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Ödsmål, Kville sn, Bohuslän

Hällristning
Fiskare från
bronsåldern

Rock carving
Bronze age
fishermen



MEDDELANDE från
HAVSFISKELABORATORIET · LYSEKIL

nr
156

BROFJORDEN IV

DATA PROCESSING AND
OCEANOGRAPHICAL DATA

1.1 - 31.7 1973

by

Bertil Öström
and Maud Lith

November 1973

Explanations to the data tables App. 3.

First station number and name are given. An additional notation is given in parenthesis for some stations. This refers to another denomination of the station used within the regular research cruising program carried out with the research vessels of the Fishery Board of Sweden. For these stations old series of data are available.

The position of the station is given in degrees, minutes and hundredths or tenths of minutes.

The bottom depth, established from charts or from soundings at the station is given in meters.

The time when the recordings at the stations started is given in Mean European Time which is used in Sweden and in Greenwich mean time (GMT).

Regarding the wind, the abbreviations N=North W=West S=South and E=East, are used. The direction from which the wind is blowing is indicated by one of the 16 logical combinations

N	W	S	E
NNW	WSW	SSW	ENE
NW	SW	SE	NE
WNW	SSW	WSW	NNE

The wind velocity is given in meters per second.

Cloudiness is given in eights, according to the international meteorological code, indicating the part of the sky which is covered by clouds from 0/8 which is clear to 8/8 which is overcast.

The estimated wave height is given in meters. (m)

The air temperature is given in degrees Celsius. (°C)

The physical and chemical data obtained in the Brofjorden investigation are processed by an electronic computer according to the ALGOL program (App. 2). A system is introduced which minimizes the necessary forms to one only. (App. 1). The observer notes weather conditions, observation depth and temperature. The form follows the samples to the laboratory where the analyst fills in all instrument readings and the constants of calibration curve equations. Thereafter the data are punched and processed. The result is printed out directly on offset-masters and reproduced for publication (App. 3).

Water samples for determination of oxygen content and salinity, total phosphorus and oil content are transported to Gothenburg and analysed at the hydrographic department. Samples for phosphate, nitrate, nitrite, ammonia and total nitrogen determination are analyzed at the nutrient laboratory set up in Lysekil for the purpose. Samples for organic carbon and phenol determination are sent away for analysis at commercial laboratories.

All chemical analyses are performed according to Carlberg (1972) except oil, Carlberg & Skarstedt (1972), phenol (different methods by commercial laboratories) and primary production.

Bertil Öström
Hydrographic Department
Fishery Board of Sweden

The measurements of primary production in Brofjorden have been performed mainly according to the in situ method described by Steemann Nielsen (1958). From practical reasons, however, the exposure time from noon to sunset have been difficult to arrange into the hydrographical measurement program. After a compromise concerning money, vessels, time and people the exposure time have been decided to four hours in the middle of the day. The measurement depths have been 0m, 2.5m, 5m, 10m and 15m. Dark bottles have been applied at 0m, 5m, and 15m. Measurements have taken place at two stations, station 2 in the central part of Brofjorden and station 5 just outside the fjord (Meddelande No. 144). Though operating from only one vessel, efforts have been made to make the measurements as synchronous and comparable as possible.

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Secchi depth is given in meters and indicates the depth at which a 30 cm diameter white circular disc can be seen from the surface.

(m)

The time for primary production start is given in hours and minutes as well as the duration of the measurements.

Depth in meters is the observation depth at which samples are taken.

(m)

Temp. is the water temperature at the observation depth in degrees Celsius.

(°C)

Oxyg is the dissolved oxygen gas content of the water.

(ml/l)

% sat is the oxygen saturation value calculated according to the formula of R.F. Weiss 1966 (see App. 2 pos 269 - 273)

A.O.U. is the apparent oxygen utilization given in microgramatoms per litre. A.O.U.= theoretical oxygen saturation minus actual oxygen saturation.

(ugat/l)

Salt gives the salinity in ‰

(‰)

PO₄P is the phosphate-phosphorus content

(ugat/l)

Tot.P is the total phosphorus content.

(ugat/l)

Org.P is the difference between tot.P and PO₄-P

(ugat/l)

NO₃-N is the nitrate-nitrogen content

(ugat/l)

NO₂-N is the nitrite-nitrogen content

(ugat/l)

Both express the sum of NO₃-N and NO₂-N values

is given when NO₂-N is not determined separately

(ugat/l)

NH₄-N is the ammonium-nitrogen content

(ugat/l)

Sum-N is the sum of the inorganic nitrogen compounds

(ugat/l)

Tot.N is the total nitrogen content of the water

(ugat/l)

Org-N is the difference between tot-N and sum-N

(ugat/l)

<u>Sigma</u>	is the σ_t - value after Knudsen (1901)	
<u>Soundv</u>	is the soundvelocity. acc. to FOA 3 report nr A 3697 - 57. Soundvelocity $C = 1402,5 + 4,95 \times T - 0,0457 \times T^2 - 0,011 \times T \times S + 1,28 \times S + 0,0016 \times S^2 + 0,017 \times Z$	(m/s)
	Where T = temperature ($^{\circ}C$), S = salinty (‰) and Z = depth (m). (see pos 364 - 366)	
<u>Stabil</u>	gives the stability of the water (see App. 2 pos 370 - 371) according to the formula: stability $E' = \frac{\Delta \sigma_t}{\Delta z} \times 10^3$	
<u>Oil</u>	gives the content of nonpolar hydrocarbons in milligram per litre	(mg/l)
<u>Fen</u>	is the phenol content in micrograms per litre	(ug/l)
<u>Org C</u>	is the content of organic carbon	(mg/l)
<u>Yel</u>	is yellow substance	(m^{-1})
<u>pH</u>	is the negative ten-logarithm of the hydrogen ion activity	
<u>Cprod</u>	is primary production value in milligrams of carbon per squaremetre and hour	(mgC/m^2 and h)
<u>Netprod</u>	is Cprod - darkfixation value	(mgC/m^2 and h)
<u>Corpr</u>	is Cprod x 1.1	
<u>Netco</u>	is Netprod x 1.1	
<u>Carb</u>	is total CO_2 content of the water in milligrams per litre	(mgC/l)
<u>SumN/PO₄-P</u>	is the quotient between SumN and PO ₄ -P	
<u>Org N/OP</u>	" " " " Org.-N and Tot-P	
<u>Tot.N/TP</u>	" " " " Tot-N and Tot-P	
<u>Carb/PO₄-P</u>	" " " " Carb and PO ₄ -P	
<u>Org C/Org-P</u>	" " " " Org C and Org P	
<u>Tot C/Tot-P</u>	" " " " Tot C and Tot-P	
<u>Mean N/P</u>	mean value of the quotient between tot-N and tot-P from 0 to 30 m depth, and below 30 m depth	
<u>Mean C/P</u>	mean value of the quotient between tot-C and tot-P from 0 to 30 m depth and below 30 m depth	

for station 5 is also given content of nutrients in tons as average values for the stations 1 to 5 above and below 30 m depth

FARTYGG		STATIONSNAMN										STATIONSKOD		ÅR	MÅN	DAG	TIM	MIN							
VINDRIKT.	VINDHAST.	MOLN / 8	SJÖ	LUFT TEMP	SIKTIJUH SECCHI	WATTENMÅTTI TERM. NR	RT	TITER	PRIM. PROD. MIN		Veraktighet TIM		Start TIM	MIN	MIN	MIN	MIN								
W	1	2	0	18	10.0	42	26.0	0.02076	09	40	4	00	73	06	26	08	50								
K 0 L 0 N N - K																									
-1	-2	-3	4.30	101.5	-1	-2	-3	-4	-5	-6	KUVETTLÅNGD (cm) AMPULLSTYRKA														
K 0 L 0 N N -																									
-1	-2	-3	0.00	0.169	-1	-2	-3	-4	-5	-6	PO ₄ K PO ₄ L NO ₂ K NH ₄ K NH ₄ L														
8.20 0.001 4.15 9.05 0.029																									
DYPP M	TEMP AVL	SYRE P NR	SALTP NR	TOT. P NR	PH NR	ORG. C NR	DOSSM. AVL	SALIN. AVL	PO ₄ AVL	TOT. P NR	CO ₂ NR	NO ₃ AVL	NO ₂ AVL	NH ₄ AVL	CO ₂ NR	TOT. N AVL	OLJA NR	GLJA NR	FENOL NR	ORG. C NR	ORG. C AMNE	PH	COUNTS	BASSE COUNTS	
0	19.15	249					3.74	69851	.001	.37	5	.081	.000	.150	6	.560							8.1	434	11.2
2.5	18.7	250	80	59			3.73	66735	.001	.37	-1	-1	.005	.110	-1	-1							8.1	446	-1
5	18.4	251	51	51			3.38	69291	-1	.42	5	.078	.015	.102	6	.572							8.1	492	15.2
10	17.15	252	52	52			3.93	76367	.001	.38	5	.041	.000	.195	-1	-1							8.1	464	-1
15	13.6	253	53	53			3.85	85322	.001	.48	5	.035	.010	.110	-1	-1							8.0	243	7.0
20	12.7	254	54	54			3.15	87223	.001	.43	5	.061	.007	.100	6	.571							-1	-1	-1
30	9.4	255	55	55			3.09	94753	.001	.75	5	.165	.007	.195	-1	-1							-1	-1	-1
32	9.0	256	56	56			2.95	95020	.005	1.23	5	.747	.015	.211	6	.369							-1	-1	-1
-1																									

Anm.:

AALGOLGENIUSEL

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0001 'DATA'
0002 'WORKING STORAGE SECTION'
0003 '77' REM 'STRING' 'SIZ' 120 ;
0004 'STRING' WINDPOS: 10;
0005 'BEGIN'
0006 'COMMENT' BROFJORDEN CONSTRUCTED BY BERTIL ØSTRØM ;
0007 'COMMENT' SVANSSON 379065;
0008 'INTEGER' STNCOD, YEAR, MONTH, DAY, HOUR, MINUTE, GMT, STNO, LEAP,
0009 CLOUD, SEA, TNO, STARTHO, STARTMIN, DURHO, DURMIN, I, L,
0010 B, MUP, MDO, NUP, NDO, OUP, ODO, PUP, PDO, QUP, QDO,
0011 RUP, RDO, COLNO, BONO, J, K, PAGE ;
0012 'REAL' WINDVEL, AIRT, SECCHI, RT, TITER, NO2K, NH4K, CUVEL,
0013 AMPSTR, PO4K, NH4L, LN10, DOSIM, O2, TABS, O2SAT, O2PROC,
0014 AOU, SALT, DELTA2ORT, DELTA1520, SAVL, S, CL, PO4ABS,
0015 NO3NPLUSNO2N, NO3N, NO2N, NO3ABS, NO2ABS, NH4ABS, NH4N,
0016 TOTNABS, SIGMANOLL, STORASIGMAT, AT, BT, T, SAVL15, C,
0017 EPRIM, UNORGNDIVP, ORGNDIVP, TOTNDIVP, UNORGCDIVP,
0018 ORGCDIVP, TOTCDIVP, NGMP, CGMP, PO4UP, PO4DO, TOTPUP,
0019 TOTPDO, SUMNUP, SUMNDO, TOTNUP, TOTNDO, CARBDO, CARBUP,
0020 TOTCUP, TOTCDO, TREAD, PO4L, ALK, FACT, PK1,
0021 PK1PRIM, K1PRIM, CNULL, CS, AH, AH20, LOGK2, PK2PRIM,
0022 K2PRIM, PKBPRIM, KBPRIM, TITRALK, CARBALK, DURAT,
0023 IPOL, PRI, PRI 15, COL 15;
0024 'BOOLEAN' NIX, UNST, BO, EX, PRIX;
0025 'REAL' 'ARRAY' COLK(1:12), BOVOL(1:112), Z, TOTC, PO4P, TOTP,
0026 ORGP, SUMN, TOTN, ORGN, OLEUM, FEN, CARB, ORGC, YEL,
0027 PH, CPROD, DARKPROD, NETPROD, CORPRO, NETCOR,
0028 COUNTS, DARKCOUNTS(1:13),
0029 TINT, CNOLL, KOF(1:8), CESS(1:8),
0030 TL, TC(42:44, 1:24), SIGMAT(0:13), COLL(1:12) ;
0031 'SWITCH' STATION:= INRE, FJ62, STRET, YTTRE, FJ63, DYNA,
0032 B7, B8, B9, B10, B11, B12,
0033 RES 13, FIN 14 ;
0034 'PROCEDURE' O(X);
0035 'INTEGER' X;
0036 'BEGIN'
0037 REAL TO STRING(X, REM, // '2SP' 2,0//);
0038 PRINTTEXT(REM);
0039 'END';
0040 PRINTEROPEN(0) ;
0041 GETREAL(TL(42,1),24); GETREAL(TC(42,1),24);
0042 GETREAL(BOVOL(201),112);
0043 GETREAL(TINT(1), 8);
0044 GETREAL(CNOLL(1), 8);
0045 GETREAL(KOF(1), 8);
0046 LN10:=LN(10);
0047 PAGE := 0 ;
0048 NULL: PO4UP:=PO4DO:=TOTPUP:=TOTPDO:= SUMNUP:=
0049 SUMN DO:= TOTNUP:=TOTN DO:= CARBUP:= CARB DO:=
0050 TOTCUP:=TOTCDO:=0;
0051 NUP:= NDO :=OUP:= ODO := MUP := MDO :=
0052 PUP:=PDO :=QUP:=QDO :=
0053 RUP:=RDO :=0 ;
0054 BEGIN:GETINT(STNCOD,1);
0055 'IF' STNCOD > -101 'OR' STNCOD < -113 'THEN' 'GOTO' BEGIN
0056 STNO:= -STNCOD -100;
0057 PAGE := PAGE + 1; PRINT(// '94SP' DATA 'SP' PAGE //, PAGE, 3, 0);

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0058      'GOTO' STATION(STNO);
0059 INRE: PRINTTEXT(//'3CR' 'SP' STATION'2SP'1' 'SP'
0060      INRE' 'SP' BROFJORDEN'15SP'LAT: 'SP'N' 'SP'58
0061      'SP'22,50 '2SP'LONG: 'SP'E' 'SP'11 'SP'26,30
0062      '14SP' BOTTOM' 'SP'DEPTH: 'SP'18' 'SP'M
0063      '2CR'//); 'GOTO' CONT;
0064 FJ62: PRINTTEXT(//'3CR' 'SP' STATION'2SP'2' 'SP'
0065      (FJ' 'SP'62)' 'SP' BROFJORDEN'12SP'
0066      LAT: 'SP'N' 'SP'58' 'SP'21,60'2SP'LONG:
0067      'SP'E' 'SP'11' 'SP'25,70'13SP' BOTTOM
0068      'SP'DEPTH: 'SP'22' 'SP'M'2CR'//);
0069      'GOTO' CONT;
0070 STRET: PRINTTEXT(//'3CR' 'SP' STATION'2SP'3' 'SP' STRETUDDEN
0071      '20SP'LAT: 'SP'N' 'SP'58' 'SP'20,55 '2SP'
0072      LONG: 'SP'E' 'SP'11' 'SP'24,15 '14SP'
0073      BOTTM' 'SP'DEPTH' 'SP'48' 'SP'M
0074      '2CR' //);
0075      'GOTO' CONT;
0076 YTTRE: PRINTTEXT(//'3CR' 'SP' STATION'2SP'4' 'SP' YTTRE
0077      'SP' BROFJORDEN'14SP'LAT: 'SP'N' 'SP'
0078      58' 'SP'19,90'2SP'LONG: 'SP'E' 'SP'
0079      11' 'SP'23,10'14SP' BOTTOM' 'SP'
0080      DEPTH' 'SP'34' 'SP'M'2CR'//);
0081      'GOTO' CONT;
0082 FJ63: PRINTTEXT(//'3CR' 'SP' STATION'2SP'5' 'SP' (FJ' 'SP'
0083      63)' 'SP' MALMØDRAG'13SP'LAT:
0084      'SP'N' 'SP'58' 'SP'19,10'2SP'LONG:
0085      'SP'E' 'SP'11' 'SP'21,70'14SP' BOTTOM' 'SP'
0086      DEPTH' 'SP'36' 'SP'M'2CR'//);
0087      'GOTO' CONT;
0088 DYNA: PRINTTEXT(//'3CR' 'SP' STATION'2SP'6' 'SP' DYNABROTT
0089      '21SP'LAT: 'SP'N' 'SP'58' 'SP'17,60'2SP'
0090      LONG: 'SP'E' 'SP'11' 'SP'18,60'14SP' BOTTOM
0091      'SP'DEPTH' 'SP'96' 'SP'M'2CR'//);
0092      'GOTO' CONT;
0093 B7: PRINTTEXT(//'3CR' 'SP' STATION'2SP'7 '36SP'LAT:58
0094      'SP'22,40'2SP'LONG:11' 'SP'22,65'14SP' BOTTOM' 'SP'DEPTH' 'SP'27' 'SP'M'CR'
0095      //);
0096      'GOTO' CONT;
0097 B8: PRINTTEXT(//'3CR' 'SP' STATION'2SP'8'36SP'LAT:58
0098      'SP'21,10'2SP'LONG:11' 'SP'21,35'14SP' BOTTOM' 'SP'DEPTH' 'SP'36' 'SP'M'CR'
0099      //);
0100      'GOTO' CONT;
0101 B9: PRINTTEXT(//'3CR' 'SP' STATION'2SP'9'36SP'LAT:58
0102      'SP'18,40'2SP'LONG:11' 'SP'23,50'14SP' BOTTOM' 'SP'DEPTH' 'SP'27' 'SP'M'CR'
0103      //);
0104      'GOTO' CONT;
0105 B10: PRINTTEXT(// '3CR' 'SP' STATION' 'SP'10'35SP'LAT:58
0106      'SP'17,45'2SP'LONG:11' 'SP'25,50'14SP' BOTTOM' 'SP'DEPTH' 'SP'22' 'SP'M'CR'
0107      //);
0108      'GOTO' CONT;
0109 B11: PRINTTEXT(// '3CR' 'SP' STATION' 'SP'11'35SP'LAT:58
0110      'SP'15,95'2SP'LONG:11' 'SP'22,20'14SP' BOTTOM' 'SP'DEPTH' 'SP'40' 'SP'M'CR'
0111      //);
0112      'GOTO' CONT;
0113 B12: PRINTTEXT(// '3CR' 'SP' STATION' 'SP'12'35SP'LAT:58
0114      'SP'15,65'2SP'LONG:11' 'SP'26,70'14SP' BOTTOM' 'SP'DEPTH' 'SP'52' 'SP'M'CR'
0115      //);
0116 RES13: 'IF' GETSTRING(REM, 120) > 0 'THEN' PRINTTEXT(REM);
0117 PRINTTEXT(//'2CR'//);

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0118      'GOTO' CONT;
0119  FIN14: PRINTTEXT( // '12' '7SP' NO 'SP' MORE 'SP' DATA 'SP'
0120      AVAILABLE //);      'GOTO' END;
0121  CONT: PRINTTEXT(// 'SP' LOCAL 'SP' DATE 'SP' AND 'SP'
0122      TIME '3SP' GREENWICH 'SP' MEAN 'SP' TIME '2SP' WIND 'SP' WIND '3SP'
0123      CLOUD '3SP' WAVE '6SP' AIR '6SP' SECCHI 'SP' PROD: START 'SP' DURAT
0124      'CR' 'SP' YEA 'SP' MON 'SP' DAY 'SP' HOU 'SP' MIN '24SP'
0125      DIR, 'SP' VEL, '3SP' COVER '3SP' HEIG TH '4SP' TEMP '5SP' DEPTH
0126      '7SP' HR 'SP' MT 'SP' HR 'SP' MT      'CR' //);
0127      SIGMAT(0) := -7;
0128      GETINT(YEAR,1) ;
0129      'IF' YEAR > 1900 'THEN' YEAR := YEAR - 1900 ;
0130      O(YEAR);
0131      GETINT(MONTH,1) ;
0132      O(MONTH);
0133      GETINT(DAY,1) ;
0134      O(DAY);
0135      GETINT(HOUR,1) ; GETINT(MINUTE,1);
0136      'IF' HOUR < 0 'THEN' 'BEGIN' PRINTTEXT(// 'SP' NOT 'SP'
0137      GIVEN '19SP' //); 'GOTO' LAZY 'END' ;
0138      O(HOUR);
0139      O(MINUTE);
0140      GMT := 'IF' HOUR = 0 'THEN' 23 'ELSE' HOUR - 1;
0141      'IF' GMT = 23 'THEN' DAY := DAY - 1;
0142      'IF' YEAR % 4 = 4 = YEAR 'THEN' LEAP := 29
0143      'ELSE' LEAP := 28;
0144      'IF' MONTH = 3 'AND' DAY = 0 'THEN' 'BEGIN'
0145      MONTH := 2; DAY := LEAP 'END';
0146      'IF' (MONTH = 5 'OR' MONTH = 7 'OR' MONTH = 10 'OR'
0147      MONTH = 12) 'AND' DAY = 0
0148      'THEN' 'BEGIN' MONTH := MONTH - 1; DAY := 30 'END'
0149      'ELSE' 'IF' DAY = 0 'THEN' 'BEGIN' MONTH := MONTH - 1;
0150      DAY := 31 'END';
0151      'IF' MONTH = 0 'THEN' 'BEGIN' YEAR := YEAR - 1;
0152      MONTH := 12 'END';
0153      PRINTTEXT(// 'SP' //);
0154      O(YEAR);
0155      O(MONTH);
0156      O(DAY);
0157      O(GMT);
0158      O(MINUTE);
0159  LAZY: 'IF' GETSTRING(REM,120) 'LQ' 0 'THEN'
0160      PRINTTEXT(// '6SP' //) 'ELSE' 'BEGIN' PRINTTEXT(// '3SP' //);
0161      MOVESTRING(REM, WINDPOS, 3);
0162      PRINTTEXT(WINDPOS) 'END';
0163      GETREAL(WINDVEL,1);
0164      'IF' WINDVEL < 0 'THEN' PRINTTEXT(// '8SP' //) 'ELSE' 'BEGIN'
0165      PRINT(// //, WINDVEL, 2, 0); PRINTTEXT(// 'SP' M/S 'SP' //)
0166      'END';
0167      GETINT(CLOUD,1);
0168      'IF' CLOUD 'GQ' 0 'AND' CLOUD 'LQ' 8 'THEN'
0169      'BEGIN' PRINT(////, CLOUD, 1, 0); PRINTTEXT(// 'SP' /8' SP' //) 'END'
0170      'ELSE' PRINTTEXT(// NO 'SP' OBS //);
0171      GETINT(SEA,1) ;
0172      PRINTTEXT('IF' SEA = 0 'THEN' // '5SP' 0 '2SP' M '2SP' // 'ELSE'
0173      'IF' SEA = 1 'THEN' // '2SP' 0 'SP' -0,1 'SP' M ' SP' // 'ELSE'
0174      'IF' SEA = 2 'THEN' // 'SP' 0,1-0,5 'SP' M ' SP' // 'ELSE'
0175      'IF' SEA = 3 'THEN' // 'SP' 0,5-1,2 'SP' M ' SP' // 'ELSE'
0176      'IF' SEA = 4 'THEN' // 'SP' 1,2-2,5 'SP' M ' SP' // 'ELSE'
0177      'IF' SEA = 5 'THEN' // 'SP' 2,5-'SP' 4 '2SP' M ' SP' // 'ELSE'

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0178      'IF'SEA=6'THEN'///'2SP'4'SP'-'SP'6'2SP'M' SP'// 'ELSE'
0179      'IF'SEA=7'THEN'///'2SP'6'SP'-'SP'9'2SP'M' SP'// 'ELSE'
0180      'IF'SEA=8'THEN'///'2SP'9'SP'-'14'2SP'M' SP'// 'ELSE'
0181          ///'3SP'NO'SP'OBS'2SP'//);
0182      GETREAL(AIRT,1);
0183      'IF'AI RT>-90 'THEN' 'BEGIN' PRINT(////,AI RT,2,1) ;
0184      PRINTTEXT(// 'SP'C '3SP'//) 'END'
0185      'ELSE' PRINTTEXT(// '10SP'//);
0186      GETREAL(SECCH,1) ;
0187      'IF'SECCH>0 'THEN' 'BEGIN'PRINT(////,SECCH,2,1)
0188      PRINTTEXT(//'SP'M//) 'END' 'ELSE' PRINTTEXT(//'7SP'//);
0189      GETINT(TNO,1);GETREAL(RT,1); GETREAL(TITER,1); GETINT(STARTHO,1)
0190      'IF' TNO = 59 'THEN' TNO := 44;
0191      GETINT(STARTMIN,1); GETINT(DURHO,1); GETINT(DURMIN,1);
0192      DURAT:= DURHO + DURMIN/60 ;
0193      'IF' STARTHO 'GQ' 0 'THEN' 'BEG' PRINT(//'5SP'//, STARTHO, 2, 0);
0194      PRINT(// //, STARTMIN, 2, 0) 'END' 'ELSE' PRINTTEXT(//'10SP'//) ;
0195      'IF' DURHO 'GQ' 0 'THEN' 'BEG' PRINT(// //, DURHO, 2, 0);
0196      PRINT(// //, DURMIN, 2, 0) 'END' SURROUNDING DATA PART FINISHED;
0197          GETREAL(COLK(1),12); GETREAL(CUVEL,1);
0198      GETREAL(AMPSTR,1); GETREAL(COLL(1),12); GETREAL(PO4K,1);
0199      GETREAL(PO4L,1); GETREAL(NO2K,1); GETREAL(NH4K,1);
0200      GETREAL(NH4L,1);
0201      PRINTTEXT(//'2CR' 'SP' DEPTH'SP'TEMP,'SP'
0202      OXYG 'SP'63'SP'SAT'2SP'A,O,U'SP'SALT'2SP'
0203      PO4P'SP' TOTP'SP'ORGP'SP'NO3N'SP'NO2N'SP'BOTH 'SP'
0204      NH4N'SP'SUMN'SP'TOTN'SP'ORGN'SP'SIGMA'SP'
0205      SOUNDV'SP'STABIL,'CR'
0206      '3SP'M'3SP'CELS, ' SP'ML/L
0207      '8SP'MA/L'2SP' 0/00'2SP'MA/L 'SP'MA/L'SP'MA/L
0208      'SP'MA/L'SP'MA/L'SP'MA/L'SP'MA/L'SP'MA/L'SP'MA/L
0209      'SP'MA/L'8SP'M/S'2CR'//);
0210      I:=0; UNST:= 'FALSE';
0211      SUMN(1):= 0; EX := 'TRUE' ;
0212      WORK: I:=I +1;
0213      GETREAL(Z(I),1);
0214      NIX:='FALSE';
0215      'IF' Z(I) 'GQ' -0.1 'THEN'
0216      'BEGIN' 'IF' Z(I) - ENTIER(Z(I)) < 0,1 'THEN' 'BEGIN'
0217      PRINT(// //, Z(I), 3, 0); PRINTTEXT(// '2SP'//) 'END'
0218      'ELSE' PRINT(// //, Z(I), 3, 1) 'END'
0219          'ELSE' 'GOTO'SEC;
0220      GETREAL(TREAD,1);
0221      'IF'TREAD <-90'THEN' 'BEGIN'SIGMAT(1):=-7; PRINTTEXT(//
0222      '5SP'//); NIX:='TRUE'; 'GOTO' GETOX 'END';
0223      'IF'TNO<0 'THEN' 'BEGIN'PRINT(////,TREAD,2,1);T :=TREAD;
0224      'GOTO'ABST'END';
0225      L:=0;
0226      TCORR:L:=L+1;
0227      'IF'TL(TNO,L) <TREAD'AND'TREAD 'LQ'
0228      TL(TNO,L+1) 'THEN'
0229      T:=TREAD+TC(TNO,L)+
0230      (TREAD-TL(TNO,L))*(TC(TNO,L+1)-TC(TNO,L))/
0231      (TL(TNO,L+1)-TL(TNO,L)) 'ELSE' 'GOTO'TCORR;
0232      'IF'-2>T 'OR' T>40 'THEN' 'BEGIN'
0233      PRINTTEXT(//'SP'INDATA'SP'ERROR '12' //);
0234      'GOTO' BEGIN 'END';
0235      PRINT(////,T ,2,1);
0236      ABST: TABS:= T+273.16;
0237      GETOX:GETINT(BONO,1);

