NORSK INSTITUTT FOR VANNFORSKNING

0-76129

OVERVÅKING AV FORURENSNINGER I GRENLANDSFJORDENE OG SKIENSELVA

Hydrokjemiske data 1977 - 1979.

Brekke, 18. september 1980

Prosjektleder: Brage Rygg

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Instituttsjef Kjell Baalsrud

NIVAs hustrykkeri

NIVA – RAPPORT

Norsk institutt for vannforskning NIVA

Norges Teknisk-Naturvitenskapelige Forskningsråd

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EDB-utskrifter av hydrokjemi-data fra Grenlandsfjordene og Skienselva for tidsrommet mai 1977 - november 1979.

4 emneord, norske:
1. Grenlandsfjordene
2. Miljøovervåking
3. Vannforurensning
4. Hydrokjemidata

4 emneord, engelske:
1.
2.
3.
4.

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F O R O R D

Foreliggende datarapport gjengir hydrokjemiske måleresultater fra Grenlandsfjordene og Skienselva for tidsrommet 1977 - 79. Materialet er innsamlet av Norsk institutt for vannforskning (NIVA) som en del av overvåkingsprogrammet for dette området.

Dataene fra 1977 og 1978 er tidligere blitt vurdert i to årsrapporter, mens dataene for 1979 blir drøftet i en egen rapport som vil foreligge i løpet av 1980.

Ved instituttet har nat.kand. Pirkko Rygg arbeidet med tilretteleggelse og utlisting av dataene.

Brekke, 18. september 1980

Jarle Molvær

Jarle Molvær

INNHOLDSFORTEGNELSE

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1. INNLEDNING

Som et ledd i overvåkingsprogrammet har NIVA i tidsrommet 1977 - 79 innsamlet 11 prøveserier fra Skienselva og Grenlandsfjordene. Tidspunktene for toktene framgår av INNHOLDSFORTEGNELSEN, under kap. 3. Stasjonsnettet framgår av figur 1.

Stasjonene AA1 og AB1 i Vollsfjorden inngikk i overvåkingsprogrammet fra juni 1979, etter at basisundersøkelsen av dette området var avsluttet.

Ved NIVA har de innsamlede hydrokjemiske måleresultater for hvert tokt blitt tilrettelagt for EDB og listet ut stasjon for stasjon. Samtidig er det utført noen enkle beregninger som er til nytte under vurderingen og bruken av tallmaterialet.

Av hensyn til at dataene skal inngå i en nasjonal databank ved Norsk Oseanografisk Datasenter i Bergen, hvor utveksling av data med utenlandske institusjoner foregår, er tabellteksten på engelsk.

Av praktiske grunner er ikke analyseresultatene for metaller tatt med i denne rapporten. Dette materialet er imidlertid allerede presentert i årsrapporter (se referansene 1, 2 og 3). Det samme er tilfelle for målingene av suspendert tørrstoff og gløderest.

Tabell 1 gir en kortfattet oversikt over parametre, analysemetoder, samt presisjon og deteksjonsgrense ved sjøvannsanalysene.
Temperatur og saltholdighet er vanligvis målt på stedet med en CTD-sonde.

Resultatene er listet ut kronologisk tokt for tokt, med 9 - 11.5.1977 som tidspunkt for første tokt og 27 - 28.11.1979 som siste tokt.

