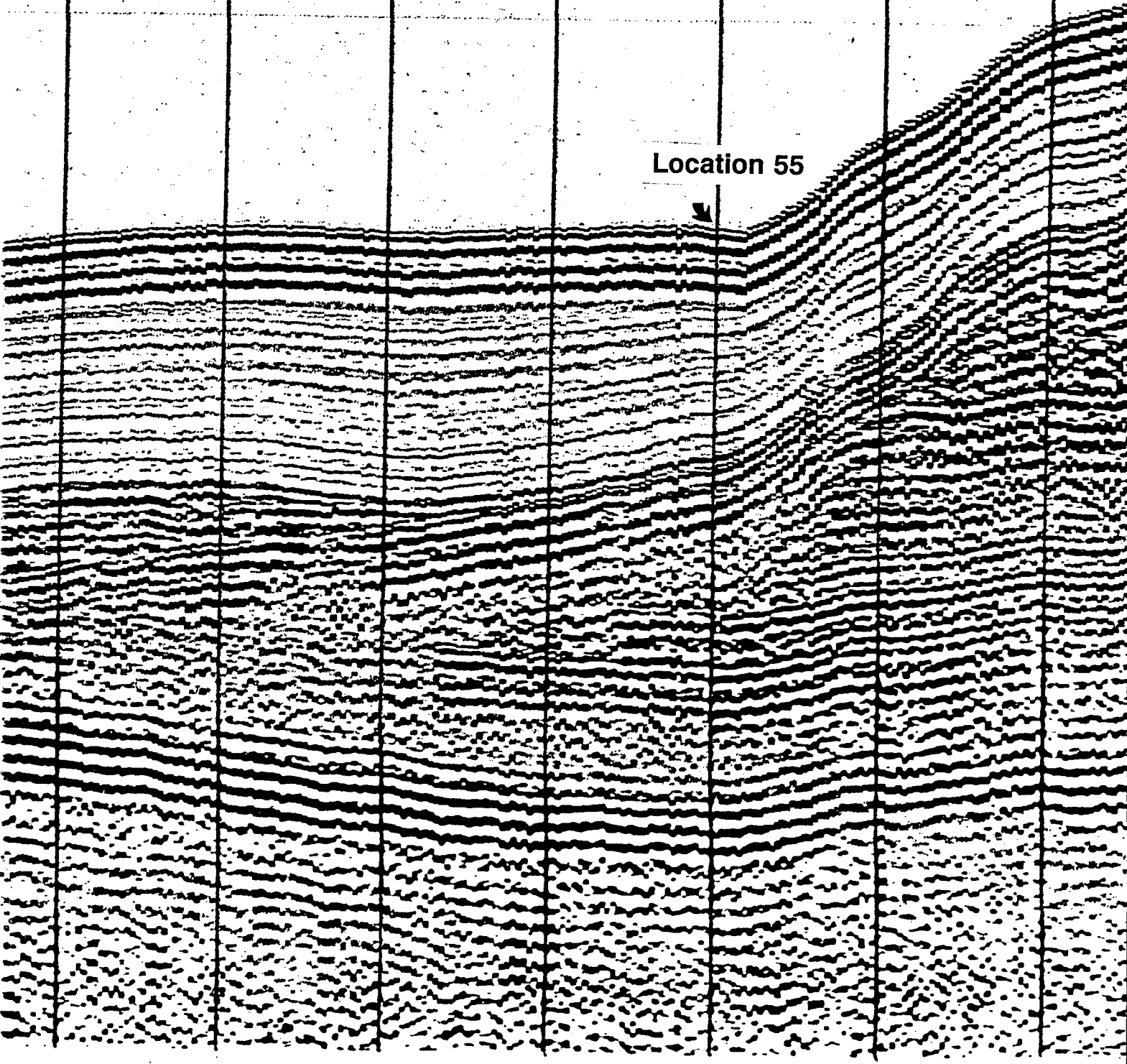
Location 54



7:19:58

PD 700

Location 55



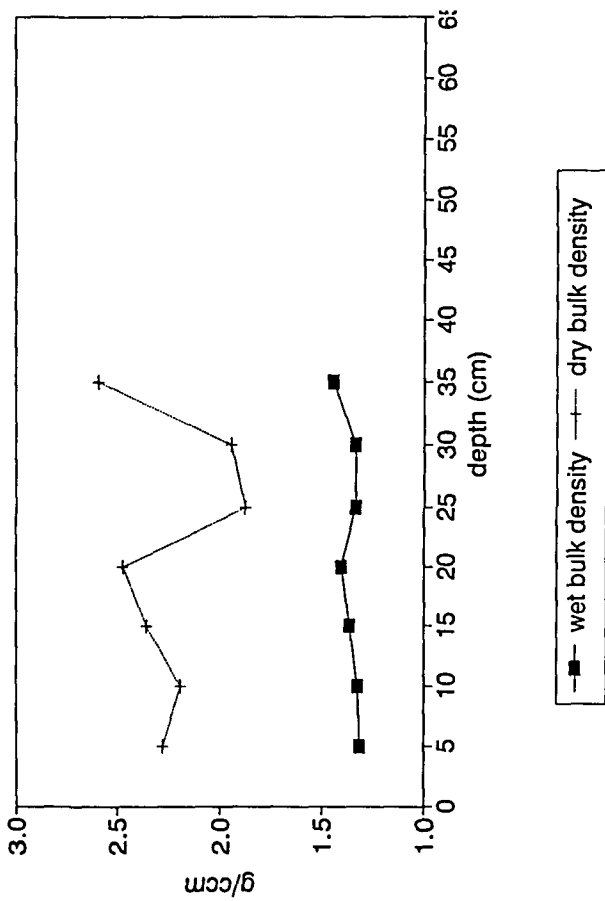


**Figure 59-87**

**Wet/dry bulk density & water content/porosity of all NC, GC from  
Skagerrak cruise 3. NOTE: Location 41-37 occur  
in descending order.**

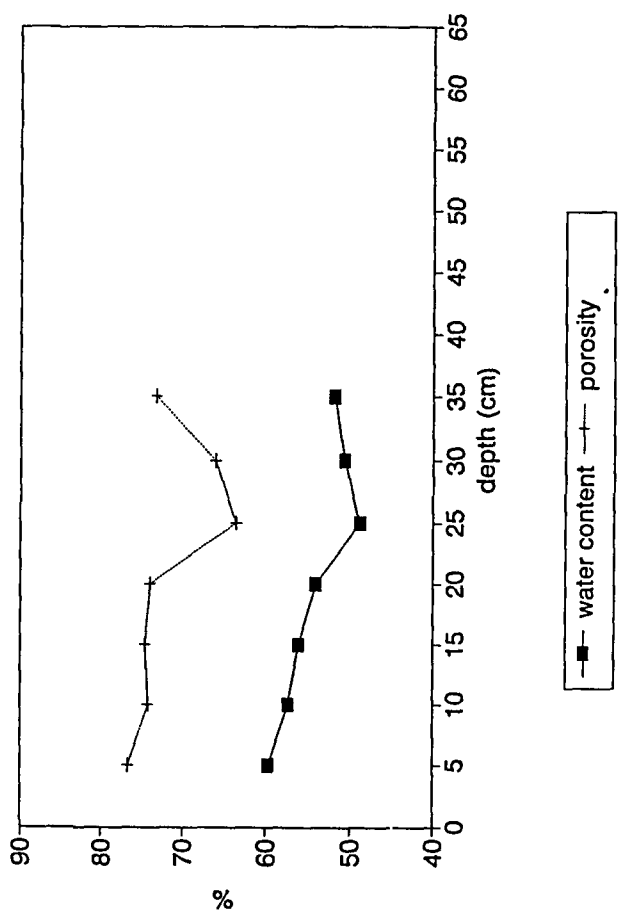
# Skagerrak 3, Location 1, NC-2

wet and dry bulk density

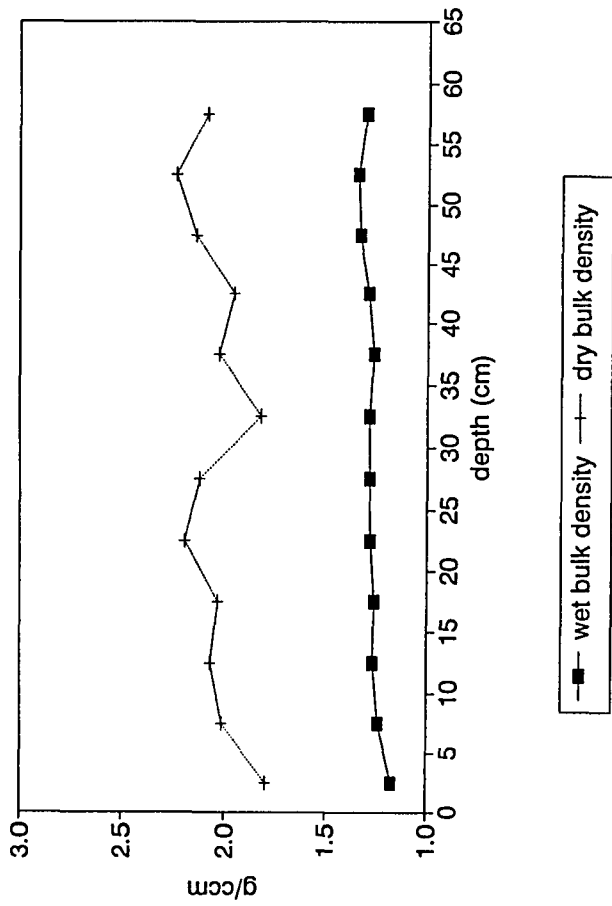


# Skagerrak 3, Location 1, NC-2

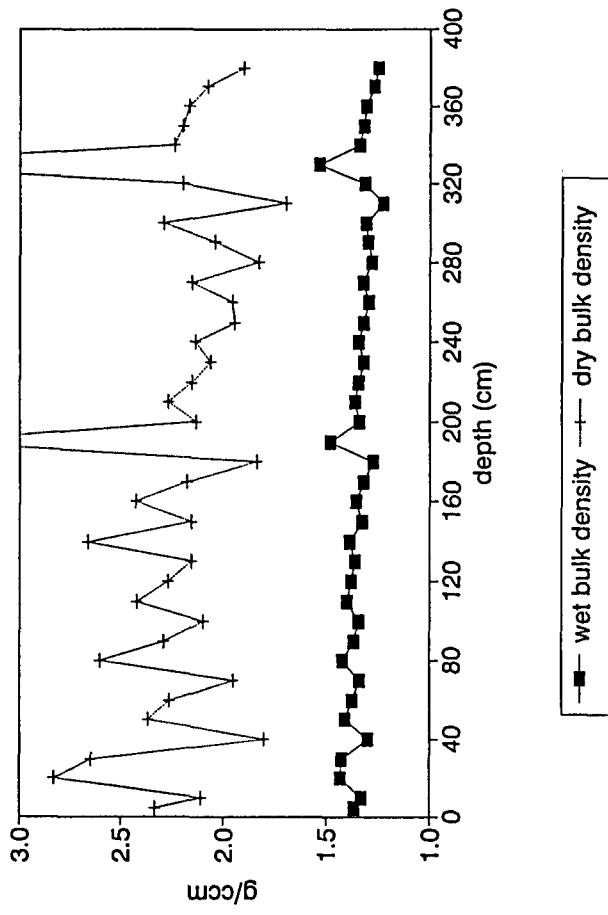
water content and porosity



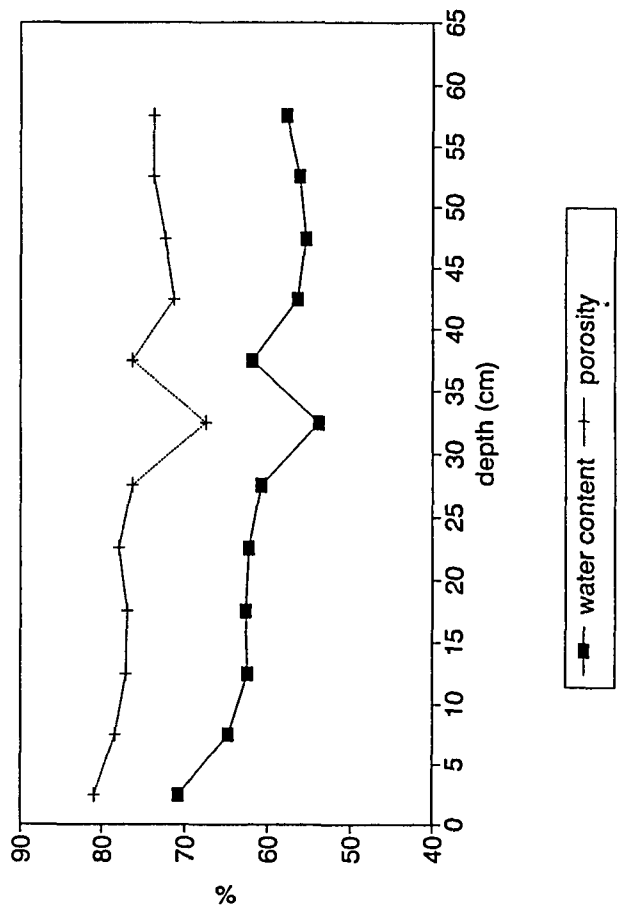
Skagerrak 3, Location 2, NC-10  
wet and dry bulk density



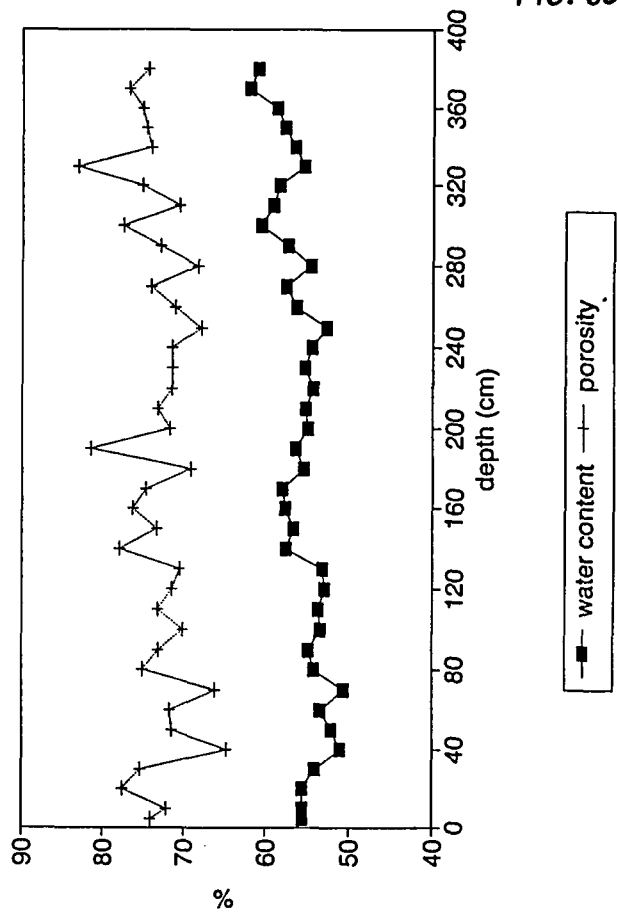
Skagerrak 3, Location 2, GC-15  
wet and dry bulk density



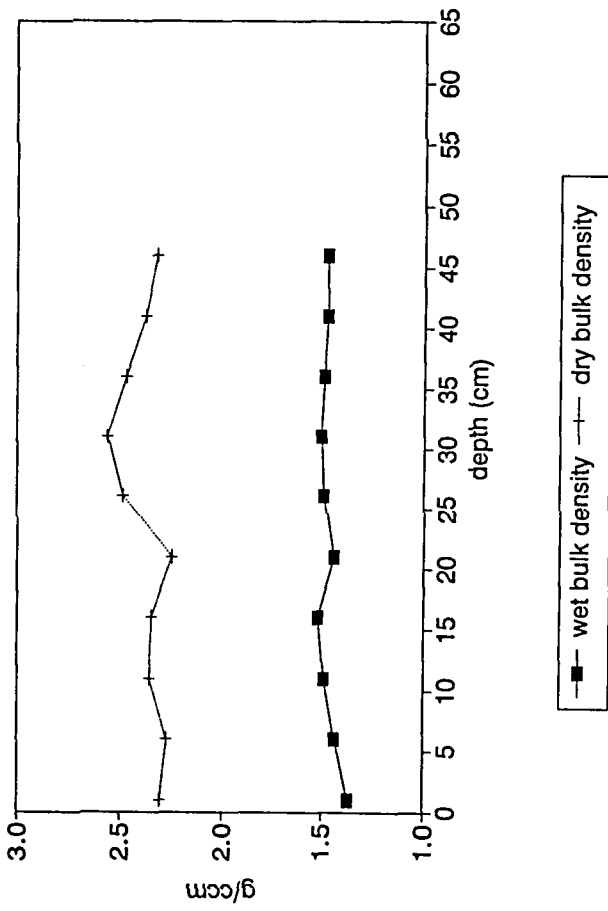
Skagerrak 3, Location 2, NC-10  
water content and porosity



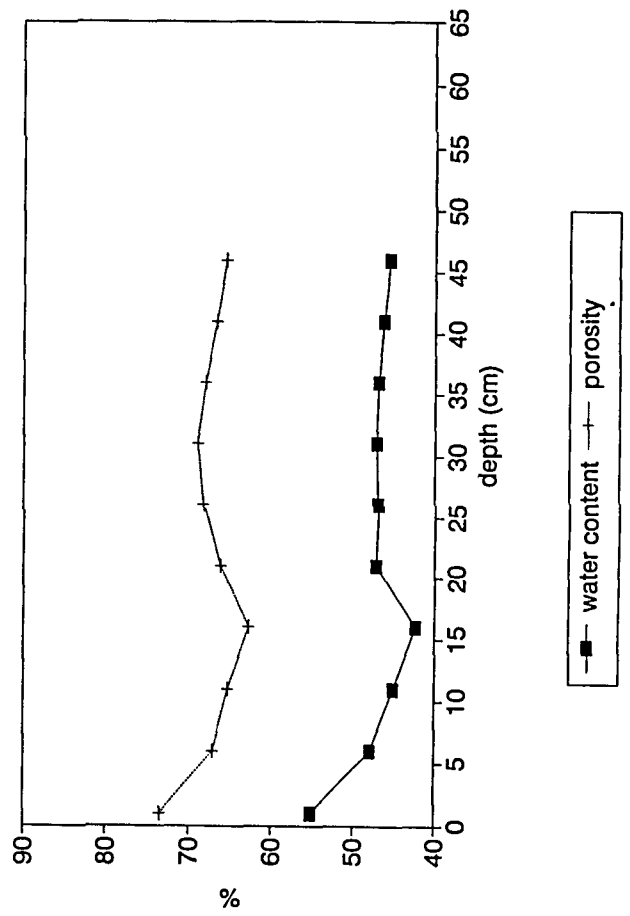
Skagerrak 3, Location 2, GC-15  
water content and porosity



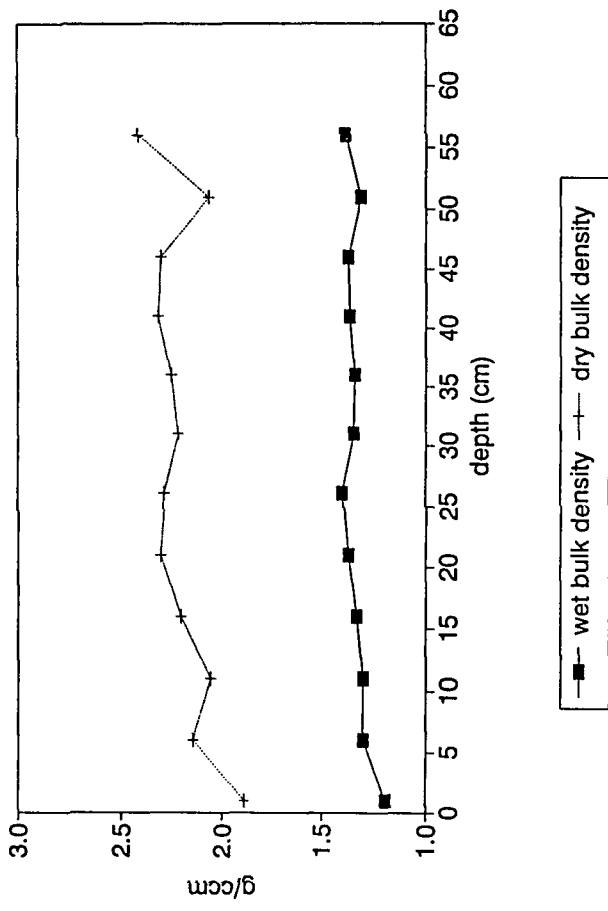
Skagerrak 3, Location 3, NC-17  
wet and dry bulk density



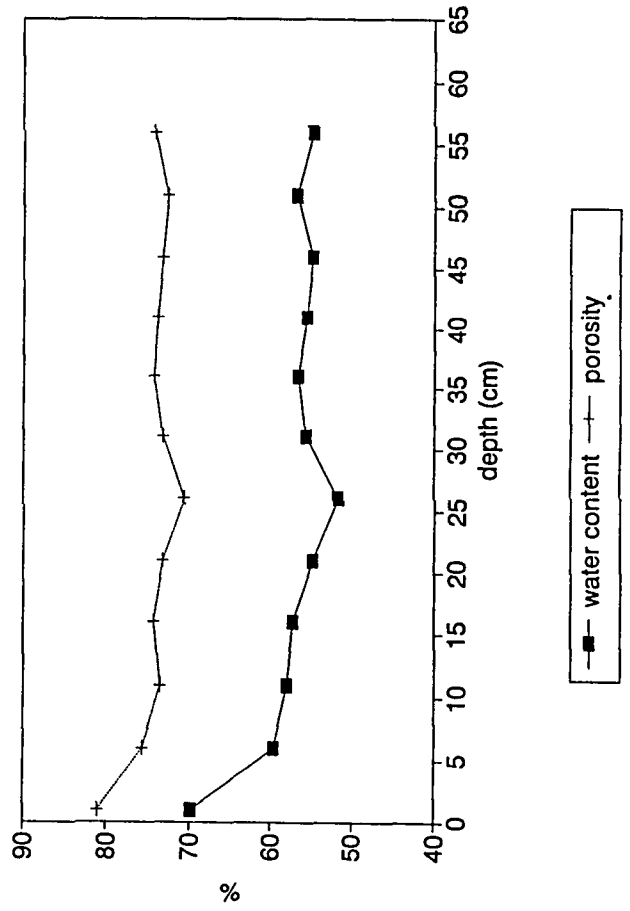
Skagerrak 3, Location 3, NC-17  
water content and porosity



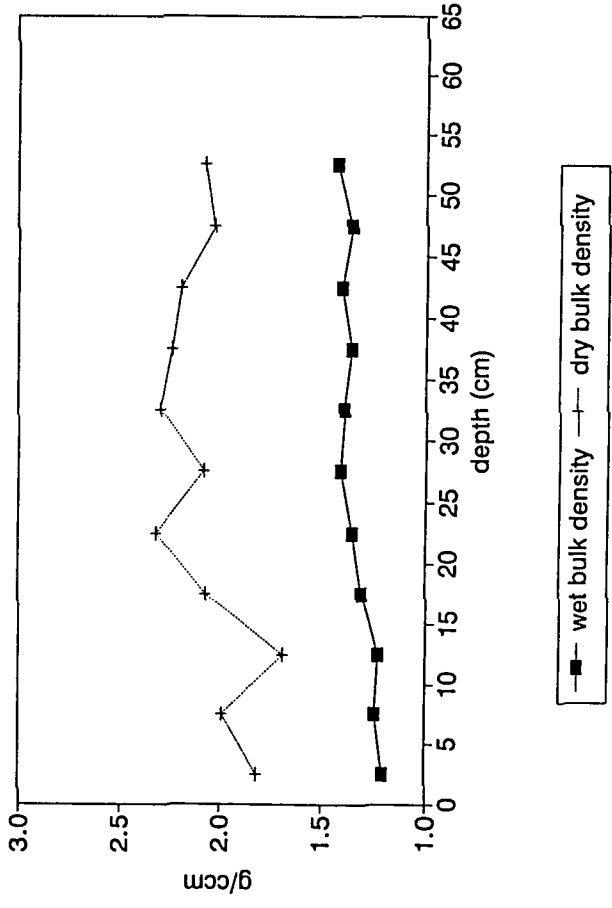
Skagerrak 3, Location 4, NC-21  
wet and dry bulk density



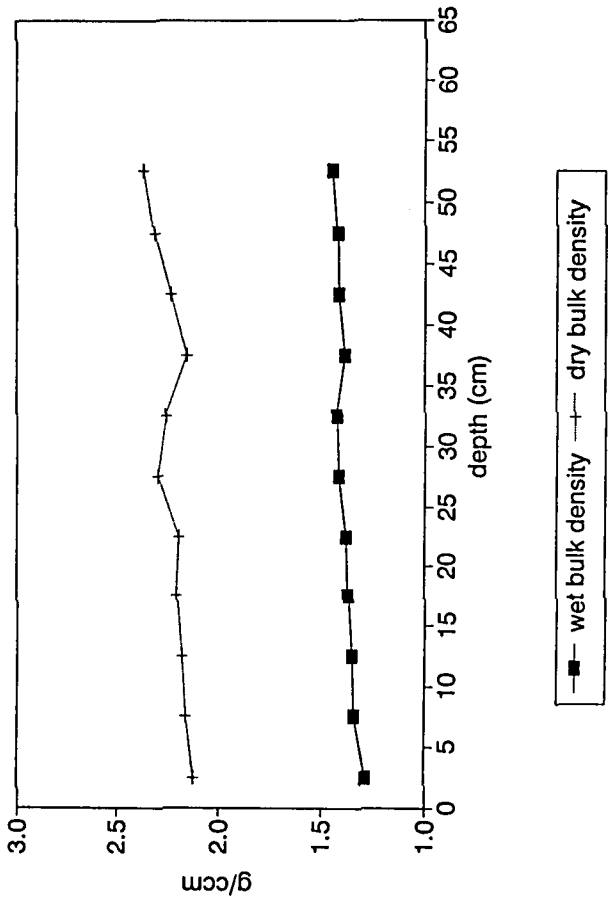
Skagerrak 3, Location 4, NC-21  
water content and porosity