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0238   GETREAL(DOSIM,1);
0239   SAL: GETREAL(SALT,1);
0240   'IF' SALT<0 'THEN' 'BEGIN' SIGMAT(1) := -7 ;
0241   NIX:='TRUE'; 'GOTO' OXY 'END'; 'IF' SALT 'GQ' 0 'AND'
0242   SALT<37 'THEN' 'BEGIN' S := SALT;
0243   'GOTO' CHLOR 'END' ;
0244   'IF' RT < 0 'THEN' 'BEGIN' S := SALT; 'GOTO' CHLOR 'END';
0245   SALT:=SALT*1E-5;
0246   DELTA2ORT:= 1E-5*SALT *(SALT-1)*(RT-20)*
0247   (90.4-72.0*SALT+35.2*SALT**2-
0248   (0.63+0.21*SALT **2)*(RT-20));
0249   DELTA1520 :=1E-5*SALT*(SALT-1)*
0250   5*(96.7-72.0*SALT +37.3*SALT **2-
0251   (0.63+0.21*SALT**2)*5);
0252   SAVL15:=SALT+DELTA2ORT+DELTA1520;
0253   S:=-0.08996+28.29720*SAVL15+12.80832*SAVL15**2
0254   -10.67869*SAVL15**3+5.98624*SAVL15**4
0255   -1.32311*SAVL15**5;
0256   CHLOR:CL:=(S-0.030)/1.805;
0257   'IF' 0>S 'OR' S>35.5 'THEN' 'BEGIN'
0258   PRINTTEXT(// 'SP' INDATA 'SP' ERROR '12' //);
0259   'GOTO' 'BEGIN' 'END';
0260   OXY: 'IF' DOSIM<0 'THEN' 'BEGIN' PRINTTEXT(// '18SP' //); 'GOTO' FOSF 'END';
0261   'IF' TITER>0 'THEN'
0262   O2:= DOSIM* TITER* 22.4 E3/
0263   (4* (BOVOL(BONO)-1)) 'ELSE' O2:=DOSIM;
0264   'IF' 0>O2 'OR' O2>15 'THEN' 'BEGIN'
0265   PRINTTEXT(// 'SP' INDATA 'SP' ERROR '12' //);
0266   'GOTO' 'BEGIN' 'END';
0267   PRINT(////,O2,2,2);
0268   'IF' ?NIX 'THEN' 'BEGIN'
0269   O2SAT:=EXP(-173.4292+249.6339*100/TABS
0270   +143.3483*LN(TABS/100)
0271   -21.8492*TABS/100
0272   +S*(-0.033096+0.014259*TABS/100
0273   -0.0017*(TABS/100)**2));
0274   'COMMENT' ACCORDING TO R.F. WEISS DEEP SEA
0275   RESEARCH VOL 17 NO 4 AUGUST
0276   1970 PAGE721;
0277   O2PROC:=O2*100/O2SAT;
0278   PRINT(////,O2PROC,3,1);
0279   AOU:=(O2SAT-O2)/0.0112;
0280   'IF' AOU<0 'THEN' PRINTTEXT(// '6SP' //)
0281   'ELSE' PRINT(// //,AOU,3,1);
0282   'END' 'ELSE' PRINTTEXT(// '12SP' //);
0283   FOSF: GETREAL(P04ABS,1);
0284   'IF' ? NIX 'THEN' PRINT(// //,S,2,3) 'ELSE' PRINTTEXT(// '7SP' //);
0285   'IF' P04K > 0 'THEN' P04P(1):=P04K*(P04ABS - P04L) 'ELSE'
0286   P04P(1):= P04ABS;
0287   'IF' P04P(1) 'GQ' 0 'THEN'
0288   PRINT(// //,P04P(1),1,2) 'ELSE'
0289   PRINTTEXT(// '5SP' //);
0290   GETREAL(TOTP(1),1);
0291   'IF' TOTP(1) 'GQ' 0 'THEN' PRINT(// //,TOTP(1),1,2) 'ELSE'
0292   PRINTTEXT(// '5SP' //);
0293   'IF' P04P(1) 'GQ' 0 'AND' TOTP(1) 'GQ' P04P(1)
0294   'THEN' 'BEGIN' ORGP(1):=TOTP(1)-P04P(1);
0295   PRINT(// //,ORG(1),1,2) 'END' 'ELSE' 'BEG' ORGP(1) := -1 ;
0296   PRINTTEXT(// '5SP' //) 'END';
0297   SUMN(1) := -1 ;

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0298 NITRO:GETINT(COLNO,1);
0299 GETREAL(NO3ABS,1);
0300 'IF' COLNO 'EQ' 0 'THEN' NO3NPLUSNO2N:=
0301 COLK(COLNO)*(NO3ABS - COLL(COLNO)) 'ELSE'
0302 NO3NPLUSNO2N:=-1;
0303 GETREAL(NO2ABS,1); 'IF' NO2K 'EQ' 0 'THEN'
0304 NO2N:= NO2K* NO2ABS 'ELSE' NO2N:=-1;
0305 'IF' NO3NPLUSNO2N 'EQ' NO2N 'AND' NO2N 'EQ' 0
0306 'THEN'
0307 NO3N:= NO3NPLUSNO2N-NO2N
0308 'ELSE' NO3N:=-1;
0309 'IF' COLNO < -90 'THEN' NO3N := NO3ABS;
0310 'IF' NO3N 'EQ' 0 'AND' NO3N < 1 'THEN' PRINT(// //, NO3N, 1,2)
0311 'ELSE' 'IF' NO3N 'EQ' 1 'THEN' PRINT(// //,NO3N,2,1)
0312 'ELSE' PRINTTEXT(//'5SP'//);
0313 'IF' NO2K < -90 'THEN' NO2N := NO2ABS;
0314 'IF' NO2N 'EQ' 0 'AND' (NO3NPLUSNO2N 'EQ' NO2N 'OR' NO3NPLUSNO2N < 0)
0315 'AND' NO2N < 1 'THEN' PRINT(// //, NO2N, 1,2)
0316 'ELSE' 'IF' NO2N 'EQ' 1 'AND' (NO3NPLUSNO2N 'EQ' NO2N
0317 'OR' NO3NPLUSNO2N < 0)
0318 'THEN' PRINT(// //,NO2N,2,1) 'ELSE'
0319 PRINTTEXT(//'5SP'//);
0320 'IF' NO3NPLUSNO2N < 0 'OR' NO2N 'EQ' 0
0321 'THEN' PRINTTEXT(//'5SP'//)
0322 'ELSE' PRINT(// //,NO3NPLUSNO2N,2,1) ;
0323 GETREAL(NH4ABS,1);
0324 'IF' NH4K 'EQ' 0 'THEN'
0325 NH4N:= NH4K*(NH4ABS -NH4L) 'ELSE' NH4N := NH4ABS;
0326 'IF' NH4N 'EQ' 0 'THEN'
0327 PRINT(// //,NH4N,1,2)'ELSE'PRINTTEXT(//'5SP'//) ;
0328 'IF'NH4N'EQ'0'AND'(NO3NPLUSNO2N'EQ'0'OR'(NO3N'EQ'0'AND'NO2N'EQ'0))
0329 'THEN' 'BEGIN' 'IF' NO3NPLUSNO2N > 0 'THEN'
0330 SUMN(1) := NO3NPLUSNO2N + NH4N 'ELSE'
0331 SUMN(1) := NO3N + NO2N + NH4N 'END' ;
0332 GETINT(COLNO,1);
0333 GETREAL(TOTNABS,1);
0334 'IF' COLNO>0 'THEN'
0335 TOTN(1):= COLK(COLNO) *(TOTNABS - COLL(COLNO))
0336 'ELSE' TOTN(1):=-1;
0337 'IF' COLNO < -90 'THEN' TOTN(1) := TOTNABS;
0338 'IF' SUMN(1) > 0
0339 'THEN' PRINT(// //,SUMN(1),2,1) 'ELSE'
0340 PRINTTEXT(//'5SP'//);
0341 'IF' TOTN(1) 'EQ' SUMN(1) 'AND' SUMN(1) > 0
0342 'THEN' 'BEGIN' PRINT(// //,TOTN(1),2,1); ORGN(1):=TOTN(1)-SUMN(1);
0343 PRINT(// //,ORGN(1),2,1) 'END'
0344 'ELSE' 'IF' SUMN(1) 'EQ' 0 'AND' TOTN(1) > 0 'THEN'
0345 'BEG' PRINT(// //, TOTN(1) ,2 ,1); PRINTTEXT(//'5SP' //);
0346 ORGN(1):=-1 'END' 'ELSE'
0347 'BEGIN'PRINTTEXT(//'10SP'//); ORGN(1):=-1 'END';
0348 DER: 'IF' NIX 'THEN' 'BEGIN' PRINTTEXT(//'2SP'
0349 NOT'SP' COMPUTED //);
0350 'GOTO' OIL 'END' SIGMAT VALUS ACCORDING
0351 TO MARTIN KNUDSEN HYDROGRAPHICAL TABLES
0352 1901;
0353 SIGMANOLL:=-0,069+1,4708*CL-0,001570*CL**2+0,0000398*CL**3 ;
0354 STORASIGMAT:=- (T-3,98)** 2*(T+283)/
0355 (503,570* (T+67,26));
0356 AT:=T*(4,7867-0,098185*T+0,0010843*T **2)*1E-3;
0357 BT:=T*(18,030-0,8164*T+0,01667*T**2)*1E-6;

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0358 SIGMAT(I):=STORASIGMAT+(SIGMANOLL+0.1324)*(1-AT+BT*(SIGMANOLL
0359 -0.1324));
0360 PRINT(// //,SIGMAT(I),2,2);
0361 'IF' SIGMAT(I) 'LQ' SIGMAT(I-1)' THEN' 'BEGIN'
0362 PRINTTEXT(// 'AS' //); UNST:='TRUE' 'END' 'ELSE'
0363 PRINTTEXT(// 'SP' //);
0364 C := 1402.5 + 4.95*T - 0.0457*T**2 - 0.011 *T*S + 1.28*S
0365 + 0.0016*S**2 + 0.017*Z(I) ; 'COMMENT' SOUND VELOCITY FORMULA
0366 ACC TO F O A 3 REPORT NO A 3697-57 SEPT 1967 H WENDT
0367 PRINT(// //,C,4,1);
0368 'IF' SIGMAT(I-1) > - 6.5
0369 'THEN' 'BEGIN'
0370 EPRIM:= 1E3*(SIGMAT(I)-SIGMAT(I-1))/
0371 (Z(I)-Z(I-1));
0372 PRINT(// //,EPRIM,4,1) 'END'
0373 REF SVERDRUP JOHNSON FLEMING
0374 THE OCEANS 1946 PAGE417;
0375 OIL: PRINTTEXT(// 'CR' //) ;
0376 GETREAL(OLEUM(I),1);
0377 GETREAL(FEN(I),1);
0378 GETREAL(ORGC(I),1);
0379 GETREAL(YEL(I),1);
0380 'IF' CUVEL>0 'THEN'
0381 YEL(I) := 100* YEL(I)/
0382 (0.4342944819*CUVEL);
0383 'COMMENT' ACC TO J-O BLADH , FISHERY BOARD OF SW PERS COMM
0384 PROD: GETREAL(PH(I),1);
0385 GETREAL(COUNTS(I),1);
0386 GETREAL(DARKCOUNTS(I),1) ;
0387 'IF' ?NIX 'AND' PH(I) > 0 'THEN' 'BEGIN'
0388 FACT:= 0.145- 0.00025*T ; 'COMMENT' FACT IS CALC FROM BUCH 1951 ;
0389 PK1 := 17052/TABS + 215.21*LN(TABS)/LN10 - 0.12675*TABS - 545.560;
0390 PK1PRIM:= PK1 - FACT*CL**(1/3); K1PRIM:= 10**(-PK1PRIM) ;
0391 'COMMENT' SVERDRUP 1946 PAGE 200 WITH FACT AND PK1 REAL CONSTANTS;
0392 'FOR' B := 1 'STEP' 1 'UNTIL' 8 'DO'
0393 CESS(B) := CNOLL(B) - KOF(B) * CL;
0394 B := 0 ;
0395 SOLUB: B := B + 1 ;
0396 'IF' (T>TINT(B) 'AND' T'LQ'TINT(B+1)) 'OR' B = 7'THEN' 'BEGIN'
0397 IPOL := (T - TINT(B)) / (TINT(B+1) - TINT(B));
0398 CNOLL := CNOLL(B) - (CNOLL(B+1) - CNOLL(B)) * IPOL;
0399 CS := CESS(B) - (CESS(B+1) - CESS(B)) * IPOL ; 'END'
0400 'ELSE' 'GOTO' SOLUB;
0401 'COMMENT' ACC TO BUCH 1945 FENNIA 68 NO 5 PAGE 14 ;
0402 AHA: AH:= 10**(-PH(I));
0403 AH20:= 1-0.000969*CL ; 'COMMENT' HARVEY 1966 PAGE 169 ;
0404 LOGK2:= -2902.39/TABS + 6.4980 - 0.02379*TABS;
0405 PK2PRIM:= -LOGK2 - 0.510*CL**(1/3) ; K2PRIM:= 10**(-PK2PRIM);
0406 'COMMENT' BUCH 1951 HELSINKI HAVSFORSKNINGST SKRIFTNO 151 PAGE7;
0407 PKBPRIM:= 9.22 -0.123*CL**(1/3) - 0.0086*CL + 0.17 - 0.009333333*T;
0408 KBPRIM:= 10**(-PKBPRIM); 'COMMENT' REF RAPP, ET PROC,VERB, DES
0409 REUNJONS VOLUME LXXXV 1932 PAGE 73 KURT BUCH MODIF BY BSTRUM 1973;
0410 TITRALK:= 0.123*CL*10**(-3) ; 'COMMENT' HARVEY 1966PP161 AND177;
0411 CARBALK:= TITRALK - KBPRIM*2.2*CL*10**(-5) / (AH+KBPRIM);
0412 'COMMENT' HARVEY 1966 PAGE 166;
0413 ALK :=(1.26 + 0.056 * CL) *1E-3 ;
0414 'COMMENT' ALTERNATIVE ALK = (1.26 + 0.031 * S) *1E-3 ;
0415 CARB(I):= ALK*(1 +K2PRIM/AH +CS*AH/(K1PRIM*CNOLL*AH20))*12010/
0416 (1 +2*K2PRIM/AH) ; 'COMMENT' HARVEY 1966 PAGE 172 MODIF;
0417 CPROD(I):= COUNTS(I) * CARB(I)* 1E3 / (AMPSTR * DURAT) ;

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0418 DARKPROD(I):= DARKCOUNTS(I) *CARB(I)* 1E3/(AMPSTR*DURAT);
0419 'IF' DARKPROD(I)>0'AND'DARKPROD(I)<CPROD(I)'THEN'NETPROD(I):=
0420 CPROD(I) - DARKPROD(I)
0421 'ELSE'NETPROD(I)!:=-1;
0422 CORPRO(I):= CPROD(I)*1.1;
0423 NETCOR(I):= NETPROD(I)*1.1;
0424 'IF' CARB(I) 'GQ' 0 'AND' ORGC(I) 'GQ' 0 'THEN'
0425 TOTC(I) := CARB(I) + ORGC(I) 'ELSE' TOTC(I) := -1;
0426 NIX:='FALSE';'GOTO'WORK 'END' 'ELSE''BEGIN'
0427 CPROD(I) := NETPROD(I) := CORPRO(I) := NETCOR(I) := CARB(I) := -1;
0428 TOTC(I) := -1 ;
0429 NIX:='FALSE';'GOTO'WORK 'END' ;
0430 SEC: PRINTTEXT(// CR' 'SP' DEPTH '4SP' OIL '2SP' FEN 'SP' ORGC 'SP' YEL,
0431 'SP' PH '2SP' CPROD 'SP' NETPR 'SP' CORPR 'SP' NETCO 'SP'
0432 CARB '2SP' SUMN 'SP' ORGN 'SP' TOTN 'SP' CARB / 'SP'
0433 ORGC/ 'SP' TOTC/ 'SP' MEAN 'SP' MEAN 'CR'
0434 '3SP' M '6SP' MG/L 'SP' MIG ' SP' MG/L '10SP'
0435 MGC/QMH '17SP' MG/L '2SP' /P04 'SP' /OP '2SP'
0436 /TP '2SP' P04P '2SP' ORGP '2SP' TOTP '2SP'
0437 N/P '2SP' C/P ' CR' //);
0438 CGMP:=0 ; K:=0;
0439 I:=0; NGMP:=0; J:=0;
0440 PRI := 0 ;
0441 PRI 15 := 0 ; COI 15 := 0;
0442 PRIX := 'TRUE' ;
0443 WHILE:'FOR' I:=I+1 'WHILE' Z(I)>-0.1'DO'
0444 'BEGIN' PRINTTEXT(//CR'//);
0445 'IF' Z(I) - ENTIER(Z(I)) < 0.1 'THEN' 'BEGIN'
0446 PRINT(// //, Z(I), 3, 0); PRINTTEXT(// '2SP'//) 'END'
0447 'ELSE' PRINT(// //, Z(I), 3, 1) ;
0448 'IF' OLEUM(I) 'GQ' 0 'THEN'
0449 'BEG' 'IF' OLEUM(I) < 0.05 'THEN'
0450 PRINTTEXT(//'3SP' < ' SP' .05 //)
0451 'ELSE' PRINT(//'4SP'//, OLEUM(I),0,2) 'END' 'ELSE'
0452 'IF' OLEUM(I) < -90 'THEN' PRINTTEXT(//'3SP' LATER //)'ELSE'
0453 PRINTTEXT(//'8SP'//);
0454 'IF' FEN(I) 'GQ' 0 'THEN'
0455 PRINT(// //, FEN(I),3,0) 'ELSE'
0456 PRINTTEXT(//'4SP'//);
0457 'IF' ORGC(I) 'GQ' 0 'THEN'
0458 PRINT(// //, ORGC(I),2,1) 'ELSE'
0459 PRINTTEXT(//'5SP'//);
0460 'IF' YEL(I) 'GQ' 0 'THEN'
0461 PRINT(// //, YEL(I),1,2) 'ELSE'
0462 PRINTTEXT(//'5SP'//);
0463 'IF' PH(I) 'GQ' 0 'THEN'
0464 PRINT(// //, PH(I),1,1) 'ELSE'
0465 PRINTTEXT(//'4SP'//);
0466 'IF' CPROD(I) 'GQ' 0 'AND'
0467 CPROD(I) < 10.00 'THEN' PRINT(// 'SP' //, CPROD(I), 1, 2) 'ELSE'
0468 'IF' CPROD(I) 'GQ' 10.00 'THEN'
0469 'BEGIN' PRINT(// //, CPROD(I), 2,1); PRINTTEXT(//'SP'//) 'END'
0470 'ELSE' PRINTTEXT(// '6SP'//);
0471 'IF' NETPROD(I) 'GQ' 0 'AND' NETPROD(I) < 10.00 'THEN'
0472 PRINT(//'SP'//, NETPROD(I), 1, 2) 'ELSE' 'IF' NETPROD(I) 'GQ'
0473 10.00 'THEN' 'BEGIN' PRINT(// //, NETPROD(I), 2, 1);
0474 PRINTTEXT(//'SP'//) 'END' 'ELSE' PRINTTEXT(//'6SP'//);
0475 'IF' CORPRO(I) 'GQ' 0 'AND' CORPRO(I) < 10.00 'THEN'
0476 PRINT(//'SP'//, CORPRO(I), 1, 2) 'ELSE' 'IF' CORPRO(I) 'GQ'
0477 10.00 'THEN' 'BEGIN' PRINT(// //, CORPRO(I), 2, 1);

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0478 PRINTTEXT(// 'SP' //) 'END' 'ELSE' PRINTTEXT(// '6SP' //);
0479 'IF' NETCOR(1) 'GQ' 0 'AND' NETCOR(1) < 10.00 'THEN'
0480 PRINT(// 'SP' //, NETCOR(1), 1, 2) 'ELSE' 'IF' NETCOR(1) 'GQ'
0481 10.00 'THEN' 'BEGIN' PRINT(// //, NETCOR(1), 2, 1);
0482 PRINTTEXT(// 'SP' //) 'END' 'ELSE' PRINTTEXT(// '6SP' //);
0483 'IF' CARB(1) 'GQ' 0.0 'THEN' 'BEG CARB' PRINT(// //, CARB(1), 2, 1);
0484 PRINTTEXT(// 'SP' //) 'END CARB' 'ELSE' PRINTTEXT(// '6SP' //);
0485 RATIO: 'IF' SUMN(1) 'GQ' 0 'AND' P04P(1) > 0 'THEN'
0486 'BEGIN' UNORGNDIVP := SUMN(1) / P04P(1); 'IF'
0487 UNORGNDIVP < 100 'AND' UNORGNDIVP > 0 'THEN'
0488 PRINT(// //, UNORGNDIVP, 2, 1) 'ELSE' PRINTTEXT(// '5SP' //)
0489 'END' 'ELSE' PRINTTEXT(// '5SP' //);
0490 'IF' ORGN(1) 'GQ' 0 'AND' ORGP(1) > 0.001 'THEN'
0491 'BEGIN' ORGNDIVP := ORGN(1) / ORGP(1); 'IF'
0492 ORGNDIVP < 100 'AND' ORGNDIVP 'GQ' 0 'THEN'
0493 PRINT(// //, ORGNDIVP, 2, 1) 'ELSE' PRINTTEXT(// '5SP' //)
0494 'END' 'ELSE' PRINTTEXT(// '5SP' //);
0495 'IF' TOTN(1) 'GQ' 0 'AND' TOTP(1) > 0 'THEN'
0496 'BEGIN' TOTNDIVP := TOTN(1) / TOTP(1); 'IF'
0497 TOTNDIVP < 100 'AND' TOTNDIVP 'GQ' 0 'THEN'
0498 PRINT(// //, TOTNDIVP, 2, 1) 'ELSE' PRINTTEXT(// '5SP' //)
0499 'END' 'ELSE' 'BEG' PRINTTEXT(// '5SP' //); TOTNDIVP := -1 'END';
0500 'IF' CARB(1) 'GQ' 0 'AND' P04P(1) > 0.001 'THEN'
0501 'BEGIN' UNORGCDIVP := CARB(1) * 1E3 / (P04P(1) * 12.01);
0502 'IF' UNORGCDIVP < 10000 'AND' UNORGCDIVP 'GQ' 0
0503 'THEN' PRINT(// 'SP' //, UNORGCDIVP, 4, 0) 'ELSE' PRINTTEXT(// '6SP' //)
0504 'END' 'ELSE' PRINTTEXT(// '6SP' //);
0505 'IF' ORGC(1) 'GQ' 0 'AND' ORGP(1) > 0.001 'THEN'
0506 'BEGIN' ORGCDIVP := ORGC(1) * 1E3 / (ORGP(1) * 12.01);
0507 'IF' ORGCDIVP < 10000 'AND' ORGCDIVP 'GQ' 0 'THEN'
0508 PRINT(// 'SP' //, ORGCDIVP, 4, 0) 'ELSE' PRINTTEXT(// '6SP' //)
0509 'END' 'ELSE' PRINTTEXT(// '6SP' //);
0510 'IF' TOTC(1) 'GQ' 0 'AND' TOTP(1) > 0.001 'THEN'
0511 'BEGIN' TOTCDIVP := TOTC(1) * 1E3 / (TOTP(1) * 12.01);
0512 'IF' TOTCDIVP < 10000 'AND' TOTCDIVP 'GQ' 0 'THEN'
0513 PRINT(// 'SP' //, TOTCDIVP, 4, 0) 'ELSE' PRINTTEXT(// '6SP' //)
0514 'END' 'ELSE' 'BEG' PRINTTEXT(// '6SP' //); TOTCDIVP := -1 'END';
0515 MEAN: 'IF' TOTNDIVP > 0 'THEN' 'BEGIN'
0516 NGMP := NGMP + TOTNDIVP; J := J + 1 'END' ;
0517 'IF' TOTCDIVP > 0 'THEN' 'BEGIN'
0518 CGMP := CGMP + TOTCDIVP; K := K + 1 'END' ;
0519 'IF' (Z(1) > 29.9 'AND' Z(1) < 30.1) 'OR' Z(1+1) < 0 'OR' Z(1+1) > 30.1
0520 'THEN' 'BEGIN' 'IF' J 'NQ' 0 'THEN' NGMP := NGMP / J ;
0521 'IF' K 'NQ' 0 'THEN' CGMP := CGMP / K ;
0522 'IF' NGMP > 0.1 'AND' NGMP < 100
0523 'THEN' 'BEGIN' PRINT (////, NGMP, 2, 1);
0524 NGMP := 0; J := 0 'END' 'ELSE' PRINTTEXT(// '5SP' //);
0525 'IF' CGMP > 0.1 'AND' CGMP < 10000
0526 'THEN' 'BEGIN' PRINT(////, CGMP, 4, 0);
0527 CGMP := 0; K := 0; 'END'
0528 'ELSE' PRINTTEXT(// '5SP' //) 'END'
0529 'ELSE' PRINTTEXT(// '5SP' //);
0530 ACCUM: 'IF' STNO > 0 'AND' STNO < 6 'THEN'
0531 'BEGIN' 'IF' P04P(1) > 0 'THEN'
0532 'BEGIN' 'IF' Z(1) < 30.1 'THEN'
0533 'BEGIN' P04UP := P04UP + P04P(1);
0534 MUP := MUP + 1 'END'
0535 'ELSE'
0536 'BEGIN' P04DO := P04DO + P04P(1);
0537 MDO := MDO + 1 'END' 'END';

```