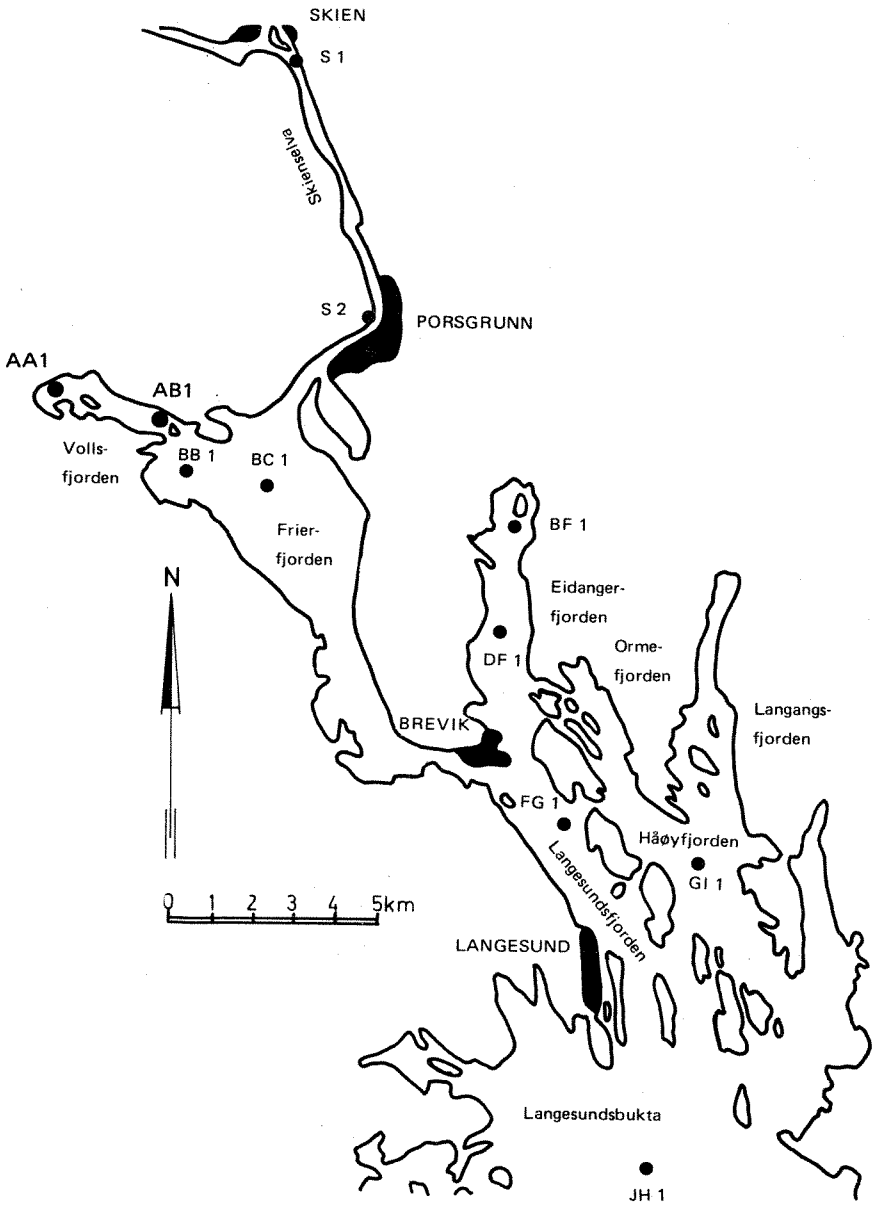

Fig. 1. Hydrokjemistasjoner i Skienselva og Grenlandsfjordene.

TABELL 1 OVERSIKT OVER PARAMETRE OG ANALYSEMETODE, SAMT DETEKSJONSGRENSER OG ANTATT PRESISJON VED ANALYSE AV SJØVANNSPRØVER*