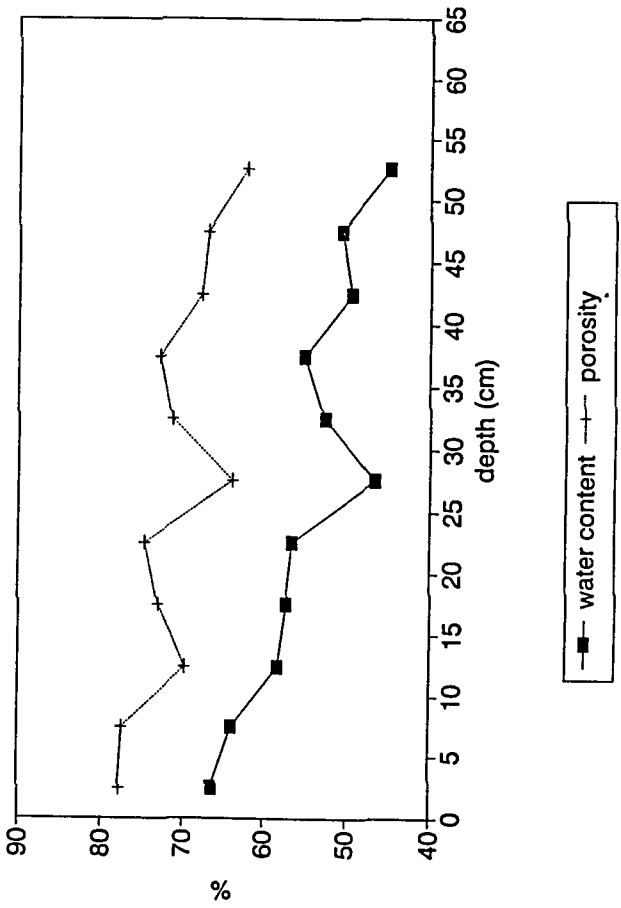
Skagerrak 3, Location 5, NC-26  
wet and dry bulk density



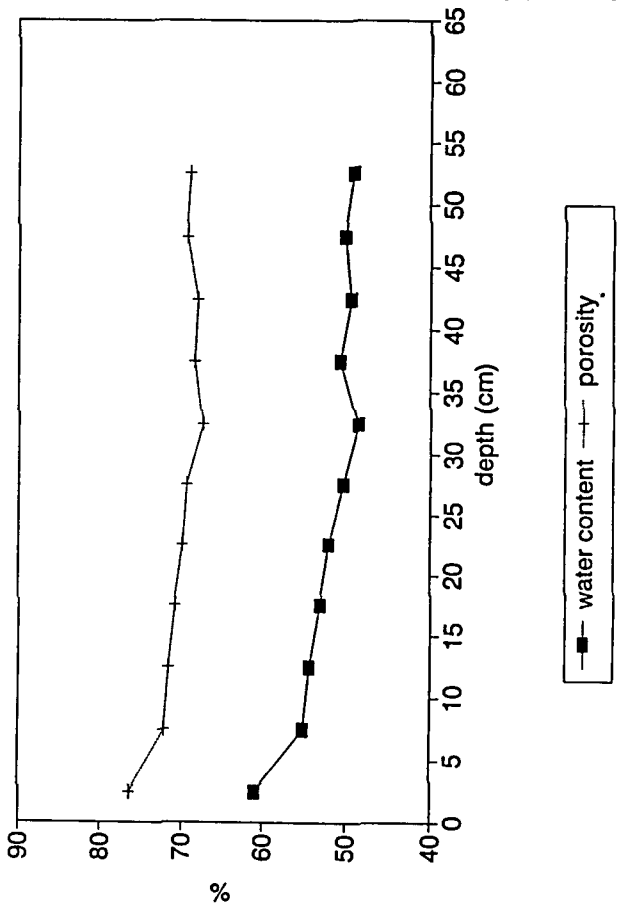
Skagerrak 3, Location 6, NC-32  
wet and dry bulk density



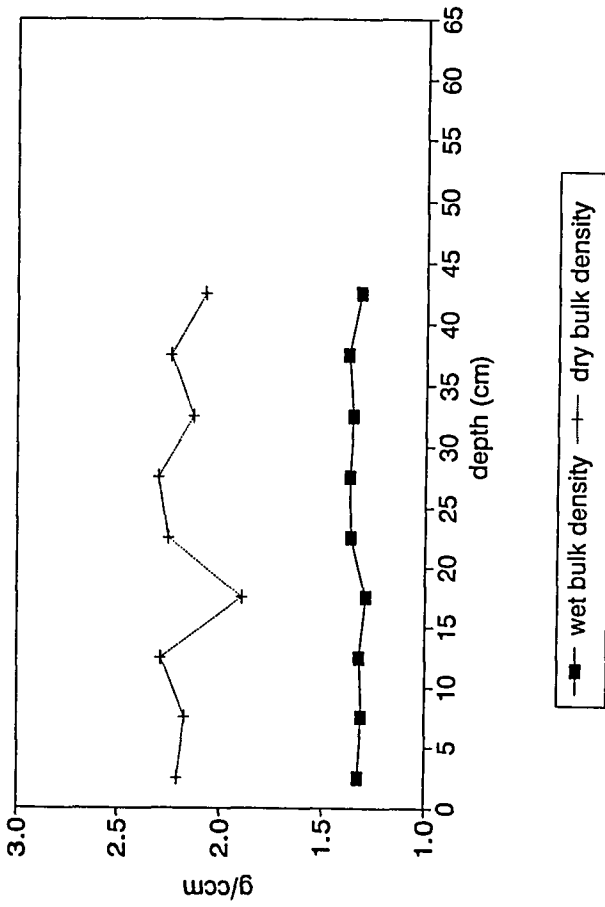
Skagerrak 3, Location 5, NC-26  
water content and porosity



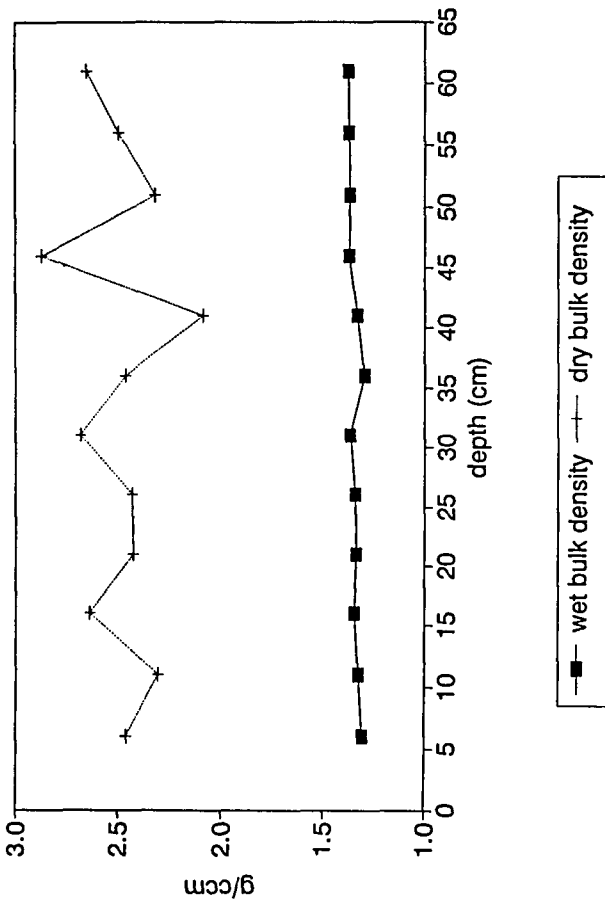
Skagerrak 3, Location 6, NC-32  
water content and porosity



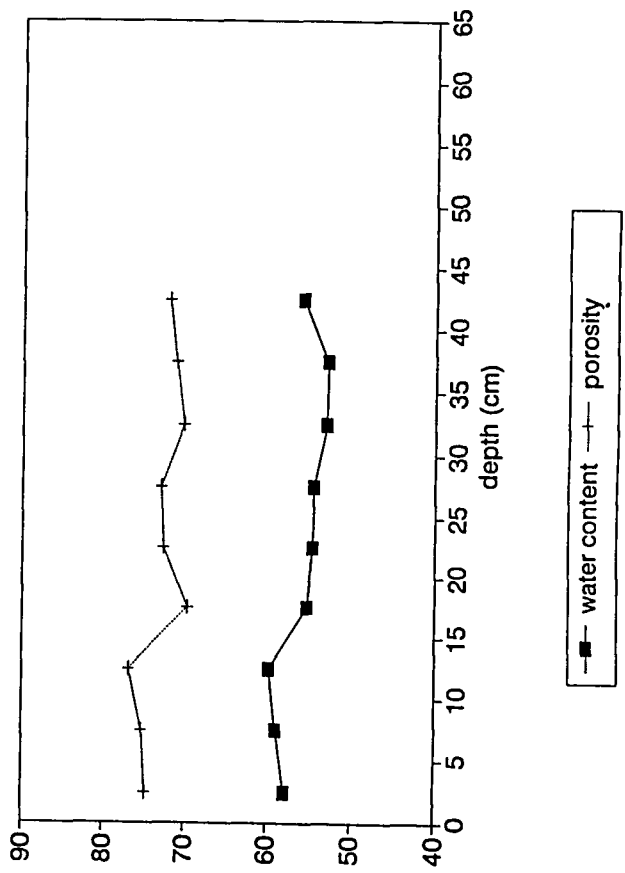
Skagerrak 3, Location 7, NC-36  
wet and dry bulk density



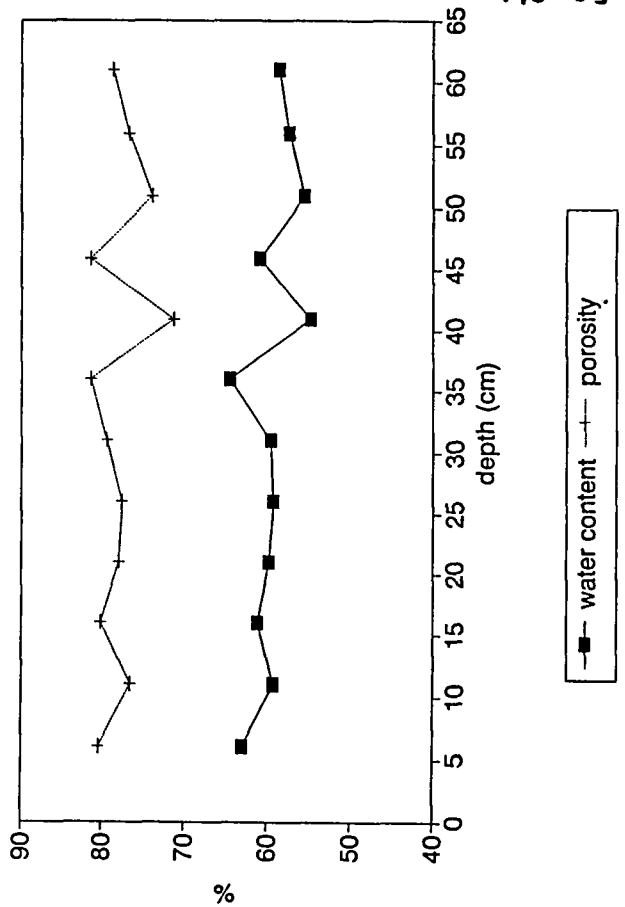
Skagerrak 3, Location 8, NC-38  
wet and dry bulk density



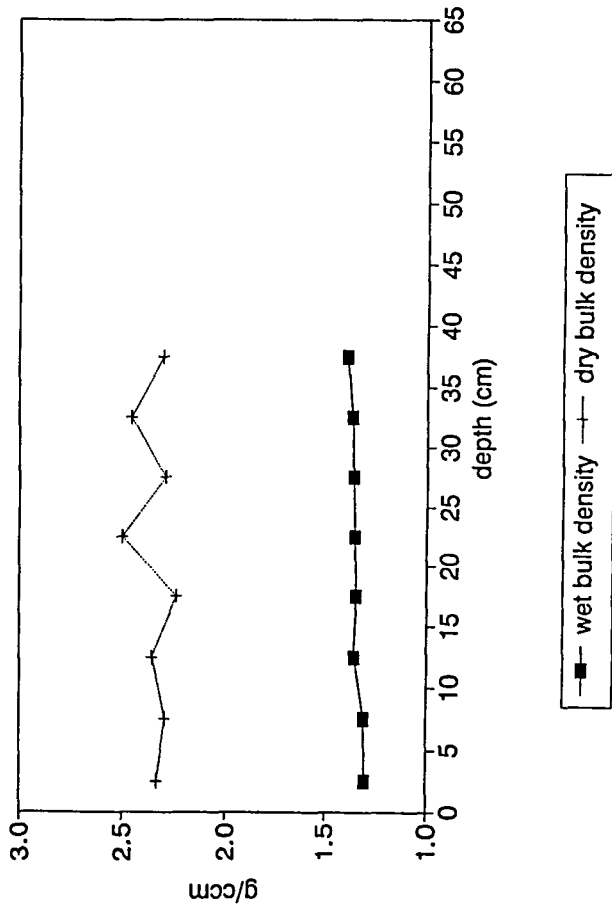
Skagerrak 3, Location 7, NC-36  
water content and porosity



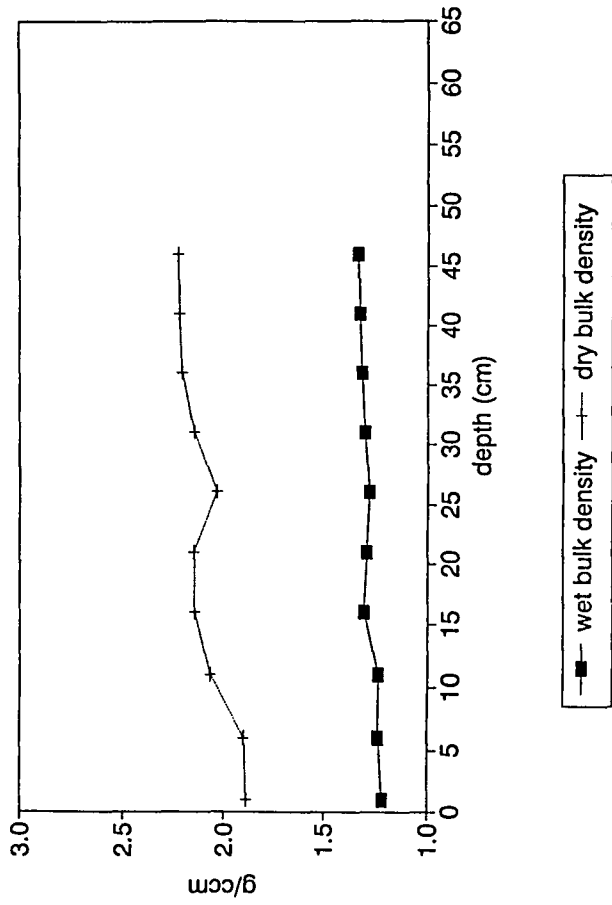
Skagerrak 3, Location 8, NC-38  
water content and porosity



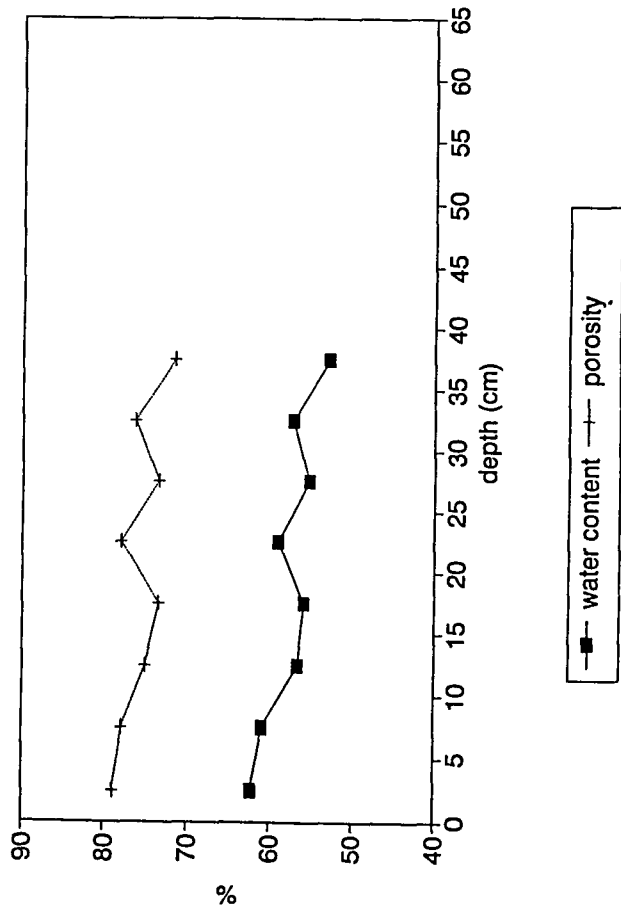
Skagerrak 3, Location 9, NC-45  
wet and dry bulk density



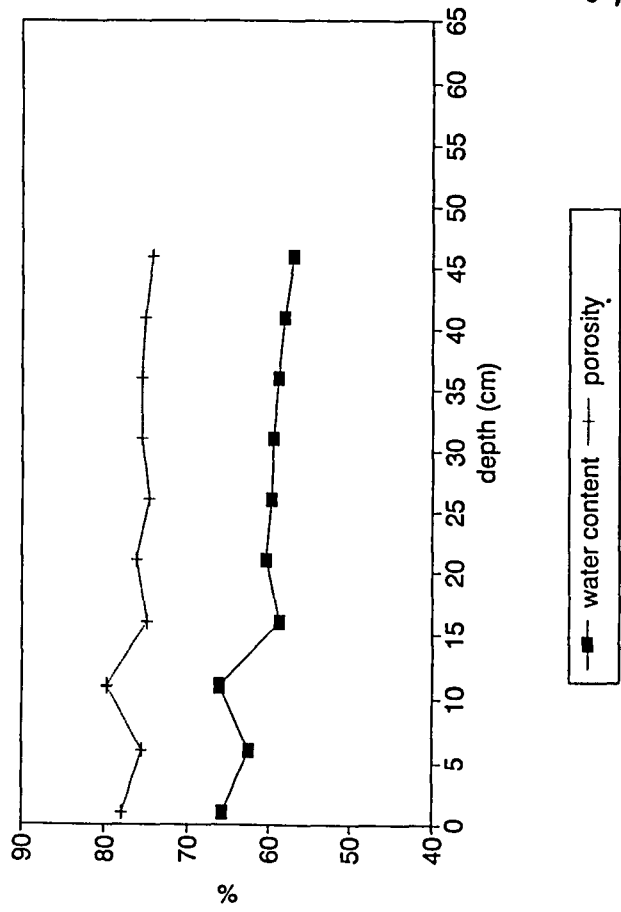
Skagerrak 3, Location 10, NC-47  
wet and dry bulk density



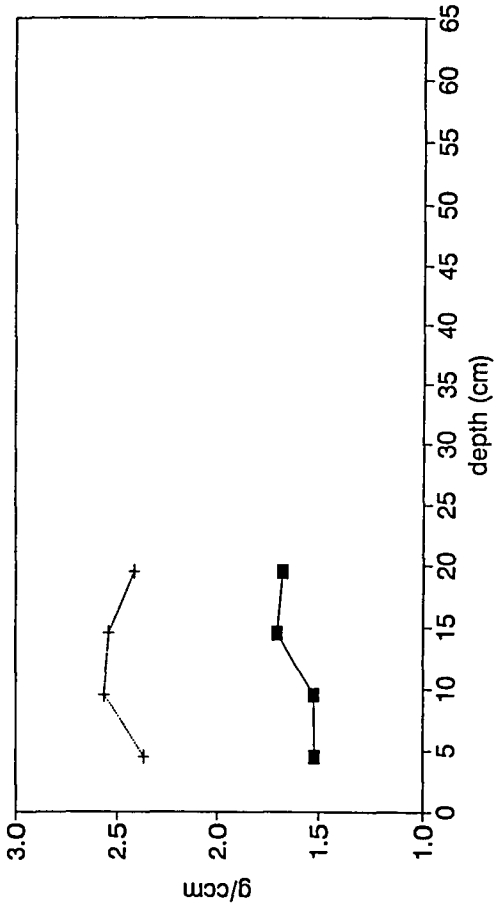
Skagerrak 3, Location 9, NC-45  
water content and porosity



Skagerrak 3, Location 10, NC-47  
water content and porosity

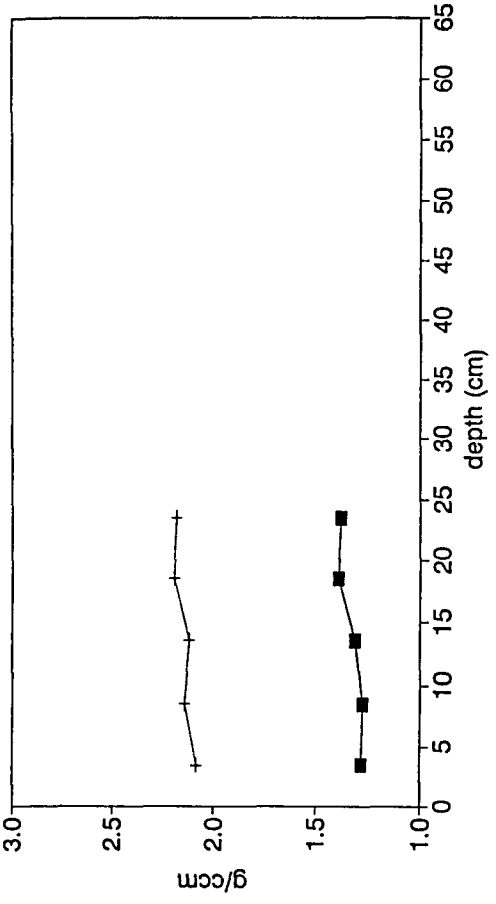


Skagerrak 3, Location 11, NC-52  
wet and dry bulk density



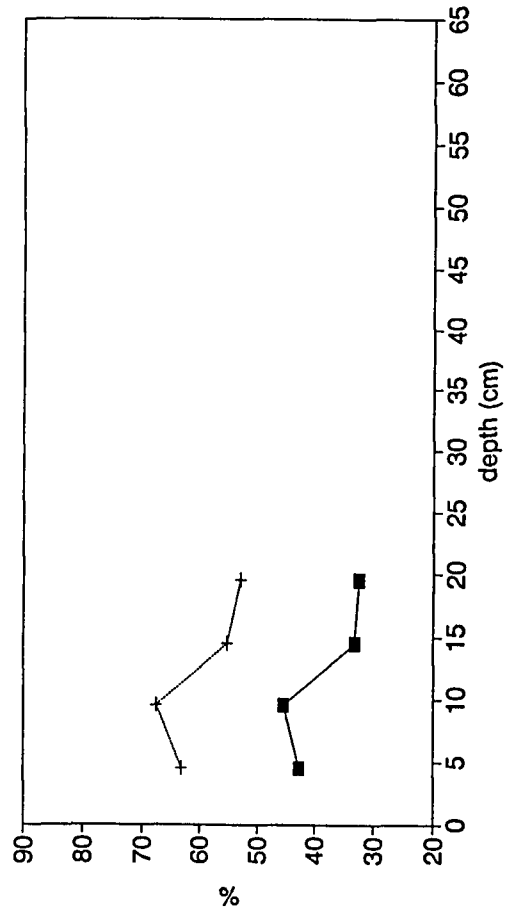
■ wet bulk density + dry bulk density

Skagerrak 3, Location 12, NC-56  
wet and dry bulk density



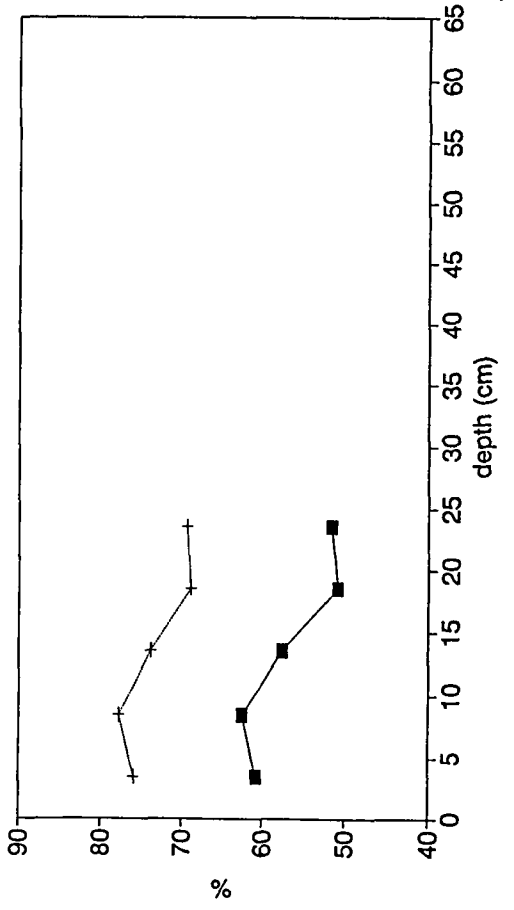
■ wet bulk density + dry bulk density

Skagerrak 3, Location 11, NC-52  
water content and porosity



■ water content + porosity

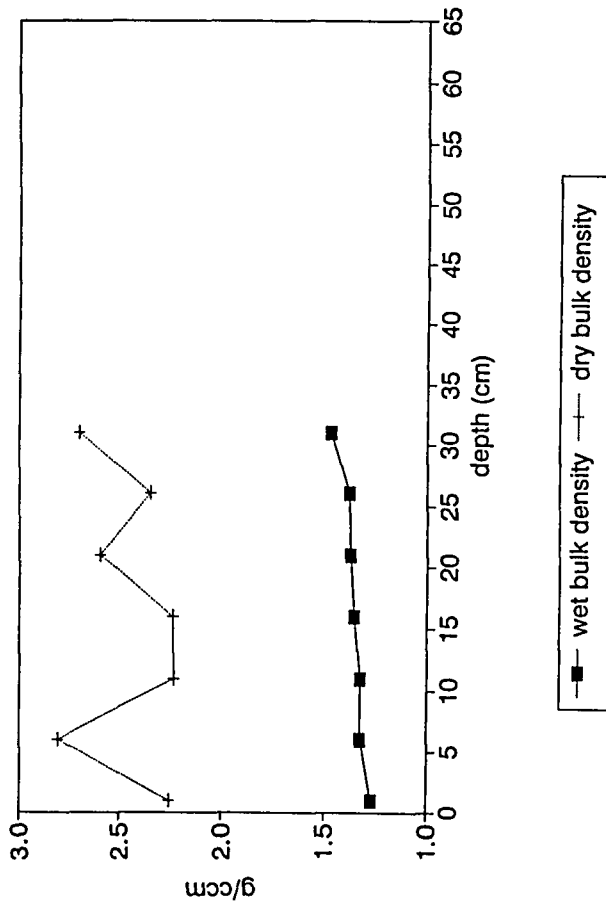
Skagerrak 3, Location 12, NC-56  
water content and porosity