```

0538 'IF' TOTP(I)>0 'THEN'
0539 'BEGIN' 'IF' Z(I)<30.1 'THEN'
0540 'BEGIN' TOTPUP:= TOTPUP+TOTP(I);
0541 NUP:=NUP+1; 'END'
0542 'ELSE'
0543 'BEGIN' TOTPDO:= TOTPDO+TOTP(I);
0544 NDO:=NDO+1; 'END' 'END';
0545 'IF' SUMN(I)>0 'THEN'
0546 'BEGIN' 'IF' Z(I)<30.1 'THEN'
0547 'BEGIN' SUMNUP:= SUMNUP+SUMN(I);
0548 OUP:=OUP+1; 'END'
0549 'ELSE'
0550 'BEGIN' SUMNDO:= SUMNDO+SUMN(I);
0551 ODO:= ODO+1 'END' 'END';
0552 'IF' TOTN(I)>0 'THEN' 'BEGIN'
0553 'IF' Z(I)<30.1 'THEN'
0554 'BEGIN' TOTNUP:= TOTNUP+TOTN(I);
0555 PUP:= PUP+1 'END'
0556 'ELSE'
0557 'BEGIN' TOTNDO:= TOTNDO+TOTN(I);
0558 PDO:= PDO+1 'END' 'END';
0559 'IF' CARB(I)>0 'THEN' 'BEGIN'
0560 'IF' Z(I)<30.1 'THEN'
0561 'BEGIN' CARBUP:=CARBUP+CARB(I);
0562 QUP:=QUP+1 'END'
0563 'ELSE'
0564 'BEGIN' CARBDO:= CARBDO+CARB(I);
0565 QDO:= QDO+1 'END' 'END';
0566 'IF' TOTC(I) >0 'THEN' 'BEGIN'
0567 'IF' Z(I) <30.1 'THEN'
0568 'BEGIN' TOTCUP:= TOTCUP+TOTC(I);
0569 RUP:= RUP+1 'END'
0570 'ELSE'
0571 'BEGIN' TOTCDO:= TOTCDO+TOTC(I);
0572 RDO:= RDO+1 'END' 'END'
0573 'END' ;
0574 'IF' CPROD(I) > 0 'THEN'
0575 'BEG' 'IF' Z(I) > -0.5 'AND' Z(I) <1 'THEN' PRI := 1.25*CPROD(I)
0576 'ELSE' 'IF' Z(I) 'GG' 1 'AND' Z(I) <3.75 'THEN'
0577 PRI := PRI + 2.5 * CPROD(I) 'ELSE' 'IF' Z(I) 'GG' 3.75 'AND'
0578 Z(I) <7.5 'THEN' PRI := PRI + 3.75 * CPROD(I) 'ELSE' 'IF'
0579 Z(I) 'GG' 7.5 'AND' Z(I) <12.5 'THEN' PRI:= PRI +5*CPROD(I)
0580 'ELSE' 'IF' Z(I) 'GG' 12.5 'AND' Z(I) < 17.5 'THEN' 'BEGIN'
0581 PRI 15 := PRI+5*CPROD(I)
0582 ; COI 15 := 1.1 * PRI 15
0583 ( 'END' 'END'
0584 'ELSE' 'BEGIN' 'IF' Z(I) > -0.5 'AND' Z(I) < 19.5
0585 'THEN' PRI X := 'FALSE' 'END';
0586 'END' WHILE SECTION FINISHED;
0587 MASS: 'IF' STNO =5 'THEN' 'BEGIN'
0588 PRINTTEXT (// '2CR' 'SP' AVERAGE 'SP' VALUES 'SP' FOR 'SP'
0589 THE 'SP' WATER 'SP' COLUMN 'SP' 0-30 'SP' M
0590 '4SP' AVERAGE 'SP' VALUES 'SP' FOR 'SP' THE 'SP'
0591 WATER 'SP' COLUMN 'SP' BELOW 'SP' 30 'SP' M 'CR'
0592 'SP' P04P '2SP' TOTP '3SP' SUMN '3SP' TOTN '3SP'
0593 CARB '4SP' TOTC '7SP'
0594 P04P '2SP' TOTP '3SP' SUMN '3SP' TOTN
0595 '3SP' CARB '4SP' TOTC 'CR'
0596 'SP' TONS '2SP' TONS '3SP' TONS '3SP' TONS
0597 '3SP' TONS '4SP' TONS '7SP'

```

```

0598 TONS '2SP' TONS '3SP' TONS '3SP' TONS
0599 '3SP' TONS '4SP' TONS '2CR' //) ;
0600 'IF' MUP > 0 'THEN' 'BEG'
0601 P04UP:= P04UP* 231.1E-3*30.98/MUP;
0602 PRINT(// //,P04UP,2,1)
0603 'END' 'ELSE' PRINTTEXT(//'6SP'//) ;
0604 'IF' NUP > 0 'THEN' 'BEG'
0605 TOTPUP:= TOTPUP*231.1E-3*30.98/NUP;
0606 PRINT(//'SP'//, TOTPUP,2,1)
0607 'END' 'ELSE' PRINTTEXT(//'6SP'//) ;
0608 'IF' OUP > 0 'THEN' 'BEG'
0609 SUMNUP:=SUMNUP*231.1E-3*14.008/OUP;
0610 PRINT(//'SP'//, SUMNUP,3,1)
0611 'END' 'ELSE' PRINTTEXT(//'7SP'//) ;
0612 'IF' PUP > 0 'THEN' 'BEG'
0613 TOTNUP:=TOTNUP*231.1E-3*14.008/PUP;
0614 PRINT(//'SP'//, TOTNUP,3,1)
0615 'END' 'ELSE' PRINTTEXT(//'7SP'//) ;
0616 'IF' QUP > 0 'THEN' 'BEG'
0617 CARBUP:=CARBUP*231.1 /QUP;
0618 PRINT(//'SP'//, CARBUP,5,0)
0619 'END' 'ELSE' PRINTTEXT(//'7SP'//) ;
0620 'IF' RUP > 0 'THEN' 'BEG'
0621 TOTCUP:=TOTCUP*231.1 /RUP;
0622 PRINT(//'2SP'//, TOTCUP,5,0)
0623 'END' 'ELSE' PRINTTEXT(//'8SP'//) ;
0624 'IF' MDO > 0 'THEN' 'BEG'
0625 P04DO:= P04DO* 10.0E-3*30.98/MDO ;
0626 PRINT(//'6SP'//, P04DO,2,1)
0627 'END' 'ELSE' PRINTTEXT(//'11SP'//) ;
0628 'IF' NDO > 0 'THEN' 'BEG'
0629 TOTPDO:= TOTPDO*10.0E-3*30.98/NDO;
0630 PRINT(//'SP'//, TOTPDO,2,1)
0631 'END' 'ELSE' PRINTTEXT(//'6SP'//) ;
0632 'IF' ODO > 0 'THEN' 'BEG'
0633 SUMNDO:=SUMNDO*10.0E-3*14.008/ODO;
0634 PRINT(//'SP'//, SUMNDO,3,1)
0635 'END' 'ELSE' PRINTTEXT(//'7SP'//) ;
0636 'IF' PDO > 0 'THEN' 'BEG'
0637 TOTNDO:= TOTNDO*10.0E-3*14.008/PDO;
0638 PRINT(//'SP'//, TOTNDO,3,1)
0639 'END' 'ELSE' PRINTTEXT(//'7SP'//) ;
0640 'IF' QDO > 0 'THEN' 'BEG'
0641 CARBDO:= CARBDO*10.0 /QDO;
0642 PRINT(//'SP'//, CARBDO,5,0)
0643 'END' 'ELSE' PRINTTEXT(//'7SP'//) ;
0644 'IF' RDO > 0 'THEN' 'BEG'
0645 TOTCDO:= TOTCDO*10.0 /RDO;
0646 PRINT(//'2SP'//, TOTCDO,5,0)
0647 'END' 'ELSE' PRINTTEXT(//'8SP'//) ;
0648 'END' ;
0649 FIN: PRINTTEXT(//'2CR'//);
0650 'IF' UNST 'THEN' PRINTTEXT(// ' SP' 'AS' 'SP' = 'SP' UNSTABLE' SP'
0651 DENSITY 'SP' STRATIFICATION '20SP' //);
0652 'IF' TNO>0 'THEN' 'BEGIN'
0653 PRINTTEXT(// 'SP' WATER 'SP' SAMPLER' SP' THERMOMETER' SP' NO //);
0654 PRINT(//'SP'//,TNO,2,0) 'END';
0655 UNST:= 'FALSE' ;
0656 'IF' PRIX 'THEN' 'BEGIN'
0657 PRINTTEXT(//'CR' 'SP' PRIMARY 'SP' PRODUCTION 'SP' VALUES 'SP'

```