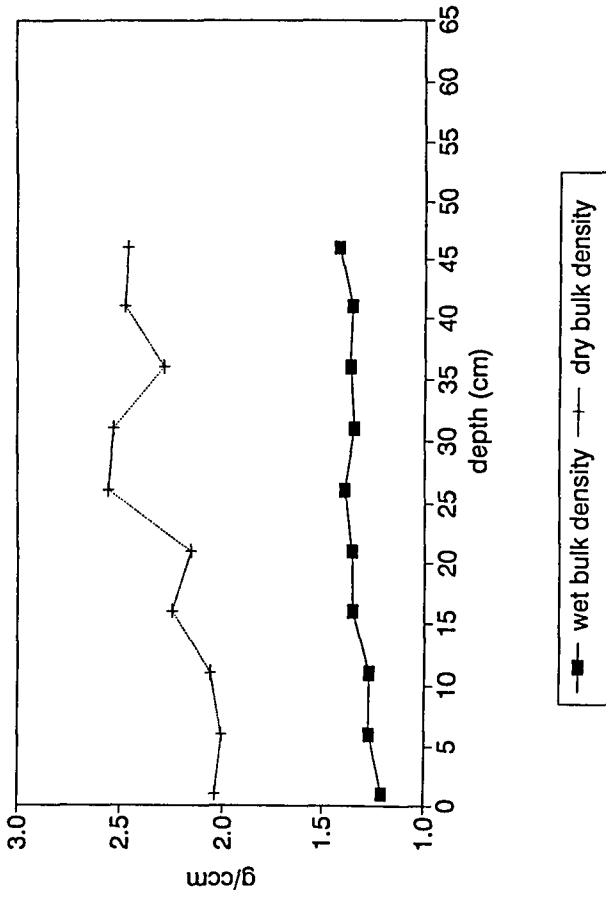
■ water content + porosity



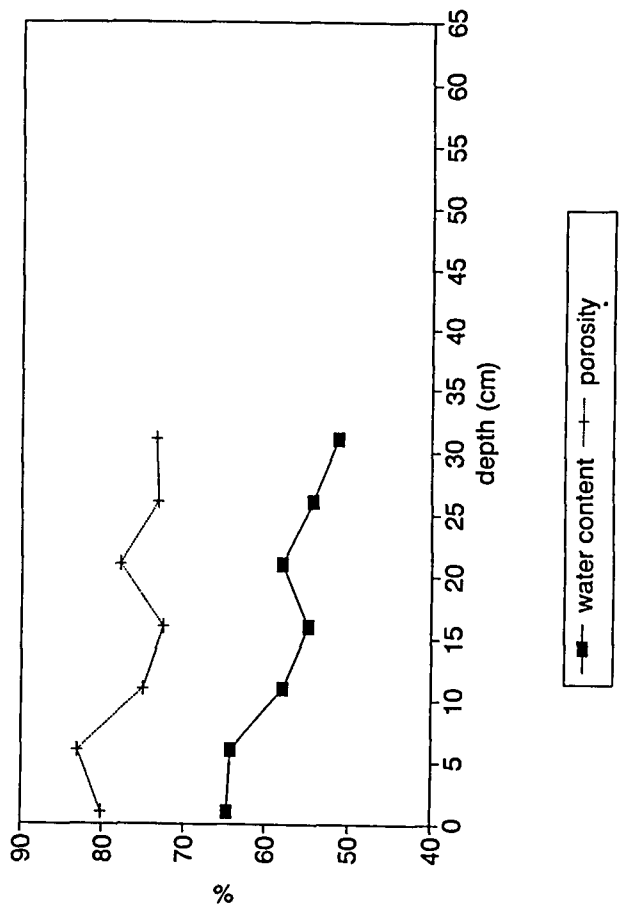
Skagerrak 3, Location 13, NC-61  
wet and dry bulk density



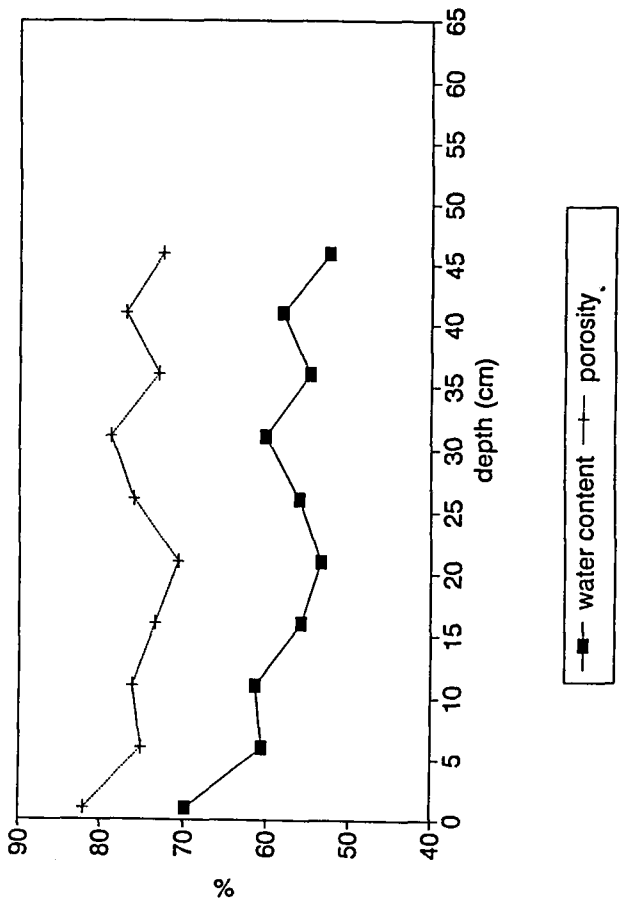
Skagerrak 3, Location 14, NC-67  
wet and dry bulk density



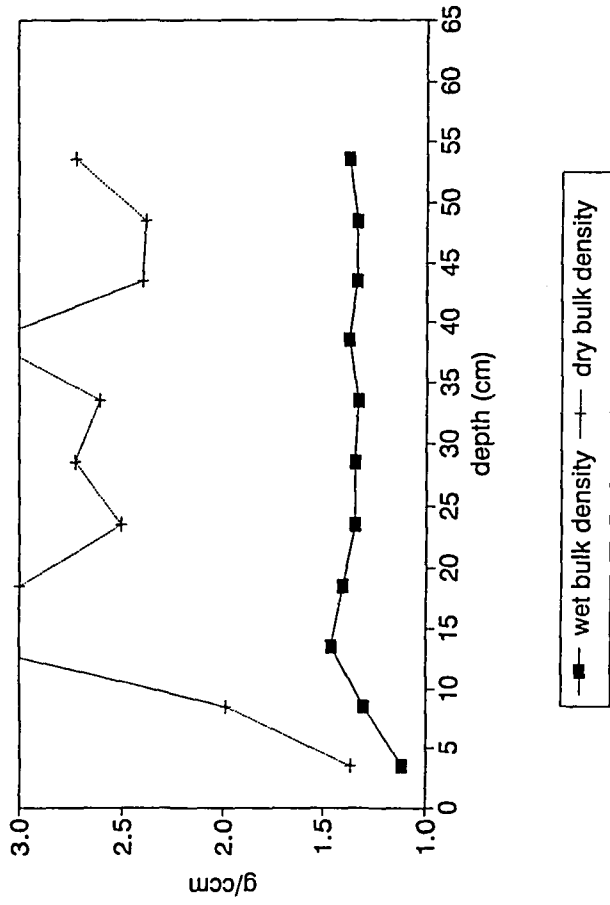
Skagerrak 3, Location 13, NC-6  
water content and porosity



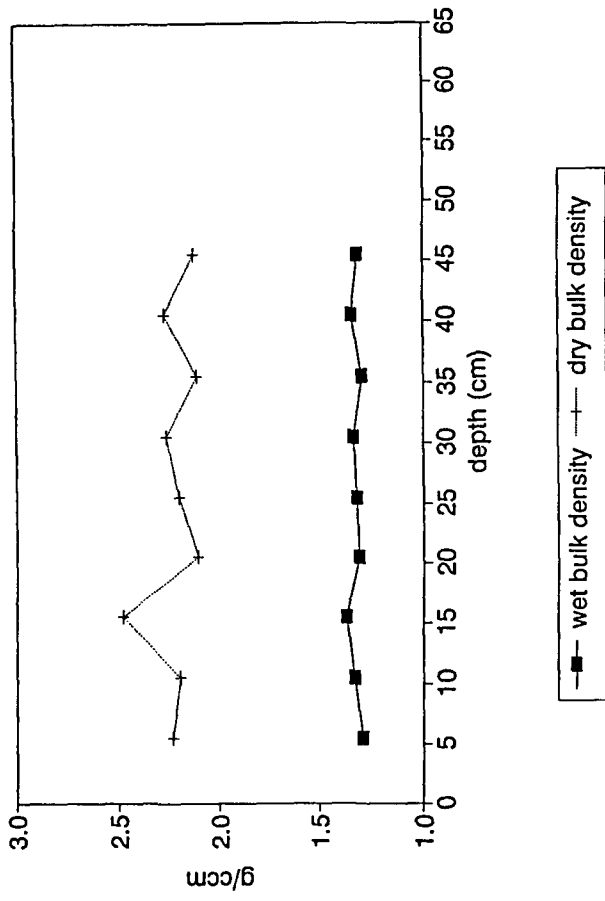
Skagerrak 3, Location 14, NC-67  
water content and porosity



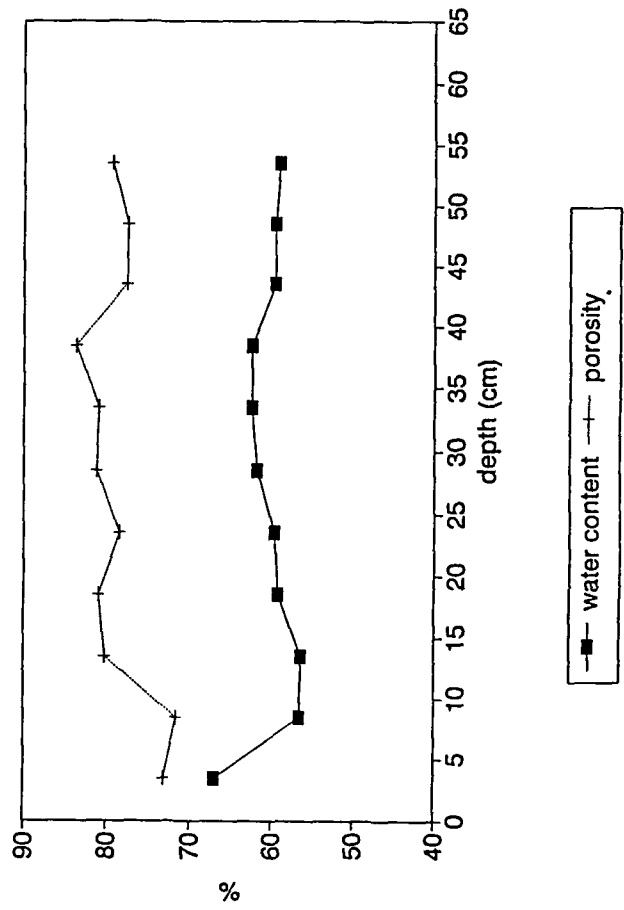
Skagerrak 3, Location 15, NC-74  
wet and dry bulk density



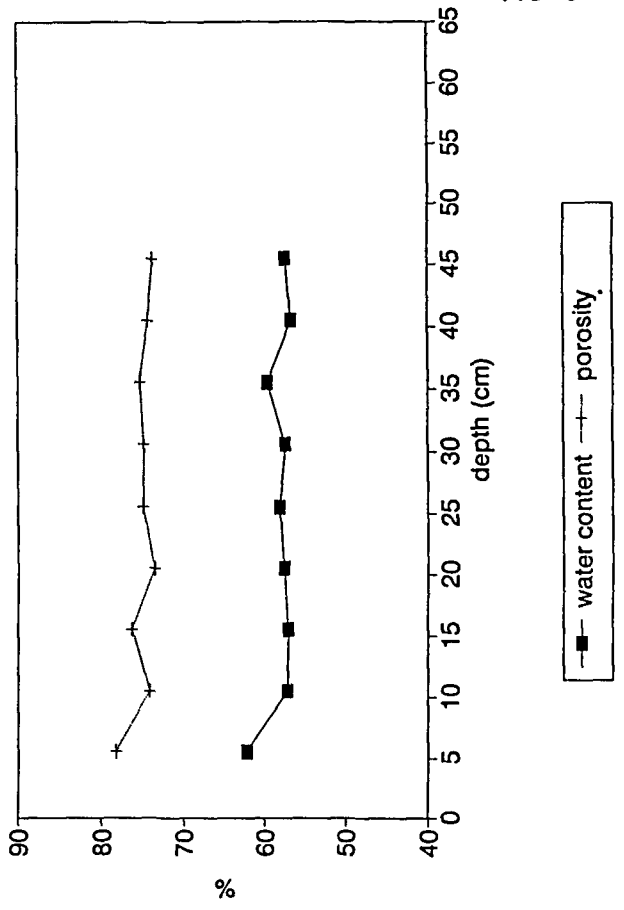
Skagerrak 3, Location 16, NC-78  
wet and dry bulk density



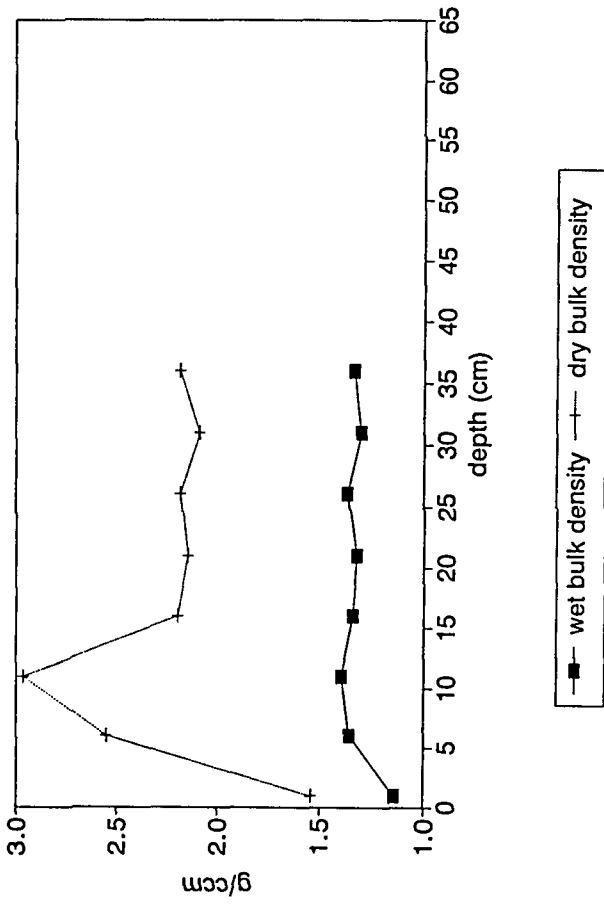
Skagerrak 3, Location 15, NC-74  
water content and porosity



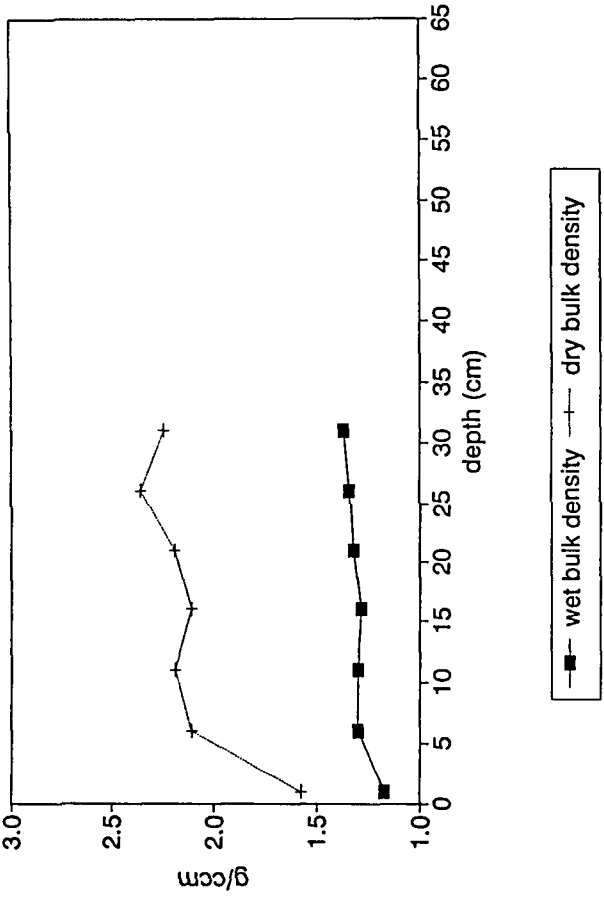
Skagerrak 3, Location 16, NC-78  
water content and porosity



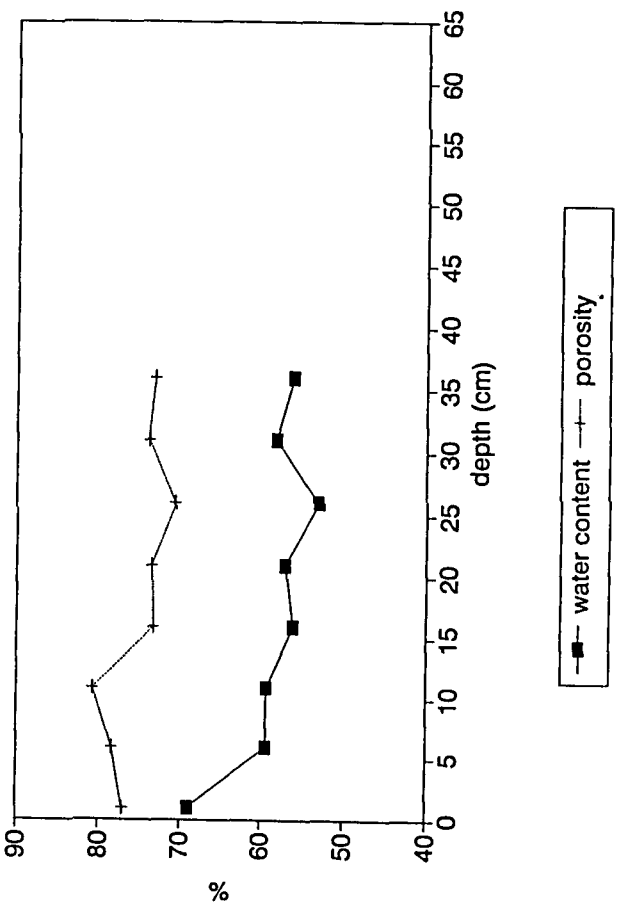
Skagerrak 3, Location 17, NC-81  
wet and dry bulk density



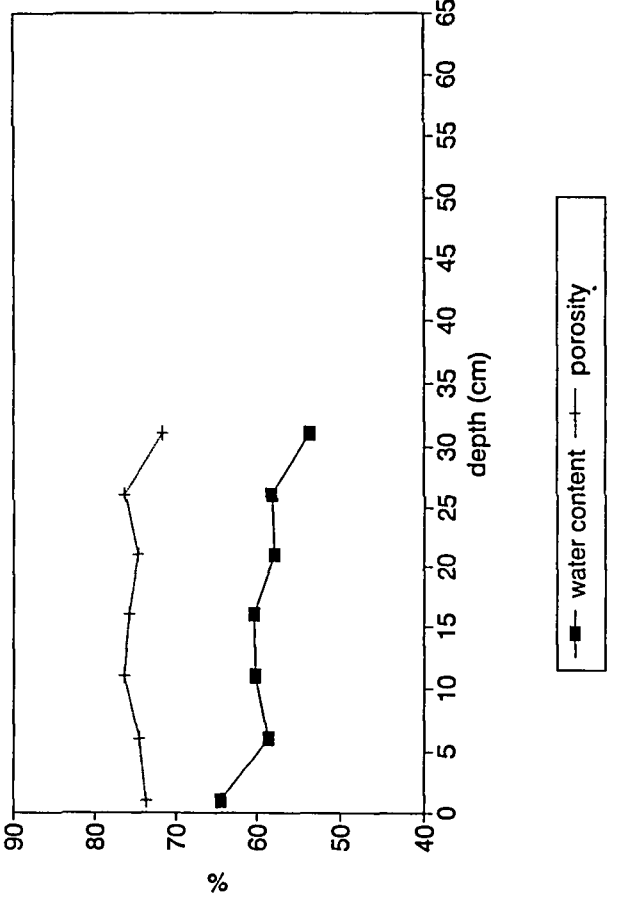
Skagerrak 3, Location 18, NC-85  
wet and dry bulk density



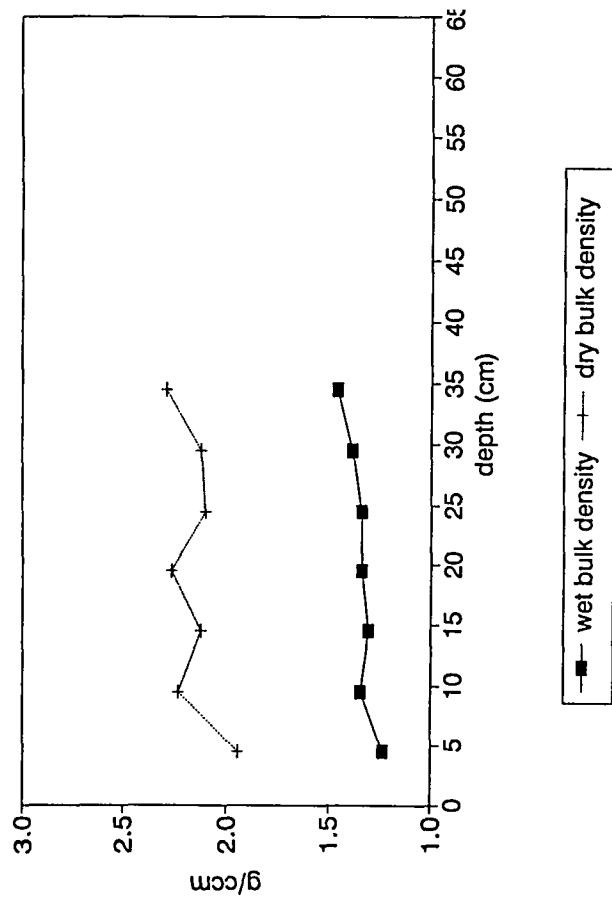
Skagerrak 3, Location 17, NC-81  
water content and porosity



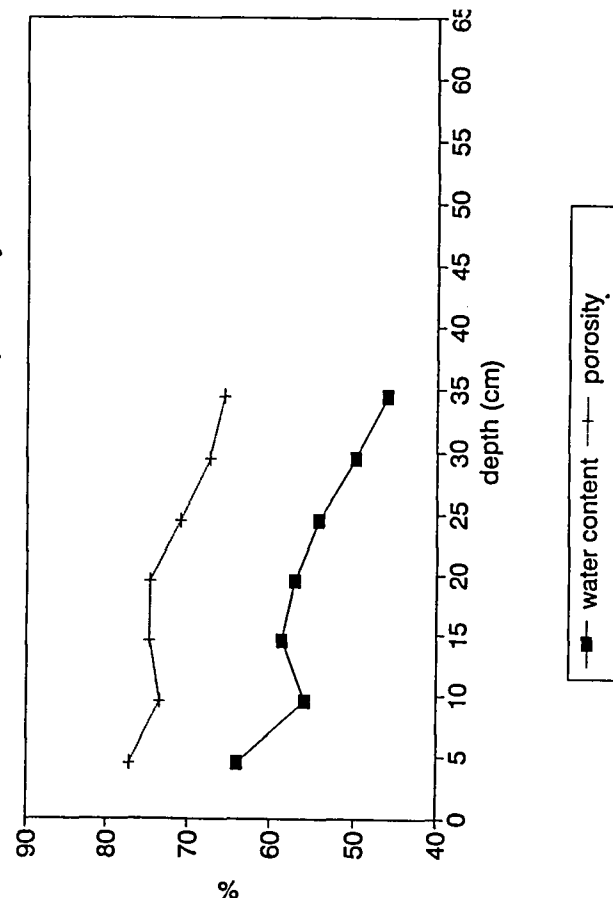
Skagerrak 3, Location 18, NC-85  
water content and porosity



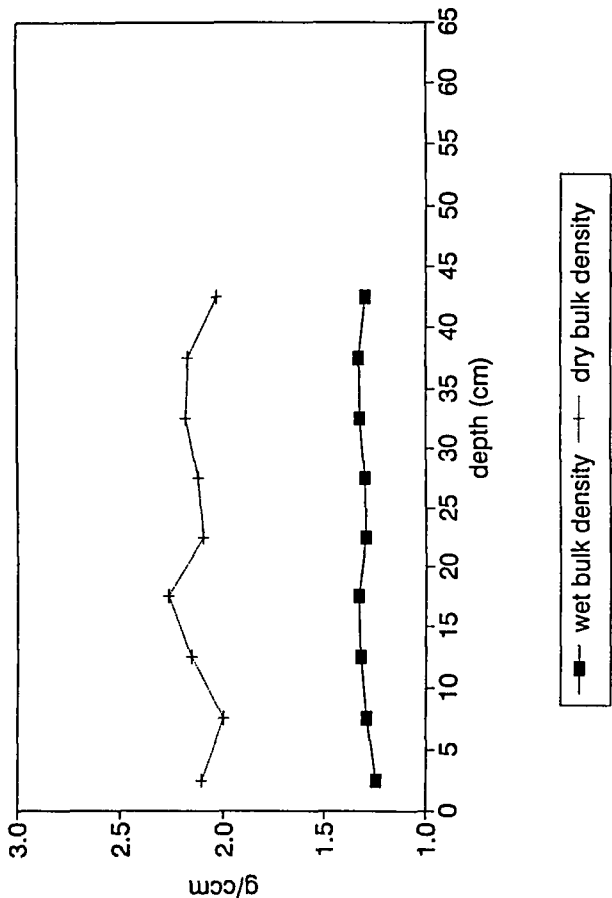
Skagerrak 3, Location 19, NC-90  
wet and dry bulk density



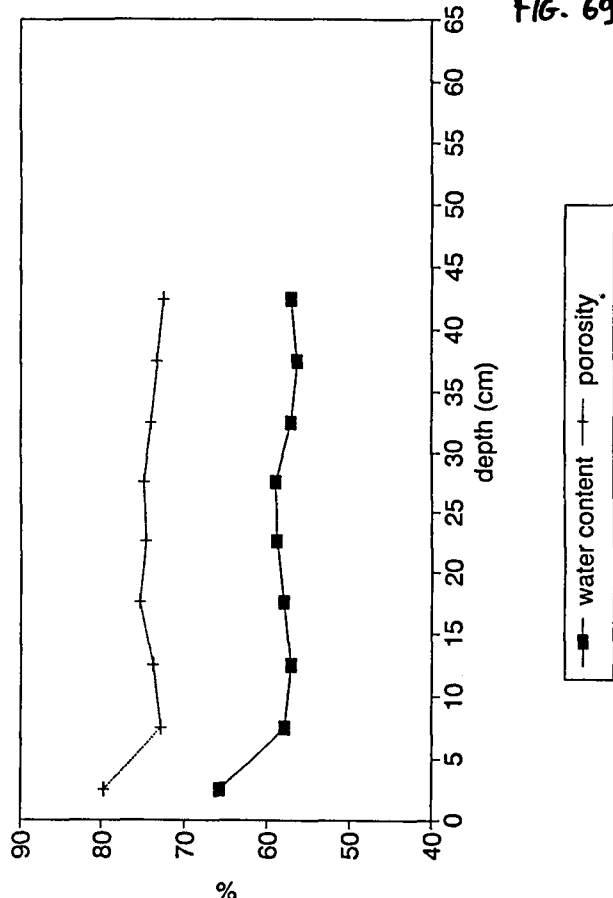
Skagerrak 3, Location 19, NC-90  
water content and porosity



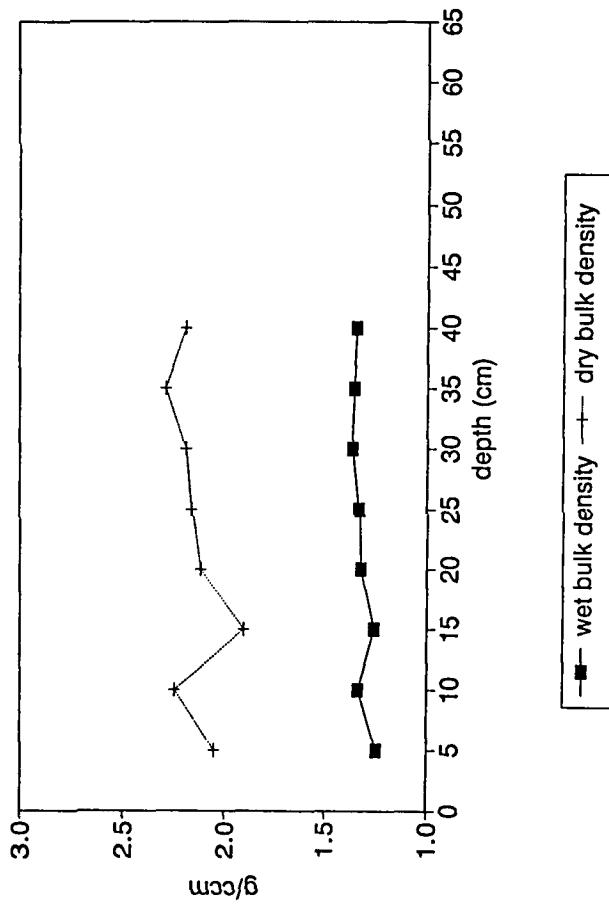
Skagerrak 3, Location 21, NC-96  
wet and dry bulk density



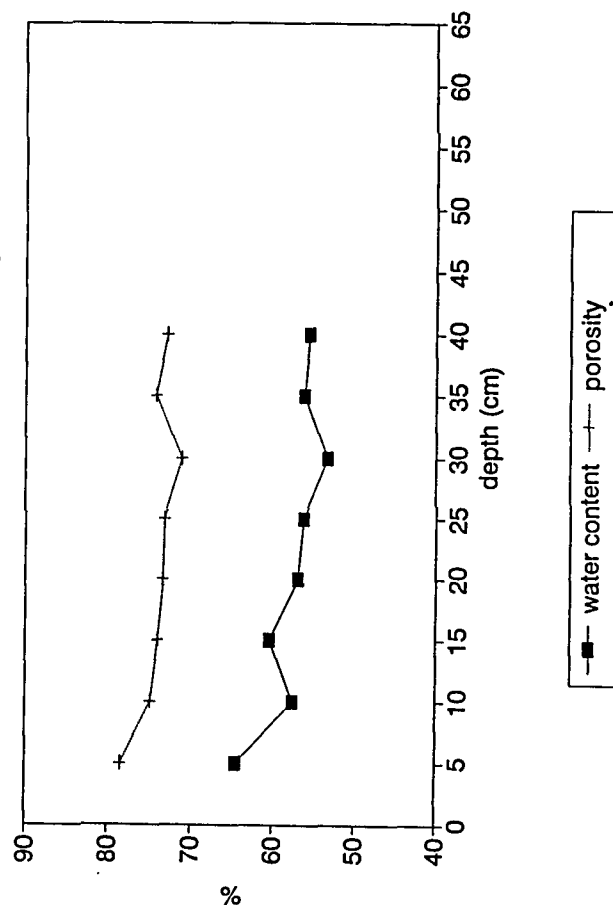
Skagerrak 3, Location 21, NC-96  
water content and porosity



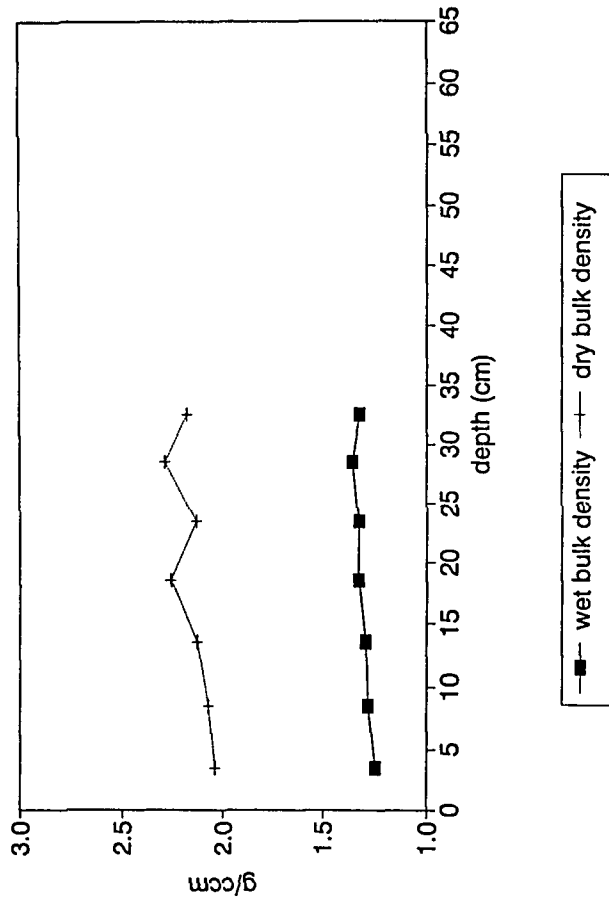
Skagerrak 3, Location 22, NC-104  
wet and dry bulk density



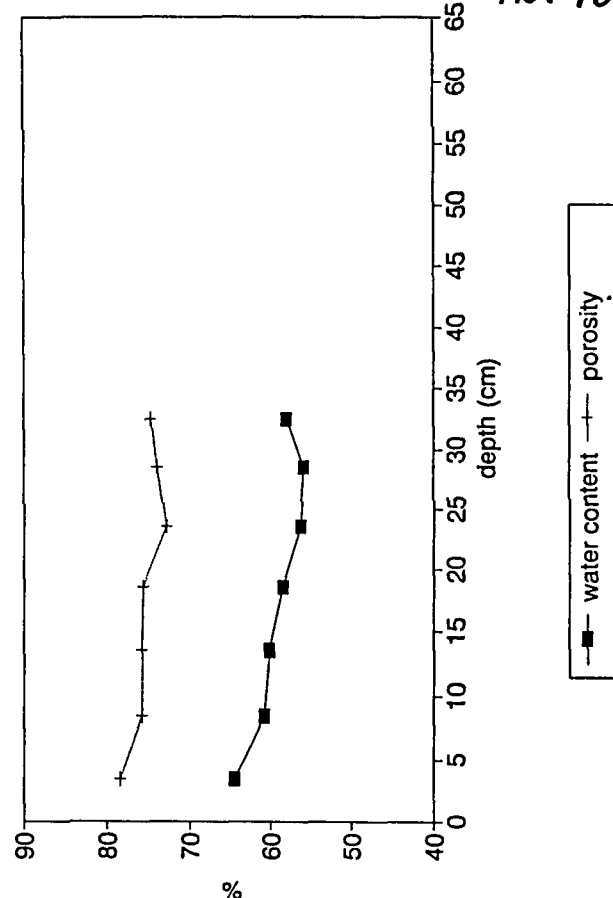
Skagerrak 3, Location 22, NC-104  
water content and porosity



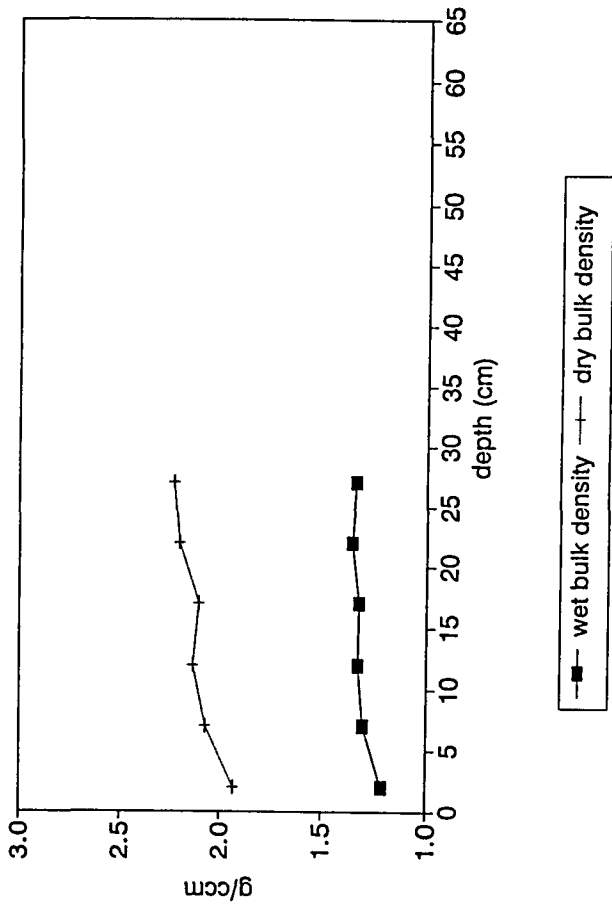
Skagerrak 3, Location 23, NC-108  
wet and dry bulk density



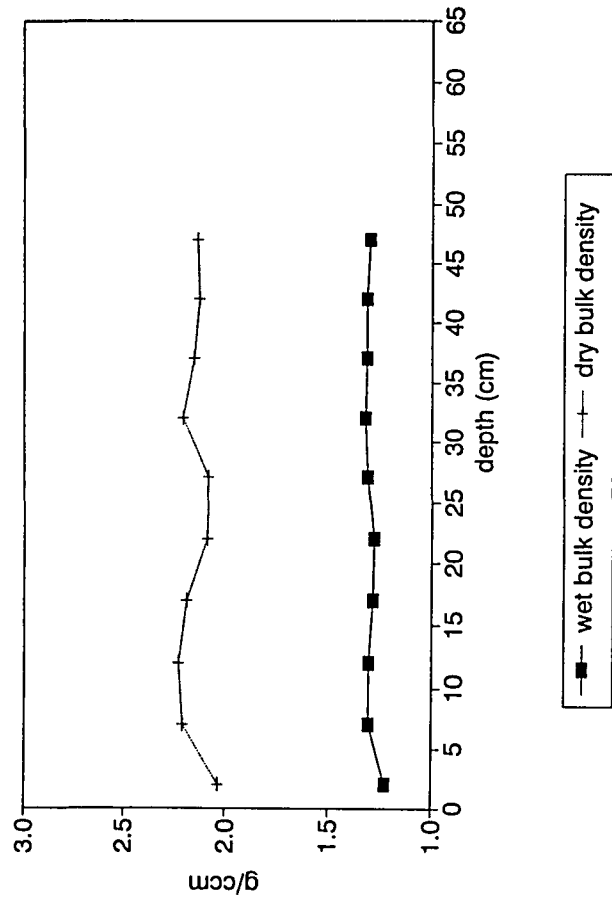
Skagerrak 3, Location 23, NC-108  
water content and porosity



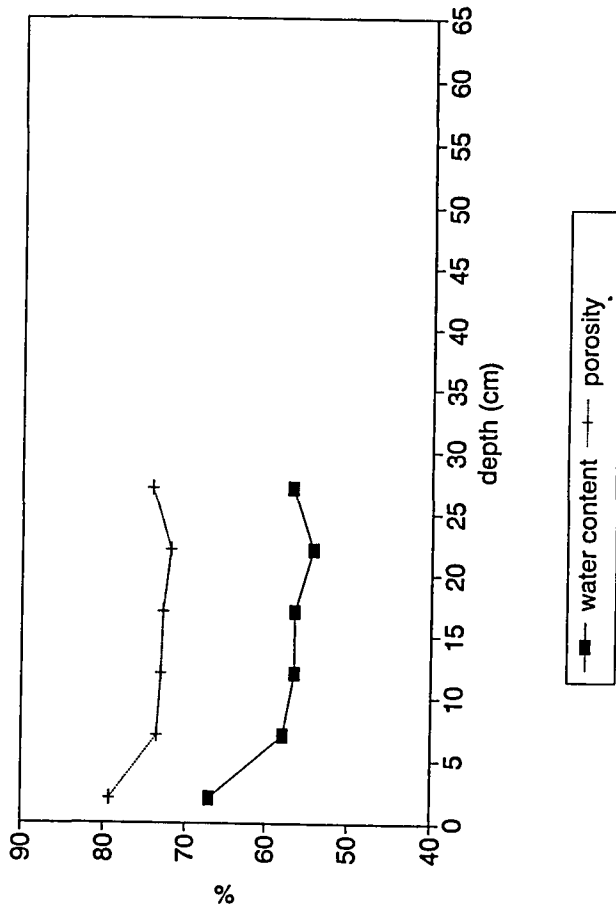
Skagerrak 3, Location 24, NC-112  
wet and dry bulk density



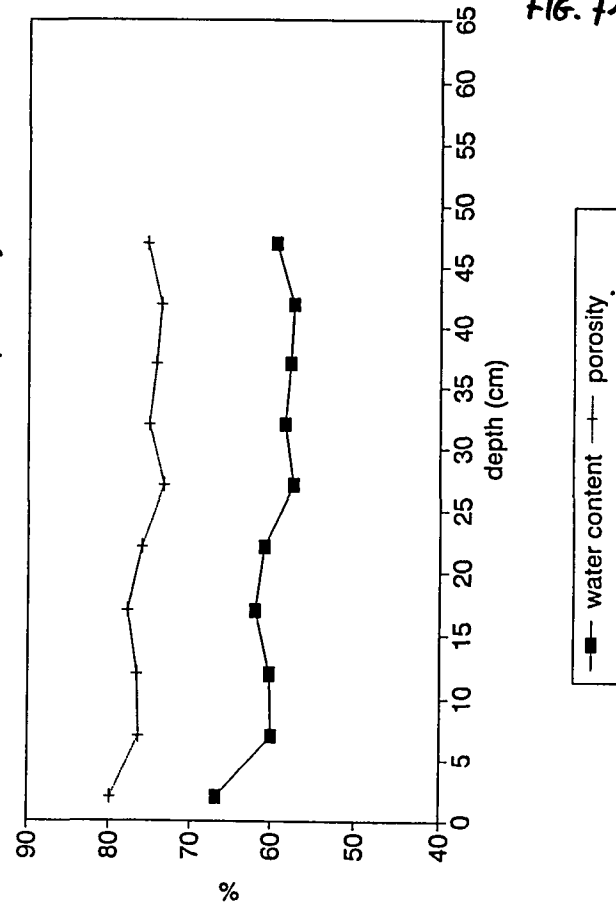
Skagerrak 3, Location 25, NC-117  
wet and dry bulk density



Skagerrak 3, Location 24, NC-112  
water content and porosity

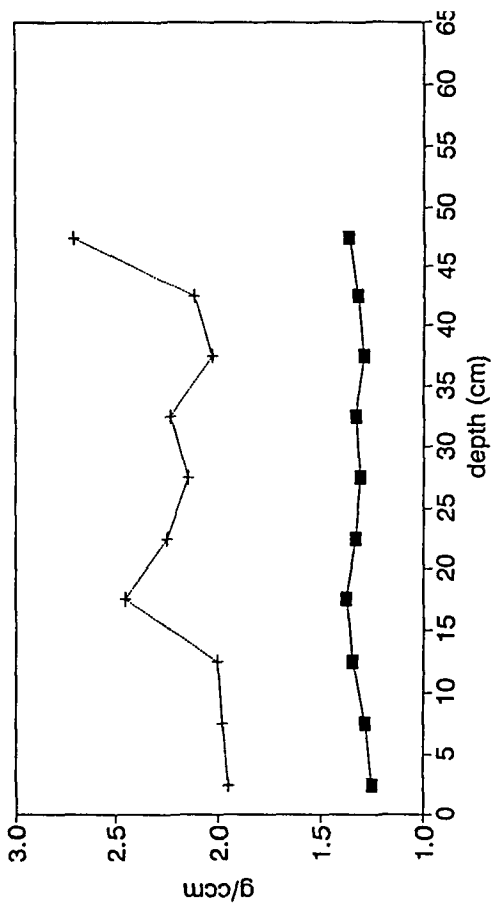


Skagerrak 3, Location 25, NC-117  
water content and porosity



### Skagerrak 3, Location 26, NC-123

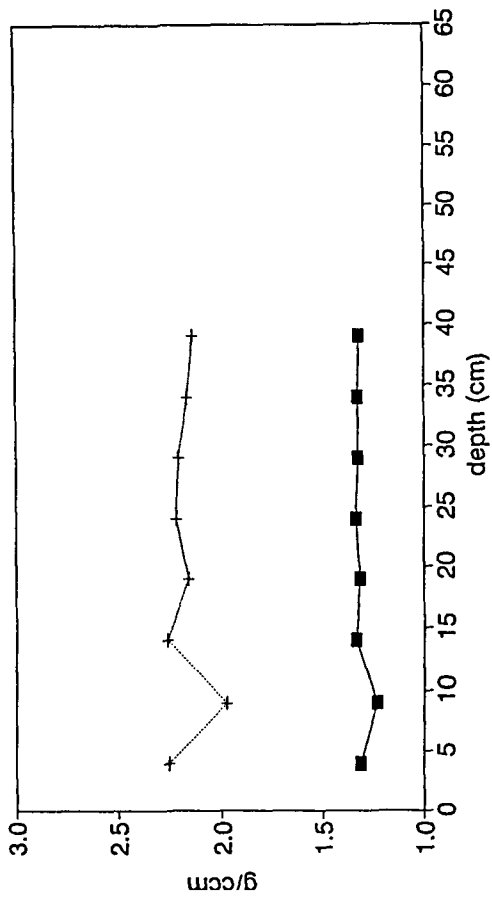
wet and dry bulk density



■ wet bulk density    + dry bulk density

### Skagerrak 3, Location 27, NC-128

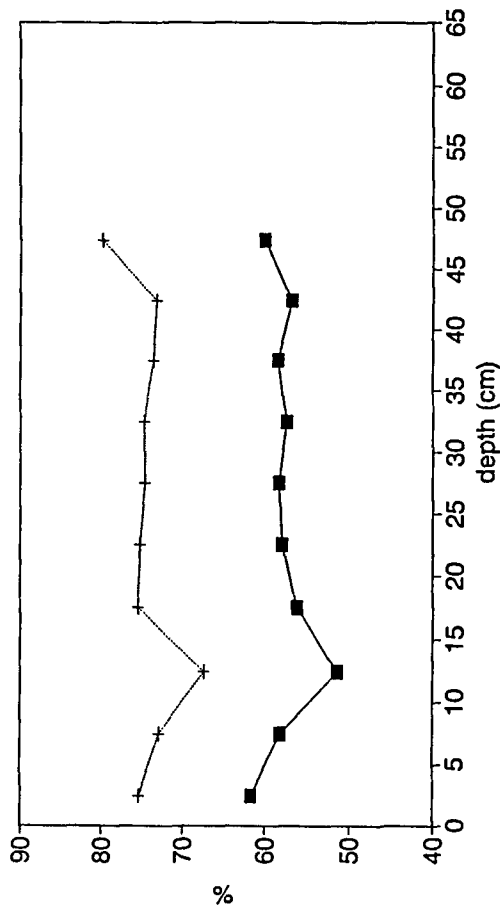
wet and dry bulk density



■ wet bulk density    + dry bulk density

### Skagerrak 3, Location 26, NC-123

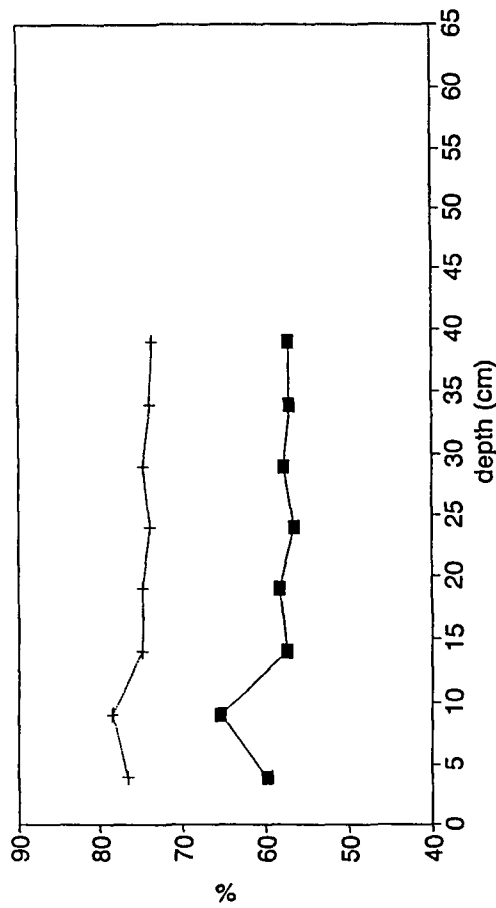
water content and porosity



■ water content    + porosity

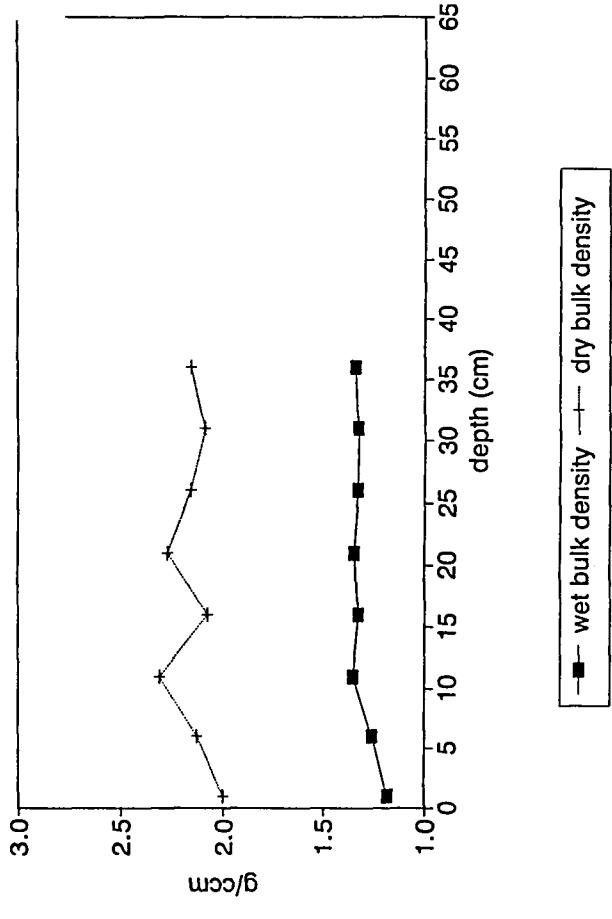
### Skagerrak 3, Location 27, NC-128

water content and porosity

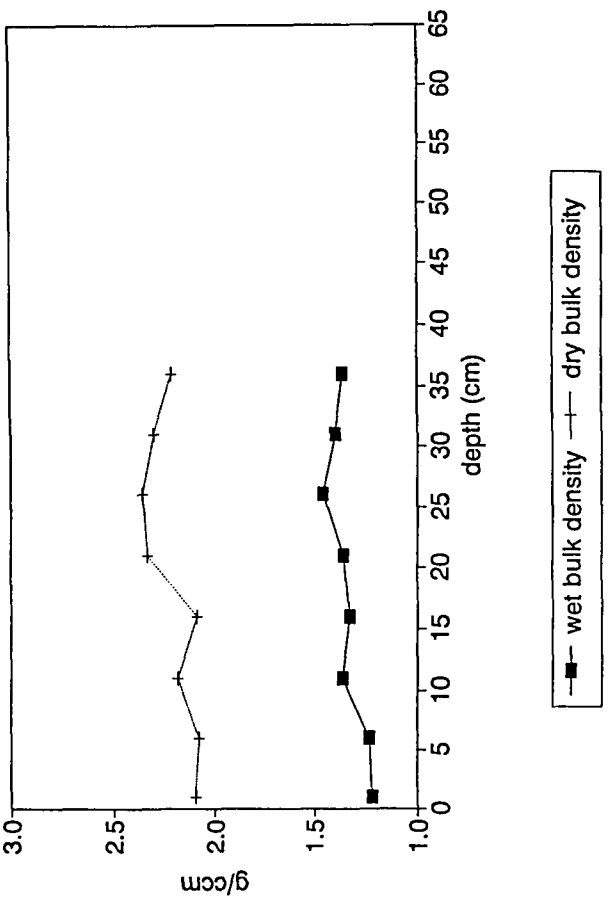


■ water content    + porosity

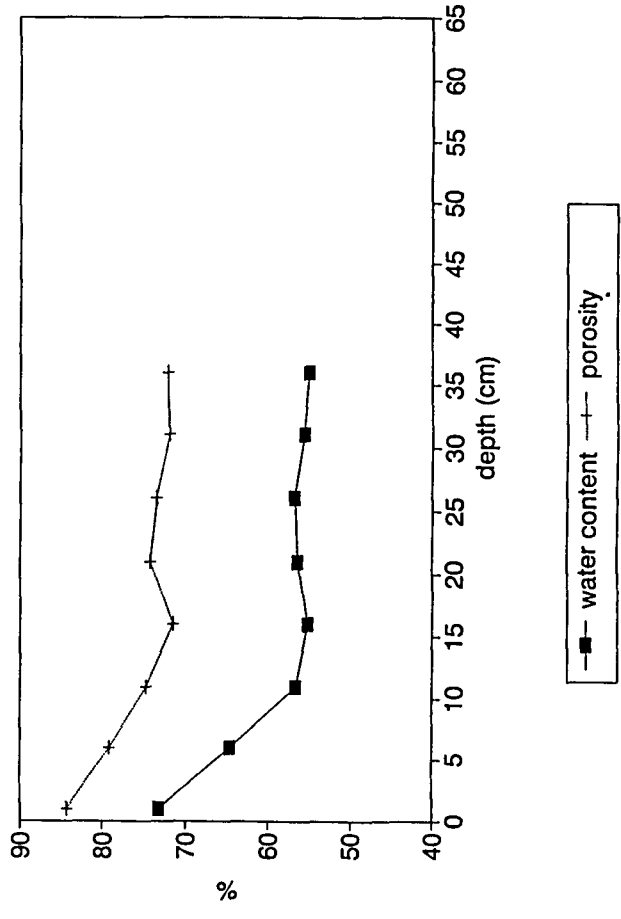
Skagerrak 3, Location 28, NC-132  
wet and dry bulk density