```

0658 INTEGRATED 'SP' FROM 'SP' CPROD 'SP' AND 'SP' CORPR 'SP' VALUES
0659 'SP' ARE 'SP' RESP.; //);
0660 'IF' PRI 15 'GO' 10 'THEN' PRINT(//'SP'//, PRI 15,3 , 0)
0661 'ELSE' PRINT(//'SP'//, PRI 15, 1, 1);
0662 PRINTTEXT(//'2SP' AND 'SP' //);
0663 'IF' COI 15 'GO' 10 'THEN' PRINT( // //, COI 15 , 3, 0)
0664 'ELSE' PRINT(// //, COI 15, 1, 1);
0665 PRINTTEXT(//'2SP' MGC / SORMH//) 'END';
0666 BO:='TRUE';
0667 BRO: 'IF' GETSTRING(REM,120)<0 'THEN' 'BEGIN' PRINTTEXT(//'12'//);
0668 BROO: 'IF' STNO 'GO' 5 'THEN' 'GOTO' NULL 'ELSE' 'GOTO' BEGIN 'END' ;
0669 BREJA: 'IF' BO 'THEN' PRINTTEXT(//'CR' 'SP' NOTE: 'SP' //);
0670 PRINTTEXT(REM); PRINTTEXT(//'CR' 'SP' //); BO:='FALSE' ;
0671 'GOTO' BRO;
0672 END: CLOSEPRINTER; 'END'

```

STATION 5 (FJ 63) MALMUDRAG LAT: N 58 19.10 LONG: E 11 21.70 BOTTOM DEPTH 36 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. M/S 2 / 8 COVER HEIGHT M TEMP HR MT HR MT
 73 06 26 08 50 73 06 26 07 50 W 1 M/S 2 / 8 0 M 18.0 C 10.0 M 9 40 4 0

DEPTH TEMP, OXYG % SAT A:O:U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL:
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S
 0 19.0 6.76 118.7 21.589 .00 .37 .37 .35 .00 .91 1.3 19.4 18.1 14.85 1504.0
 2.5 18.6 6.97 121.8 22.285 .00 .37 .37 .02 .02 .73 .73 .73 15.48 1503.5 252.5
 5 18.3 7.02 122.8 23.234 .00 .42 .38 .10 .06 .66 .8 16.5 15.7 16.26 1503.8 315.2
 10 17.1 7.05 122.2 25.885 .00 .38 .38 .18 .00 .96 1.1 18.56 1503.2 459.1
 15 13.5 6.60 112.1 29.291 .00 .48 .48 .11 .04 .73 .9 21.90 1495.9 668.1
 20 12.7 6.10 99.1 4.8 30.022 .00 .43 .43 .23 .03 .64 .9 16.4 15.5 22.63 1493.9 146.6
 30 9.4 5.43 83.7 94.9 32.941 .00 .75 .75 1.1 .03 1.50 2.6 29.47 1485.9 283.5
 32 9.0 5.32 81.3 109.5 33.045 .03 1.23 1.20 3.2 .06 1.65 4.9 20.3 15.4 25.61 1484.6 72.4

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MG MG/L MG/L MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P
 0 8.1 3.84 3.74 4.22 4.11 21.8 49.0 52.4
 2.5 8.1 3.98 4.38 4.38 22.0
 5 8.1 4.45 4.31 4.90 4.74 22.3 39.4
 10 8.1 4.35 4.79 4.79 23.1
 15 8.0 2.43 2.36 2.67 2.60 24.7
 20
 30
 32 36.1 38.2 43.3
 12.9 16.5 16.5

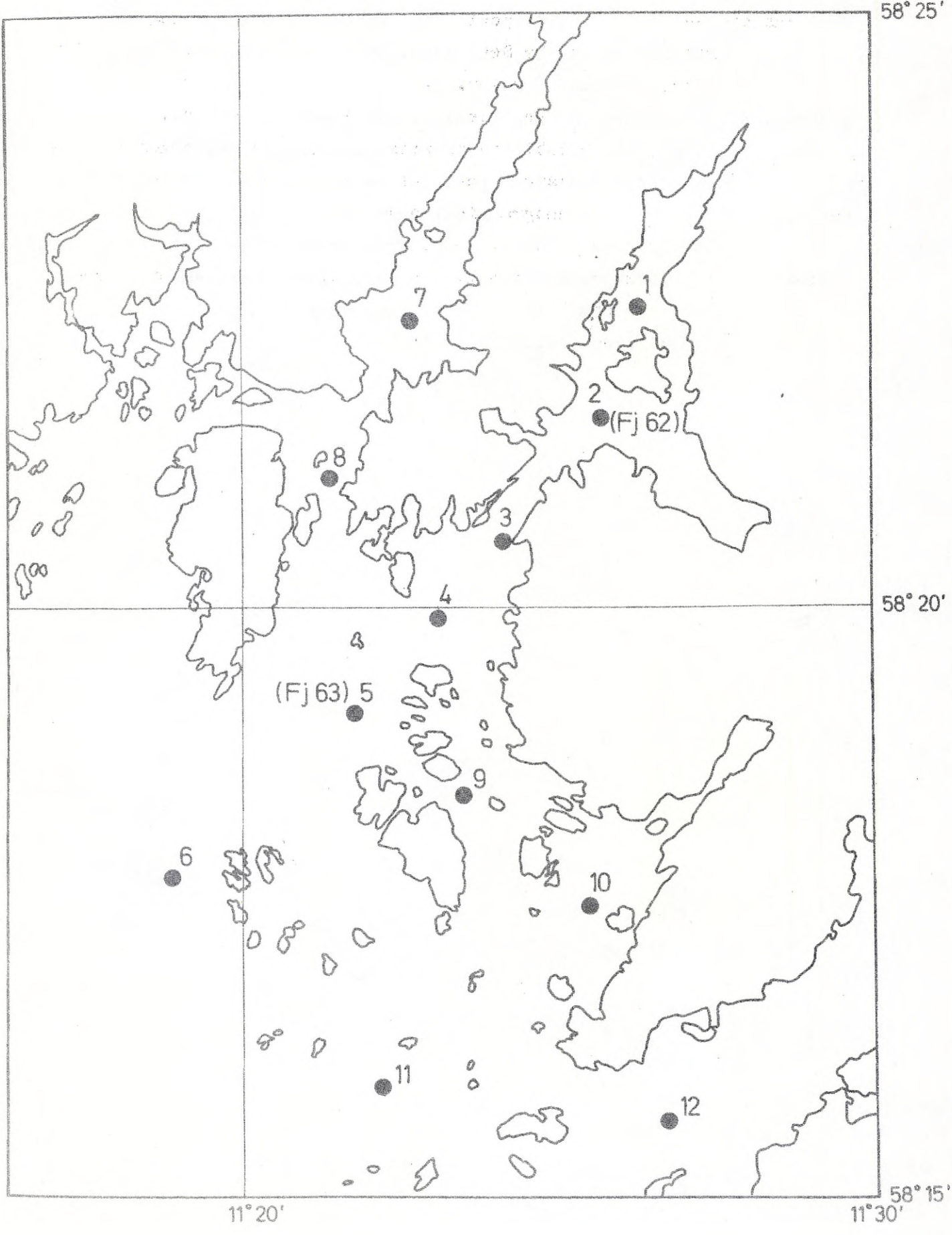
AVERAGE VALUES FOR THE WATER COLUMN 0-30 M AVERAGE VALUES FOR THE WATER COLUMN BELOW 30 M
 P04P TOTP SUMN TOTN CARB TOTC P04P TOTP SUMN TOTN CARB TOTC
 TONS TONS TONS TONS TONS TONS TONS TONS TONS TONS
 .2 4.1 3.6 64.9 5278 .0 .4 .7 3.3

WATER SAMPLER THERMOMETER NO 42
 PRIMARY PRODUCTION VALUES INTEGRATED FROM CPROD AND CORPR VALUES ARE RESP: 65 AND 72 MCC/SORNN

Certain information for construction of the computer algorithm was taken from

- Anon. 1966: International oceanographic tables. Unesco and National Institute of Oceanography of G.B. Wormley, England.
- Bladh, J.-O., 1972: Measurements of Yellow Substance. Medd. från Havsfiskelaboratoriet i Lysekil, No 138.
- Buch, Kurt, 1932: Der Borsäuregehalt des Meerwassers und seine Bedeutung bei der Berechnung des Kohlensäuresystems im Meerwasser. Rapp. et Proc.-Verb. des Reunions Vol. LXXXV. Cons. Perm. Internat. pour L'exp. de la Mer.
- Buch, K., Harvey, H.W., Wattenberg, H. and Gripenberg, S., 1932: Über das Kohlensäuresystem im Meerwasser. Rapp. et Proc.-Verb. des Reunions Vol. LXXIX. Cons. Perm. Internat. pour L'exp. de la Mer.
- Buch, Kurt, 1945: Kolsyrejämvikten i Baltiska Havet, Fennia 68, No 5.
- Buch, Kurt, 1951: Das Kohlensäure Gleichgewichtssystem im Meerwasser. Havsforskningsinst. Skrift No. 151, Helsinki.
- Carlberg, S.R., 1972: New Baltic Manual. ICES Cooperative Research Rapport Series A, No. 29.
- Ekman, Gustaf, 1880: Hydrografiska undersökningar vid Bohuskusten. Enclosure to Göteborgs och Bohusläns Hushållnings-Sällskaps Quartalskrift 1880.
- Fonselius, S.H., 1969: Hydrography of the Baltic Deep Basins III. Fishery Board of Sweden, Series Hydrography, Report No. 23.
- Fonselius, S.H., 1972: On primary production in the Baltic. Medd från Havsfiskelaboratoriet, Lysekil, No. 134.
- Harvey, H.W., 1966: The chemistry and fertility of Sea Waters. Cambridge Univ. Press.
- Hedström, I.S. and Rendahl, C., 1951: Räknetabeller för läroverken.
- Ingelstam, E. and Sjöberg, S., 1967: ELFYMA - tabellen.
- Jerlov, N.G., 1968: Optical Oceanography.
- Knudsen, Martin 1901: Hydrographical tables.
- Lundén, Harald, 1908: Affinitätsmessungen an Schwachen Säuren und Basen. Thesis. Verlag Ferdinand Enke, Stuttgart

- Steemann Nielsen, E., 1958: Experimental methods for Measuring Organic Production in the Sea. Rapp. et Proc.-Verb. Vol. 144, 1958. Cons. Internat. Explor. de la Mer.
- Svedrup, H.U., Johnson, M. and Fleming, R., 1946: The Oceans.
- Weiss, R.F., 1970: The solubility of nitrogen, oxygen and argon in water and seawater. Deep-Sea Research, Vol. 17. No. 4.
- Öström, Bertil, 1972: Oceanographical observations performed by the Swedish Coast Guard. Medd. från Havsfiskelab., Lysekil, No. 136.
- Öström, Bertil, 1972: Brofjorden I. Hydrographical measurement program and some basic data. Medd. från Havsfiskelaboratoriet, Lysekil, No. 144.



STATION 1 INRE BROFJORDEN LAT: N 58 22.50 LONG: E 11 26.30 BOTTOM DEPTH: 18 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP HR MT HR MT
 72 12 14 08 50 72 12 14 07 50 SSW 7 M/S 5 /8 0.1-0.5 M 8.0 C

DEPTH TEMP, OXYG % SAT A.O.U. SALT P04P TOTP ORGP N03N N02N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS, ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0 NOT COMPUTED
 5 NOT COMPUTED
 10 NOT COMPUTED
 15 NOT COMPUTED
 18 NOT COMPUTED

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB MG/L /P04 /OP /TP P04P ORGP TOTC/ MEAN MEAN
 M MG/L MIG MG/L MGC/QMH

0 2.26
 5 1.85
 10 1.45
 15 .92
 18 .90

NOTE: YELLOW SUBSTANCE DATA NOT GIVEN IN MEDD NO 144

STATION 2 (FJ 62) BROFJORDEN LAT: N 58 21.60 LONG: E 11 25.70 BOTTOM DEPTH: 22 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT

72 12 14 09 10 72 12 14 08 10 SSW 7 M/S 5/8 0.1-0.5 M 8.0 C

DEPTH TEMP. OXYG % SAT A. O. U. SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0 NOT COMPUTED
 5 NOT COMPUTED
 10 NOT COMPUTED
 15 NOT COMPUTED
 20 NOT COMPUTED
 25 NOT COMPUTED

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L M/G MG/L

0 1.75
 5 1.80
 10 1.43
 15 .83
 20 .62
 25 .55

NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED

MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P

STATION 3 STRETUDDEN
 LAT: N 58 20.55 LONG: E 11 24.15
 BOTTOM DEPTH 48 M
 LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND WAVE CLOUD WIND WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP HR MT HR MT
 72 12 14 09 55 72 12 14 08 55 SSW 7 M/S 6 /8 0.1-0.5 M 8.0 C

DEPTH TEMP. OXYG X SAT A.O.U SALT P04P TOTP ORGP N03N N02N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0 NOT COMPUTED
 5 NOT COMPUTED
 10 NOT COMPUTED
 15 NOT COMPUTED
 20 NOT COMPUTED
 30 NOT COMPUTED
 40 NOT COMPUTED
 48 NOT COMPUTED

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MIG MG/L

0 1.50
 5 1.50
 10 .90
 15 .71
 20 .60
 30 .53
 40 .53
 48 .55

STATION 4 YTTRE BROFJORDEN LAT: N 58 19.90 LONG: E 11 23.10 BOTTOM DEPTH 34 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP. DEPTH HR MT HR MT
 72 12 14 10 25 /72 12 14 09 25 SSW 10 M/S 7 /8 0.5-1.2 M 8.0 C

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP N03N N02N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0
 5
 10
 15
 20
 32

NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED

DEPTH OIL FEN ORGC VEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L M/G MG/L

0
 5
 10
 15
 20
 32

1.13
 1.17
 .83
 .55
 .55
 .55

NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED

STATION 5 (FJ 63) MALMÖDRAG LAT: N 58 19.10 LONG: E 11 21.70 BOTTOM DEPTH 36 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP HR MT HR MT
 72 12 14 11 05 72 12 14 10 05 SSW 10 M/S 8 / 8 0.5-1.2 M 8.0 C

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTR ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0
 5
 10
 15
 20
 30
 34

NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED
 NOT COMPUTED

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN
 MG/L M/G MG/L MGC/QMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P

0 .90
 5 .85
 10 .74
 15 .58
 20 .58
 30 .48
 34 .58

AVERAGE VALUES FOR THE WATER COLUMN 0-30 M AVERAGE VALUES FOR THE WATER COLUMN BELOW 30 M
 P04P TOTP SUMN TOTN CARB TOTC P04P TOTP SUMN TOTN CARB TOTC
 TONS TONS TONS TONS TONS TONS TONS TONS TONS TONS

STATION 5 (FJ 63) MALMÖDRAG LAT: N 58 19.10 LONG: E 11 21.70 BOTTOM DEPTH 36 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP HR MT HR MT
 73 01 17 14 20 /73 01 17 13 20 E 5 M/S 8 /8 0 0.1 M 20.0 C

DEPTH TEMP. OXYG % SAT A.O.U. SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S
 0 1.7 8.30 100.1 23.827 19.09 1441.7
 5 2.3 8.29 101.7 24.112 19.29 1444.9 39.9
 10 2.5 8.13 100.6 24.607 19.67 1446.5 76.6
 15 3.8 7.76 100.3 26.264 20.90 1454.5 245.6
 20 4.5 7.54 100.1 27.635 21.92 1459.4 205.1
 30 7.0 6.12 89.5 64.2 33.258 26.07 1477.1 414.8

DEPTH OIL FEN ORGC/YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L M/G MG/L MGC/QMH
 0 1 0.97
 5 0.55
 10 0.46
 15 0.42
 20 0.18
 30 0.04

AVERAGE VALUES FOR THE WATER COLUMN 0-30 M AVERAGE VALUES FOR THE WATER COLUMN BELOW 30 M
 P04P TOTP SUMN TOTN CARB TOTC P04P TOTP SUMN TOTN CARB TOTC
 TONS TONS TONS TONS TONS TONS TONS TONS TONS TONS

WATER SAMPLER THERMOMETER NO 42

STATION 1 INRE BROFJORDEN LAT: N 58 22,50 LONG: E 11 26,30 BOTTOM DEPTH: 18 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT

73 01 24 14 50 73 01 24 13 50 SW 5 M/S: 8 / 8 0 → 0.1 M

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELLS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	2.1	8.56	104.4	23.916	.44	1.07	.63	19.14	1443.7
2.5	2.2	8.37	102.2	23.870	1.72	1.11		19.10*	1444.1
5	2.2	8.37	102.3	23.868	.54	1.11	.57	19.10*	1444.1
10	2.1	8.41	102.5	23.941	.70	1.07	.37	19.16	1443.9
15	2.2	8.17	100.2	24.506	.39	1.03	.64	19.61	1445.2

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MIG MG/L MGC/QMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P

0	< .05	.65
2.5		.67
5		.71
10		.65
15		.81

* = UNSTABLE DENSITY STRATIFICATION
 NOTE: SLIGHT OVERTITRATION OF OXYGEN SAMPLE AT 0 M

STATION 2 (FJ 62) BROFJORDEN LAT: N 58 21.60 LONG: E 11 25.70 BOTTOM DEPTH: 22 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE WIND AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP HR MT HR MT
 73 01 24 11 00 73 01 24 10 00 SW 6 M/S 8 / 8 NO OBS

DEPTH TEMP. OXYG % SAT A.O.U. SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L O/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S
 0 2.2 8.38 102.0 23.476 .53 1.17 .64 18.79 1443.5
 2.5 2.2 8.14 99.2 6.0 23.562 .53 1.40 .87 18.85 1443.7 27.4
 5 2.3 8.30 101.7 23.938 .54 1.13 .59 19.15 1444.7 117.8
 10 2.2 8.30 101.7 24.228 .56 1.15 .59 19.39 1444.7 47.2
 15 2.2 7.98 98.3 12.4 25.154 .58 1.11 .53 20.12 1446.0 147.5
 20 4.3 7.53 99.2 5.4 27.273 .53 1.10 .57 21.66 1458.0 306.8

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MIG MG/L MG/L MGC/QMH MGC/L /P04 /OP /TP P04P ORGP TOTP N/P C/P
 0 < .05 2.3 .60 8.0 .64 .61 .70 .67 23.3 3661 299 1822
 2.5 < .05 .60 8.0 .60 .60 .66 23.3 23.3 3666
 5 2.2 .65 8.0 .37 .34 .41 .37 23.5 3616 310 1890
 10 .71 8.0 .12 .13 .13 23.5 3501
 15 .88 8.0 .04 .04 .04 .03 23.8 3424
 20 < .05 1.8 .65 .02 .02 .04 .03 23.8 263 1856

WATER SAMPLER THERMOMETER NO 42

PRIMARY PRODUCTION VALUES INTEGRATED FROM CPROD AND CORPR VALUES ARE RESP.: 4.5 AND 4.9 MGC/SQRMH

STATION 3 STRETUDDEN LAT: N 58 20.55 LONG: E 11 24.15 BOTTOM DEPTH 48 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT

73 01 24 15 50 73 01 24 14 50 SW 4 M/S 8 /8 0.1=0.5 M

DEPTH TEMP. OXYG % SAT A.O.U SALT PO4P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELLS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	2.1	8.46	102.6	23.137	.73	1.25	.52	18.52	1442.6
15	2.1			23.737	.35	1.18	.83	19.00	1443.7
20	2.2	8.17	100.7	25.186	.85	1.06	.21	20.15	1446.1
30	6.7	6.14	88.7	70.1	32.460	.79	1.35	25.48	1474.9
40	7.1	6.12	90.0	60.9	33.716	2.16	1.57	26.42	1478.3
45	7.0	6.22	91.0	54.9	33.467	3.35		26.24*	1477.6

DEPTH OIL FEN ORGC YEL. PH CPRD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L M/G MG/L MGC/QMH MG/L /PO4 /OP /TP PO4P ORGP TOTP N/P C/P

0	< .05	2.5	.71	400
15			.74	
20			.95	
30			.44	
40			.44	
45			.62	

* UNSTABLE DENSITY STRATIFICATION WATER SAMPLER THERMOMETER NO 42
 NOTE: TOTP VALUE AT 45 M REACHED 12.65 THROUGH SAMPLE WAS VERY MUDDY

STATION 4 YTTRE BROFJORDEN LAT: N 58 19.90 LONG: E 11 23.10 BOTTOM DEPTH 34 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT

73 01 24 13 50 73 01 24 12 50 SW 6 M/S: 8 /8 0.1-0.5 M

DEPTH TEMP. OXYG % SAT A. O. U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	2.3	8.48	103.2	23.027	.52	1.26	.74	18.42	1443.4
5	2.2	8.41	102.3	23.182	1.15	1.16	.01	18.55	1443.2
10	2.4	8.26	101.3	23.843	.51	1.04	.53	19.07	1445.1
15	2.1	8.23	100.8	24.572	.51	1.08	.57	19.66	1444.8
20	3.1	7.77	98.5	25.966	.54	1.03	.49	20.71	1451.1
30	6.3	6.14	87.8	32.529	.62	1.33	.71	25.59	1473.4

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MIG MG/L

0	<.05	2.2	.62
5			.67
10			.62
15			.76
20			.76
30			.35

248

WATER SAMPLER THERMOMETER NO 42

STATION 5 (FJ 63) MALMÖDRAG LAT: N 58 19.10 LONG: E 11 21.70 BOTTOM DEPTH 36 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA: MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 01 24 08 40 73 01 24 07 40 SW 4 M/S 8 /8 0 =0.1 M 14.0 M 9 30 4 0

DEPTH TEMP. OXYG % SAT A.O.U. SALT P04P TOTP ORGP N03N N02N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S
 0 2.2 8.51 103.2 22.836 .82 1.08 .26 18.28 1442.7
 2.5 2.2 22.845 18.28 1443.0 1.9
 5 2.3 8.38 102.3 23.358 .82 1.05 .23 18.69 1443.9 162.4
 10 2.4 8.24 101.4 24.181 .82 1.03 .21 19.34 1445.5 130.0
 15 2.2 8.19 101.0 25.122 1.46 1.00 20.09 1446.2 151.4
 20 4.4 7.50 99.1 6.0 27.403 .54 1.22 .68 21.75 1458.6 331.3
 30 6.9 6.23 90.8 56.5 33.093 1.03 1.56 .53 25.96 1476.5 420.5

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MIG MG/L MGC/QMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P
 0 < .05 1 .62 8.0 .64 .61 .71 .67 23.1 2345
 2.5 .58 8.0 .60 .66 .66 23.1 2362
 5 < .05 .65 8.0 .35 .32 .38 .36 23.3 2389
 10 2.3 .67 8.0 .13 .14 .14 23.5 1359
 15 .85 8.0 .03 .02 .04 .02 23.8
 20 .58
 30 < .05 1.7 .30 .267 2088

AVERAGE VALUES FOR THE WATER COLUMN 0-30 M AVERAGE VALUES FOR THE WATER COLUMN BELOW 30 M
 P04P TOTP SUMN TOTN CARB TOTC P04P TOTP SUMN TOTN CARB TOTC
 TONS TONS TONS TONS TONS TONS TONS TONS TONS TONS
 5.1 8.3 5415 5938 .9 .5

WATER SAMPLER THERMOMETER NO 42
 PRIMARY PRODUCTION VALUES INTEGRATED FROM CPROD AND CORPR VALUES ARE RESP.: 4.4 AND 4.8 MGC/SORMH

STATION 6 DYNABROTT LAT: N 58 17.60 LONG: E 11 18.60 BOTTOM DEPTH 96 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE A/R SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN /73 01 24 11 00 /73 01 24 10 00 DIR. VEL. COVER NO OBS HEIGHT TEMP DEPTH HR MT HR MT

DEPTH M	TEMP. CELS.	OXYG % SAT	A.O.U	SALT MA/L	P04P MA/L	TOTP MA/L	ORGP MA/L	N03N MA/L	N02N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/S	SOUNDV	STABIL.
0	2.5	8.41	103.1	23.272	.51	1.18	.67								18.61	1444.6	
5	2.5	8.41	103.1	23.276		1.17									18.61	1444.7	.7
10	2.5	8.34	102.5	23.653	.10	1.18	1.08								18.91	1445.3	60.0
15	2.1	8.30	101.4	24.337	.38	1.07	.69								19.48	1444.5	112.9
20	3.0	7.93	100.0	25.620	.94	1.01	.07								20.45	1450.3	193.8
30	6.3	6.49	92.6	46.2	32.007	.51	1.22	.71							25.18	1472.8	473.1
40	7.3	6.32	94.0	36.2	34.662	.66	1.21	.55							27.13	1480.4	195.5
60	7.6	6.32	94.7	31.4	34.977	.50	1.15	.65							27.34	1482.3	10.2
90	7.6	6.38	95.7	25.8	35.039	.50	1.22	.72							27.38	1482.9	1.6

DEPTH M OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 MG/L MIC MG/L

0	<.05																		
5			1.8																223
10			1.9																
15																			
20																			
30																			
40																			
60																			
90																			

2501

STATION 7
 LOCAL DATE AND TIME GREENWICH MEAN TIME LAT: 58 22.40 LONG: 11 22.65
 YEA MON DAY HOU MIN 73 01 24 13 15 / 73 01 24 12 15
 WIND WAVE CLOUD WAVE AIR SECCHI PROD: START DURAT
 DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 NO OBS NO OBS

DEPTH M	TEMP. CELS.	OXYG %	SAT	A.O.U	SALT	P04P	TOTP	ORGP	NO3N	NO2N	BOTH	NH4N	SUMN	TOTN	ORGN	SIGMA	SOUNDV	STABIL.
		ML/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	M/S		
0	2.0	8.43	102.3		23.569	.18	1.07	.89								18.87	1442.8	
2.5		8.38				.58	1.08	.50								NOT COMPUTED		
5	1.9	8.38	101.5		23.808	1.00	1.08	.08								19.07	1442.7	
10	1.7	8.29	100.3		24.459	.29	1.03	.74								19.59	1442.8	105.6
15	2.2	8.08	99.3	5.2	24.795	.75	1.08	.33								19.84	1445.5	48.8
20	3.0	7.71	96.9	21.7	25.180	.31	1.05	.74								20.10	1449.7	51.9
25	4.7	6.85	91.5	56.9	27.801	.21	1.33	1.12								22.04	1460.6	388.0

DEPTH M	OIL FEN	ORGC	YEL.	PH	CPROD	NETPR	CORPR	NETCO	CARB	SUMN	ORGN	TOTN	CARB	ORGC	TOTC	MEAN
	MG/L	MIG	MG/L		MGC/QMH	MGC/L	/P04	/OP	/TP	P04P	ORGP	TOTP	N/P	C/P		
0	<.05															
2.5																
5																
10																
15																
20																
25																

STATION 9
 LOCAL DATE AND TIME 73 01 24 15 10
 YEA MON DAY HOU MIN
 LAT: 58 18 40 LONG: 11 23 50
 GREENWICH MEAN TIME 73 01 24 14 10
 WIND WIND DIR. VEL. WAVE HEIGHT NO OBS
 CLOUD COVER NO OBS
 AIR TEMP NO OBS
 SECCHI DEPTH PROD: START DURAT HR MT HR MT
 BOTTOM DEPTH 27 M
 DEPTH TEMP. CELLS. OXYG % SAT ML/L
 M CELLS. OXYG % SAT ML/L
 0 2.4 8.36 102.4
 2.5 2.4 8.37 102.5
 5 2.4 8.40 102.8
 10 2.4 8.41 103.0
 15 2.5 8.25 101.6
 20 3.4 7.86 100.3
 25 4.3 7.50 98.9

A.O.U. SALT MA/L
 23.473
 23.496
 23.467
 23.478
 23.970
 25.797
 27.361

NO3N MA/L
 .84
 .79
 1.34
 .79
 1.35
 1.05
 1.73

NO2N MA/L
 1.21
 1.10
 1.05
 1.02
 1.09
 .97
 1.05

BOTH MA/L
 .37
 .31
 .23
 .23
 .97
 .32

NH4N MA/L
 .84
 .79
 1.34
 .79
 1.35
 1.05
 1.73

SUMN MA/L
 1.21
 1.10
 1.05
 1.02
 1.09
 .97
 1.05

TOTN MA/L
 1.21
 1.10
 1.05
 1.02
 1.09
 .97
 1.05

SIGMA M/S
 18.77
 18.79
 18.77*
 18.78
 19.16
 20.56
 21.73

CARB MG/L
 .37
 .31
 .23
 .23
 .97
 .32

NETCO CORPR NETPR PH
 .73 1.05 .73 1.05
 .79 1.10 .79 1.10
 1.34 1.05 1.34 1.05
 .79 1.02 .79 1.02
 1.35 1.09 1.35 1.09
 1.05 .97 1.05 .97
 1.73 1.05 1.73 1.05

CARB /MG/L
 .37
 .31
 .23
 .23
 .97
 .32

P04P MA/L
 .84
 .79
 1.34
 .79
 1.35
 1.05
 1.73

P04 /OP
 .84
 .79
 1.34
 .79
 1.35
 1.05
 1.73

ORGN /TOTP
 .84
 .79
 1.34
 .79
 1.35
 1.05
 1.73

CARB /ORGP
 .37
 .31
 .23
 .23
 .97
 .32

TOTC /TOTP
 .84
 .79
 1.34
 .79
 1.35
 1.05
 1.73

MEAN N/P
 .84
 .79
 1.34
 .79
 1.35
 1.05
 1.73

C/P
 .84
 .79
 1.34
 .79
 1.35
 1.05
 1.73

* = UNSTABLE DENSITY STRATIFICATION

STATION 11
 LOCAL DATE AND TIME GREENWICH MEAN TIME
 YEA MON DAY HOU MIN 73 01 24 09 40 73 01 24 08 40
 LAT: 58.15.95 LONG: 11.22.20
 WIND WIND CLOUD WAVE WAVE AIR
 DIR. VEL. COVER HEIGHT TEMP
 NO OBS NO OBS
 BOTTOM DEPTH 40 M
 SECCHI PROD: START DURAT
 DEPTH HR MT HR MT

DEPTH M	TEMP. CELS.	OXYG %	SAT ML/L	A.O.U	SALT MA/L	PO4P MA/L	TOTP MA/L	ORGP MA/L	N03N MA/L	N02N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/S	SOUNDV	STABIL.
0	2.4	8.38	102.5		23.433	.24	1.09	.85								18.74	1444.4	
2.5	2.4	8.36	102.3		23.425	.35	1.14	.79								18.74*	1444.4	-2.5
5	2.4	8.38	102.6		23.406	.32	1.14	.82								18.72*	1444.4	-6.0
10	2.4	8.26	101.3		23.706	.43	1.04	.61								18.96	1444.9	47.7
15	2.7	8.16	101.3		24.432	.39	1.10	.71								19.52	1447.3	112.3