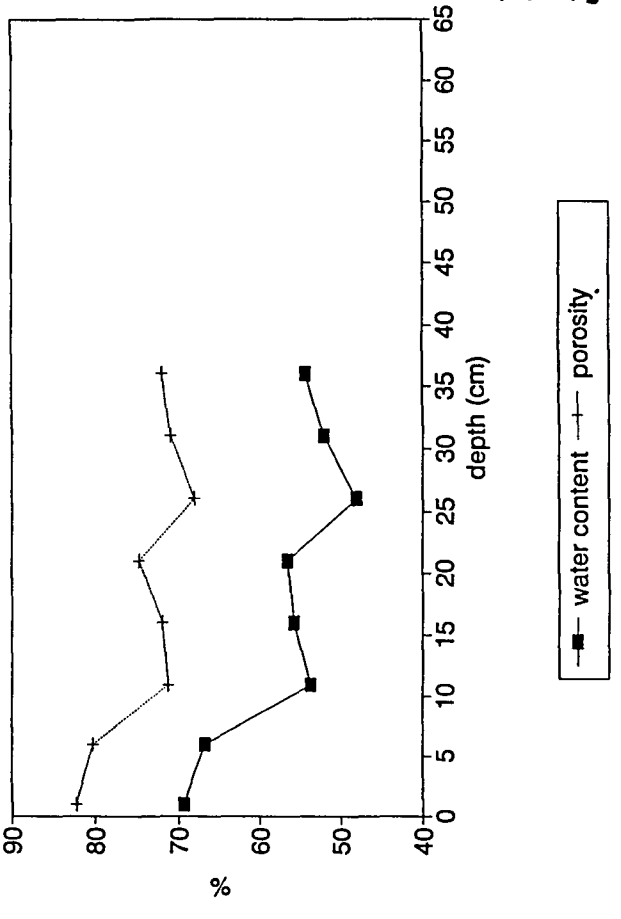
Skagerrak 3, Location 29, NC-135  
wet and dry bulk density



Skagerrak 3, Location 28, NC-132  
water content and porosity

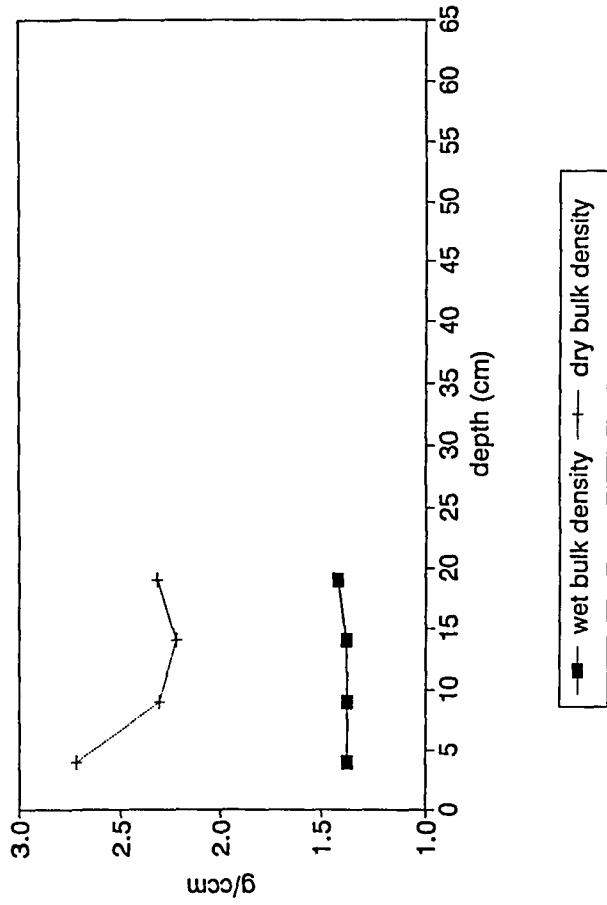


Skagerrak 3, Location 29, NC-135  
water content and porosity

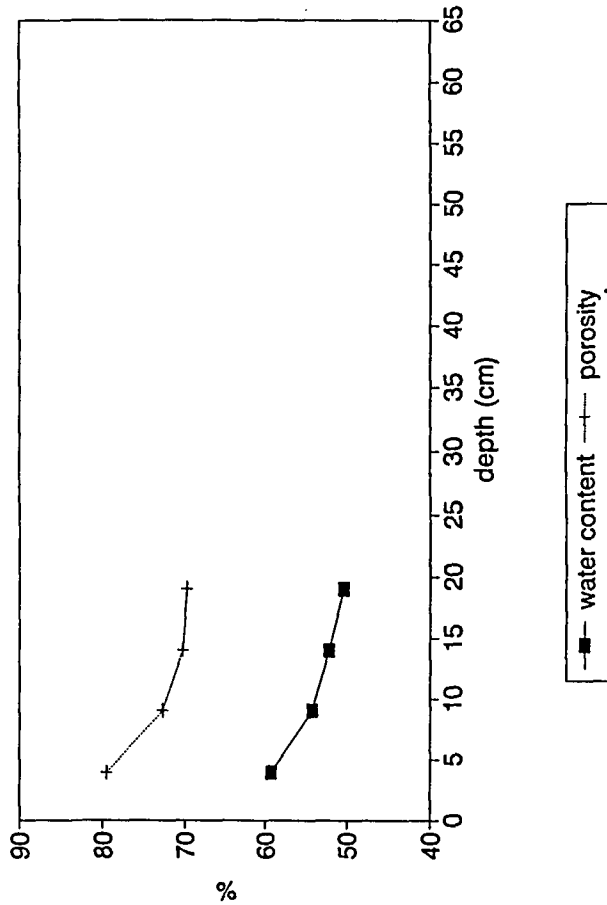




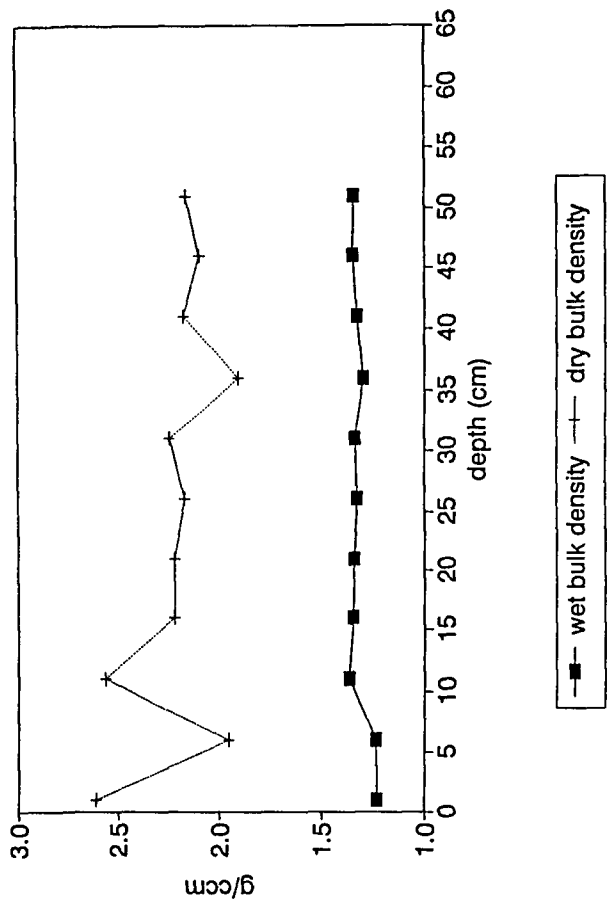
Skagerrak 3, Location 30, NC-139  
wet and dry bulk density



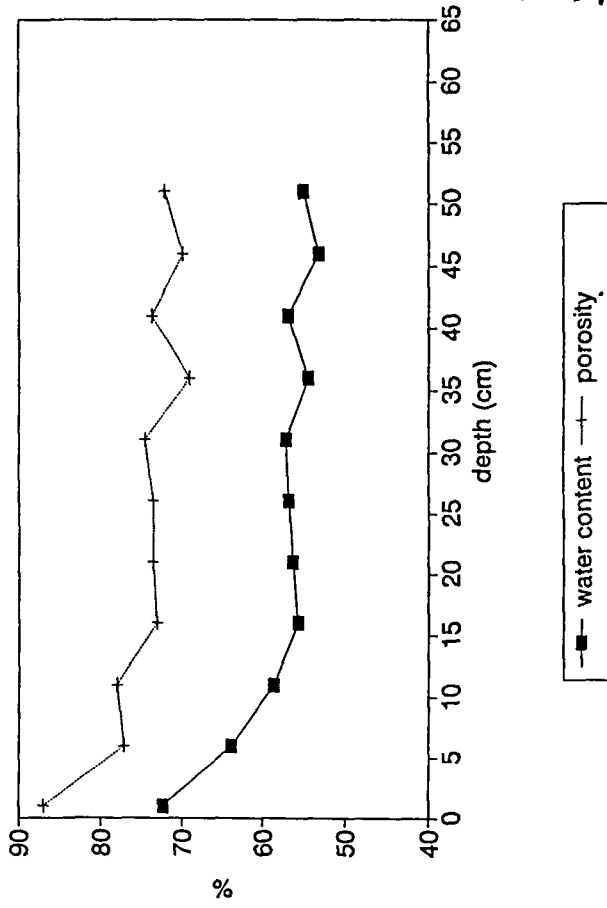
Skagerrak 3, Location 30, NC-139  
water content and porosity



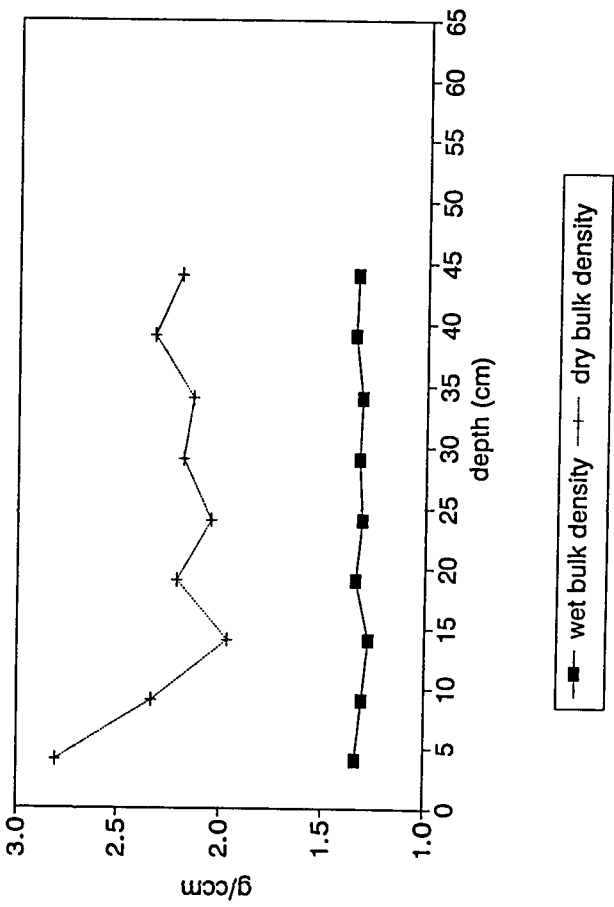
Skagerrak 3, Location 31, NC-146  
wet and dry bulk density



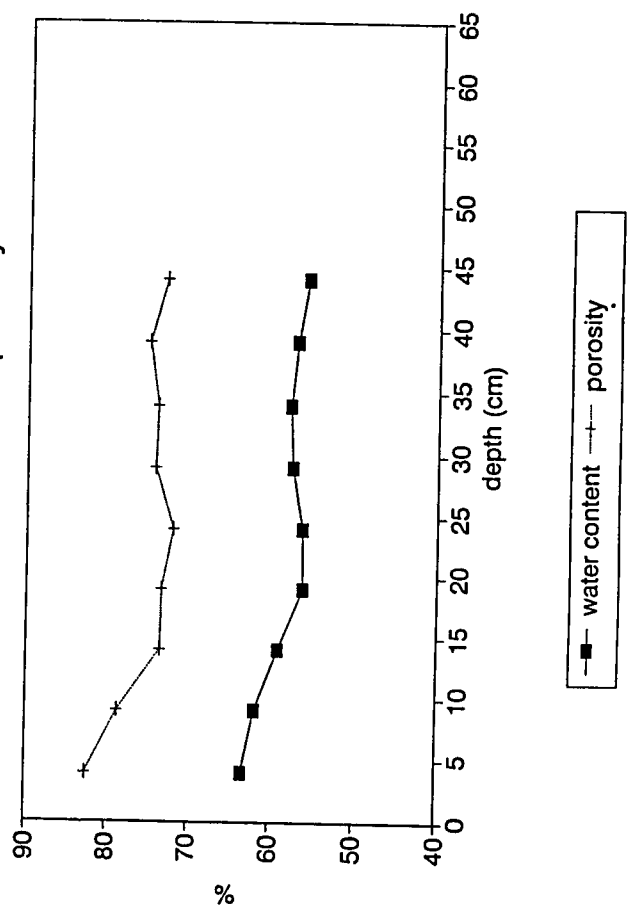
Skagerrak 3, Location 31, NC-146  
water content and porosity



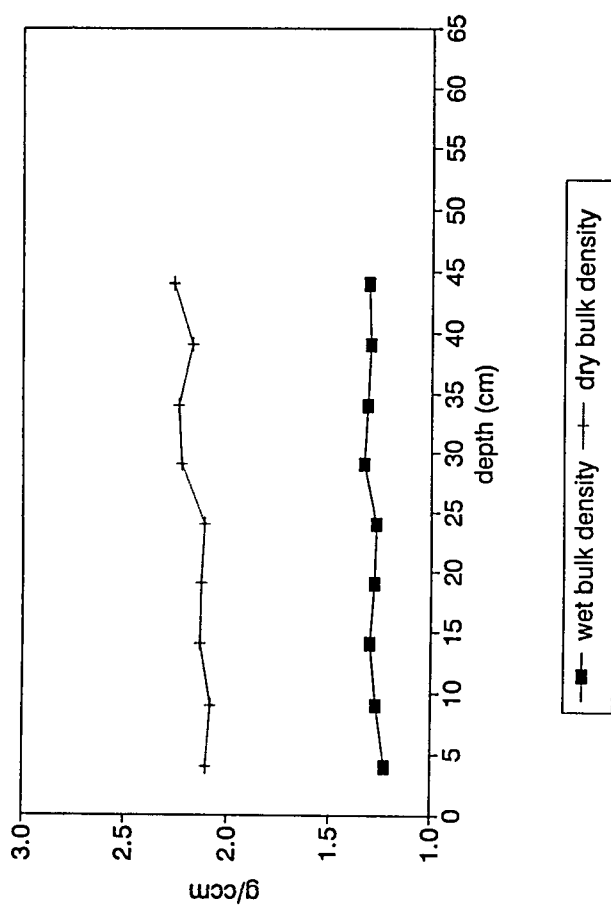
Skagerrak 3, Location 32, NC-148  
wet and dry bulk density



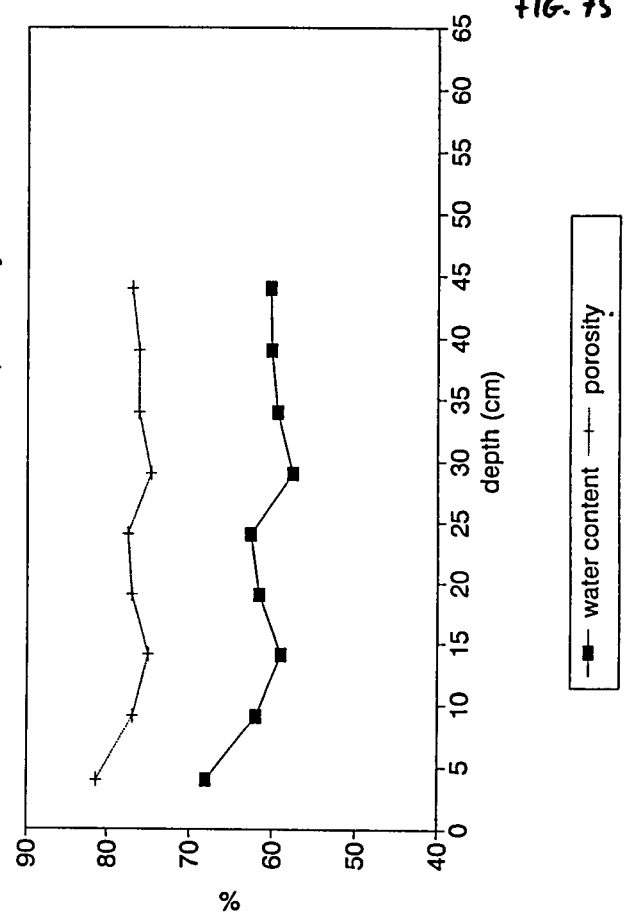
Skagerrak 3, Location 32, NC-148  
water content and porosity



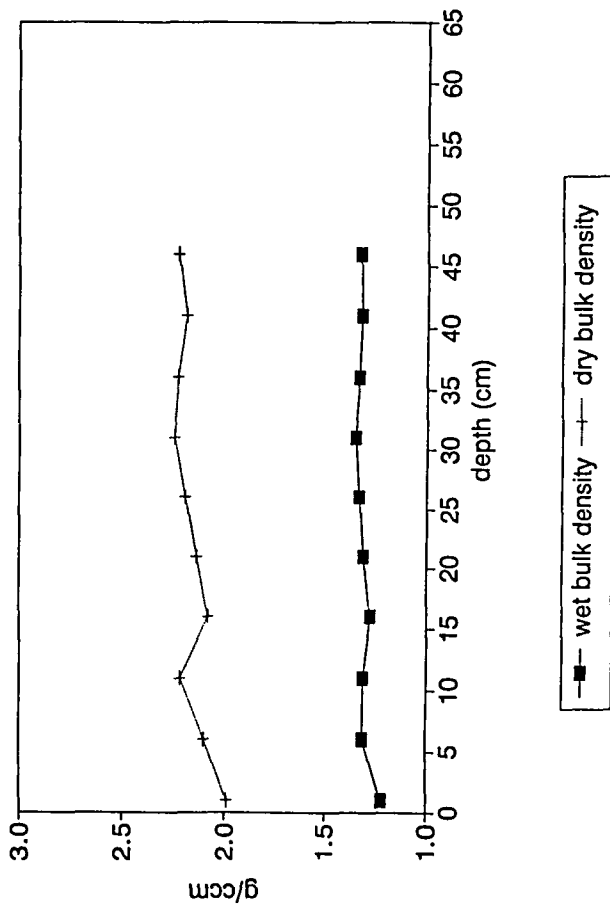
Skagerrak 3, Location 33, NC-154  
wet and dry bulk density



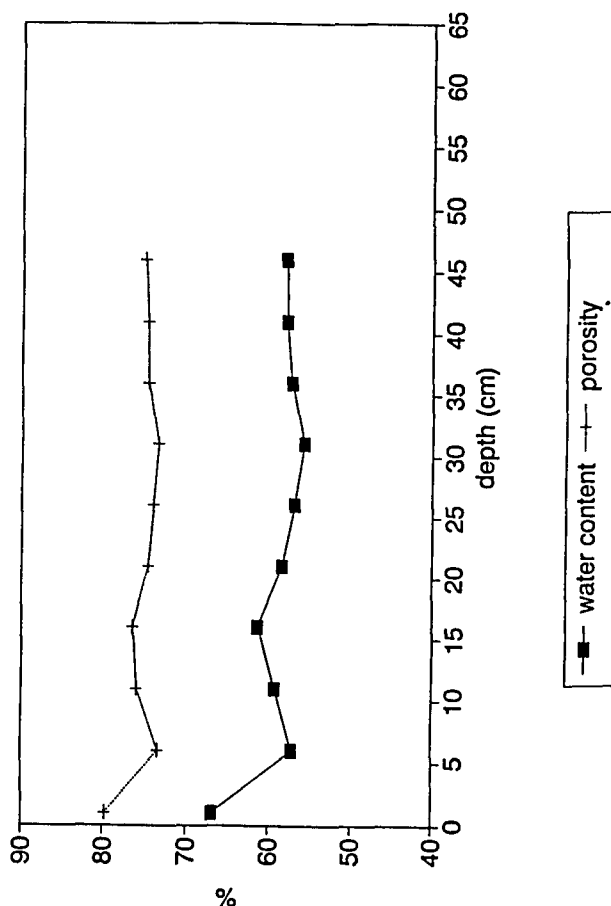
Skagerrak 3, Location 33, NC-154  
water content and porosity



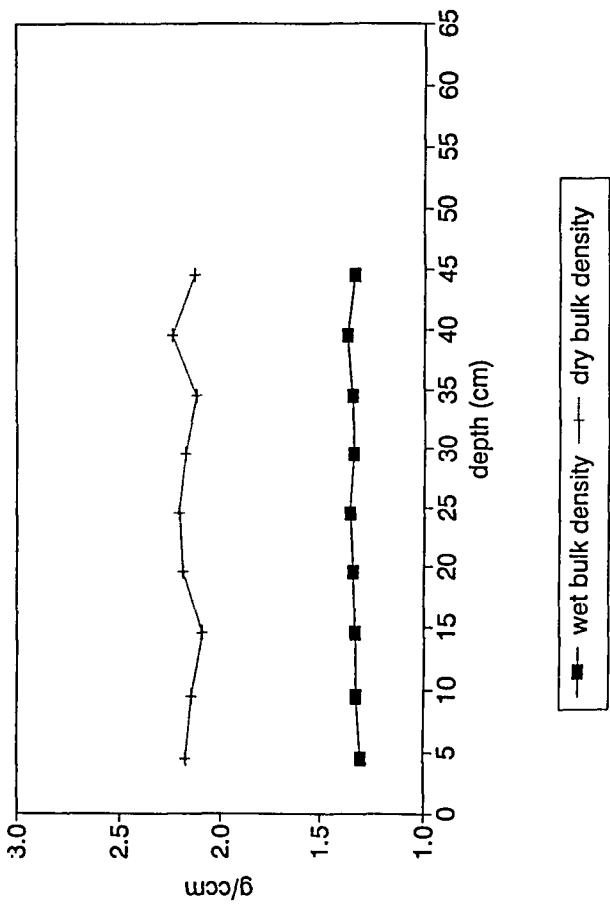
Skagerrak 3, Location 34, NC-158  
wet and dry bulk density



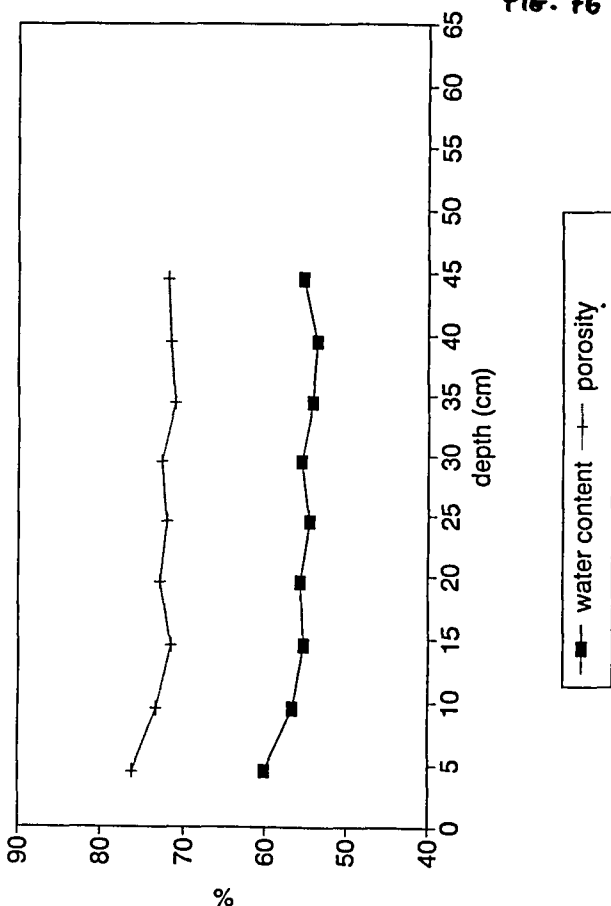
Skagerrak 3, Location 34, NC-158  
water content and porosity