20	4.2	7.58	99.4	3.9	26.929	.39	1.12	.73								21.39	1457.2	374.3
30	6.8	6.45	93.7	38.8	33.007	.69	1.14	.45								25.90	1476.1	450.8
38	6.9	6.31	92.7	44.4	34.209	.41	1.23	.82								26.83	1478.2	116.4

DEPTH M	OIL MG/L	FEN MG/L	ORGC MG/L	YEL. PH	CPROD MGC/QMH	NETPR	CORPR	NETCO	CARB MG/L	SUMN	ORGN	TOTN	CARB/TP	PO4P	ORGP	TOTP	ORGC/TP	MEAN	MEAN
0			<.05																
2.5																			
5																			
10																			
15																			
20																			
30																			
38																			

* = UNSTABLE DENSITY STRATIFICATION

STATION 12

LAT: 58 15.65 LONG: 11 26.70

BOTTOM DEPTH 52 M

LOCAL DATE AND TIME YEA MON DAY HOU MIN	GREENWICH MEAN TIME	WIND DIR.	WIND VEL.	CLOUD COVER	WAVE HEIGHT	AIR TEMP	SECCHI DEPTH	PROD: START HR MT	DURAT HR MT					
73 01 24 08 15	73 01 24 07 15													
DEPTH TEMP. CELS: ML/L	A.O.U. SALT MA/L	P04P MA/L	TOTP MA/L	ORGP MA/L	N03N MA/L	N02N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/S	SOUNDV	STABIL.
0 2.3 8.37 102.3	23.487	.60	1.21	.61								18.79	1444.0	
5 2.4 8.33 102.0	23.504	.49	1.18	.69								18.80	1444.6	1.8
10 2.6 8.23 101.6	23.826	.33	1.07	.74								19.04	1446.0	49.1
15 3.2 7.91 100.4	25.667	.43	1.05	.62								20.47	1451.1	285.1
20 4.4 7.51 99.1	6.2 26.959	.51	1.02	.51								21.40	1458.1	185.7
30 7.1 6.05 88.0	73.6 32.137	.71	1.19	.48								25.18	1476.1	377.8
40 7.2 6.23 91.7	50.7 33.338	.61	1.26	.65								26.11	1478.3	92.9
47 7.2 6.36 93.8	37.5 33.926	1.28	1.21									26.57	1479.1	65.9

DEPTH M	OIL FEN ORGC MG/L	YEL. PH	CPROD NETPR MGC/QMH	NETCO CARB MG/L	SUMN ORGN /P04 /OP	TOTN CARB /TP	ORGC /P04P	TOTC /ORGP	MEAN N/P	MEAN C/P
0	< .05									
5										
10										
15										
20										
30										
40										
47										

STATION 4 YTTRE BROFJORDEN LAT: N 58 19.90 LONG: E 11 23.10 BOTTOM DEPTH 34 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 01 31 09 25 /73 01 31 08 25 S 8 M/S 8 /8 0.1-0.5 M 1.5 C 8.5 M

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS: ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	2.3	8.33	101.4															18.30	1443.3
5	2.3	8.28	100.9															18.44	1443.6
10	4.2	7.34	96.4	24.8	27.154													21.57	1457.2
15	6.6	6.44	93.3	41.6	33.054													25.96	1475.2
20	7.1	6.19	91.1	54.3	33.965													26.62	1478.2
30	7.3	6.25	92.9	42.6	34.619													27.09	1480.2
34	7.2	6.27	92.9	42.5	34.603													27.10	1479.8

DEPTH OIL FEN ORGC YEL. PH CPRD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MIG MG/L MGC/QMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P

0																			
5																			
10																			
15																			
20																			
30																			
34																			

1.01
 1.15
 .87
 .55
 .41
 .37
 .32

STATION 5 (FJ 63) MALM8DRAG LAT: N 58 19.10 LONG: E 11 21.70 BOTTOM DEPTH 36 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 01 31 09 45 73 01 31 08 45 S 8 M/S 8 /8 0.1-0.5 M 2.0 C 8.5 M

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP N03N N02N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L O/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S
 0 2.4 8.32 101.5 22.980 1.05 18.38 1443.7
 5 2.4 8.24 100.7 23.160 1.09 18.52 1444.2 28.3
 10 3.9 7.55 98.0 13.5 26.529 1.42 21.10 1455.2 515.3
 15 6.7 6.42 93.2 41.9 33.125 1.09 26.00 1475.6 980.7
 20 7.1 6.39 94.1 36.0 34.026 1.18 26.67 1478.3 132.2
 30 7.3 6.27 93.2 40.9 34.622 1.25 27.10 1480.2 43.3
 35 7.1 6.31 93.4 39.8 34.703 1.32 27.19 1479.6 18.4

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MIG MG/L /P04 /TP /P04 /OP /TP P04P ORGP TOTP N/P C/P
 0 .92
 5 .97
 10 .87
 15 .46
 20 .41
 30 .32
 35 .28

AVERAGE VALUES FOR THE WATER COLUMN 0-30 M AVERAGE VALUES FOR THE WATER COLUMN BELOW 30 M
 P04P TOTP SUMN TOTN CARB TOTC P04P TOTP SUMN TOTN CARB TOTC
 TONS TONS TONS TONS TONS TONS TONS TONS TONS TONS

STATION 2 (FU 62) BROFJORDEN LAT: N 58 21.60 LONG: E 11 25.70 BOTTOM DEPTH: 22 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECOND PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 02 19 NOT GIVEN NO OBS NO OBS

DEPTH M	TEMP. CELS.	OXYG % ML/L	SAT MA/L	A.O.U. MA/L	SALT 0/00	PO4P MA/L	TOTP MA/L	ORGP MA/L	NO2N MA/L	NO3N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/S	SOUNDV STABIL.
0	4.4	7.58	102.6		30.856		.77		7.5	.21						24.48	1463.0
2.5	4.4	7.58	102.5		30.733		.81		7.3	.27	8.0					24.38*	1462.8
5	4.5	7.46	101.4		31.257		.83									24.79	1463.7
10	4.7	7.58	104.0		31.758		.82				8.1					25.16	1465.6
15	5.3	7.63	106.9		32.735		.79				7.3	.59	7.9			25.87	1469.4
20	5.3	7.34	102.9		32.999		.82		6.6	.27						26.08	1469.8

DEPTH M	OIL MG/L	FEN MIG	ORGC MG/L	PH	CPROD MGC/QMH	NETPR CORPR	NETCO CARB MG/L	SUMN ORGN /PO4 /OP	TOTN CARB /TP	CARB PO4P ORGP	TOTC TOTP	MEAN N/P	MEAN C/P
0													
2.5													
5													
10													
15													
20													

* = UNSTABLE DENSITY STRATIFICATION

STATION 5 (FJ 63) MALMÖDRAG LAT: N 58 19.10 LONG: E 11 21.70 BOTTOM DEPTH 36 M
 LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN SW 8 M/S 8 / 8 0.5-1.2 M HEIGHT TEMP DEPTH HR MT HR MT

DEPTH M	TEMP. CELS.	OXYG %	SAT ML/L	A.O.U	SALT 0/00	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/S	SOUNDV	STABIL.
0	4.2	7.83	105.4		30.685	.83	7.7	.30								24.36	1461.8	
5	4.3	7.54	101.8		30.918	.78	7.3	.27								24.54	1462.6	35.3
10	4.7	7.42	101.9		31.897	.79	7.3	3.47	10.8							25.27	1465.8	146.2
15	5.2	7.39	103.2		32.752	.81	7.0									25.90	1469.0	124.6
20	5.3	7.31	102.5		32.964	.77	6.4	.24								26.05	1469.8	31.0
30	5.7	7.06	100.3		33.733	4.70	5.9	1.37	7.3							26.62	1472.5	56.5

DEPTH M	OIL MG/L	FEN MG/L	ORGC MG/L	YEL. RH	CPROD MGC/QMH	NETPR	CORPR	NETCO	CARB MG/L	SUMN /P04	ORGN /OP	TOTN /TP	CARB /P04P	ORGC /TOTC	MEAN
0															
5															
10															
15															
20															
30															

AVERAGE VALUES FOR THE WATER COLUMN 0-30 M AVERAGE VALUES FOR THE WATER COLUMN BELOW 30 M

P04P TONS	TOTP TONS	SUMN TONS	CARB TONS	TOTN TONS	CARB TONS	TOTC TONS
7.1	28.0					

NOTE: SAMPLE AT 30 M DEPTH MUDDY, SAMPLER HAS PROBABLY TOUCHED BOTTOM

STATION 1 INRE BROFJORDEN LAT: N 58 22.50 LONG: E 11 26.30 BOTTOM DEPTH: 18 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND DIR. WIND VEL. CLOUD COVER NO OBS WAVE HEIGHT AIR TEMP SECCHI PROD: START DURAT DEPTH HR MT HR MT

DEPTH M	TEMP CELS	OXYG % SAT	A.O.U. SALT MA/L	0/00 MA/L	SALT MA/L	PO4P MA/L	TOTP MA/L	ORGP MA/L	NO3N MA/L	NO2N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/L	SOUNDV M/S	STABIL.
0	2.8	9.04	114.2	26.540	.18	.75	.57	3.1	.21	3.3	21.19	1450.3	21.42	1448.9	91.2			
2.5	2.4	8.89	111.3	26.794	.46	1.06	.60	2.9	.24	3.2	21.44	1449.0	21.61	1449.3	33.2			
5	2.4	9.16	114.8	26.825	.23	.93	.70	4.1	.68	4.8	21.85	1452.1	21.61	1449.3	33.2			
10	2.4	8.91	111.7	27.033	.27	.87	.60	5.0	.29	5.3	21.61	1449.3	21.85	1452.1	49.2			
15	2.9	8.69	110.7	27.384	.15	.83	.68	6.0	.18	6.2	21.85	1452.1	21.85	1452.1	49.2			

DEPTH M	OIL FEN ORGC MG/L	FEN ORGC MG/L	YEL. PH	CPROD NETPR CORPR NETCO CARB MG/L	SUMN ORGN /PO4 /OP /TP	TOTN CARB/ ORGC/ TOTC/	MEAN N/P	MEAN C/P
0	.69	.64	.83	.60	19.0			
2.5	.64	.83	.60	20.7				
5	.83	.60	.69	19.4				
10	.60	.69	.69	41.5				
15	.69							

NOTE: NITRATE SAMPLES RUN AT 581 NM IN 5 CM CUVETTES

STATION 2 (FJ 62) BROFJORDEN LAT: N 58 21.60 LONG: E 11 25.70 BOTTOM DEPTH: 22 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 02 27 11 00 73 02 27 10 00 NW 2 M/S 1 /8 NO OBS 5.7 M 10 50 4 0

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP N03N N02N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L O/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	3.0	9.09	114.9	25.908	.75	1.7	.24	1.9	20.67	1450.3
2.5	2.6	9.02	113.2	26.388	.07	2.3	.05	2.4	21.08	1449.2
5	2.9	9.10	114.9	26.235	.84	4.8	.24	5.0	20.94*	1450.2
10	3.0	8.69	110.7	27.110	.19	2.3	1.12	3.5	21.63	1452.1
15	3.2	8.61	110.3	27.472	.33	5.8	.40	6.2	21.91	1453.3
20	3.1	8.33	107.5	28.635	.53	6.9	.78	7.7	22.83	1454.7

DEPTH OIL FEN ORGC YEL. PH CPRD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MG MG/L MG/G QMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P

0	.64	8.0	10.2	9.98	11.2	11.0	24.1			
2.5	.69	8.0	16.4	18.0			24.2			
5	.69	8.0	8.12	7.91	8.93	8.70	24.2			
10	.74	8.0	1.26	1.39			24.4			
15	.69	7.9	.41	.32	.45	.36	24.9		6364	
20	.64						14.5			

* = UNSTABLE DENSITY STRATIFICATION
 PRIMARY PRODUCTION VALUES INTEGRATED FROM CPD AND CORP VALUES ARE RESP.: 93 AND 102 MGC/SORMH

STATION 3 STRETUDDEN LAT: N 58 20.55 LONG: E 11 24.15 BOTTOM DEPTH 48 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN /73 02 27 14 30 DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELLS: ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	3.0	9.35	118.0		25.637	.04	.74	.70	1.2	.23	1.5		20.46	1450.0	
5	3.0	9.36	118.1		25.615	.14	.81	.67	2.7	.51	3.2		20.44*	1450.0	3.6
10	2.8	8.92	112.7		26.635	.19	.78	.59	6.2	.24	6.5		21.27	1450.6	164.8
15	3.0	8.32	106.7		28.031	.19	.71	.52	7.7	.28	9.1		22.36	1453.4	219.1
20	4.4	7.89	106.5		30.565	.45	.76	.31	6.8	.84	7.6		24.25	1462.9	377.9
30	5.5	7.23	101.7		32.771	1.84	.82		5.7	1.10	6.8		25.88	1470.5	162.5
40	5.6	6.92	98.0		33.292	1.06	.92						26.28	1471.8	40.0

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB ORGC TOTC / MEAN MEAN
 M MG/L M/G MG/L MGC/QMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P

0				.55												
5				.55												
10				.55												
15				.60												
20				.37												
30				.23												
40				.18												

* = UNSTABLE DENSITY STRATIFICATION

STATION 4 YTTRE BROFJORDEN LAT: N 58 19.90 LONG: E 11 23.10 BOTTOM DEPTH 34 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 02 27 14 00 73 02 27 13 00 W 1 M/S: 1 /8 0 → 0.1 M

DEPTH TEMP. OXYG % SAT A. O. U SALT P04P TOTP ORGP N03N N02N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S
 0 3.1 9.21 116.3 25.465 .71 .07 .81 .74 1.3 .56 1.9 20.32 1450.2
 5 2.8 9.21 115.7 25.829 .16 .79 .63 1.9 .81 2.7 20.62 1449.4 61.7
 10 2.7 8.65 108.8 26.516 .34 .69 .35 3.3 .75 4.1 21.18 1449.8 111.2
 15 2.9 8.39 107.4 28.051 .14 .77 .09 7.3 1.16 8.5 22.38 1453.0 240.7
 20 3.8 8.18 108.3 29.872 1.14 .79 .88 .09 7.5 .82 8.3 23.76 1459.4 274.8
 30 5.4 7.28 102.2 32.917 .79 .88 .09 7.1 .80 7.9 26.00 1470.3 224.5

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L M/G MG/L M/GC/QMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P
 0 .60 40.6
 5 .64 24.9
 10 .60 25.0
 15 .64 7.3
 20 .46 10.0
 30 .18

STATION 5 (FJ 63) MALMÖDRAG LAT: N 58 19.10 LONG: E 11 21.70 BOTTOM DEPTH 36 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 02 27 NOT GIVEN NO OBS NO OBS

DEPTH M	TEMP. CELS.	OXYG % SAT	A.O.U SALT MA/L	0/00 MA/L	P04P MA/L	T0TP MA/L	ORGP MA/L	N03N MA/L	N02N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA MA/L	SOUNDV M/S	STABIL.
0	1.8	8.82	107.9	25.585	.11	.74	.63			1.7	.92	2.6		20.49	1444.6		
2	2.9	8.90	112.1	25.672	.15	.77	.62			1.5	.66	2.2		20.49	1449.6		2.9
5	3.0	8.74	110.6	26.002	.24	.82	.58			2.0	.21	2.2		20.75	1450.5		85.3
10	3.0	8.77	111.5	26.724	.42					3.4	1.81	5.2		21.32	1451.6		114.7
15	3.0	8.32	106.5	27.906		.78				5.9	.31	6.2		22.26	1453.2		187.9
20	3.8	8.23	109.0	29.805	.47	.92	.45			8.8	.37	9.2		23.70	1459.3		288.6
30	5.3	7.10	99.4	4.0	32.616	.51	.31			6.4	.80	7.2		25.78	1469.5		207.2

DEPTH M	OIL MG/L	FEN MG/L	ORGC MG/L	YEL. PH	CPROD MGC/GMH	NETPR MGC/GMH	CORPR MGC/GMH	NETCO MGC/L	CARB MG/L	SUMN /P04	ORGN /OP	TOTN /TP	CARB /P04P	ORGC /ORGP	TOTC /TOTP	MEAN N/P	MEAN C/P
0	.55	8.0	14.4	13.9	15.8	15.3	24.0	23.7									
2	.60	8.0	17.1	18.8	18.8	24.0	14.8										
5	.60	8.0	9.27	8.97	10.2	9.87	24.1	9.0					8224				
10	.69	8.0	1.45	1.59	1.59	24.3	12.4						4821				
15	.69	7.9	.35	.18	.38	.19	25.0										
20	.55							19.3									
30	.32							14.1									

AVERAGE VALUES FOR THE WATER COLUMN 0-30 M AVERAGE VALUES FOR THE WATER COLUMN BELOW 30 M

P04P TONS	T0TP TONS	SUMN TONS	TOTN TONS	CARB TONS	TOTC TONS
2.7	5.8	16.2	5620	.3	.3
				1.0	1.0

PRIMARY PRODUCTION VALUES INTEGRATED FROM CPROD AND CORPR VALUES ARE RESP.: 104 AND 115 MGC/SGRMH

STATION 7
 LOCAL DATE AND TIME 73 02 27 12 00
 YEA MON DAY HOU MIN 73 02 27 12 00
 GREENWICH MEAN TIME 73 02 27 11 00
 WIND WIND DIR. VEL. NO OBS
 CLOUD COVER NO OBS
 WAVE HEIGHT NO OBS
 AIR TEMP 5.2 M
 SECCHI PROD: START DURAT
 DEPTH HR MT HR MT
 BOTTOM DEPTH 27 M
 LAT: 58 22.40 LONG: 11 22.65
 DEPTH TEMP. OXYG % SAT A. O. U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L O/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	2.8	9.21	115.9	26.050	.78	.8	20.80	1449.6	219.2
2.5	2.7	9.09	114.6	26.731	.85	.9	21.35	1450.1	219.2
5	2.6	9.08	114.3	26.786	.82	2.3	21.40	1449.8	20.0
10	2.8	8.76	111.4	27.645	.85	3.1	22.07	1451.9	134.0
15	2.8	8.52	109.1	28.579	.74	5.3	22.81	1453.3	148.6
20	3.0	8.29	106.9	28.969	.72	7.4	23.11	1454.7	59.0
25	3.2	8.26	107.3	29.229	.72	7.1	23.30	1456.0	38.2

DEPTH 0 2.5 5 10 15 20 25
 M OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB MG/L /P04 /OP /TP P04P ORGP TOTP ORGC / TOTC / MEAN MEAN
 MG/L M/G MG/L MGC/QMH

STATION 8
 LOCAL DATE AND TIME 73 02 27 13 15
 YEA MON DAY HOU MIN
 GREENWICH MEAN TIME 73 02 27 12 15
 WIND WIND CLOUD WAVE AIR
 DIR. VEL. COVER HEIGHT TEMP
 NO OBS NO OBS
 LONG: 11 21.35
 LAT: 58 21.10
 BOTTOM DEPTH 36 M
 SECCHI PROD: START DURAT
 DEPTH HR MT HR MT
 4.5 M
 DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L O/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S
 0 3.0 9.34 118.2 26.051 .43 .78 .35 1.3 20.79 1450.5
 2.5 2.8 9.52 119.9 26.063 .00 .75 .75 .8 20.81 1449.7 8.9
 5 2.8 9.36 117.8 26.116 .00 .77 .77 .6 20.85 1449.8 17.0
 10 2.7 9.37 117.9 26.390 .00 .86 .86 .6 21.08 1449.8 44.7
 15 2.9 8.47 108.9 28.709 .20 .76 .56 7.3 22.91 1453.9 366.1
 20 3.1 8.23 106.7 29.306 .45 .81 .36 8.3 23.37 1455.6 91.9
 30 5.2 7.44 103.9 32.737 .75 .88 .13 7.2 25.88 1469.3 251.7
 34 5.2 7.27 101.7 33.029 .72 1.02 .30 6.9 26.11 1469.7 57.8

DEPTH OIL FEN ORGC YEL. PH CPRD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L M/G MG/L
 0
 2.5
 5
 10
 15
 20
 30
 34

P04P /TP P04P /ORGP TOTP N/P C/P
 .43 .00 .00 .00 .20 .45 .75 .72
 .78 .75 .77 .86 .76 .81 .88 1.02
 .35 .75 .77 .86 .56 .36 .13 .30
 1.3 .8 .6 1.8 7.3 8.3 7.2 6.9
 20.79 20.81 20.85 21.08 22.91 23.37 25.88 26.11
 1450.5 1449.7 1449.8 1449.8 1453.9 1455.6 1469.3 1469.7
 8.9 17.0 44.7 366.1 91.9 251.7 57.8

STATION 10
 LOCAL DATE AND TIME
 YEA MON DAY HOU MIN
 73 02 27 15 10
 GREENWICH MEAN TIME
 73 02 27 14 10
 LAT: 58.17.45 LONG: 11.25.50
 WIND WIND DIR. VEL.
 CLOUD COVER NO OBS
 WAVE HEIGHT NO OBS
 AIR TEMP
 SECCHI PROD: START DURAT
 DEPTH HR MT HR MT
 BOTTOM DEPTH 22 M
 DEPTH TEMP. OXYG % SAT A.O.U. SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S
 0 2.9 9.50 119.7 25.785 .88
 2.5 2.8 9.43 118.5 25.787 1.04
 5 2.7 9.49 119.2 25.977 .91
 10 2.5 9.14 114.4 26.360 .92
 15 2.9 8.44 107.9 27.981 .89
 20 4.3 7.79 104.5 29.908 .84
 DEPTH OIL FEN ORGC YEL. PH CPRD NETRR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTP/ MEAN MEAN
 M MG/L MIG MG/L MGC/QMH MGC/L /P04 /OP /TTP P04P ORGP TOTP N/P C/P
 0
 2.5
 5
 10
 15
 20

0
 2.5
 5
 10
 15
 20

STATION 11
 LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN /73 02 27 08 15 /73 02 27 07 15 DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 02 27 08 15 /73 02 27 07 15 SW 2 M/S NO OBS NO OBS NO OBS
 DEPTH TEMP. OXYG % SAT A.O.U. SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L O/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	2.6	9.14	113.9	25.396	.00	.75	.75	1.7	20.29	1447.9	
2.5	2.6	9.16	114.1	25.341	.00	.72	.72	.9	20.25*	1447.8	-17.3
5	2.7	9.06	113.2	25.298	.28	.87	.59	.6	20.21*	1448.3	-16.4
10	2.9	9.01	113.5	25.800	.05	.83	.78	.9	20.60	1449.9	77.4
15	3.1	8.04	102.4	26.797	.27	.79	.52	2.9	21.37	1452.2	155.7
20	3.9	6.97	92.2	52.3	29.408	.65	.82	7.7	23.38	1459.2	401.5
30	5.3	9.21	128.7	32.463	.92	.80		7.4	25.66	1469.3	227.5
40	5.6	8.91	126.0	33.113	.76	.91	.15	6.6	26.13	1471.6	47.8

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MIG MG/L MGC/GMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P

0												
2.5												
5												
10												
15												
20												
30												
40												

* = UNSTABLE DENSITY STRATIFICATION

STATION 12: LAT: 58 15.65 LONG: 11 26.70 BOTTOM DEPTH 52 M

LOCAL DATE AND TIME	GREENWICH MEAN TIME	WIND WIND DIR. VEL.	CLOUD COVER NO OBS	WAVE HEIGHT NO OBS	AIR TEMP	SECCHI PROD: START DURAT DEPTH HR MT HR MT
73 02 27 15 45	73 02 27 14 45					
DEPTH TEMP. OXYG % SAT	A, O, U, SALT	PO4P TOTP ORGP	NO3N NO2N BOTH NH4N SUMN	TOTN ORGN	SIGMA SOUNDV	STABIL.
M CELS. ML/L	MA/L 0/00	MA/L MA/L MA/L MA/L	MA/L MA/L MA/L MA/L	MA/L MA/L	M/S	
0 2.9 9.56 120.2	25.490	.00 .91 .91	.9		20.35 1449.3	
2.5 2.8 9.46 118.7	25.529	.34 .96 .62	.8		20.39 1449.0	14.9
5 2.8 9.40 117.9	25.602	.04 .94 .90	.7		20.44 1449.1	23.2
10 3.0 9.02 114.3	26.286	.56 1.16 .60	2.8		20.97 1451.0	106.1
15 8.00		.45 .98 .53	7.5		NOT COMPUTED	
20 4.8 7.58 103.5	30.760	.41 .86 .45	7.9		24.36 1464.8	
30 5.7 7.17 101.3	32.775	.33 .88 .55	7.7		25.86 1471.4	149.0
40 5.8 7.08 100.7	33.251	.34 .99 .65	7.2		26.22 1472.6	36.4
50 6.4 6.39 92.6	45.833.994	1.23			26.73 1476.1	51.0

DEPTH M	OIL FEN ORGC YEL. MG/L	PH	CPROD NETPR CORPR NETCO CARB MG/L	SUMN ORGN /P04 /OP /TP	TOTN CARB/ ORGC/ TOTP	MEAN N/P C/P
0						
2.5						
5						
10						
15						
20						
30						
40						
50						

0
2.5
5
10
15
20
30
40
50

STATION 2 (FJ 62) BROFJORDEN LAT: N 58 21.60 LONG: E 11 25.70 BOTTOM DEPTH: 22 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP HR MT HR MT
 73 03 20 NOT GIVEN NO OBS NO OBS NO OBS

DEPTH M	OXYG % SAT	A.O.U	SALT MA/L	0/00	PO4P MA/L	TOTP MA/L	ORGP MA/L	NO3N MA/L	NO2N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/L	SOUNDV M/S	STABIL.
0	4.3	8.16	104.5	22.942	.02	.49	.47	.08	.01	1.12	1.2	22.8	21.6	18.23	1452.0		
2.5	4.2	7.30	93.1	48.2	22.797	.04	.52	.17	.03	1.17	1.4	18.13*	1451.4	-42.8			
5	3.9	8.63	112.2	26.847	.09	.57	.48	.10	.03	.85	1.0	25.0	24.0	21.35	1455.5	1290.8	
10	4.5	5.50	74.0	172.1	29.885	.13	.73	.60	.12	1.35	3.5	23.70	1462.2	470.0			
15	4.9	5.39	74.1	168.2	31.454	.32	.81	.49	.25	1.57	8.6	24.90	1466.0	240.0			
20	4.9	4.61	63.9	233.2	32.485	.45	.82	.37	.28	1.36	9.0	23.8	14.8	25.72	1467.5	163.1	

DEPTH M	OIL MG/L	FEN MG/L	ORGC YEL. MG/L	RH	CPROD MGC/GMH	NETPR	CORPR	NETCO	CARB MG/L	SUMN /PO4	ORGN /OP	TOTN /TP	CARB/PO4P	ORGC/ ORGP	TOTC/ TOTP	MEAN N/P	MEAN C/P
0	<.05		.97	8.1	4.62	4.36	5.08	4.79	22.8	60.7	45.9	46.5					
2.5			.74	8.1	4.10		4.52		22.7	34.1							
5	<.05		.92	8.1	3.89	3.67	4.28	4.03	24.0	10.8	50.0	43.8					
10			.55	7.9	1.50		1.65		25.6	27.2							
15			.41	7.9	.40	.19	.44	.20	26.1	27.0		6780					
20	<.05		.41						20.0	40.1	29.1						39.8

* = UNSTABLE DENSITY STRATIFICATION WATER SAMPLER THERMOMETER NO 42
 PRIMARY PRODUCTION VALUES INTEGRATED FROM CPROD AND CORPR VALUES ARE RESP: 40 AND 44 MGC/SORMH

STATION 3 STRETUDDEN LAT: N 58 20.55 LONG: E 11 24.15 BOTTOM DEPTH 48 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 03 20 NOT GIVEN NO OBS NO OBS

DEPTH M	TEMP CELS	OXYG %	SAT ML/L	A.O.U	SALT 0/00	P04P MA/L	T0TP MA/L	ORGP MA/L	N03N MA/L	N02N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	T0TN MA/L	ORGN MA/L	SIGMA MA/L	SOUNDV M/S	STABIL.
0	4.1	8.86	112.9		22.964	.02	.53	.51	.16	.03		1.09	1.3	22.3	21.1	18.27	1451.2	
5	4.0	9.17	119.0		26.155	.04	.60	.56	.18	.03		1.09	1.3	23.8	22.5	20.80	1455.0	506.4