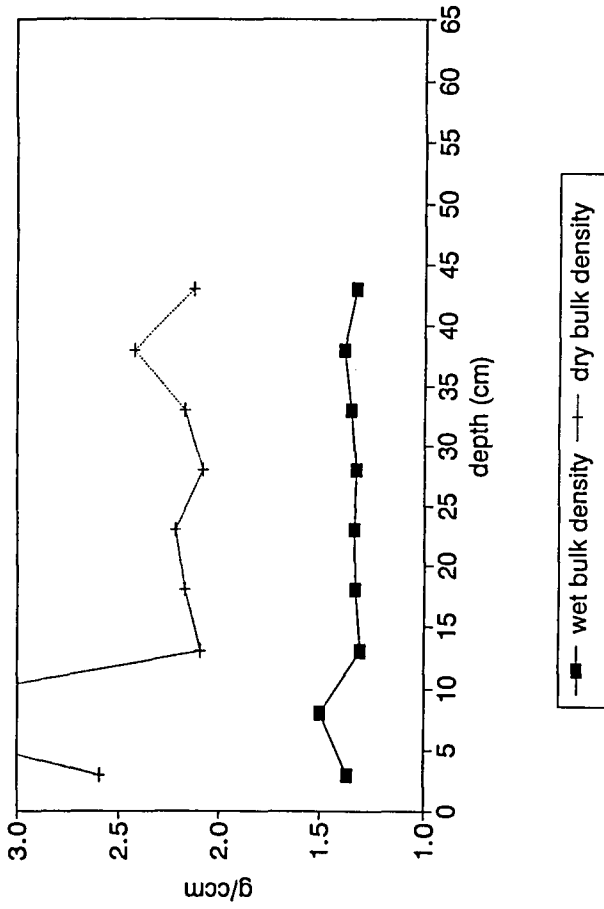
Skagerrak 3, Location 35, NC-163  
wet and dry bulk density



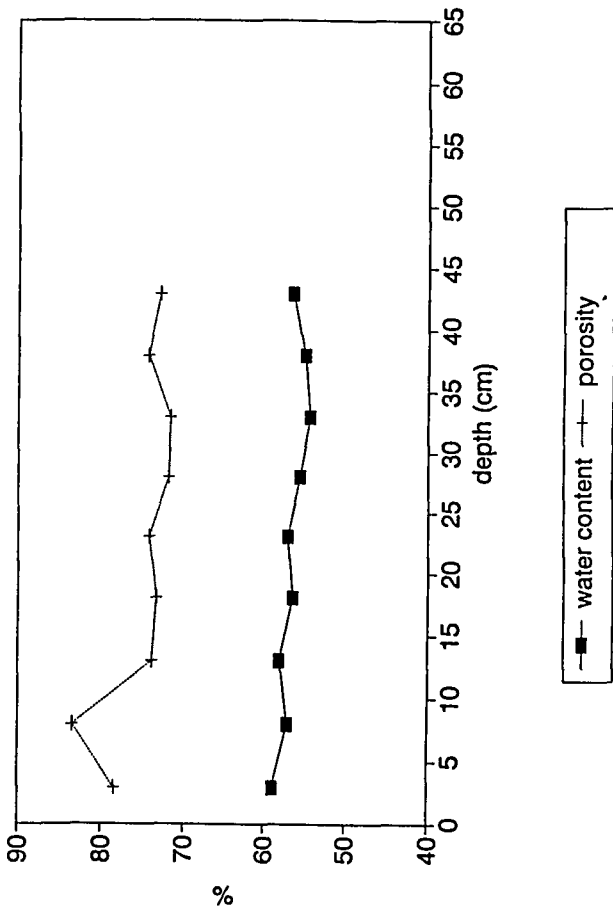
Skagerrak 3, Location 35, NC-163  
water content and porosity



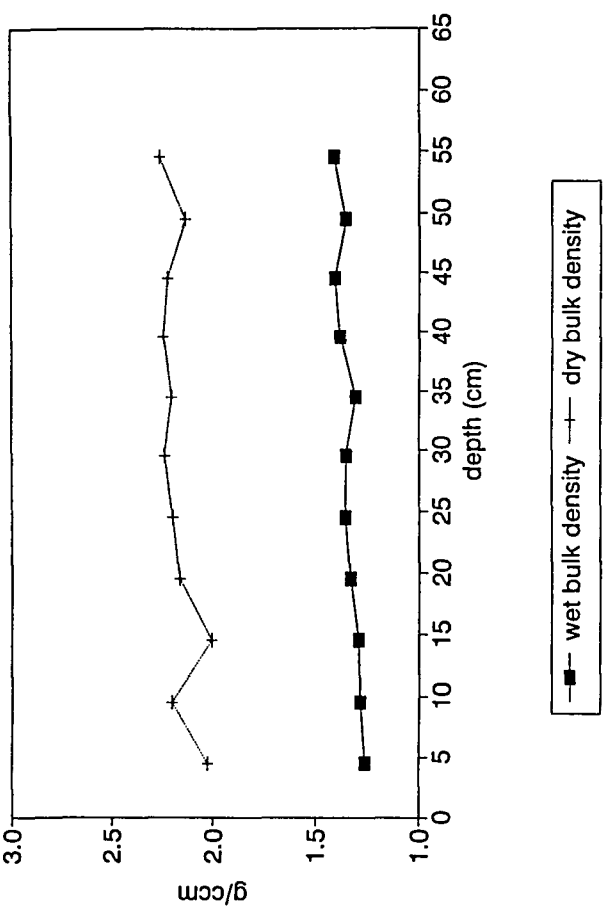
Skagerrak 3, Location 36, NC-167  
wet and dry bulk density



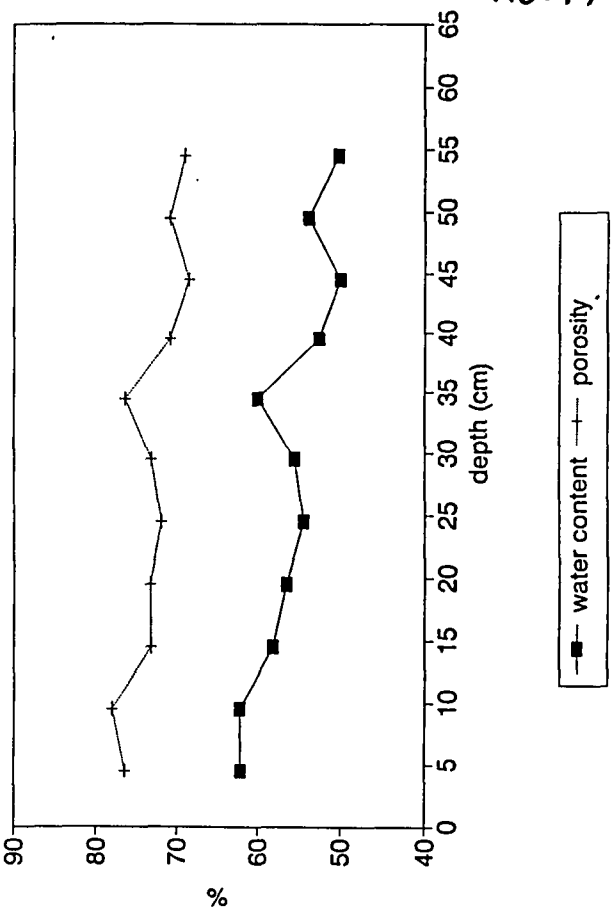
Skagerrak 3, Location 36, NC-167  
water content and porosity



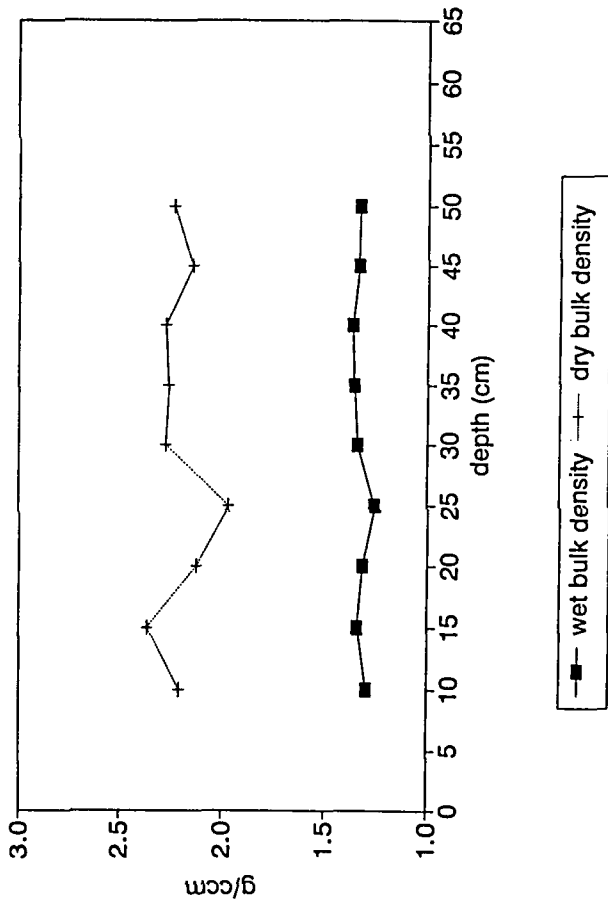
Skagerrak 3, Location 41, NC-172  
wet and dry bulk density



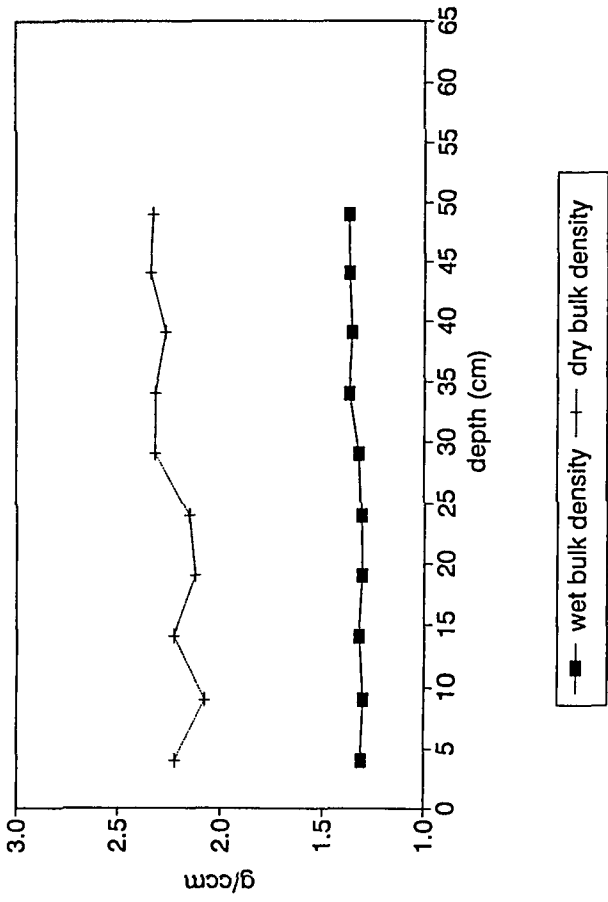
Skagerrak 3, Location 41, NC-172  
water content and porosity



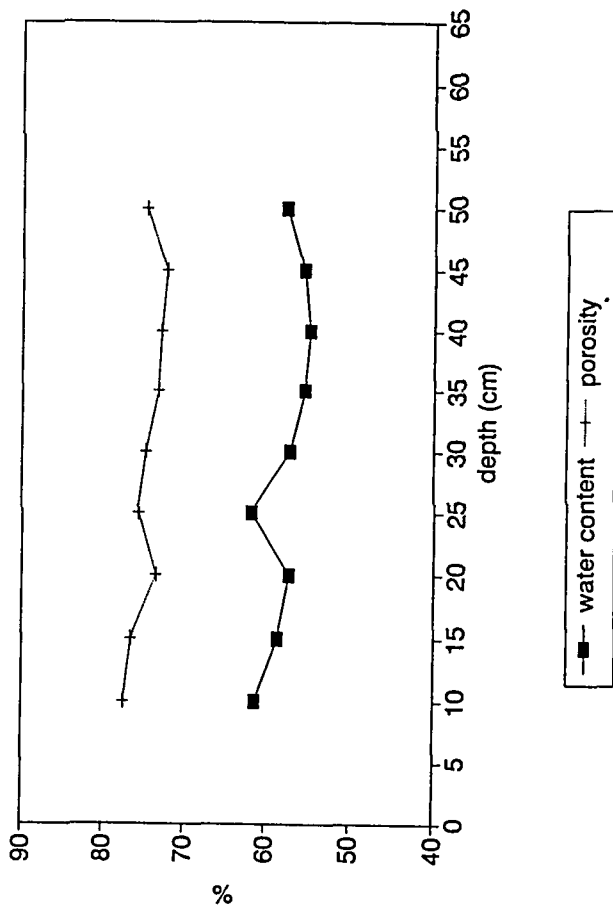
Skagerrak 3, Location 40, NC-176  
wet and dry bulk density



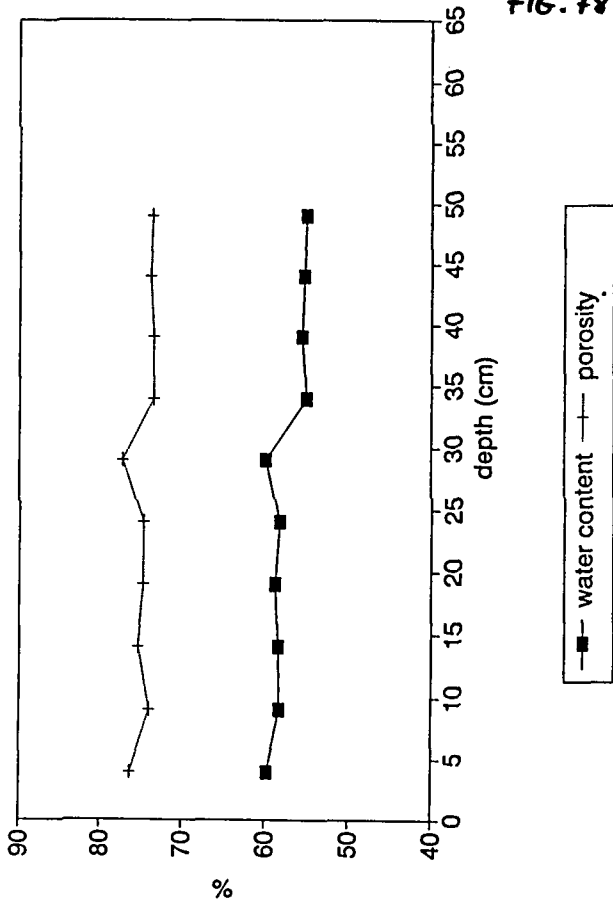
Skagerrak 3, Location 39, NC-181  
wet and dry bulk density



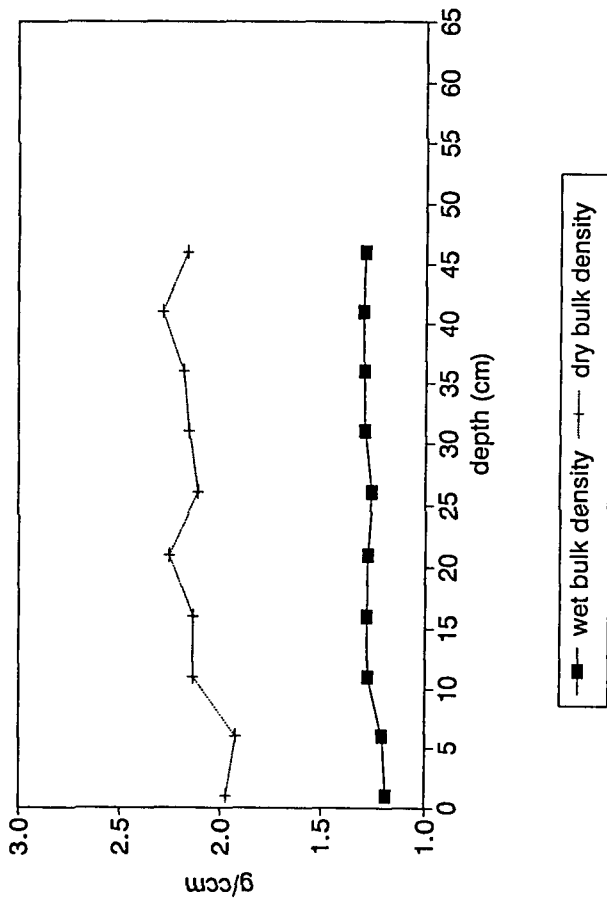
Skagerrak 3, Location 40, NC-176  
water content and porosity



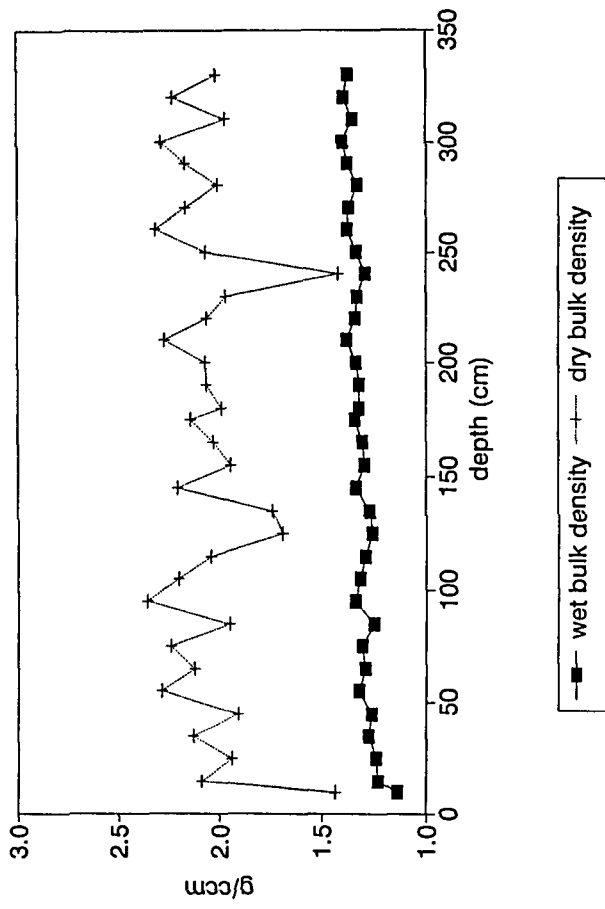
Skagerrak 3, Location 39, NC-181  
water content and porosity



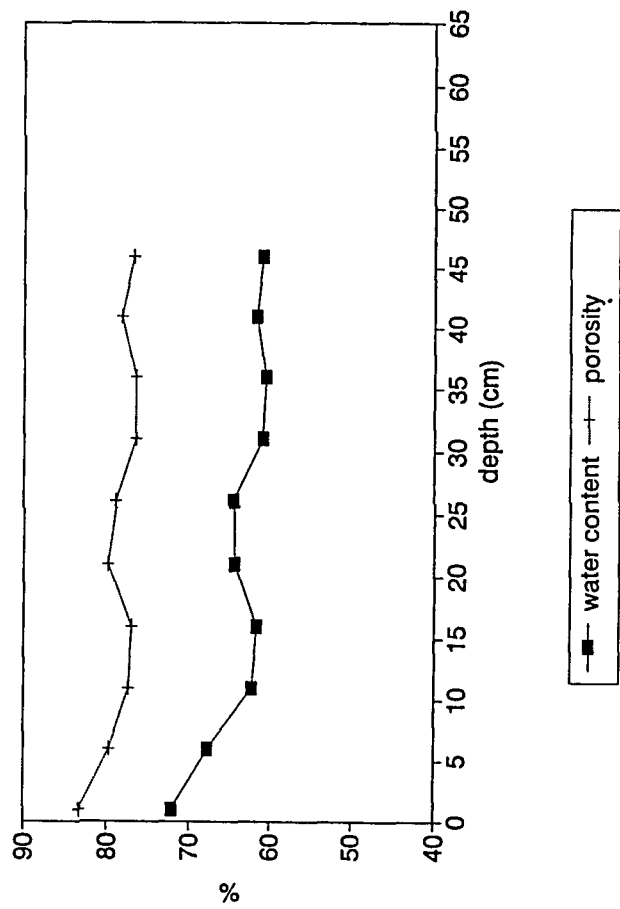
Skagerrak 3, Location 38, NC-186  
wet and dry bulk density



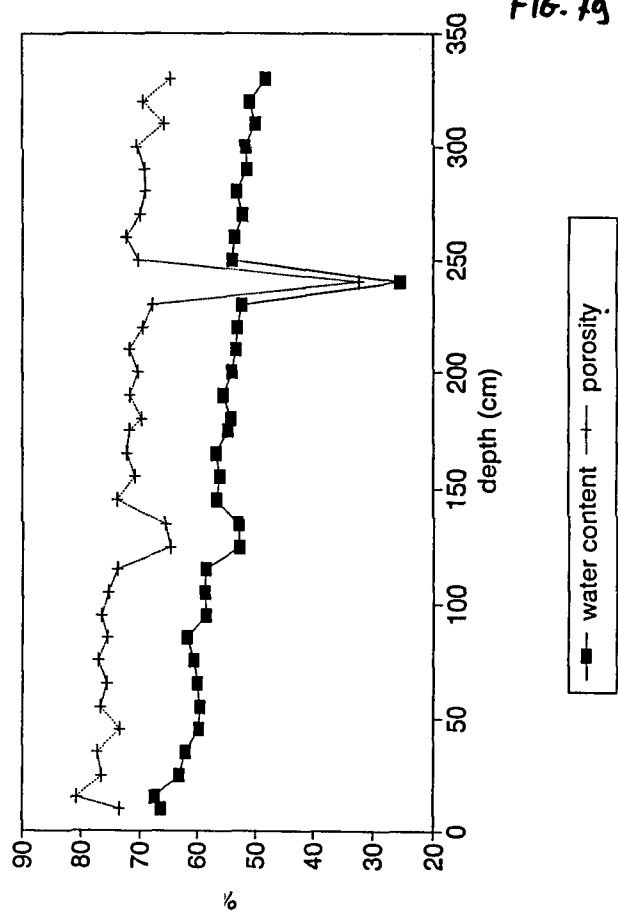
Skagerrak 3, Location 38, GC-190  
wet and dry bulk density



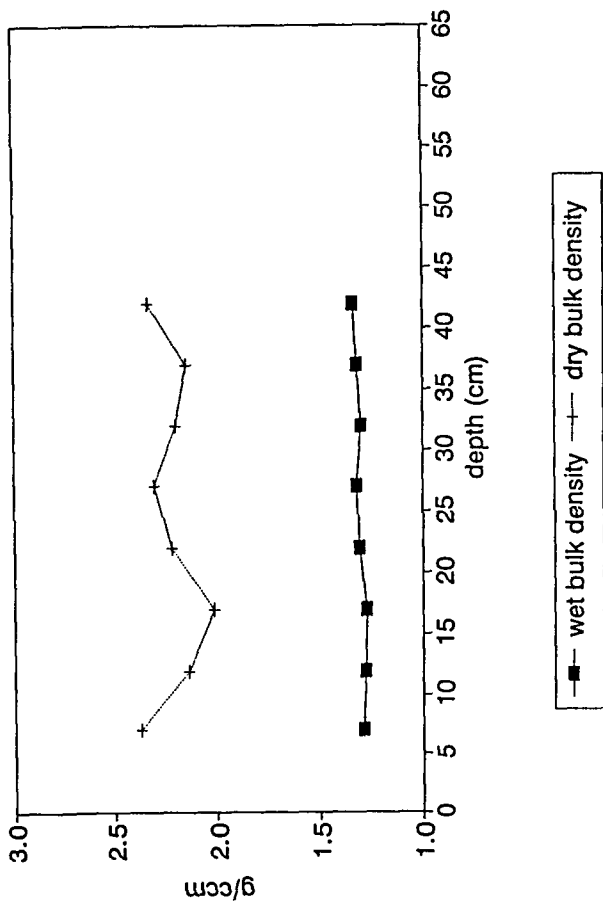
Skagerrak 3, Location 38, NC-186  
water content and porosity



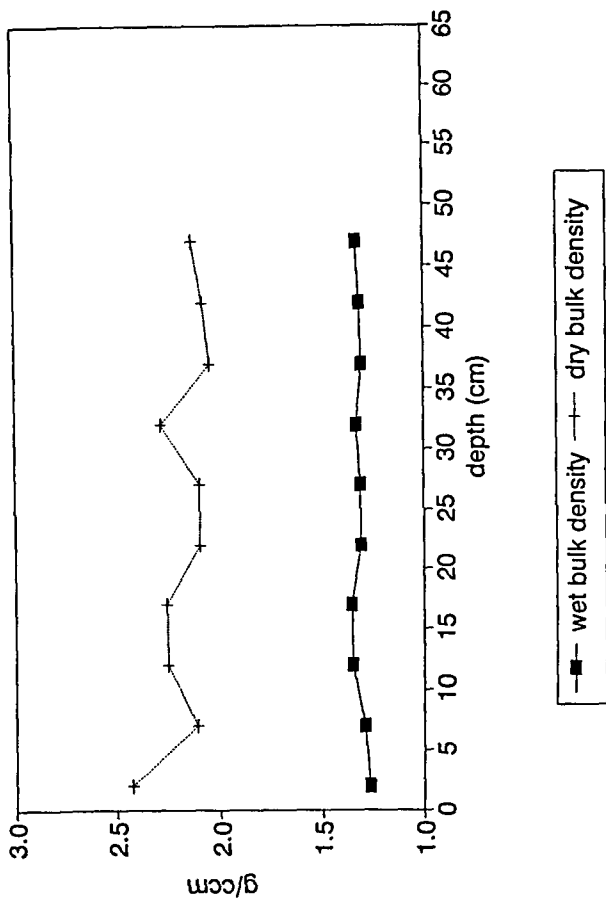
Skagerrak 3, Location 38, GC-190  
water content and porosity