10	4.4	7.31	98.6	9.3	30.525	.22	.65	.43	2.1	.18		1.38	3.6			24.22	1462.6	684.5
15	5.1	6.80	94.3	37.0	32.051	.46	.75	.29	5.8	.26		1.50	7.6			25.35	1467.6	227.0
20	5.4	6.52	91.6	53.6	32.971	.50	.85	.35	5.5	.27		1.30	7.1	37.0	29.9	26.05	1470.1	138.5
30	5.3	6.47	90.8	58.5	33.236	.59	.88	.29	6.0	.25		1.57	7.8			26.27	1470.3	22.1
40	5.4	6.43	90.6	59.8	33.338	.54	.98	.44	6.5	.25		1.73	8.5	40.0	31.5	26.34	1471.0	6.9

DEPTH M	OIL MG/L	FEN MG/L	ORGC MG/L	YEL	PH	CPROD MGC/QMH	NETPR	CORPR	NETCO	CARB MG/L	SUMN /P04	ORGN /OP	T0TN /TP	CARB /P04P	ORGC /ORGP	T0TC/ T0TP	MEAN N/P	MEAN C/P
0	<.05			.92							64.0	41.3	42.2					41.8
5				.78							32.4	40.1	39.6					40.8
10				.60							16.6							
15				.46							16.5							
20				.41							14.1	85.6	43.5					
30				.64							13.2							
40				.37							15.7	71.8	40.8					

WATER SAMPLER THERMOMETER NO 42

STATION 4 YTTRE BROFJORDEN LAT: N 58 19.90 LONG: E 11 23.10 BOTTOM DEPTH 34 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 03 20 NOT GIVEN NO OBS NO OBS

DEPTH M	TEMP. CELS.	OXYG %	SAT ML/L	A.O.U. MA/L	SALT 0/00	PO4P MA/L	TOTP MA/L	ORGP MA/L	NO3N MA/L	NO2N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/S	SOUNDV	STABIL.
0	4.1	8.88	113.5	23.335	.12	.61	.49	.11	.01	.93	1.1	16.6	15.5	18.56	1451.7			
5	4.0	9.10	118.7	26.921	.11	.62	.51	.25	.03	1.06	1.3	27.0	25.7	21.40	1456.0			568.9
10	4.4	7.59	102.2	30.130	.18	.75	.57	3.2	.07	1.20	4.5			23.91	1462.1			500.8
15	4.8	6.77	93.2	43.8	32.118	.46	.78	7.4	.29	1.26	9.0			25.44	1466.5			306.4
20	5.2	6.68	93.5	41.7	32.990	.49	.88	7.5	.28	1.20	9.0	26.4	17.4	26.09	1469.4			129.0
30	5.3	6.56	92.2	49.4	33.428	.50	.90	7.0	.29	1.65	9.0			26.42	1470.5			33.5

DEPTH M	OIL MG/L	FEN MG/L	ORGC MG/L	VEL. PH	CPROD MGC/QMH	NETPR	CORPR	NETCO	CARB MG/L	SUMN /PO4	ORGN /OP	TOTN /TP	CARB/ P04P	ORGC/ ORGP	TOTC/ TOTP	MEAN N/P	MEAN C/P	
0	<.05	.92	.78	.55	.51	.46	.41	8.8	31.7	27.2	12.1	50.4	43.6	24.7	19.5	18.3	44.7	30.0
5																		
10																		
15																		
20																		
30																		

WATER SAMPLER THERMOMETER NO 42

STATION 5 (FJ 63) MALMÖDRAG LAT: N 58 19.10 LONG: E 11 21.70 BOTTOM DEPTH 36 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 03 20 NOT GIVEN NO OBS NO OBS

DEPTH M	TEMP. CELS.	OXYG %	SAT ML/L	A. O. U. SALT MA/L	0/00	P04P MA/L	TOTP MA/L	ORGP MA/L	N03N MA/L	N02N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/L	SOUNDV M/S	STABIL.
0	4.2	7.40	94.6	37.6	23.104	.00	.51	.51	.12	.03	1.11	1.3	23.1	21.8	18.37	1451.8		
2.5	4.3	7.61	97.5	17.1	23.064	.06	.53	.47	.15	.03	1.03	1.2	18.33*	1452.2	15.9			
5	4.4	6.03	79.1	141.9	26.374	.08	.63	.55	.33	.01	1.02	1.4	20.0	18.7	20.94	1457.0	1043.1	
10	4.7	7.33	97.6	16.1	27.415	.09	.64	.55	2.1	.05	1.11	3.3		21.73	1459.7	159.2		
15	5.0	5.95	82.1	115.9	31.394	.30	.77	.47	.20		1.48			24.84	1466.5	621.5		
20	5.4	6.80	95.2	30.6	32.350	.46	.81	.35	.29		1.48		22.7	25.56	1469.3	143.3		
30	5.3	6.54	92.1	50.3	33.439	.52	.85	.33	7.3	.28	1.84	9.4		26.42	1470.7	86.6		

DEPTH M	OIL MG/L	FEN MG/L	ORGC MG/L	VEL. PH	CPROD MGC/QMH	NETPR	CORPR	NETCO	CARB MG/L	/P04	/OP	/TP	P04P	ORGP	TOTC	MEAN
0	<.05	1.01	8.0	.01				23.1	42.7	45.2						
2.5	<.05	1.01	8.0	3.19				23.1	20.3							
5	<.05	.74	8.0	5.48				5.66	24.2	17.0	34.0	31.8				
10		.64	8.0	1.80				24.5	36.1							
15		.51	7.9	.66	.43	.73		.48	26.1							
20		.64														
30		.55														

AVERAGE VALUES FOR THE WATER COLUMN 0-30 M AVERAGE VALUES FOR THE WATER COLUMN BELOW 30 M

P04P TONS	TOTP TONS	SUMN TONS	TOTN TONS	CARB TONS	TOTC TONS
1.9	5.0	14.6	78.4	5594	

* = UNSTABLE DENSITY STRATIFICATION WATER SAMPLER THERMOMETER NO 42
 PRIMARY PRODUCTION VALUES INTEGRATED FROM CPROD AND CORPR VALUES ARE RESP: 41 AND 45 MGC/SQRMH

STATION 1 INRE BROFJORDEN LAT: N 58 22.50 LONG: E 11 26.30 BOTTOM DEPTH: 18 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L
 73 04 04 09 10 73 04 04 08 10 SW 5 M/S 6 /8 0 0.1 M 4.0 C 5.5 M

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L
 0 5.0 7.77 102.5 24.842 .05 .45 .40 .00 1.10 28.9 19.68 1457.4
 2.5 5.3 7.12 97.7 15.1 29.820 .21 .59 .38 .93 1.10 23.58 1465.1 1559.2
 5 5.3 7.07 97.1 18.7 30.017 .23 .62 .39 1.2 .03 2.2 36.0 33.7 23.73 1465.4 62.2
 10 5.4 7.09 98.9 7.4 31.872 .23 .63 .40 .85 1.20 2.7 48.4 45.7 25.18 1468.4 290.3
 15 5.3 6.76 94.2 37.0 32.089 .32 .74 .42 1.7 .04 1.00 25.36 1468.5 35.8
 18 5.3 6.76 94.4 36.1 32.194 .35 .76 .41 2.2 1.30 25.44 1468.8 26.5

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB / ORGC / TOTC / MEAN MEAN
 M MG/L MIG MG/L MA/L MGC/GMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P
 0 <.05 8.4 22.3 64.3 9524
 2.5 8.3 24.0 24.0 8732
 5 8.3 24.1 24.6 8913
 10 8.3 24.6 24.7 6436
 15 8.3 24.7 24.8 5903
 18 8.3 24.8

STATION 2 (FJ 62) BROFJORDEN LAT: N 58 21.60 LONG: E 11 25.70 BOTTOM DEPTH: 22 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP HR MT HR MT
 73 04 04 09 35 73 04 04 08 35 SW 5 M/S 6 / 8 0 =0.1 M 5.0 C 7.0 M 10 30 4 0

DEPTH TEMP. OXYG % SAT A₀U SALT P04P T0TP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	4.7	7.70	102.1	26.864	.10	.65	.55	.18	.00	.62	.8	28.6	27.8	21.30	1458.7
2.5	5.1	7.42	101.2	29.291	.10	.54	.44	.71		.74				23.17	1464.0
5	5.3	7.09	98.4	10.6	.31	.292	.43	1.1	.02	.92	2.0	34.9	32.9	24.73	1467.4
10	5.4	7.05	98.4	10.0	.31	.909	.38	1.0		.94				25.21	1468.7
15	5.6	7.18	100.9	32.181	.19	.60	.41	.82		2.10				25.40	1469.9
20	5.6	7.07	99.4	4.1	.32	.274	.35	.99	.02	.97	2.0	30.1	28.2	25.47	1470.0
24	5.5	6.95	97.5	15.9	.32	.314	.42	1.7		1.40				25.52	1469.8

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MIG MG/L

0	< .05	8.4	.98	.89	1.08	.98	22.9	8.0	50.6	44.1					
2.5		8.3	1.53	1.68		23.7									
5	< .05	8.3	2.32	2.21	2.56	2.43	24.4	12.8	76.4	59.2					
10		8.3	1.10	1.21		24.6					9744				
15		8.3	.48	.53		24.6									
20	< .05	8.3				24.6		8.3	80.5	51.1					8538
24		8.3				24.8									7116

PRIMARY PRODUCTION VALUES INTEGRATED FROM CPROD AND CORPR VALUES ARE RESP.: 22 AND 24 MGC/SQRMH

51.4

STATION 3 STRETUDDEN LAT: N 58 20.55 LONG: E 11 24.15 BOTTOM DEPTH 48 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN /73 04 04 10 09 10 SW 6 M/S 8 /8 0.1=0.5 M 4.5 C 7.2 M DEPTH HR MT HR MT

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L O/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	4.7	7.80	103.1	26.339	.08	.42	.34	.00	.68	31.7	20.88	1458.1			
5	5.4	7.36	101.4	30.059	.11	.49	.38	.00	.79	1.3	37.5	36.2	23.75	1466.0	573.3
10	5.6	7.21	101.2	32.073	.16	.51	.35	.61	.95				25.31	1469.7	312.5
15	5.8	7.16	101.1	32.327	.19	.52	.33	.36	1.20	1.4	34.8	33.5	25.49	1470.8	36.3
20	5.8	7.16	101.3	32.473	.15	.71	.56	.51	.83				25.61	1471.2	22.1
30	5.8	7.14	101.1	32.538	.17	.57	.40	.45	1.10	1.7	25.6	23.9	25.65	1471.5	4.9
40	5.8	7.06	99.8	1.1	32.541	.19	.60	.41	1.20				25.66	1471.5	1.0
48	5.7	7.15	101.0	32.504	.22	.72	.50	.80	1.30				25.64*	1471.4	-3.2

DEPTH OIL FEN ORGC YEL. RH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MG/L MG/L MGC/QMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P

0	< .05	8.4	22.8	75.4												
5	8.3	23.9	11.5	95.3	76.5											
10	8.3	24.5														
15	8.3	24.5														
20	8.3	24.5														
30	8.3	24.6														
40	8.3	24.6														
48	8.3	24.7														

* = UNSTABLE DENSITY STRATIFICATION

STATION 4 YTTRE BROFJORDEN LAT: N 58 19,90 LONG: E 11 23,10 BOTTOM DEPTH 34 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 04 04 10 40 73 04 04 09 40 SW 6 M/S 8 / 8 0.1-0.5 M 4.5 C 6.5 M

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP N03N N02N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S
 0 5.1 7.87 104.2 25.004 .08 .46 .38 .25 .00 .74 1.0 48.9 47.9 19.79 1458.2
 5 5.5 7.24 101.0 31.481 .16 .55 .39 .96 .01 .68 1.7 40.1 38.5 24.86 1468.3 1013.6
 10 5.6 7.25 101.8 31.939 .15 .50 .35 .68 .80 .90 25.20 1469.7 68.6
 15 5.7 7.10 100.0 .0 32.309 .24 .61 .37 .86 .90 25.49 1470.3 57.9
 20 5.9 7.21 102.2 32.479 .17 .80 .63 .39 .00 .82 1.2 31.0 29.8 25.60 1471.6 21.1
 30 6.0 7.18 102.4 32.896 .20 .60 .40 .67 .94 .94 25.91 1472.8 31.4

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MIG MG/L MA/L MGC/QMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P
 0 < .05 8.4 22.4 12.4
 5 8.3 24.4 24.4 10.3 98.7 73.0
 10 8.3 24.4
 15 8.3 24.6 8521
 20 8.3 24.5 7.1 47.2 38.7
 30 8.3 24.7 72.7

STATION 5 (FJ 63) MALM8DRAG LAT: N 58 19.10 LONG: E 11 21.70 BOTTOM DEPTH 36 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP HR MT HR MT
 73 04 04 07 50 73 04 04 06 50 W 6 M/S 3 78 0.1 0.5 M 4.0 C 7.0 M 9 30 4 5

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L O/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	4.9	7.86	103.9	25.677	.05	1.77	1.72	.27	.00	.61	.9	33.9	33.0	20.35	1458.0
2.5	5.2	7.65	103.8	28.181	.05	.53	.48	.29	.00	.65		22.28	22.28	1462.9	775.3
5	5.5	7.34	102.0	30.944	.11	.54	.43	.54	.00	.78	1.3	26.3	25.0	1467.6	861.2
10	5.7	7.29	102.6	32.044	.19	.52	.33	.23	.00	.73		25.28	25.28	1470.0	168.7
15	5.9	6.99	98.9	32.182	.24	.64	.40	1.4	.00	.85		25.36	25.36	1471.1	17.0
20	5.9	7.19	102.0	32.518	.15	.79	.64	.27	.00	.88	1.2	32.8	31.6	1471.6	53.0
30	6.1	7.07	101.1	33.172	.19	.59	.40	.39	1.00	1.00		26.12	26.12	1473.4	49.2
36	6.0	7.11	101.6	33.194	.20	.74	.54	.67	.94	.94		26.15	26.15	1473.3	4.1

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L M/G MG/L M/GC/GMH M/G/L /P04 /OP /TP P04P ORGP TOTP N/P C/P

0	<.05	8.4	1.62	1.47	1.78	1.61	22.5	17.6	19.2	19.1					
2.5	<.05	8.4	1.86	2.04	2.04	23.3									
5	<.05	8.3	1.86	1.78	2.05	1.96	24.2	12.0	58.0	48.6					
10	<.05	8.3	1.12	1.23	1.23	24.4									
15	<.05	8.3	1.03	.97	1.14	1.06	24.6	7.7	49.4	41.5	8540				36.4
20	<.05	8.3				24.5									
30	<.05	8.3				24.8									
36	<.05	8.3				24.8									

AVERAGE VALUES FOR THE WATER COLUMN 0-30 M AVERAGE VALUES FOR THE WATER COLUMN BELOW 30 M
 P04P TOTP SUMN TOTN CARB TOTC P04P TOTP SUMN TOTN CARB TOTC
 TONS TONS TONS TONS TONS TONS TONS TONS TONS TONS

1.2	4.5	4.9	113.1	5577	.1	.2	.2	3.6	247						
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PRIMARY PRODUCTION VALUES INTEGRATED FROM CPROD AND CORPR VALUES ARE RESP.: 24 AND 27 MGC/SORMH

STATION 7
 LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA: MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 04 04 13 40 /73 04 04 12 40 SW 11 M/S NO OBS NO OBS 6.0 M

DEPTH TEMP. OXYG % SAT A.O.U. SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	5.4	7.66	.15	.05	.85	.29	.2	NOT COMPUTED
5	5.3	7.35	.18	.07	.94	.26	.1	NOT COMPUTED
10	5.5	7.11	.27	.09	.87			NOT COMPUTED
15	5.4	6.90	.39	.07	.96			NOT COMPUTED
20	5.4	6.74	.42	.07	1.06		33.4	NOT COMPUTED
25	5.5	6.74	.46	.08	1.17		23.6	NOT COMPUTED

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTP CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MEG MG/L MGC/QMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P

0								
5								
10								
15								
20								
25								

STATION 9
 LOCAL DATE AND TIME GREENWICH MEAN TIME
 YEA MON DAY HOU MIN
 73 04 04 NOT GIVEN
 LAT: 58 18.40 LONG: 11 23.50
 WIND WIND CLOUD WAVE AIR
 DIR. VEL. COVER HEIGHT TEMP
 SSW 8 M/S NO OBS NO OBS

DEPTH TEMP. OXYG % SAT A.O.U. SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	5.3	7.90	.15	.08	.85	42.3	NOT COMPUTED
5	5.4	7.84	.21	.13	.76	34.9	NOT COMPUTED
10	5.6	7.46	.33	.83	.83		NOT COMPUTED
15	5.7	7.36	.45	.11	.87		NOT COMPUTED
20	5.8	7.20	.12	.15	.97	31.7	NOT COMPUTED
30	6.0	7.18	.03	.11	1.97	40.2	NOT COMPUTED

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L M/G MG/L MGC/QMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P

0							
5							
10							
15							
20							
30							

LAT: 58 15.65 LONG: 11 26.70

BOTTOM DEPTH 52 M

STATION 12

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR VEL COVER HEIGHT HEIGHT TEMP DEPTH HR MT HR MT
 73 04 04 NOT GIVEN S 10 M/S NO OBS NO OBS NO OBS

DEPTH TEMP OXYG % SAT A.O.U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL,
 M CELS ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S
 0 5.3 7.94 .15 .04 NOT COMPUTED
 5 5.4 7.60 .20 .04 NOT COMPUTED
 10 4.6 7.42 .14 .04 NOT COMPUTED
 15 5.7 7.30 .18 .04 NOT COMPUTED
 20 5.7 7.30 .10 .05 NOT COMPUTED
 30 5.8 7.09 .12 .04 NOT COMPUTED
 40 5.8 6.35 .52 .06 NOT COMPUTED
 45 5.9 6.12 .66 .06 NOT COMPUTED

DEPTH OIL FEN ORGC YEL. PH CRRD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L M/G MG/L MGC/GMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P
 0
 5
 10
 15
 20
 30
 40
 45

STATION 1 INRE BROFJORDEN LAT: N 58 22.50 LONG: E 11 26.30 BOTTOM DEPTH: 18 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 04 17 12 40 73 04 17 11 40 N 12 M/S 2 /8 0.1-0.5 M

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELLS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L
 0 6.3 7.89 110.4 28.940 .65 .49 .02 .80 1.3 29.1 27.8 22.77 1468.2
 2.5 6.3 7.70 107.7 28.946 .60 .67 .02 .44 1.1 26.3 25.2 22.77 1468.3 1.9
 5 6.4 7.54 105.7 28.987 .57 .31 .00 .67 1.0 19.1 18.1 22.79 1468.8 8.2
 10 6.1 7.84 109.4 29.190 .63 .30 .05 1.46 1.8 22.98 22.98 1467.9 38.8
 15 6.4 7.60 107.0 29.526 .88 .37 .05 3.38 3.8 20.6 16.9 23.21 1469.7 45.8

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L M/G MG/L MGC/GMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P
 0 .51 .51
 2.5 .51 .41
 5 .41 .46
 10 .46 .64
 15 .05 .64 23.5 36.4

STATION 2 (FJ 62) BROFJORDEN LAT: N 58 21.60 LONG: E 11 25.70 BOTTOM DEPTH: 22 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECHW PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 04 17 11 15 73 04 17 10 15 NNW 10 M/S 2 78 0.1-0.5 M 8.5 M 11 40 4 0

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	6.3	7.72	107.9	28.815	.00	.51	.51	.41	.02	1.00	1.4	18.5	17.0	22.67	1468.0
2.5	6.3	7.84	109.5	28.806	.21	.56	.35	.03	.03	.64		24.8		22.66*	1468.0
5	6.2	7.71	107.4	28.684	.20	.61	.41	.46	.03	.68	1.2	19.7	18.5	22.58*	1467.5
10	6.3	7.69	107.8	29.307	.15	.47	.32	.39	.03	.55	1.0			23.06	1468.8
15	6.3	8.04	112.9	29.663		.48		.40	.03	1.19	1.6			23.34	1469.4
20	6.1	7.16	101.3	31.359	.42	.52	.10	1.2	.09	1.23	2.5	23.7	21.2	24.69	1470.9

DEPTH OIL FEN ORGC YEL. RH CPDOP NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L M/G MG/L % RH MGC/QMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P

0	< .05															
2.5		.46	.8.1	.46	.8.1	6.01	6.61	24.5	33.4	36.2	44.3	9528				
5	< .05			.46	.8.1	6.63	7.29	24.5	5.7	45.4	32.2					
10		.51	.8.1	.51	.8.1	4.91	5.40	24.6	6.7							
15		.55	.8.1	.55	.8.1	.93	1.03	24.7	.97							
20	< .05			.41	.8.1			25.3	6.0	45.6	5048					39.6

* = UNSTABLE DENSITY STRATIFICATION WATER SAMPLER THERMOMETER NO 42

STATION 3 STRETUDDEN LAT: N 58 20.55 LONG: E 11 24.15 BOTTOM DEPTH 48 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT

DEPTH	TEMP.	OXYG %	SAT	A.O.U	SALT	P04P	TOTP	ORGP	N03N	N02N	BOTH	NH4N	SUMN	TOTN	ORGN	SIGMA	SOUNDV	STABIL.
M	CELS.	ML/L		MA/L	O/00	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	M/S	
0	6.3	7.89	110.1		28.675	.07	.50	.43	.35	.04	.78	1.2	25.5	24.3	22.56	1467.8		
5	6.4	7.84	109.7		28.696	.17	.78	.61	.38	.03	1.12	1.5			22.56	1468.3	1.0	
10	6.1	7.94	110.5		28.907	.32	.52	.20	.44	.04	.89	1.4			22.76	1467.5	40.0	
15	6.2	7.55	106.0		30.031	.01	.42	.41	.52	.04	.56	1.1			23.64	1469.4	174.6	
20	6.0	7.11	100.4		31.603	.37	.55	.18	1.4	.09	1.12	2.6	19.4	16.8	24.90	1470.8	252.1	
30	6.1	6.73	95.7		26.7	32.432	.41	.67	.26	.09	4.50	6.7			25.54	1472.4	64.1	
40	6.2	6.62	94.9		31.8	33.154	.48	.75	.27	.10	2.68	4.5			26.10	1474.0	55.6	

DEPTH	OIL	FEN	ORGC	YEL.	PH	CPROD	NETPR	CORPR	NETCO	CARB	SUMN	ORGN	TOTN	CARB	ORGC	TOTC	MEAN
M	MG/L	MG/L	MG/L	MG/L		MGC/QMH			MG/L	MG/L	/P04	/OP	/TP	P04P	ORGP	TOTP	MEAN
0											17.2	56.3	51.0				
5											9.0						
10											4.4						
15																	
20											7.1	93.9	35.3				43.1
30											16.6						
40											9.4						

WATER SAMPLER THERMOMETER NO 42

STATION 5 (FJ 63) MALMÖDRAG LAT: N 58 19.10 LONG: E 11 21.70 BOTTOM DEPTH 36 M

LOCAL DATE AND TIME 73 04 17 09 50 GREENWICH MEAN TIME 73 04 17 08 50 WIND WIND DIR. VEL. NNW 10 M/S 2/8 0.5-1.2 M WAVE HEIGHT 0.5-1.2 M AIR TEMP 8.0 M SECCHI DEPTH 8.0 M PROD: START HR MT 10 20 4 10 DURAT HR MT 10 20 4 10

DEPTH M	OXYG % SAT	A.O.U	SALT MA/L	P04P MA/L	TOTP MA/L	ORGP MA/L	N03N MA/L	N02N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/S	SOUNDV	STABIL.
0	6.3	7.80	108.8	28.601	.08	.51	.43	.70	.02	.47	1.2	22.0	20.8	22.50	1467.7	
2.5	6.3	7.68	107.2	28.568	.28	.60	.32	.51	.03	1.14	1.7	25.1	23.4	22.48*	1467.7	-10.3
5	6.2	7.80	108.5	28.594	.15	.54	.39	.41	.02	.76	1.2	21.2	20.0	22.51	1467.4	12.9
10	6.1	7.66	106.7	29.117	.11	.56	.45	.40	.04	1.24	1.7			22.93	1467.8	84.5
15	6.3	7.73	108.5	29.599	.11	.71	.60	.39	.06	.44	.9			23.29	1469.3	71.1
20	6.2	7.52	106.2	30.807	.16	.51	.35	.62	.05	.61	1.3	23.8	22.5	24.25	1470.5	192.3
30	6.3	6.85	98.3	10.9	32.764	.15	.68	.53	.12	2.64	4.7			25.78	1473.7	152.9

DEPTH M	OIL FEN	ORGC YEL. MG/L	RH	CPROD NETPR	CORPR	NETCO	CARB MG/L	SUMN /P04	ORGN /OP	TOTN /TP	CARB/ P04P	ORGC/ ORGP	TOTC/ TOTP	MEAN N/P	MEAN C/P
0		.46	8.1	1.25	1.14	1.37	1.26	24.4	15.1	48.3	43.2				
2.5	LATER	.51	8.1	4.65	5.12	5.12	24.4	6.0	73.5	41.8	7220				
5	LATER	.46	8.0	5.74	5.63	6.32	6.19	24.8	8.2	50.9	39.3				
10		.46	8.0	5.78	6.36	6.36	24.9	15.0							
15	LATER	.46	8.0	1.76	1.68	1.94	1.85	25.1	7.9						
20		.41							8.1	64.0	46.7				
30		.28							32.3						42.8

AVERAGE P04P TONS	TOTP TONS	SUMN TONS	TOTN TONS	CARB TONS	FOR THE WATER COLUMN 0-30 M	AVERAGE P04P TONS	TOTP TONS	SUMN TONS	TOTN TONS	CARB TONS	FOR THE WATER COLUMN BELOW 30 M
2.2	4.3	6.3	74.0	5708		.1	.2	.6			

* = UNSTABLE DENSITY STRATIFICATION WATER SAMPLER THERMOMETER NO 42
 PRIMARY PRODUCTION VALUES INTEGRATED FROM CPROD AND CORPR VALUES ARE RESP: 72 AND 80 MGC/SGRMH

STATION 1 INRE BROFJORDEN LAT: N 58 22.50 LONG: E 11 26.30 BOTTOM DEPTH: 18 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA/MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 05 08 11 30 /73 05 08 10 30 SW 6 M/S: 8 /8 0 0.1 M

DEPTH M	TEMP. CELS.	OXYG % SAT	A.O.U	SALT MA/L	0/00 MA/L	P04P MA/L	TOTP ORGP MA/L	N03N MA/L	N02N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/S	SOUNDV	STABIL.
0	9.8	7.49	109.0	22.636	.14			.23	.05		.59	.9	35.1	34.2	17.40	1473.9	
2.5	9.1	7.51	107.7	22.736	.12			.12	.04		.42	.6	22.9	22.2	17.57	1471.4	69.6
5	8.7	7.50	106.6	22.836	.07			.09	.04		.55	.7	22.9	22.2	17.70	1470.0	52.0
10	8.1	7.50	106.8	25.302	.14			.16	.04		.52	.7	19.7	19.7	19.70	1470.8	399.8
15	7.1	6.70	95.9	25.4	29.710	.31		1.7	.18		1.17	3.0	17.7	14.7	23.27	1472.6	715.2

DEPTH OIL FEN ORGC YEL. PH CPRD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MUG MG/L MGC/GMH (MG/L) /P04 /OP /TP P04P ORGP TOTP N/P C/P

0	< .05																	
2.5																		
5																		
10																		
15																		

WATER SAMPLER THERMOMETER NO 42

STATION 2 (FJ 62) BROFJORDEN LAT: N 58 21.60 LONG: E 11 25.70 BOTTOM DEPTH: 22 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 05 08 10 45 73 05 08 09 45 SW 8 M/S 8 / 8 0.1=0.5 M 5.0 M 11 0 4 0

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP N03N N02N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L O/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	9.5	7.48	108.2	22.683	.10	.31	.03	.39	.7	27.6	26.9	17.47	1472.8
2.5	9.3	7.61	109.6	22.710	.11	.17	.02	.22	.4	29.9	29.5	17.52	1472.1
5	8.3	7.58	106.8	22.725	.07	.23	.02	.19	.4	29.9	29.5	17.66	1468.3
10	8.3	7.46	106.7	25.131	.14	.12	.04	.34	.5	23.6	20.5	19.54	1471.4