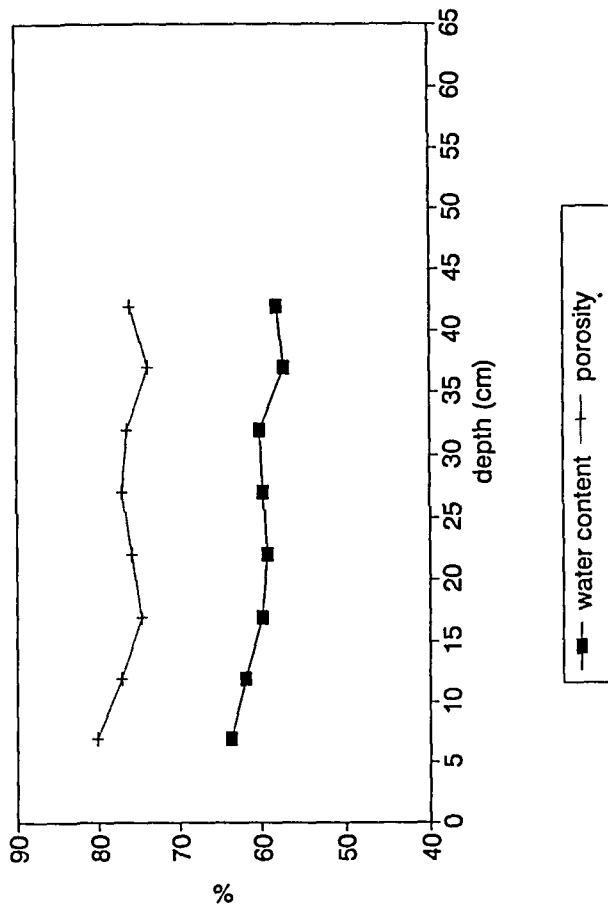
Skagerrak 3, Location 37, NC-192  
wet and dry bulk density



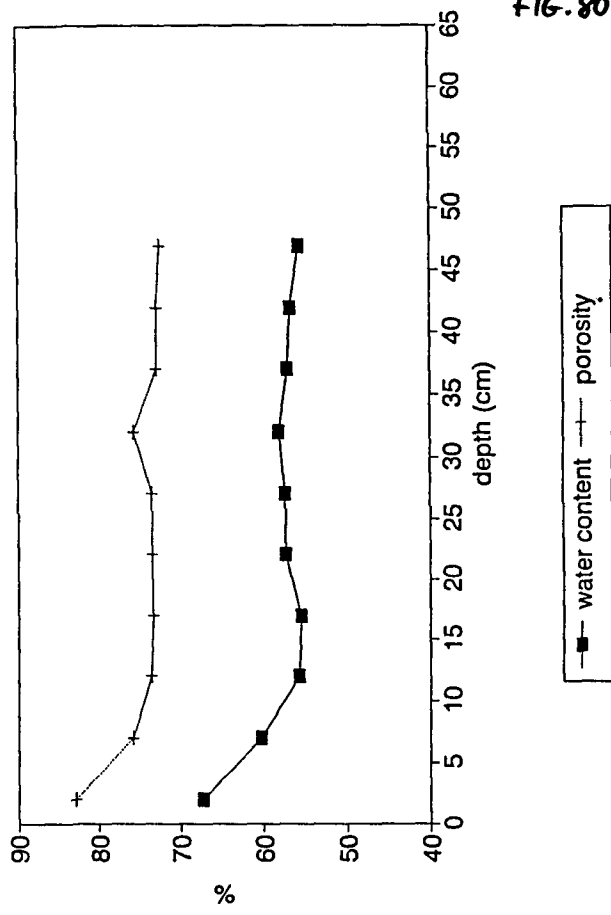
Skagerrak 3, Location 42, NC-196  
wet and dry bulk density



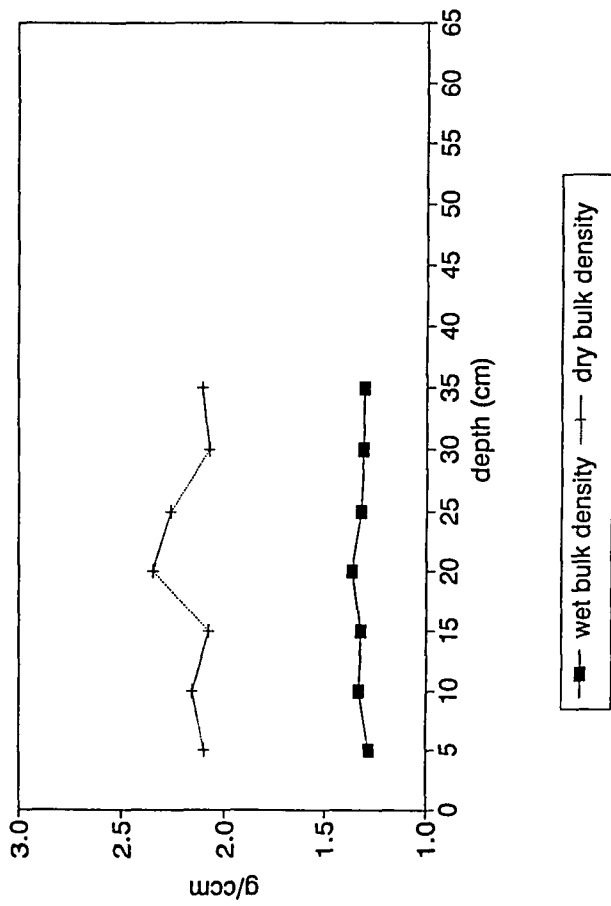
Skagerrak 3, Location 37, NC-192  
water content and porosity



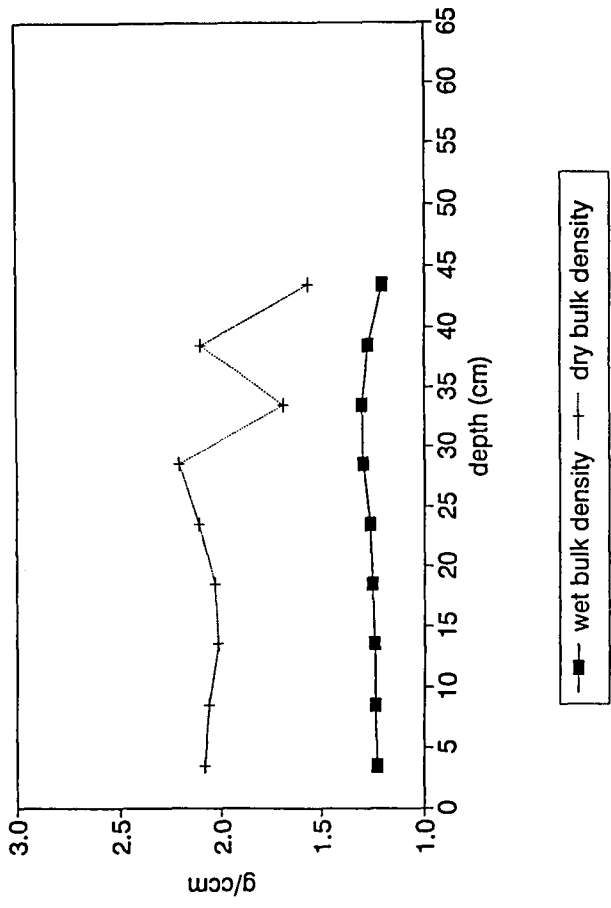
Skagerrak 3, Location 42, NC-196  
water content and porosity



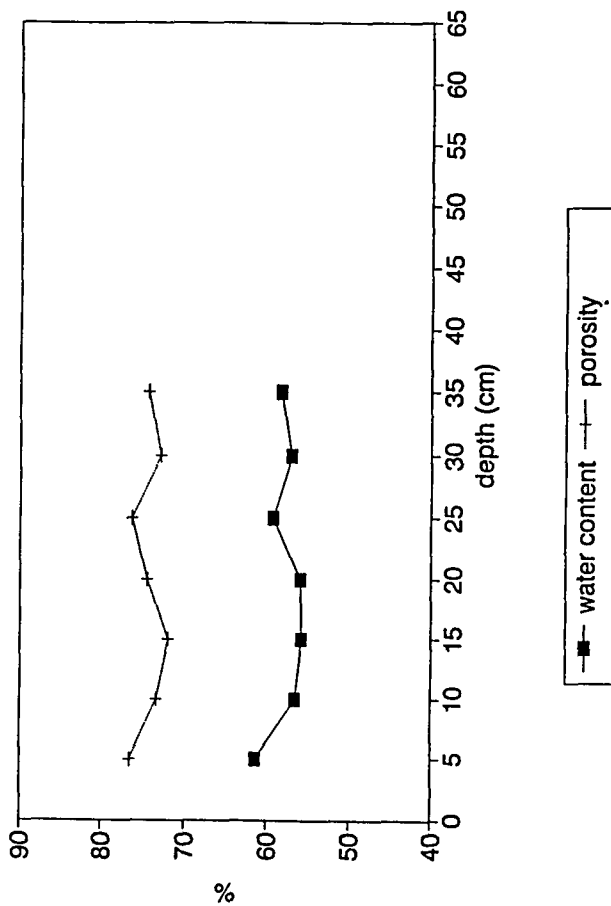
Skagerrak 3, Location 43, NC-200  
wet and dry bulk density



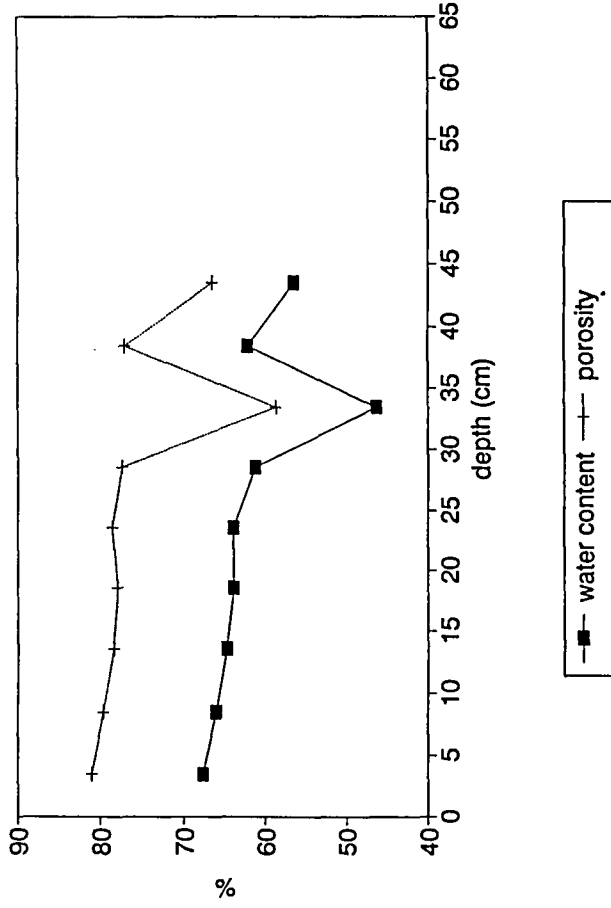
Skagerrak 3, Location 44, NC-205  
wet and dry bulk density



Skagerrak 3, Location 43, NC-200  
water content and porosity

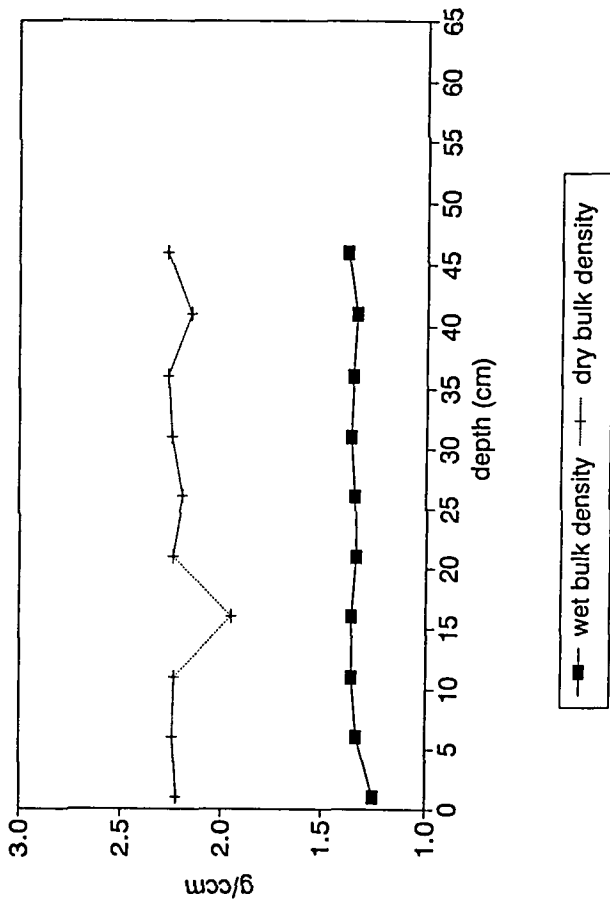


Skagerrak 3, Location 44, NC-205  
water content and porosity

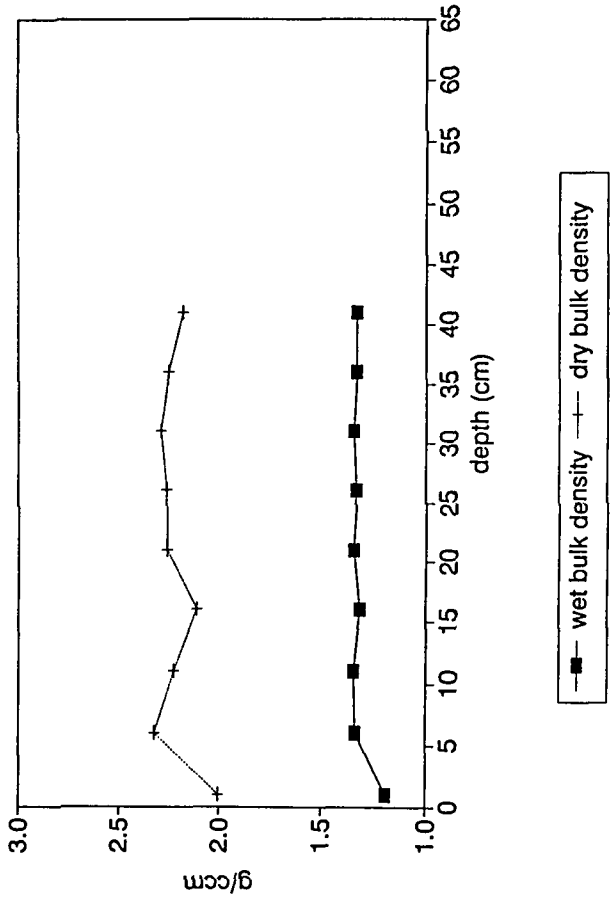




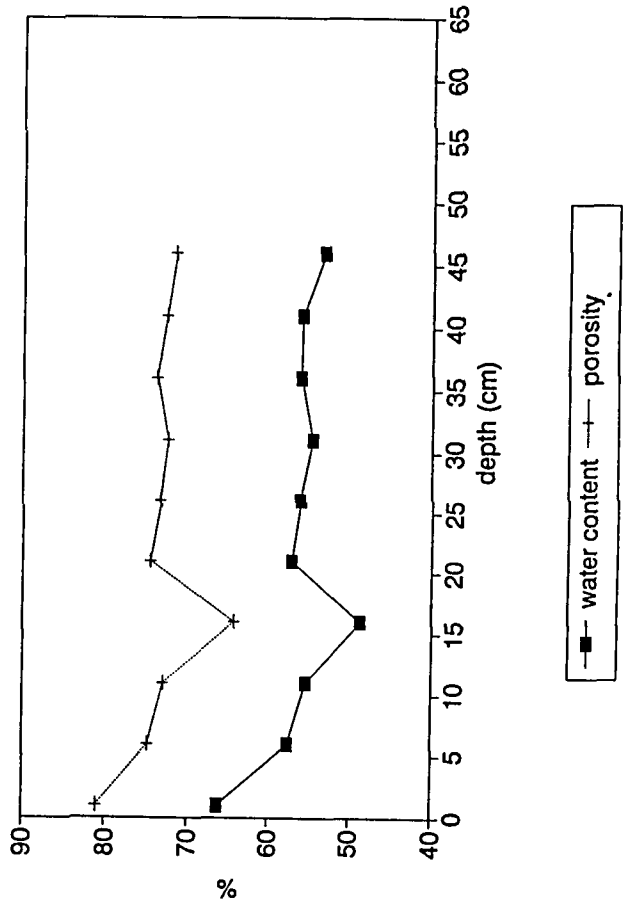
Skagerrak 3, Location 45, NC-209  
wet and dry bulk density



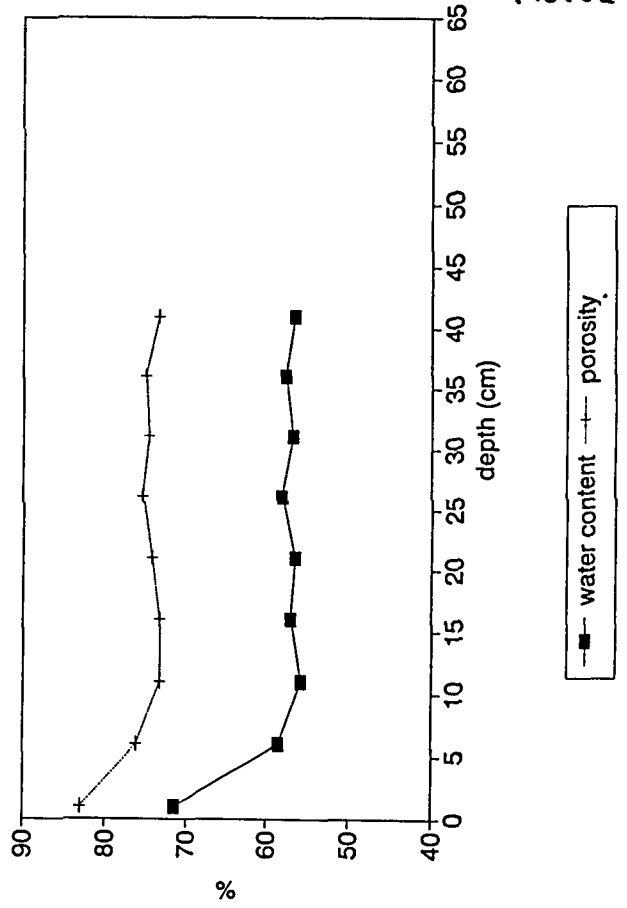
Skagerrak 3, Location 46, NC-214  
wet and dry bulk density



Skagerrak 3, Location 45, NC-209  
water content and porosity

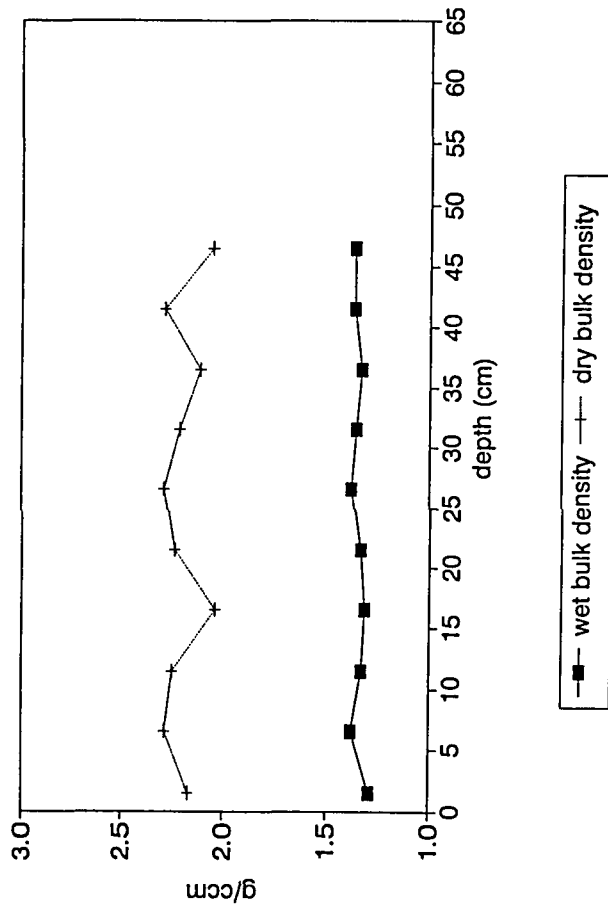


Skagerrak 3, Location 46, NC-214  
water content and porosity



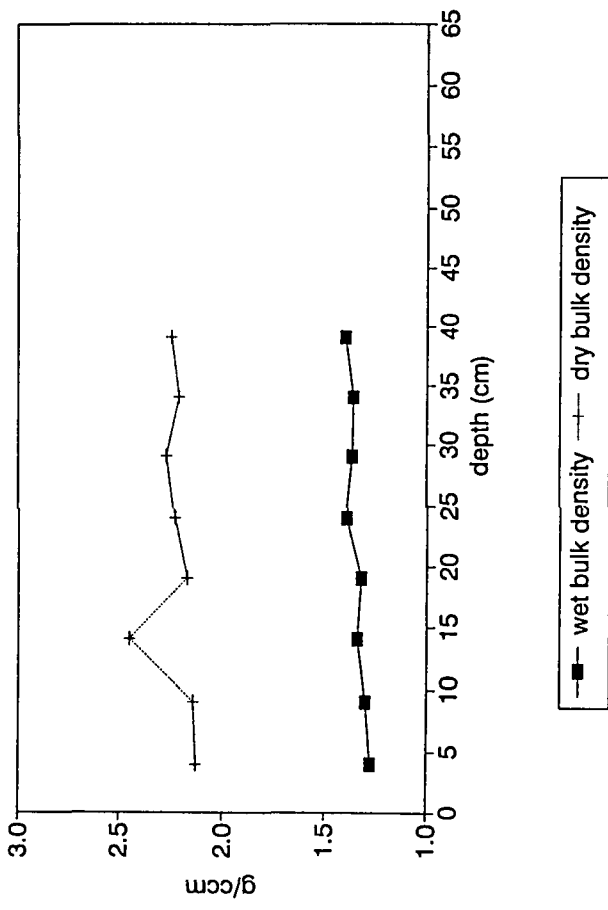
### Skagerrak 3, Location 47, NC-218

wet and dry bulk density



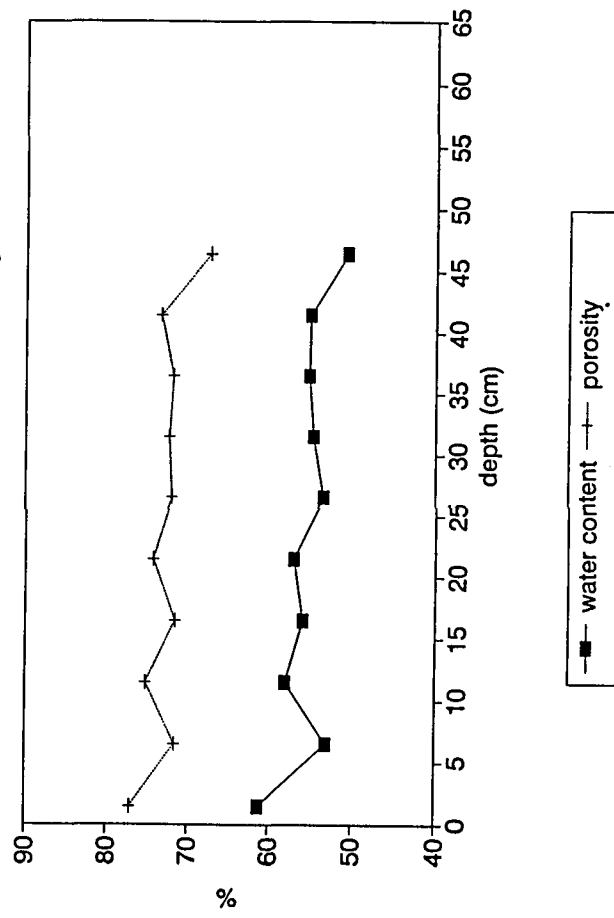
### Skagerrak 3, Location 48, NC-222

wet and dry bulk density



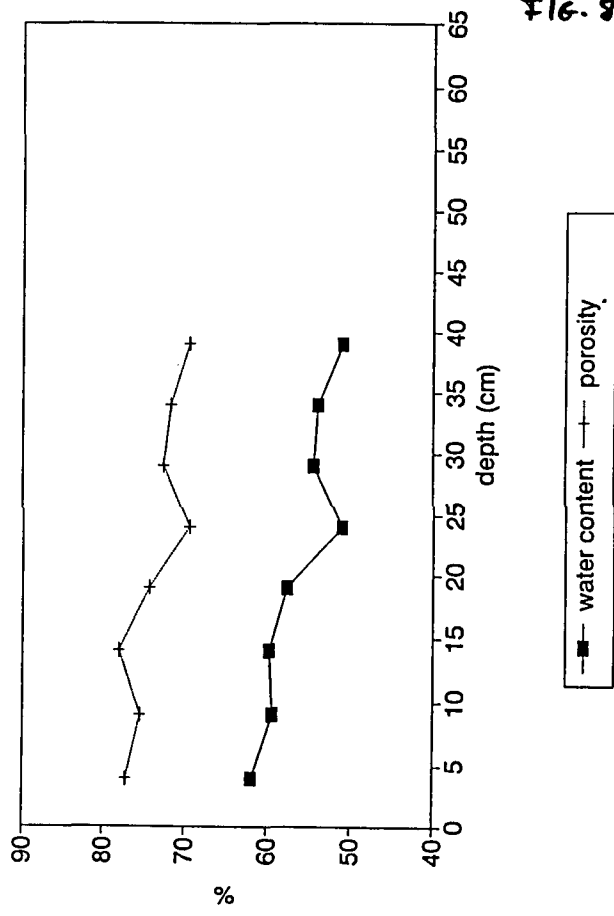
### Skagerrak 3, Location 47, NC-218

water content and porosity



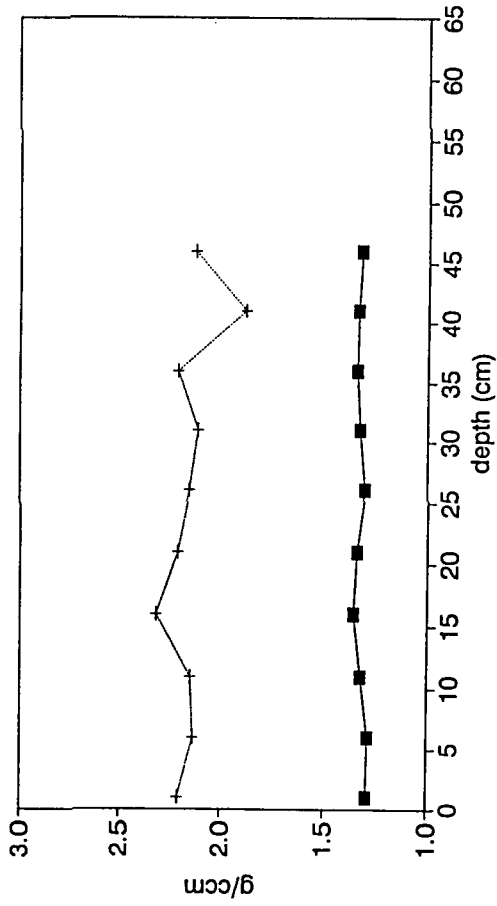
### Skagerrak 3, Location 48, NC-222

water content and porosity



### Skagerrak 3, Location 49, NC-226

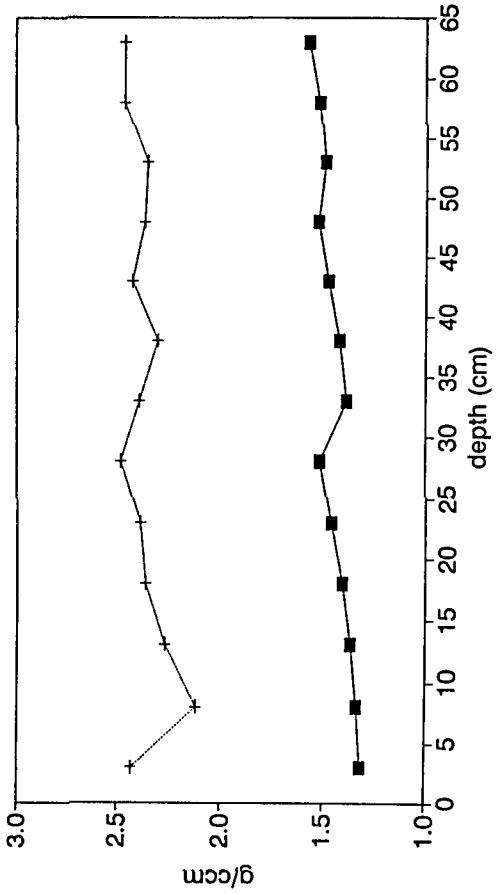
wet and dry bulk density



■ wet bulk density    + dry bulk density

### Skagerrak 3, Location 50, NC-230

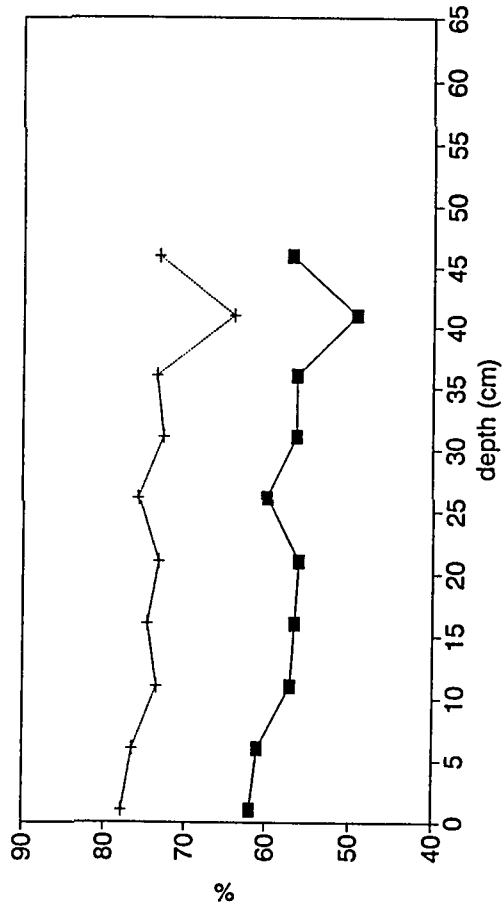
wet and dry bulk density



■ wet bulk density    + dry bulk density

### Skagerrak 3, Location 49, NC-226

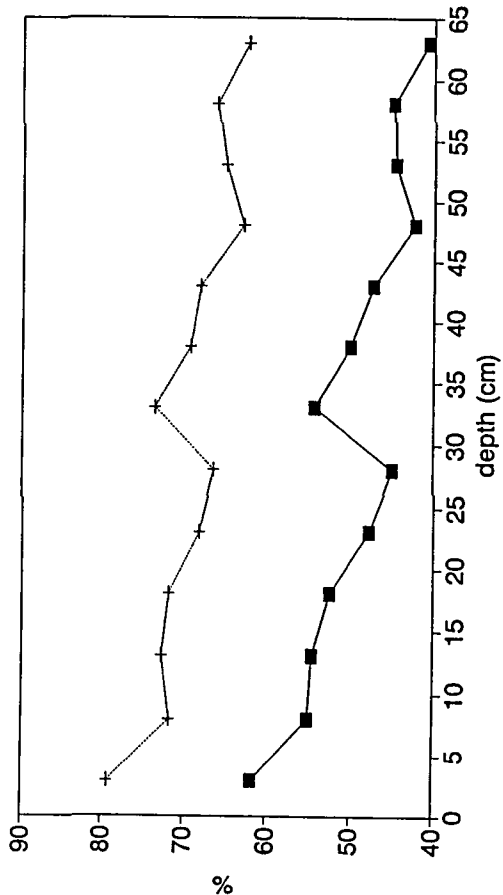
water content and porosity



■ water content    + porosity

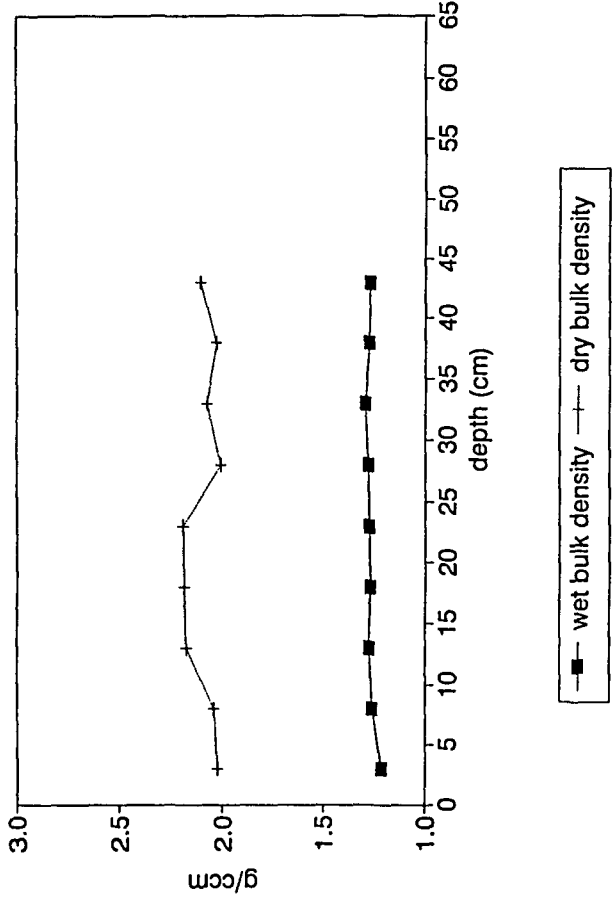
### Skagerrak 3, Location 50, NC-230

water content and porosity

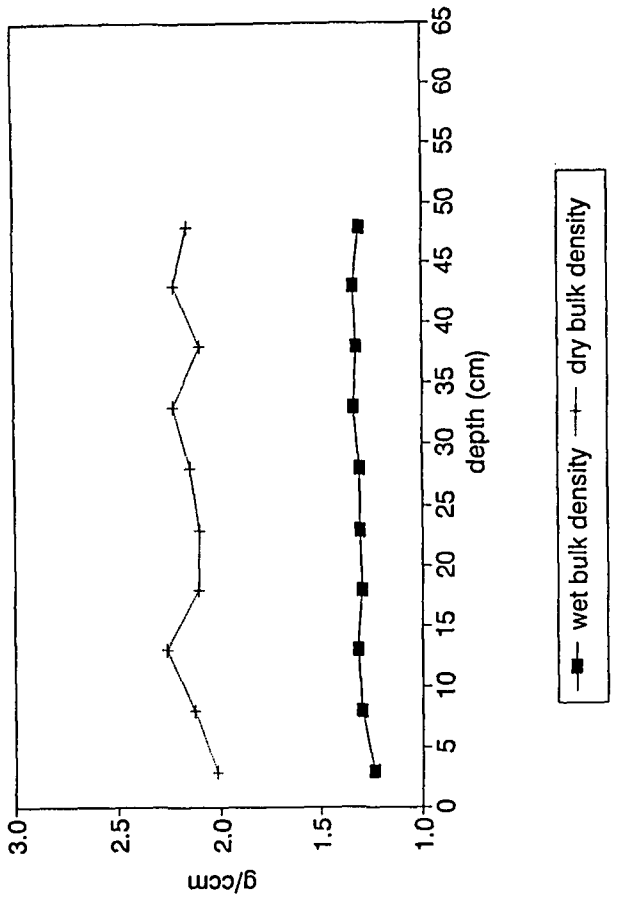


■ water content    + porosity

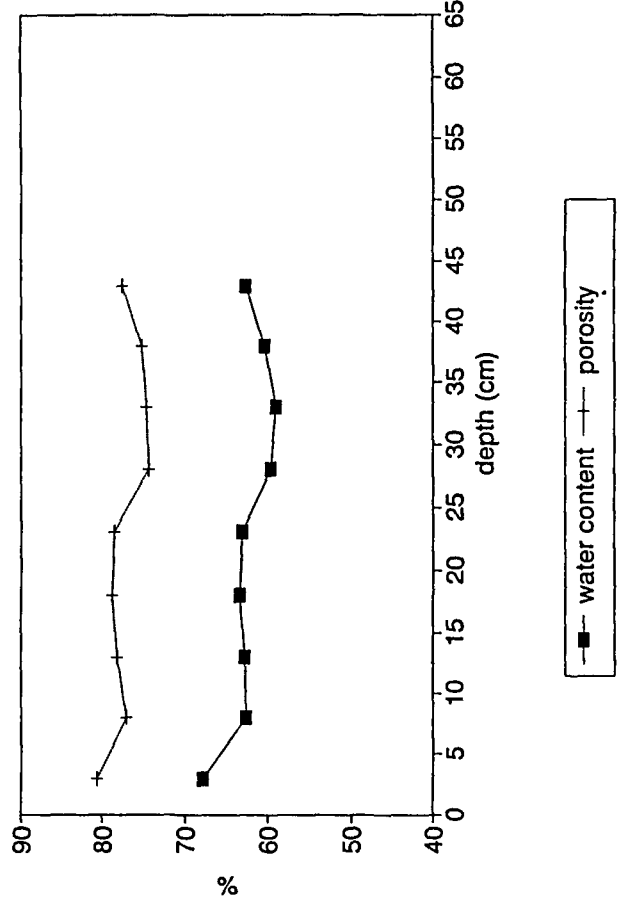
Skagerrak 3, Location 51, NC-234  
wet and dry bulk density



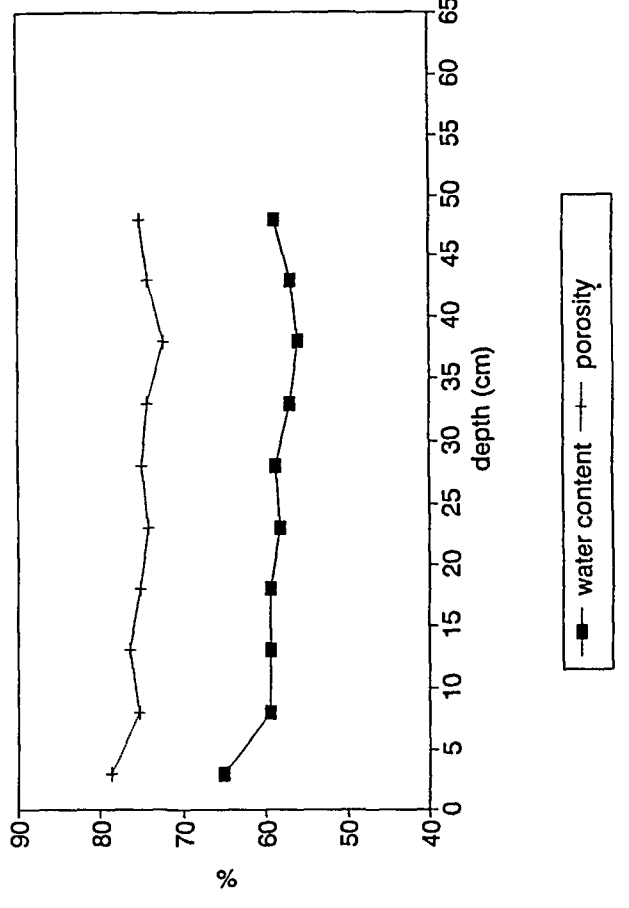
Skagerrak 3, Location 52, NC-239  
wet and dry bulk density



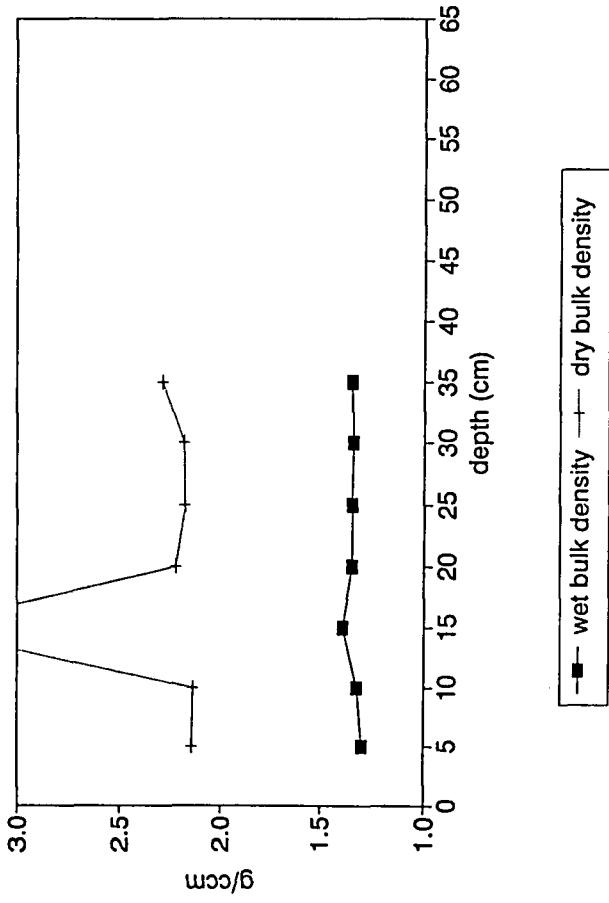
Skagerrak 3, Location 51, NC-234  
water content and porosity



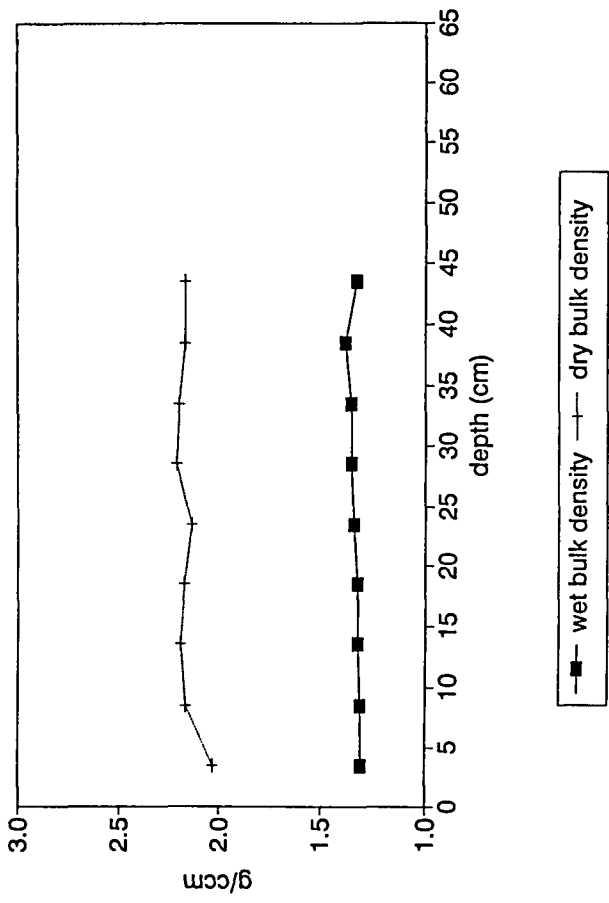
Skagerrak 3, Location 52, NC-239  
water content and porosity



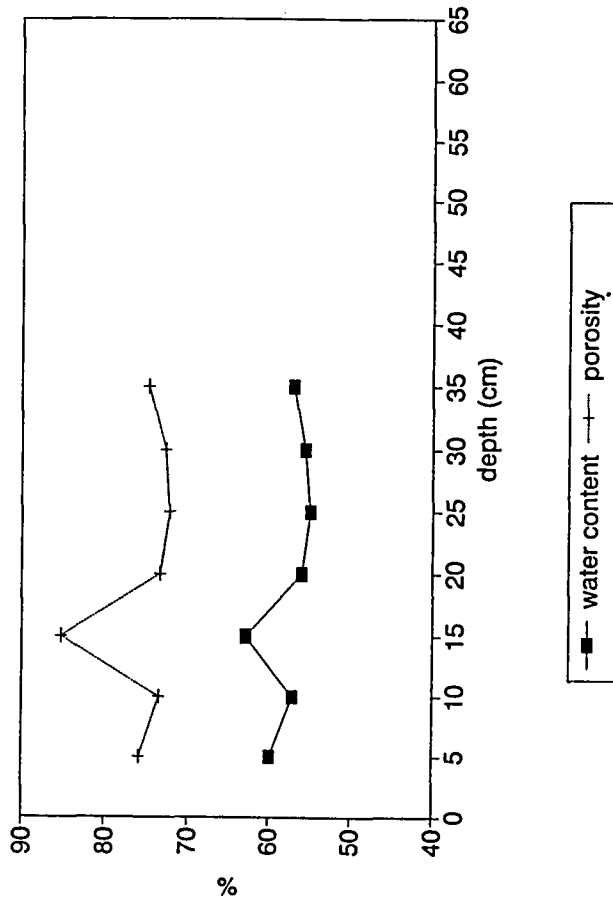
Skagerrak 3, Location 53, NC-243  
wet and dry bulk density



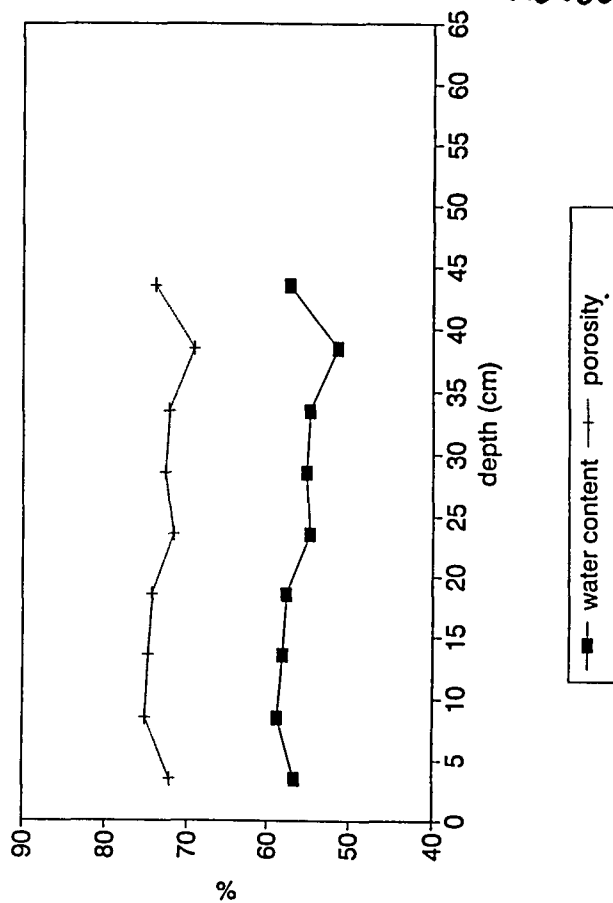
Skagerrak 3, Location 54, NC-248  
wet and dry bulk density



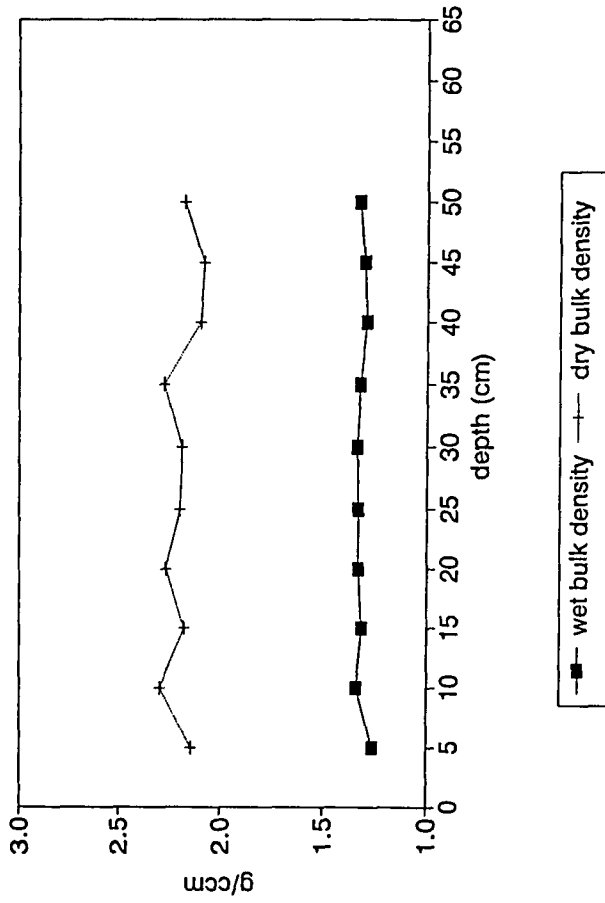
Skagerrak 3, Location 53, NC-243  
water content and porosity



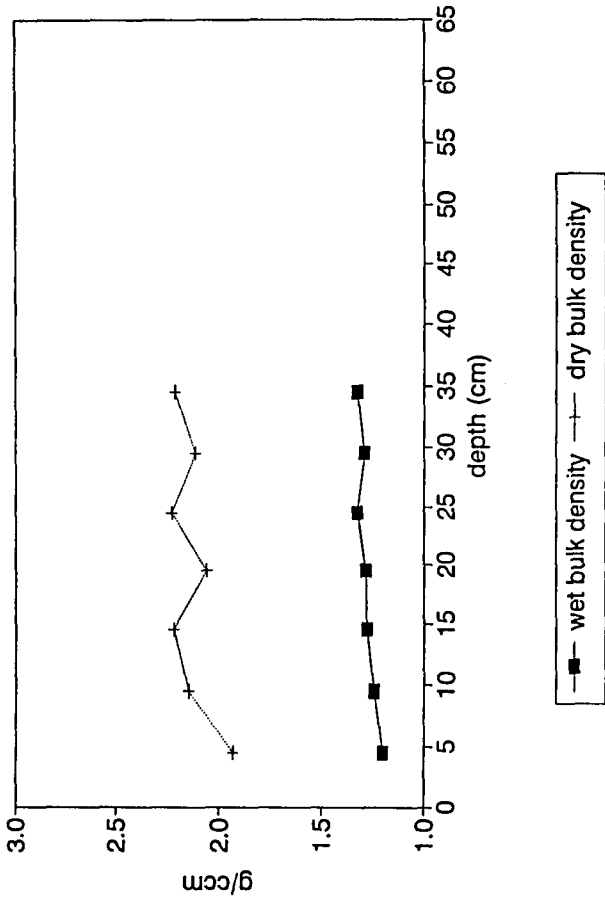
Skagerrak 3, Location 54, NC-248  
water content and porosity



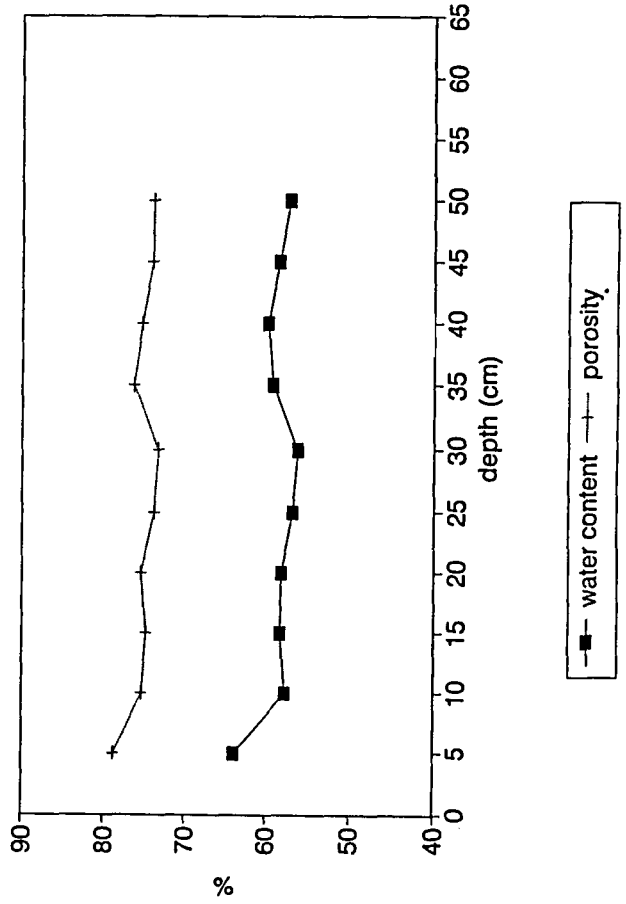
Skagerrak 3, Location 55, NC-254  
wet and dry bulk density



Skagerrak 3, Location 56, NC-258  
wet and dry bulk density



Skagerrak 3, Location 55, NC-254  
water content and porosity



Skagerrak 3, Location 56, NC-258  
water content and porosity