15	7.7	7.19	102.4	26.726	.11	1.3	.07	.43	1.8	23.6	20.5	20.86	1471.2
20	6.8	6.43	92.9	44.0	32.059	.42	1.6	.20	3.1	23.6	20.5	25.16	1474.6

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MIG MG/L MGC/QMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P

0	< .05			7.9	6.51	6.43	7.16	7.07	23.1	7.3
2.5				7.9	7.45		8.19	23.1	3.7	
5	< .05			7.9	3.48	3.43	3.82	3.78	23.1	6.6
10				7.9	1.30		1.42	23.9	3.5	
15				7.9	.51	.46	.56	51.24	4	16.4
20	< .05									7.2

WATER SAMPLER THERMOMETER NO 42
 PRIMARY PRODUCTION VALUES INTEGRATED FROM CPROD AND CORPR VALUES ARE RESP: 49 AND 54 MGC/SQRMH

STATION 3 STRETUDDEN LAT: N 58 20.55 LONG: E 11 24.15

BOTTOM DEPTH 48 M

LOCAL DATE AND TIME	GREENWICH MEAN TIME	WIND DIR	WIND VEL	CLOUD COVER	WAVE HEIGHT	AIR TEMP	SECCHI DEPTH	PROD	START DURAT
YEA MON DAY HOU MIN		NNW	M/S	3/8	0.1-0.5 M				HR MT HR MT
73 05 08 15 30	73 05 08 14 30								

DEPTH M	TEMP CELS	OXYG ML/L	% SAT	A.O.U	SALT MA/L	0/00	P04P MA/L	T0TP MA/L	ORGP MA/L	N03N MA/L	N02N MA/L	BOTH MA/L	IN4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/S	SOUNDV	STABIL
0	9.1	7.58	108.9		22.846		10	.55	.45	.06	.19		.39	.6	24.3	23.6	17.65	1471.7	
5	9.0	7.64	109.3		22.817		31	.54	.23				.21	.4	30.6	30.3	17.65*	1471.1	-.6
10	8.1	7.54	106.9		24.555		11	.44	.33				.15	.3			19.12	1469.9	294.1
15	7.3	7.22	102.0		27.048		16	.57	.41	.26	.21		.44	.9			21.16	1470.0	409.5
20	6.4	6.47	92.4		47.6	31.603	.41	.67	.26	1.9	.16		1.31	3.4	22.1	18.7	24.84	1472.6	735.8
30	6.7	6.41	93.0		43.1	33.226	.48	.75	.27				2.6	1.44	4.1		26.09	1475.9	124.4
40	7.0	6.46	94.6		33.0	33.570	.46	.80	.34	2.2	.28		1.75	4.3			26.32	1477.7	23.0

DEPTH M	OIL MG/L	FEN MG/L	ORGC MG/L	YEL	PH	CPROD	NETPR	CORPR	NETCO	CARB	MG/L	SUMN /P04	ORGN /OP	TOTN /TP	CARB /P04P	ORGC /ORGP	TOTC/ TOTP	MEAN N/P
0	<.05											6.4	52.5	44.1				
5												1.2		56.7				
10												2.7						
15												5.8						
20												8.3	72.2	33.0				
30												8.5						
40												9.4						44.6

* = UNSTABLE DENSITY STRATIFICATION
 NOTE: P04-P SAMPLE AT 5 M WAS MUDDY

WATER SAMPLER THERMOMETER NO 42

STATION 4 YTTRE BROFJORDEN LAT: N 58 19.90 LONG: E 11 23.10 BOTTOM DEPTH 34 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L
 73 05 08 13 15 73 05 08 12 15 W 7 M/S 7/18 0.1-0.5 M

DEPTH TEMP. OXYG % SAT A.O.U. SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L
 0 9.3 7.60 109.5 22.815 .09 .14 .00 .14 .3 25.4 25.2 17.60 1472.2
 5 9.2 7.58 109.0 22.803 .10 .15 .00 .09 .2 24.3 24.0 17.61 1471.9
 10 8.5 7.48 107.2 24.622 .10 .13 .00 .00 .1 19.11 1471.7 300.5
 15 7.5 7.05 100.8 28.113 .16 .71 .08 .23 1.0 21.97 1472.2 572.4
 20 6.9 6.56 94.6 33.331.497 .34 1.8 .27 .94 3.0 26.6 23.6 24.70 1474.3 546.0
 30 6.8 6.49 94.6 33.133.545 .53 2.3 .22 2.05 4.6 26.32 1476.7 162.3

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MIG MG/L MGC/QMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P
 0 .08 3.1
 5 2.4
 10 1.3
 15 6.6
 20 8.7
 30 8.7

WATER SAMPLER THERMOMETER NO 42

STATION 5 (FJ 63) MALMÖDRAG LAT: N 58 19.10 LONG: E 11 21.70 BOTTOM DEPTH 36 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN D/R. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 05 08 09 30 / 73 05 08 30 S 2 M/S 8 / 8 0 -0.1 M 10 0 4 10

DEPTH TEMP. OXYG % SAT A. O. U. SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L (MA/L) 0/00 (MA/L) MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S
 0 9.1 7.63 109.5 22.823 .00 .34 .02 .10 .5 40.0 39.5 17.64 1471.4
 2.5 9.1 7.59 108.9 22.798 .13 .15 .19 .22 .6 17.62* 1471.5 -7.8
 5 9.1 7.77 111.4 22.799 .11 .06 .14 .52 .7 27.7 26.9 17.62 1471.5 .3
 10 8.4 7.46 106.8 25.015 .12 .21 .01 .17 .4 19.44 1471.7 363.5
 15 7.7 7.26 103.5 26.992 .17 .44 .03 .20 .7 21.07 1471.5 326.7
 20 6.9 6.73 97.0 18.631 403 .36 .88 2.8 34.8 32.0 24.63 1474.1 711.8
 30 6.9 6.03 88.4 70.933 864 1.38 2.0 .38 1.66 4.1 26.56 1477.5 193.3

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L M/G MG/L MGC/QMH MG/L /P04 /OP /TTP P04P ORGP TOTP N/P C/P
 0 < .05 7.9 3.28 3.22 3.61 3.54 23.1 4.2
 2.5 < .05 7.9 3.14 3.45 23.1
 5 < .05 7.9 3.13 3.07 3.44 3.37 23.1 6.5
 10 7.9 1.37 1.51 23.9 3.1
 15 7.9 .90 .84 .93 24.5 4.0
 20 < .05 8.0
 30 3.0

AVERAGE VALUES FOR THE WATER COLUMN 0-30 M AVERAGE VALUES FOR THE WATER COLUMN BELOW 30 M
 P04P TOTP SUMN TOTN CARB TOTC P04P TOTP SUMN TOTN CARB TOTC
 TONS TONS TONS TONS TONS TONS TONS TONS TONS TONS
 1.7 4.2 4.5 89.1 5440 .1 .2 .6

* = UNSTABLE DENSITY STRATIFICATION WATER SAMPLER THERMOMETER NO 42
 PRIMARY PRODUCTION VALUES INTEGRATED FROM CPROD AND CORPR VALUES ARE RESP: 35 AND 39 MGC/SQRMH

STATION 6 DYNABROTT LAT: N 58 17.60 LONG: E 11 18.60 BOTTOM DEPTH 96 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 05 08 09 50 73 05 08 08 50 W 4 M/S NO OBS 0.5-1.2 M 7.0 M

DEPTH M	OXYG % SAT	A.O.U SALT MA/L	0/00	P04P MA/L	T0TP MA/L	ORGP MA/L	N03N MA/L	N02N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/S	SOUNDV	STABIL.
0	8.5	7.69	109.1	23.058	.09		.10	.06		.22	.4	27.6	27.3	17.90	1469.5	
2.5	8.5	7.62	108.1	23.040										17.88*	1469.5	-5.7
5	8.5	7.67	108.7	23.138	.10		.12	.05		.27	.4	33.0	32.5	17.96	1469.7	30.6
10	8.3	7.66	108.7	23.780	.10	.57	.47	.05		.06	.2			18.48	1469.8	105.1
15	8.1	7.47	106.0	24.761	.10	.57	.47	.06		.13	.3			19.27	1470.3	158.1
20	7.0	6.81	98.3	10.4	.19	.61	.42	.13		.60	1.9	26.0	24.1	24.50	1474.4	1044.5
30	6.6	6.75	97.9	13.1	.26	.67	.41	.16		1.24	2.8			26.15	1475.7	165.3
40	6.7	6.81	99.4	3.9	.70									26.65	1477.1	50.1
60	6.8	6.85	100.3	34.037	.22	.61	.39	.09		1.30	2.4			26.71	1477.9	2.9
80	6.8	6.85	100.3	34.063		.64			2.6					26.73	1478.3	1.0
90	6.8	6.83	100.0	34.067	.28	.70	.42	.04		1.58				26.73	1478.5	.3

DEPTH M	OIL MG/L	FEN MG/L	ORGC MG/L	YEL. PH	CPROD MGC/QMH	NETPR	CORPR	NETCO	CARB MG/L	SUMN /P04	ORGN /OP	TOTN /TP	CARB /P04P	ORGC /ORGP	TOTC /TOTP	MEAN N/P	MEAN C/P
0																	
2.5										4.3							
5										4.5							
10										2.2							
15										2.9							
20										10.2	57.2	42.7					
30										10.9							42.7
40																	
60										10.6							
80																	
90																	

* = UNSTABLE DENSITY STRATIFICATION

STATION 7
 LOCAL DATE AND TIME 73 05 08 11 50
 YEA MON DAY HOU MIN
 LAT: 58 22.40 LONG: 11 22.65
 WIND WIND CLOUD WAVE AIR
 DIR. VEL. COVER HEIGHT TEMP
 M 4 M/S NO OBS 0.5-1.2 M
 BOTTOM DEPTH 27 M
 SECCHI PROD: START DURAT
 DEPTH HR MT HR MT
 7.0 M

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L O/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S
 0 8.9 7.64 109.2 22.820
 2.5 8.9 7.73 110.5 22.822
 5 8.9 7.76 111.0 22.836
 10 8.6 7.48 106.3 23.067
 15 7.7 7.37 104.5 25.832
 20 6.6 6.65 95.1 30.7 31.149
 25 6.6 6.56 94.0 37.1 31.517
 17.66 1470.7
 17.66 1470.8
 17.67 1470.8
 17.89 1470.1
 20.16 1470.1
 24.46 1472.7
 24.75 1473.2
 °6
 4.4
 43.7
 454.3
 860.7
 58.0

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L M/G MG/L MGC/GMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P
 0
 2.5
 5
 10
 15
 20
 25

STATION 8
 LOCAL DATE AND TIME 73 05 08 12 45
 YEA MON DAY HOU MIN
 LAT: 58 21.10 LONG: 11 21.35
 WIND WIND CLOUD WAVE AIR
 DIR. VEL. COVER HEIGHT TEMP
 SW 4 M/S NO OBS 0.5-1.2 M
 GREENWICH MEAN TIME 73 05 08 11 45
 BOTTOM DEPTH 36 M
 SECCHI PROD: START DURAT
 DEPTH HR MT HR MT

DEPTH M	TEMP. CELS.	OXYG %	SAT ML/L	A.O.U	SALT 0/00	P04P MA/L	T0TP MA/L	ORGP MA/L	N03N MA/L	N02N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	T0TN MA/L	ORGN MA/L	SIGMA M/S	SOUNDV	STABIL.
0	9.0	7.60	108.8		22.780		.51									17.61	1471.1	
2.5	9.1	7.61	109.2		22.753		.59									17.58*	1471.5	-13.9
5	9.0	7.56	108.2		22.783		.49									17.62	1471.2	14.6
10	8.3	7.55	107.1		23.878		.44									18.56	1469.9	188.8
15	7.7	7.37	104.5		26.042		.59									20.32	1470.4	352.9
20	7.0	6.93	99.2	5.2	29.796		.64									23.35	1472.5	605.5
30	6.6	6.50	93.5	40.3	32.230		.74									25.31	1474.3	196.2
35	6.6	6.36	91.8	50.9	32.545		.78									25.56	1474.8	49.5

DEPTH M	OIL MG/L	FEN MG/L	ORGC/YEL	PH	CPROD MGC/QMH	NETPR	CORPR	NETCO	CARB MG/L	/P04	/OP	T0TP	CARB	ORGC	T0TC	MEAN	MEAN
0																	
2.5																	
5																	
10																	
15																	
20																	
30																	
35																	

* = UNSTABLE DENSITY STRATIFICATION

STATION 9
 LOCAL DATE AND TIME 973 05 08 14 05
 YEA MON DAY HOU MIN
 GREENWICH MEAN TIME 73 05 08 13 05
 WIND WIND CLOUD WAVE AIR
 DIR. VEL. COVER HEIGHT TEMP
 SW 3 M/S NO OBS 0 --0.1 M
 LONG: 11 23 50
 LAT: 58 18 40
 BOTTOM DEPTH 27 M
 SECCHI PROD: START DURAT
 DEPTH HR MT HR MT
 6.5 M

DEPTH TEMP. OXYG % SAT A.O.U. SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S
 0 9.0 7.60 108.9 22.805 .56 17.63 1471.1
 2.5 8.9 7.58 108.3 22.806 .58 17.65 1470.8 5.9
 5 8.8 7.63 108.8 22.852 .58 17.70 1470.5 19.6
 10 8.3 7.49 106.2 23.737 .57 18.45 1469.7 150.6
 15 8.0 7.44 105.6 25.110 .64 19.56 1470.4 221.8
 20 6.9 6.83 97.6 15.229.896 .64 23.44 1472.2 776.8
 25 6.9 6.78 97.1 18.130.324 .70 23.78 1472.9 67.2

DEPTH OIL FEN ORGC VEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MIG MG/L MA/L MGC/QMH MG/L /P04 /OP /TP P04P ORGP TOTP N/P C/P
 0
 2.5
 5
 10
 15
 20
 25

STATION 10
 LOCAL DATE AND TIME
 YEA MON DAY HOU MIN
 73 05 08 15 00
 LONG: 11 25 50
 WAVE HEIGHT NO OBS
 WIND WIND DIR SW 3 M/S NO OBS
 CLOUD COVER NO OBS
 AIR TEMP
 SECCHI DEPTH 7.0 M
 PROD: START HR MT
 DURAT HR MT

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S
 0 9.1 7.78 111.7 22.935 .59 17.72 1471.7
 2.5 9.0 7.59 108.8 22.949 .55 17.75 1471.3 9.6
 5 8.9 7.50 107.2 22.955 .54 17.76 1471.0 7.3
 10 8.5 7.58 108.0 23.670 .62 18.37 1470.4 121.7
 15 8.0 7.46 105.7 24.671 .56 19.22 1469.8 168.9
 20 7.0 6.84 97.6 15.129.430 .70 23.07 1472.0 769.7

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTCO/ MEAN MEAN
 M MG/L M/G MG/L MGC/GMH M/G/L /P04 /OP /TP P04P ORGP TOTP N/P C/P

0
 2.5
 5
 10
 15
 20

STATION 11
 LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 05 08 08 20 73 05 08 07 20 E 2 M/S NO OBS NO OBS 6.5 M
 LAT: 58 15.95 LONG: 11 22.20
 BOTTOM DEPTH 40 M

DEPTH M	TEMP. CELS.	OXYG %	SAT ML/L	A.O.U.	SALT MA/L	P04P MA/L	T0TP MA/L	ORGP MA/L	N03N MA/L	N02N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/S	SOUNDV	STABIL.
0	8.6	7.64	108.6		23.051		.56									17.88	1469.9	
2.5	8.6	7.59	107.9		23.062		.65									17.89	1469.9	3.6
5	8.6	7.58	107.8		23.223		.58									18.01	1470.2	50.0
10	8.3	7.56	107.4		24.032		.46									18.68	1470.1	133.8
15	7.6	7.40	105.1		26.655		.56									20.82	1470.8	427.4
20	6.8	6.82	97.8		13.531	0.16	.58									24.33	1473.3	703.6
30	6.5	6.54	94.5		34.133	0.269	.67									26.14	1475.2	181.0
40	6.7	6.56	95.5		27.933	0.450	.77									26.26	1476.4	11.6

DEPTH M	OIL MG/L	FEN MG/L	ORGC MG/L	YEL. PH	CPROD MGC/QMH	NETPR	CORPR	NETCO	CARB MG/L	SUMN	ORGN	TOTN	CARB	ORGC	TOTC	MEAN	MEAN
0																	
2.5																	
5																	
10																	
15																	
20																	
30																	
40																	

DEPTH M
 0
 2.5
 5
 10
 15
 20
 30
 40

STATION 12

LAT: 58.15.65 LONG: 11.26.70

BOTTOM DEPTH 52 M

LOCAL DATE AND TIME	GREENWICH MEAN TIME	WIND DIR.	WIND VEL.	CLOUD COVER	WAVE HEIGHT	AIR TEMP	SECCHI DEPTH	PROD	START	DURAT						
YEA MON DAY HOU MIN		SW	M/S	NO	NO			HR	MT	HR	MT					
73 05 08 16 10	73 05 08 15 10		4													
DEPTH TEMP. CELS.	OXYG % SAT	A.O.U.	SALT	P04P	T0TP	ORGP	N03N	N02N	BOTH	NH4N	SUMN	T0TN	ORGN	SIGMA	SOUNDV	STABIL.
M	ML/L	MA/L	0/00	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	M/S	
0	8.7	7.68	109.6												17.99	1470.5
2.5	8.7	7.64	109.0												17.99	1470.5
5	8.7	7.71	109.9												18.00	1470.6
10	8.2	7.60	107.4												18.42	1469.3
15	8.1	7.49	106.2												19.04	1469.9
20	6.9	6.84	97.6												23.27	1472.0
30	6.6	6.39	92.1												25.50	1474.6
40	6.5	6.13	88.4												25.92	1475.0
60	6.7	6.23	90.3												25.87*	1476.1

DEPTH	OIL	FEN	ORGC	VEL.	PH	CPROD	NETPR	CORPR	NETCO	CARB	MG/L	/P04	/OP	/TP	P04P	ORGP	T0TP	ORGC	T0TC	MEAN	MEAN	
M	MG/L	MG/L	MG/L			MGC/GMH														N/P	C/P	
0																						
2.5																						
5																						
10																						
15																						
20																						
30																						
40																						
60																						

* UNSTABLE DENSITY STRATIFICATION

STATION 1 INRE BROFJORDEN LAT: N 58 22.50 LONG: E 11 26.30 BOTTOM DEPTH: 18 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L
 73 05 22 11 50 73 05 22 10 50 DIR. VEL. 0 M/S 8/8 NO OBS HEIGHT TEMP DEPTH HR MT HR MT

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP N03N N02N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELLS. ML/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	10.9	7.16	108.5	24.963	.13	.69	.56	.27	.02	17.8	19.03	1481.0
2.5	10.6	7.23	109.2	25.598	.12	.60	.48	.09	.05	.52	19.57	1480.7
5	10.5	7.23	109.6	26.376	.14	.66	.52	.07	.06	.50	20.19	1481.3
10	10.8	7.20	110.4	27.177	.15	.62	.47	.09	.04	.59	20.76	1483.5
15	10.1	7.01	106.7	28.503	.21	.79	.58	.23	.06	.92	21.90	1482.7

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L M/G MG/L

0 < .05
 2.5
 5 25.9
 10 4.3 50.1 40.1
 15 4.7
 5.8 38.3 29.6 31.9

STATION 2 (FJ 62) BROFJORDEN LAT: N 58 21.60 LONG: E 11 25.70 BOTTOM DEPTH: 22 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L
 73 05 22 11 00 73 05 22 10 00 W 1 M/S: 8 /8 DIR. VEL. HEIGHT TEMP DEPTH 9.8 M HR MT HR MT

DEPTH M	TEMP. CELS.	OXYG % SAT	A.O.U	SALT	MA/L	0/00	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	SUMN	TOTN	ORGN	SIGMA	SOUNDV	STABIL.
0	10.6	7.35	110.4		24.529	.15	.52	.37	.02	.38	.26.9	18.74	1479.3								
2.5	10.6	7.27	109.5		25.173	.14	1.13	.99	.02	.65	.9	19.24	1480.2								
5	10.6	6.73	102.0		26.195	.19	.71	.52	.03	.43	.6	23.5	23.0								199.5
10	10.6	7.19	110.0		27.572	.13	.60	.47	.03	.46	.6	21.10	1481.5								
15	9.9	7.26	110.0		28.479	.14	.53	.39	.03	.51	.7	21.91	1483.3								
20	7.7	6.57	96.6	20.6	31.495	.27	.58	.31	.13	.85	1.8	24.1	22.3	24.59	1477.5	1481.9	1477.5	535.5			

DEPTH M	OIL MG/L	FEN MG/L	ORGC MG/L	YEL. PH	CPROD MGC/QMH	NETPR	CORPR	NETCO	CARB MG/L	SUMN /P04	ORGN /OP	TOTN /TP	CARB /PO4P	ORGC /ORGP	TOTC /TOTP	MEAN N/P	MEAN C/P
0	<.05			8.1	3.10	2.96	3.41	3.26	23.0			51.8					
2.5				8.1	5.47		6.02		23.2	6.2							
5	<.05			8.1	3.82	3.72	4.20	4.10	23.5	2.9	44.3	33.1					
10				8.1	1.56		1.72		23.9	4.5							
15				8.1	.39	.31	.43	.34	24.2	4.6							
20	<.05									6.6	71.6	41.5					42.1

PRIMARY PRODUCTION VALUES INTEGRATED FROM CPROD AND CORPR VALUES ARE RESP.: 42 AND 46 MGC/SQRMH

STATION 3 STRETUDDEN LAT: N 58 20.55 LONG: E 11 24.15 BOTTOM DEPTH 48 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN /73 05 22 15 30 /73 05 22 14 30 DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT

DEPTH TEMP. OXYG % SAT A.O.U SALT PO4P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L O/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	11.0	7.45	111.9	23.255	.11	.55	.44	.34	.02	.37	.7	37.0	36.2	17.69	1479.2	
5	10.4	7.38	110.2	24.268	.18	1.42	1.24	.13	.02	.46	.6			18.57	1478.4	175.3
10	10.6	7.22	109.7	26.482	.18			.10	.02	.62	.7			20.25	1481.9	336.8
15	9.9	6.87	104.0	28.329	.14	.52	.38	.10	.02	.63	.8			21.80	1481.7	308.6
20	8.5	7.17	106.8	30.619	.18	.52	.34	.13	.02	.42	.6	22.7	22.1	23.79	1479.4	398.8
30	7.4	6.18	91.4	52.1	.40	.80	.40	1.2	.14	1.83	3.2			26.20	1479.1	241.2
40	7.3	5.85	86.2	83.6	.42	1.00	.58	1.2	.14	2.08	3.4			26.13*	1478.7	-6.9
44	7.0	6.18	90.5	57.7	.54			1.3	.15	1.80	3.3	21.5	18.2	26.25	1477.7	30.1

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MFG MG/L MGC/GMH MGC/L MG/L /PO4 /OP /TP PO4P ORGP TOTP N/P C/P

0	<.05									6.9	81.5	67.2				
5										3.4						
10										4.1						
15										5.3						
20										3.1	65.5	43.7				55.5
30										7.8						
40										8.1						
44										6.1						

* = UNSTABLE DENSITY STRATIFICATION

STATION 4 YTTRE BROFJORDEN LAT: N 58 19.90 LONG: E 11 23.10 BOTTOM DEPTH 34 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA/MON DAY HOU MIN /73 05 22 12 45 /73 05 22 11 45 DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 05 22 12 45 /73 05 22 11 45 0 M/S: 8 /8 0 M

DEPTH M	TEMP. CELS.	OXYG %	SAT ML/L	A.O.U	SALT 0/00	PO4P MA/L	TOTP MA/L	ORGP MA/L	NO3N MA/L	NO2N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/L	SOUNDV M/S	STABIL.
0	10.8	7.36	110.3	23.566	.17	.52	.35	.38	.04	.46	.9	25.2	24.4	17.97	1478.9			
5	10.5	7.45	112.0	25.079	.17	.75	.58	.11	.04	.42	.6	22.1	21.5	19.18	1479.7			243.5
10	10.5	7.85	119.0	26.499	.15	.55	.40	.06	.04	.44	.5			20.28	1481.6			220.1
15	10.1	7.29	110.7	28.199	.14	.46	.32	.07	.03	.37	.5			21.66	1482.3			276.3
20	8.3	7.06	105.0	31.176	.15	.50	.35	.07	.07	.56	.7	22.7	22.0	24.26	1479.4			518.2
30	7.5	6.21	91.7	50.4	32.841	.43	.74	.31	1.7	1.24	3.1			25.67	1478.6			141.7
32	7.5	6.41	94.4	33.9	32.481	.32	.65	.33	1.6	1.20	3.0	19.2	16.2	25.39*	1478.2			-141.1

DEPTH M	OIL MG/L	FEN MG/L	ORGC MG/L	VEL. PH	CPROD MGC/QMH	NETPR	CORPR	NETCO	CARB MG/L	SUMN /PO4	ORGN /OP	TOTN /TP	CARB /PO4P	ORGC /ORGP	TOTC /TOTP	MEAN N/P	MEAN C/P
0	<.05									5.1	70.1	48.5				41.1	
5										3.3	37.2	29.4				29.6	
10										3.6							
15										3.3							
20										4.6	63.5	45.4					
30										7.1							
32										9.6	48.5	29.6					

* = UNSTABLE DENSITY STRATIFICATION

STATION 6 DYNABROTT LAT: N 58 17.60 LONG: E 11 18.60 BOTTOM DEPTH 96 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCH | PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT

73 05 29 10 30 73 05 29 09 30 S 1 M/S 0 /8 0 M

DEPTH TEMP. OXYG % SAT A. O. U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0 14.2 .26 .1 NOT COMPUTED
 5 12.2 .29 .1 NOT COMPUTED
 10 11.1 .32 .2 NOT COMPUTED
 15 8.7 .37 .4 NOT COMPUTED
 20 8.2 .59 .8 NOT COMPUTED
 30 8.2 .54 .7 NOT COMPUTED
 50 7.6 .69 .4 NOT COMPUTED
 80 7.5 .74 .2 NOT COMPUTED
 90 7.0 .82 .4 NOT COMPUTED

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L M/G MG/L MGC/QMH MG/L /P04 /OP /TP /P04P ORGP TOTP N/P C/P

0
 5
 10
 15
 20
 30
 50
 80
 90

WATER SAMPLER THERMOMETER NO 42

STATION 1 INRE BROFJORDEN LAT: N 58 22.50 LONG: E 11 26.30 BOTTOM DEPTH: 18 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN MA/L 0/00 SALT A.O.U. SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 73 06 18 14 55 73 06 18 13 55 E 1 M/S 1/8 0 M 15.0 C DEPTH HR MT HR MT M/S

DEPTH M	TEMP. CELS.	OXYG ML/L	% SAT	MA/L	0/00	SALT	A.O.U.	SALT	P04P	TOTP	ORGP	MA/L	NO3N	MA/L	NO2N	MA/L	BOTH	NH4N	SUMN	TOTN	ORGN	SIGMA	SOUNDV	STABIL.	
0	17.8	7.31	125.8	22.258	.07	.62	.55	.04	.02	.17	.2	15.5	15.3	15.64	1501.1										
2.5	13.6	7.08	115.5	27.463	.01	.58	.57	.03	.02	.08	.1										20.48	1493.8	1936.2		
5	12.7	6.81	110.3	29.275	.00	.72	.72	.03	.02	.15	.2	15.5	15.3	22.05	1492.8	629.0									
10	12.2	6.56	105.4	29.940	.01	.48	.47	.12	.04	.15	.3										22.66	1491.9	122.8		
15	11.9	6.06	96.9	17.130	.284	.54	.34	.45	.06	.40	.9										22.98	1491.3	63.9		
18	10.4	6.04	93.4	37.830	.154	.66	.44	.06		.67	1.2	15.0	13.8	23.14	1485.9	51.9									

DEPTH M	OIL FEN ORGC YEL. MG/L	FEN ORGC YEL. MG/L	PH	CPRD NETPR CORPR NETCO CARB MG/L	SUMN ORGN /P04 /OP	TOTN /TP	CARB /P04P	ORGC /ORGP	TOTC /TOTP	MEAN N/P
0	<.05	.78			3.2	27.9	25.0			
2.5		.37			10.7					
5		.32			25.1	21.2	21.5			
10		.28			4.7					
15		.28								
18		.28				22.7				23.1

WATER SAMPLER THERMOMETER NO 42

STATION 2 (FJ 62) BROFJORDEN LAT: N 58 21.60 LONG: E 11 25.70 BOTTOM DEPTH: 22 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD; START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP HR MT HR MT
 73 06 18 13 52 73 06 18 12 52 E 1 M/S: 1 / 8 0 M 16.0 C

DEPTH M	TEMP. CELS.	OXYG. ML/L	SAT	A.O.U	SALT MA/L	0/00	PO4P MA/L	TOTP MA/L	ORGP MA/L	NO3N MA/L	NO2N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/S	SOUNDV	STABIL.
0	16.9	6.91	116.9	22.446	.02	.58	.56	.04	.02	.11	.2	13.5	13.3	15.97	1498.5				
2.5	13.5	6.91	112.5	27.488	.02	.54	.52	.05	.00	.14	.2			20.51	1493.5	1815.8			
5	12.6	6.88	111.2	29.516	.00	.46	.46	.03	.01			11.4		22.26	1492.6	699.3			
10	12.3	6.61	106.5	30.032	.00	.46	.46	.12	.02	.06	.2			22.72	1492.3	90.7			
15	12.2	6.48	104.3	30.201	.06	.49	.43	.15	.03	.00	.2			22.86	1492.3	29.7			
20	11.4	5.81	92.2	43.8	30.461	.21	.68	.47	.06	.95	1.3	11.7	10.4	23.20	1490.1	67.0			
22	10.8	6.01	94.0	34.2	30.541	.16	.60	.44	.08	.85	1.3	9.5	8.2	23.37	1487.9	86.5			

DEPTH M	OIL MG/L	FEN MG/L	ORGC MG/L	YEL. PH	CPROD MGC/QMH	NETPR	CORPR	NETCO	CARB MG/L	SUMN ORGN /PO4 /OP	TOTN /TP	CARB /PO4P	ORGC /ORGP	TOTC /TOTP	MEAN N/P	MEAN C/P
0	<.05	.64								7.2	23.9	23.2				
2.5		.41								7.9						
5	<.05	.28									24.7					
10		.28														
15		.28														
20		.28														
22		.28														20.3

WATER SAMPLER THERMOMETER NO 42

STATION 3 STRETUDDEN LAT: N 58 20.55 LONG: E 11 24.15 BOTTOM DEPTH 48 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP. DEPTH HR MT HR MT
 73 06 18 12 45 /73 06 18 11 45 E 3 M/S 1 /8 0 -0.1 M 15.0 C

DEPTH M	TEMP. CELS.	OXYG % SAT	A.O.U	SALT	MA/L	0/00	MA/L	TOTP	ORGP	NO3N	NO2N	BOTH	NH4N	SUMN	TOTN	ORGN	SIGMA	SOUNDV	STABIL.
		ML/L			MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	M/L	M/S	
0	15.7	7.05	117.5	23.809	.00	.57	.57	.04	.02	.00	.11	11.4	11.4	.00	11.4	11.4	17.26	1496.3	
5	12.8	6.94	112.5	29.320	.00	.40	.40	.01	.03	.00	.00	10.8	10.7	.00	10.8	10.7	22.07	1493.1	962.0
10	12.6	6.79	110.1	29.809	.02	.48	.46	.02	.01	.06	.06	.06	.01	.01	.06	.06	22.48	1493.2	81.0
15	12.2	6.64	106.9	30.151	.02	.48	.46	.18	.02	.00	.00	.00	.02	.02	.02	.02	22.82	1492.4	67.5
20	12.0	6.38	102.4	30.442	.04	.43	.39	.23	.03	.04	.04	.04	.03	.03	.03	.03	23.09	1492.0	54.0
30	11.5	6.07	96.7	18.2	31.110	.10	.60	.58	.07	.48	.48	1.1	.07	.07	.07	.07	23.69	1491.2	60.6
40	8.0	4.79	71.7	169.1	33.153	.79	1.15	2.2	.64	.92	.92	3.7	.64	.64	.64	.64	25.84	1481.2	215.0
45	7.5	4.85	71.7	170.6	33.208	.68	1.12	3.0	.32	1.20	1.20	4.5	.32	.32	.32	.32	25.96	1479.3	24.4

DEPTH M	OIL	FEN	ORGC	YEL.	PH	CPROD	NETPR	CORPR	NETCO	CARB	SUMN	ORGN	TOTN	CARB	ORGC	TOTC	MEAN	MEAN
	MG/L	MIG	MG/L			MGC/QMH			MG/L	MG/L	/P04	/OP	/TP	P04P	ORGP	TOTP	N/P	C/P
0	<	.05		.51							20.0	20.1						
5				.28							26.8	27.0						
10				.23						3.7								
15				.23						8.0								
20				.23						8.1	23.6	22.3						
30				.18						11.6								23.1
40				.23						4.7								
45				.23						6.5	9.7	7.8						7.8

WATER SAMPLER THERMOMETER NO 42

STATION 4 YTTRE BROFJORDEN LAT: N 58 19.90 LONG: E 11 23.10 BOTTOM DEPTH 34 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCH | PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. HEIGHT TEMP DEPTH HR MT HR MT

DEPTH M	TEMP. CELS.	OXYG % SAT	A.O.U. SALT	PO4P	TOTP	ORGP	NO3N	NO2N	BOTH	NH4N	SUMN	TOTN	ORGN	SIGMA	SOUNDV	STABIL.
	ML/L		MA/L	0/00	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	M/S	
0	15.5	7.13	119.3	25.206	.01	.47	.46	.05	.01	.19	.2	18.9	18.7	18.37	1497.3	
5	13.0	7.01	114.3	29.261	.04	.41	.37	.03	.01	.15	.2	14.5	14.3	21.97	1494.0	720.4
10	12.8	6.89	112.2	29.866	.09	.39	.30	.02	.02	.01	.0			22.49	1494.0	102.6
15	12.5	6.55	106.1	30.236	.07	.45	.38	.13	.02	.10	.3			22.84	1493.3	70.1
20	12.5	6.53	106.1	30.704	.07	.46	.39	.21	.02	.16	.4	11.1	10.7	23.20	1494.0	72.3
30	11.6	6.25	100.2	31.347	.15	.54	.39	.52	.07	.49	1.1			23.85	1492.0	65.1
32	10.6	6.07	95.1	31.334	.18	.75	.57	.52	.08	.51	1.1	14.3	13.2	24.02	1488.3	86.0

DEPTH M	OIL	FEN	ORGC	YEL.	PH	CPROD	NETPR	CORPR	NETCO	CARB	MG/L	SUMN	ORGN	TOTN	CARB	ORGC	TOTC	MEAN		
	MG/L	MG	MG/L			MGC/QMH						/P04	/OP	/TP	P04P	ORGP	T0TP	N/P	C/P	
0	<.05			.41								20.3	40.8	40.3						
5				.28								5.3	38.3	35.4						
10				.23							.5									
15				.23							3.4									
20				.23							5.4	27.6	24.1							33.2
30				.23							7.4									19.1
32				.23							6.1	23.3	19.1							

WATER SAMPLER THERMOMETER NO 42

STATION 5 (FJ 63) MALMÖDRAG LAT: N 58 19.10 LONG: E 11 21.70 BOTTOM DEPTH 36 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND WAVE AIR SECCHI PROD: START DURAT
 YEA: MON DAY HOU MIN DIR. VEL. HEIGHT TEMP DEPTH HR MT HR MT

73 06 18 10 20 73 06 18 09 20 E 5 M/S 1 /8 0 0.1 M 13.0 C

DEPTH TEMP. OXYG % SAT A.O.U. SALT P04P TOTP ORGP N03N N02N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L O/OO MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	15.3	6.97	115.4	24.107	.05	.49	.44	.05	.02	.02	.1	14.6	17.57	1495.3
2.5	13.6	7.09	115.6	27.288	.02	.43	.41	.01	.02	.02	.3	13.7	20.34	1493.6
5	13.0	7.05	114.7	28.955	.02	.02	.02	.02	.02	.19	.3	13.5	21.74	1493.6
10	12.7	6.72	109.2	30.093	.11	.43	.32	.13	.02	.07	.2	14.5	22.69	1493.8
15	12.7	6.56	106.9	30.488	.02	.41	.39	.13	.02	.09	.4	14.5	22.99	1494.3
20	12.6	6.47	105.4	30.761	.09	.59	.50	.24	.04	.34	1.0	14.1	23.22	1494.4
30	11.7	6.40	102.6	31.392	.10	.54	.44	.59	.10	1.16	2.2	15.0	23.87	1492.3
34	10.2	5.67	88.2	68.0	.26	.74	.48	.90	.13	1.16	2.2	15.0	24.16	1487.0

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTP/ MEAN MEAN
 M MG/L MIG MG/L

0	< .05	.55	29.7
2.5	< .05	2.1	
5	< .05	10.8	
10		3.2	
15		8.7	
20	< .05	4.3	24.5
30		10.6	
34		8.5	20.2

AVERAGE VALUES FOR THE WATER COLUMN 0-30 M AVERAGE VALUES FOR THE WATER COLUMN BELOW 30 M
 P04P TOTP SUMN TOTN CARB TOTC P04P TOTP SUMN TOTN CARB TOTC
 TONS TONS TONS TONS TONS TONS TONS TONS TONS TONS

.5 3.7 1.4 42.7 .1 .3 .4 1.8

WATER SAMPLER THERMOMETER NO 42

STATION 1 INRE BROFJORDEN LAT: N 58 22.50 LONG: E 11 26.30 BOTTOM DEPTH: 18 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. HEIGHT HEIGTH TEMP DEPTH HR MT HR MT
 73 06 26 11 30 /73 06 26 10 30 W 3 M/S 1 /8 0 M 24.0 C

DEPTH M	TEMP. CELS.	OXYG % SAT	A.O.U	SALT	P04P	TOTP	ORGP	NO3N	NO2N	BOTH	NH4N	SUMN	TOTN	ORGN	SIGMA	SOUNDV	STABIL.
	ML/L		MA/L	0/00	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	M/L	M/S	
0	19.3	7.08	125.8		22.765	.02	.46	.44	.27	.02	.51	.8	21.2	20.4	15.68	1506.1	
2.5	19.2	6.97	123.9		22.874	.04	.52	.48	.17	.00	.59	.8	21.3	20.7	15.77	1506.1	37.9
5	19.2	6.92	123.2		23.259	.01	.56	.55	.21	.00	.43	.6	21.3	20.7	16.06	1506.6	116.4
10	17.5	6.78	118.8		26.221	.01	.72	.71	.17	.02	.66	.8	20.73	19.5	18.72	1504.9	530.5
15	14.2	5.71	94.6	28.9	27.942	.03	.99	.96	.51	.07	2.22	2.8	20.73	19.5	20.73	1496.6	402.3
16	14.3	6.31	104.8		27.950	.03	.72	.72	.23	.02	1.13	1.4	20.9	19.5	20.71	1497.0	-13.6

DEPTH M	OIL MG/L	FEN MG/L	ORGC MG/L	VEL. PH	CPROD	NETPR	CORPR	NETCO	CARB	SUMN	ORGN	TOTN	CARB	ORGC	TOTC	MEAN
					MGC/QMH	MG/L	MG/L	MG/L	MG/L	/P04	/OP	/TP	P04P	ORGP	TOTP	N/P
0										48.8	46.0	46.1				
2.5										18.5						
5										77.3	37.5	38.1				
10										85.4						
15																
16																37.7

* = UNSTABLE DENSITY STRATIFICATION WATER SAMPLER THERMOMETER NO 42

STATION 2 (FJ 62) BROFJORDEN LAT: N 58 21.60 LONG: E 11.25.70 BOTTOM DEPTH: 22 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA/MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73. 06 26 10 15 73 06 26 09 15 WSW 1 M/S 0 /8 0 M 21.0 C 7.9 M 10 35 4 0

DEPTH TEMP. OXYG % SAT A.O.U SALT P04P TOTP ORGP NO3N NO2N BOTH NH4N SUMN TOTN ORGN SIGMA SOUNDV STABIL.
 M CELS. ML/L MA/L 0/00 MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L M/S

0	19.2		22.525	.00	.21	.02	.37	.6	22.1	21.5	15.52	1505.5
2.5	19.1	6.89	22.767	.02	.50	.48	.59	.7			15.73	1505.6
5	19.0	6.99	23.259	.02	.44	.42	.60	.7	23.9	23.2	16.12	1505.9
10	17.4	7.13	26.195		.57	.50	.69	.9			18.72	1504.6
15	13.6	6.69	29.101	.02	.52	.50	.77	.9			21.74	1496.0
20	12.6	5.81	30.027	.00	.60	.60	1.05	1.3	21.4	20.1	22.66	1493.5
22	11.4	5.47	30.171	.01	.58	.57	1.23	1.6	18.4	16.8	22.98	1489.5

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB/ ORGC/ TOTC/ MEAN MEAN
 M MG/L MIG MG/L

0													
2.5	8.1	5.82	5.67	6.40	6.23	22.1							
5	8.1	6.34	6.97	6.97	22.2	30.2							
10	8.1	6.41	6.25	7.05	6.87	22.3	45.6	54.7	54.3				
15	8.1	6.36	6.99	6.99	23.2								
20	8.0	2.44	2.34	2.69	2.58	24.6	38.6						
22							33.4	35.7					40.6
							29.4	31.7					

WATER SAMPLER THERMOMETER NO 42
 PRIMARY PRODUCTION VALUES INTEGRATED FROM CPROD AND CORPR VALUES ARE RESP.: 91 AND 100 MGC/SQRMH

STATION 3 STRETUDDEN LAT: N 58 20.55 LONG: E 11 24.15

BOTTOM DEPTH 48 M

LOCAL DATE AND TIME	GREENWICH MEAN TIME	WIND DIR.	WIND VEL.	CLOUD COVER	WAVE HEIGHT	AIR TEMP.	SECCHI DEPTH	PROD. DURAT								
YEA MON DAY HOU MIN								HR MT HR MT								
73 06 26 14 50	73 06 26 13 50	WSW	3 M/S	2 / 8	0 -0.1 M	23.0 C										
DEPTH TEMP. CELS.	OXYG % SAT	A.O.U	SALT	PO4P	TOTP	ORGP	NO3N	NO2N	BOTH	NH4N	SUMN	TOTN	ORGN	SIGMA	SOUNDV	STABIL.
M	ML/L	MA/L	0/00	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	M/S	
0	19.4	6.73	119.3	22.090	.00	.48	.28	.02				21.2	15.14	1505.6		
5	18.5	7.07	124.1	23.280	.00	.46	.16	.00				20.8	16.25	1504.4		222.2
10	17.7	7.17	125.9	26.071	.00	.54	.14	.02					18.57	1505.2		462.8
15	13.5	6.78	111.7	29.206	.07	.48	.17	.00					21.83	1495.8		653.4
20	12.5	5.83	94.3	31.230	.147	.41	.21	.03				17.8	22.77	1493.3		186.5
30	9.4	4.78	73.6	153.332	.770	1.49	2.8	.29					25.34	1485.7		256.8
40	8.6	4.85	73.4	156.633	.074	.92	3.0	.33					25.70	1483.3		36.2
46	8.5	4.64	70.2	175.833	.204	1.87	3.1	.33				26.6	25.81	1483.1		19.4

DEPTH	OIL	FEN	ORGC	YEL.	PH	CPROD	NETPR	CORPR	NETCO	CARB	SUMN	ORGN	TOTN	CARB	ORGC	TOTC	MEAN
M	MG/L	MG	MG/L			MGC/QMH			MG/L		/PO4	/OP	/TP	PO4P	ORGP	TOTP	N/P
0																	
5																	
10																	
15																	
20																	
30																	
40																	
46																	

WATER SAMPLER THERMOMETER NO 42

44.3
45.1
43.5
14.2

STATION 4 YTTRE BROFJORDEN LAT: N 58 19.90 LONG: E 11 23.10 BOTTOM DEPTH 34 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN DIR. VEL. COVER HEIGHT TEMP DEPTH HR MT HR MT
 73 06 26 15 50 73 06 26 14 50 W 3 M/S 7 / 8 0 0.1 M 24.0 C 9.5 M

DEPTH M	TEMP. CELS.	OXYG %	SAT ML/L	A.O.U.	SALT MA/L	P04P MA/L	T0TP MA/L	ORGP MA/L	N03N MA/L	N02N MA/L	B0TH MA/L	NH4N MA/L	SUMN MA/L	T0TN MA/L	ORGN MA/L	SIGMA M/S	SOUNDV	STABIL.
0	19.3	6.69	118.4		21.745	.04	.39	.35	.30	.00	.43	.7	22.7	21.9	14.89	1505.1		
5	18.2	6.99	122.1		23.305	.02	.45	.43	.16	.01	.64	.8	19.0	18.2	16.34	1503.6	289.5	
10	16.6	7.05	121.4		26.341	.01	.48	.47	.17	.00	.73	.9		19.01	1502.3	533.1		
15	13.8	6.96	115.2		29.040	.05	.50	.45	.13	.00	.55	.7		21.65	1496.6	528.7		
20	12.7	6.07	98.6	7.9	30.016	.02	.49	.47	.14	.01	.60	.8	17.6	16.8	22.63	1493.8	195.9	
30	10.0	5.31	82.6	100.1	32.164	.07	.97	.90	.57	.00	1.89	2.5	20.0	17.5	24.77	1487.2	213.6	

DEPTH M	OIL MG/L	FEN MG/L	ORGC MG/L	YEL. PH	CPROD MGC/QMH	NETPR	CORPR	NETCO	CARB MG/L	SUMN /P04	ORGN /TP	T0TN /P04P	ORGC /ORGP	T0TC/ N/P	MEAN C/P
0										17.9	62.8	58.1			
5										49.3	42.0	42.2			
10										13.8					
15										46.0	35.5	35.9			
20										37.5	19.4	20.6			
30															39.2

WATER SAMPLER THERMOMETER NO 42
 NOTE: SAMPLING AT THE STATION FINISHED 16 15 A. M.

STATION 5 (FJ 63) MALMÖDRAG LAT: N 58 19.10 LONG: E 11 21.70 BOTTOM DEPTH 36 M

LOCAL DATE AND TIME GREENWICH MEAN TIME WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 YEA MON DAY HOU MIN 73 06 26 08 50 73 06 26 07 50 W 1 M/S 2 /8 0 M 18.0 C 10.0 M DEPTH HR MT HR MT

DEPTH M	TEMP. CELS.	OXYG. ML/L	% SAT	A.O.U.	SALT MA/L	0/00	PO4P MA/L	TOTP MA/L	ORGP MA/L	NO3N MA/L	NO2N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA MA/L	SOUNDV M/S	STABIL.
0	19.0	6.76	118.7		21.589		.00	.37	.37	.35	.00	.91	1.3	19.4	18.1	14.85	1504.0		
2.5	18.6	6.97	121.8		22.285		.00	.37	.37	.02	.02	.73			15.48	1503.5	252.5		
5	18.3	7.02	122.8		23.234		.00	.42	.38	.10	.06	.66	.8	16.5	15.7	16.26	1503.8	315.2	
10	17.1	7.05	122.2		25.885		.00	.38	.48	.18	.00	.96	1.1		18.56	1503.2	459.1		
15	13.5	6.80	112.1		29.291		.00	.48	.43	.11	.04	.73	.9		21.90	1495.9	668.1		
20	12.7	6.10	99.1	4.8	30.022		.00	.43	.75	.23	.03	.64	.9	16.4	15.5	22.63	1493.9	146.6	
30	9.4	5.43	83.7	94.5	32.941		.00	.75	1.20	1.1	.03	1.50	2.6		25.47	1485.9	283.5		
32	9.0	5.32	81.3	109.5	33.045		.03	1.23	1.20	3.2	.06	1.65	4.9	20.3	15.4	25.61	1484.6	72.4	

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN TOTN CARB / ORGC / TOTC / MEAN MEAN
 MG/L MG MG/L MGC/QMH MG/L /PO4 /OP /TP PO4P ORGP TOTP N/P C/P

0	8.1	3.84	3.74	4.22	4.11	21.8	49.0	52.4											
2.5	8.1	3.98	4.38	4.38	22.0														
5	8.1	4.45	4.31	4.90	4.74	22.3	39.4												
10	8.1	4.35	4.79	4.79	23.1														
15	8.0	2.43	2.36	2.67	2.60	24.7	36.1	38.2											
20																			
30																			
32																			

AVERAGE VALUES FOR THE WATER COLUMN 0-30 M AVERAGE VALUES FOR THE WATER COLUMN BELOW 30 M
 PO4P TOTP SUMN TOTN CARB TOTC PO4P TOTP SUMN TOTN CARB TOTC
 TONS TONS TONS TONS TONS TONS TONS TONS TONS TONS

2 4.1 3.6 64.9 5278 .0 .4 .7 3.3

WATER SAMPLER THERMOMETER NO 42

PRIMARY PRODUCTION VALUES INTEGRATED FROM CPROD AND CORPR VALUES ARE RESP. 65 AND 72 MGC/SGRMH

STATION 7
 LOCAL DATE AND TIME 73 06 26 11 45
 YEA MON DAY HOU MIN 73 06 26 10 45
 GREENWICH MEAN TIME 73 06 26 10 45
 WIND DIR. VEL. SW 3 M/S 0 / 8
 WIND WIND CLOUD COVER NO OBS 22.0 C
 WAVE HEIGHT 22.0 C
 LONG 11 22.65
 LAT 58 22.40
 AIR TEMP 22.0 C
 SECCH PROD: START DURAT 27 M
 DEPTH HR MT HR MT
 OXYG % SAT 118.5
 A.O.U SALT 22.634
 PO4P MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L
 BOTH NH4N NO2N NO3N NO2P ORGP MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L MA/L
 SUMN TOTN ORGN S IGMA SOUNDV STABIL. M/S
 .47 .6 22.7 22.1 15.72 1504.2
 .62 .8 20.4 19.6 16.22 1504.4
 .51 .7 17.50 1505.8
 .73 .9 20.71 1497.2
 .91 1.2 21.7 20.6 22.36 1493.6
 .24.26 1487.6
 1.11

DEPTH 0
 M 2.5
 5
 10
 15
 20
 28
 OIL FEN ORGC YEL. PH 19.4 29.675 170.8 31.579
 MG/L M/G MG/L
 CPROD NETPR CORPR NETCO CARB 22.752 23.242 24.865 27.956 29.675 31.579
 MGC/QMH
 SUMN ORGN TOTN CARB / ORGC / TOTC / MEAN MEAN
 /PO4 /OP /TP PO4P ORGP TOTP N/P C/P
 19.3 31.6 31.1
 23.5 52.0 49.7
 8.9
 37.6
 8.3 32.6 28.2
 36.3

STATION 8
 LOCAL DATE AND TIME 73 06 26 12 40
 YEA MON DAY HOU MIN
 LAT:58 21.10 LONG:11 21.35
 WIND WIND CLOUD WAVE AIR
 DIR. VEL. COVER HEIGHT TEMP
 SW 3 M/S 0/8 NO OBS 23.0 C 8.5 M
 GREENWICH MEAN TIME 73 06 26 11 40
 BOTTOM DEPTH 36 M
 SECCHI PROD:START DURAT
 DEPTH HR MT HR MT

DEPTH M	TEMP. CELS.	OXYG %	SAT ML/L	A.O.U.	SALT 0/00	P04P MA/L	T0TP MA/L	ORGP MA/L	N03N MA/L	N02N MA/L	BOTH MA/L	SUMN MA/L	T0TN MA/L	ORGN MA/L	SIGMA M/S	SOUNDV	STABIL.
0	18.7	6.85	119.8		22.172	.06	.39	.33	.4	.46	.9	29.8	28.9	15.37	1503.7		
2.5	18.6	6.78	118.5		22.220		.44							15.43	1503.5		23.8
5	18.0	6.96	120.7		22.927	.02	.42	.40	.13	.02		.48	.6	16.10	1502.5		269.4
10	17.3	6.95	120.6		25.289	.03	.51	.48	.12	.01		.47	.6	18.05	1503.2		390.4
15	13.9	6.86	113.5		28.655	.03	.43	.40	.11	.03		.48	.6	21.34	1496.3		657.9
20	12.8	6.53	106.1		29.651	.10	.45	.35	.13	.01		.58	.7	22.32	1493.9		195.8
30	9.7	5.05	78.0		127.232	.211	.40	.44	2.3	.24		2.05	.46	24.85	1486.2		252.7

DEPTH M	OIL MG/L	FEN ORGC MG/L	PH	CPROD NETPR	CORPR	NETCO	CARB MG/L	SUMN ORGN	T0TN	CARB	ORGC	T0TC	MEAN
0													
2.5													
5													
10													
15													
20													
30													

15.3 86.8 76.3
 38.6 52.2 51.7
 18.4
 18.8
 7.4 48.5 39.5
 11.4

55.8

STATION 9
 LOCAL DATE AND TIME 73 06 26 13 45
 YEA MON DAY HOU MIN
 LONG 18.40
 LAT 58 18.40
 WIND WIND DIR. VEL. SW 4 M/S
 CLOUD COVER 0 / 8
 WAVE HEIGHT NO OBS 22.0 C
 AIR TEMP 22.0 C
 SECCHI DEPTH 8.5 M
 BOTTOM DEPTH 27 M
 PROD START HR MT
 DURAT HR MT

DEPTH M	TEMP. CELS.	OXYG %	SAT ML/L	A. O. U	SALT 0/00	P04P MA/L	T0TP MA/L	ORGP MA/L	N03N MA/L	N02N MA/L	BOTH MA/L	NH4N MA/L	SUMN MA/L	TOTN MA/L	ORGN MA/L	SIGMA M/L	SOUNDV M/S	STABIL.
0	19.4	6.66	118.0		21.731	.05	.41	.36	.28	.05		.39	.7	31.4	30.6	14.87	1505.3	
2.5	19.1	6.71	118.1		21.821		.44									15.01	1504.5	55.6
5	18.1	6.92	120.1		22.562	.05	.38	.33	.11	.03		.59	.7	25.0	24.2	15.80	1502.4	316.9
10	16.8	6.99	119.9		24.984	.03		.10	.04			.47	.6			17.93	1501.3	426.2
15	14.5	6.98	116.3		27.814	.04	.42	.38	.12	.05		.61	.8			20.58	1497.3	529.2
20	12.7	6.31	102.4		29.649	.04	.46	.42	.16	.05		.70	.9			22.34	1493.5	352.2
30	9.3	5.39	82.8	100.2	32.616		.80									25.23	1485.2	289.1

DEPTH M	OIL MG/L	FEN MG/L	ORGC MG/L	YEL. PH	CPROD MGC/QMH	NETPR	CORPR	NETCO	CARB MG/L	SUMN /P04	ORGN /OP	TOTN /TP	CARB /P04P	ORGC /ORGP	TOTC /TOTP	MEAN N/P	MEAN C/P
0										14.5	84.9	76.5					
2.5										14.7	73.3	65.7					
5										18.5							
10										18.7							
15										22.0							
20																	
30																	

STATION 10
 LOCAL DATE AND TIME GREENWICH MEAN TIME
 YEA MON DAY HOU MIN 73 06 26 14 30 73 06 26 13 30
 LAT: 58 17.45 LONG: 11 25.50
 WIND WIND CLOUD WAVE AIR SECCHI PROD: START DURAT
 DIR. VEL. COVER HEIGHT TEMP. DEPTH HR MT HR MT
 SW 3 M/S: 0 / 8 NO OBS: 20.0 C 18.0 M

DEPTH	TEMP.	OXYG %	SAT	A.O.U.	SALT	P04P	T0TP	ORGP	N03N	N02N	BOTH	NH4N	SUMN	T0TN	ORGN	SIGMA	SOUNDV	STABIL.
M	CELS.	ML/L	ML/L	ML/L	ML/L	ML/L	ML/L	ML/L	ML/L	ML/L	ML/L	ML/L	ML/L	ML/L	MA/L	MA/L	M/S	
0	19.4	6.77	119.9	21.944	.06	.45	.39	.34	.01	.39	.7	28.2	27.5	15.03	1505.5			
2.5	19.2	6.79	119.9	22.060		.47				.41	.5	24.4	23.9	15.16	1505.1		54.1	
5	18.9	6.94	122.4	22.694	.02	.43	.41	.14	.00	.50	.7			15.72	1505.0		220.2	
10	17.2	7.09	122.3	24.619	.03	.42	.39			.68	.8			17.56	1502.1		369.9	
15	13.8	6.55	108.2	28.744	.05	.51	.46	.15	.00	.87	1.2	18.6	17.4	21.43	1496.1		773.0	
20	12.5	6.02	97.5	13.9	29.897	.13	.50	.27	.03					22.57	1493.2		227.4	

DEPTH OIL FEN ORGC YEL. PH CPROD NETPR CORPR NETCO CARB SUMN ORGN T0TN CARB/ ORGC/ T0TP/ MEAN MEAN
 M MG/L M/G MG/L MGC/QMH MG/L /P04 /OP /TP P04P ORGP T0TP N/P C/P
 0 12.9 70.0 62.7
 2.5 33.2 57.7 56.8
 5 20.2
 10 16.9
 15 8.9 47.3 37.2
 20 52.2

LAT: 58 15.65 LONG: 11 26.70

BOTTOM DEPTH 52 M

STATION 12

LOCAL DATE AND TIME	GREENWICH MEAN TIME	WIND DIR.	WIND VEL.	CLOUD COVER	WAVE HEIGHT	AIR TEMP	SECCHI DEPTH	PROD.	START DURAT
YEA MON DAY HOU MIN	73 06 26 15 25	SW	3 M/S	2 / 8	NO OBS	20.0 C	9.0 M		HR MT HR MT

DEPTH TEMP.	OXYG %	SAT	A.O.U	SALT	P04P	T0TP	ORGP	N03N	N02N	BOTH	NH4N	SUMN	T0TN	ORGN	SIGMA	SOUNDV	STABIL.
M	CELS.	ML/L	MA/L	0/00	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	MA/L	M/S	
0	19.2	6.69	117.8	21.560	.44	.2	.37	.6	22.4	21.8	14.79	1504.5	1504.5	1504.1	60.8		
2.5	19.0	6.79	119.2	21.698	.56	.1	.51	.6	24.3	23.7	14.94	1504.1	1503.1	338.5			
5	18.3	7.06	122.9	22.601	.48	.1	.28	.4			18.13	1501.3	469.2				
10	16.7	7.03	120.5	25.217	.41	.5	.46	.9			20.94	1496.8	561.1				
15	14.2	6.91	114.6	28.203	.47	.4	.55	.9	20.0	19.1	22.32	1493.9	276.2				
20	12.8	6.47	105.2	29.645	.67	2.5	1.48	4.0			24.94	1485.1	262.1				
30	9.4	5.62	86.3	79.632	.74	3.3	1.45	4.7			25.87	1484.8	93.2				
40	8.9	5.71	87.2	74.533	.81	4.2	1.38	5.6			26.19	1482.7	32.6				
50	8.2	5.63	84.9	89.233													

DEPTH	OIL	FEN	ORGC	YEL.	PH	CPROD	NETPR	CORPR	NETCO	CARB	MG/L	/P04	/OP	SUMN	ORGN	T0TN	CARB	ORGC	T0TC	MEAN
M	MG/L	MIG	MG/L			MGC/QMH						P04P	ORGP	T0TP	N/P	C/P				
0														50.8						
2.5														50.6						
5																				
10																				
15																				
20																				
30																				
40																				
50																				

48.0