Parameter	Analysemetode	Presisjon	Deteksjons-grense	Litteratur nr.
Temperatur (TEMP)	- Vendetermometer avlest med lupe	± 0.01°C	-	
	- Målt med CTD-sonde	± 0.04°C	-	
Saltholdighet (SAL)	- Konduktivitetsmålinger ved laboratoriesalinometer (Industrial Man)	± 0.003 °/oo	-	4 og 5
	- Målt med CTD-sonde	± 0.01 °/oo	-	
Oksygen/hydrogensulfid (O_2/H_2S)	Jodometrisk titrering. Modifisert Winklermetode	± 2-4%	-	6
Ortofosfat (PO_4-P)	Autoanalysator	± 2 µg/l	2 µg/l	7, 8 og 9
Totalfosfor (TOT-P)	UV-oksydasjon. Bestemmelse som ortofosfat	± 2 "	2 "	7, 8 og 9
Nitrat+nitritt (NO_3-N)	Autoanalysator. Red. (Cd/Cu) til og best. som nitritt	± 10 "	10 "	7 og 8
Ammonium (NH_4-N)	Autoanalysator Indofenolblåttmetoden	± 5 "	10 "	10
Totalnitrogen (TOT-N)	UV-oksydasjon. Bestemmelse som nitrat/nitritt	± 10 "	10 "	7 og 8
Total organisk karbon (TOC)	Persulfatoksydasjon. IR-bestemmelse som CO_2	± 0.1 mg/l	0.2 mg/l	11

* Presisjonen anslått for de konsentrasjonsnivåer som er representative for prøver fra Grenlandsfjordene.

2. BESKRIVELSE AV DET UTLISTEDE DATAMATERIALET

En tabellarisk datautskrift av dette omfang må nødvendigvis bli knapp på beskrivende og forklarende tekst. I det etterfølgende skal vi gi en kort forklaring til enkelte av de målte og beregnede størrelser. En detaljert forklaring av forkortelsene som er brukt er gitt i tabell 2.

Vi gjør oppmerksom på at det under COMMENTS ofte er gitt en del tilleggsopplysninger om prøveinnsamlinger på den enkelte stasjon og dermed om resultater som av praktiske grunner ikke er tatt med i tabellene.

En hydrografisk stasjons posisjon er bestemt dels av dens geografiske koordinater (lengde og bredde) og dels av et internt (NIVA) koordinatsystem, som er brukt ved beskrivelse av stasjonene på figur 1.

Dypet (DEPTH) angis i meter og er vanligvis en ekkoloddregistrering. Tiden (TIME) er middeleuropeisk tid (European Mean Time), og angir omtrentlig tidspunkt for hydrografien. Vindens hastighet angis i meter pr sekund, og dens retning i dekagrader (sektorer på 10 grader).

Lufttemperaturen (AIR.TEMP) angis i grader Celsius.

I følge vanlig praksis er skydekket (CLOUDS) angitt ved åttendedeler. Skyfri himmel registreres som 0 (dvs 0/8) og helt overskyet som 8.

Siktedyp (SECCHI-DISC) måles med en hvit skive (25 cm i diameter) i skyggen av båten. Angitt dyp viser på hvilket nivå skiven ikke lenger kan ses. Fargen (COLOUR) avleses når skiven befinner seg på halve siktedypet.

Størrelsene saltholdighet (SAL $^{o}/oo$), tetthet (DENS.SIGMA-T) og oksygenmetning (O2-SAT %) har blitt beregnet etter International Oceanographic tables, National Institute of Oceanography of Great Britain and UNESCO Vol 1 (1966) og Vol 2 (1973). Tettheten (DENS.SIGMA-T) er angitt ved størrelsen σ_t (sigma-t) som er definert som $\sigma_t = (\rho-1)\cdot 1000$, hvor ρ er vannmassens egenvekt ved atmosfæretrykk.

Alle kjemiske analyser er utført på ufiltrert vann. Fosforprøvene er konservert i felten med svovelsyre, og nitrogenprøvene (unntatt ammonium) samt total organisk karbonprøvene er konservert med kvikksølvklorid. Unntatt her er nitrogenprøvene for 0-2 m og 4 m dyp fra Frierfjorden, Eidangerfjorden og Brevikfjorden, som vanligvis har blitt konservert med svovelsyre.

Beregnede hjelpestørrelser er organisk bundet fosfor (ORG P) og organisk bundet nitrogen (ORG N), hvor ORG P er forskjellen mellom totalfosfor og ortofosfat. ORG N er forskjellen mellom totalnitrogen og øvrige analyserte nitrogenforbindelser (NO_3+NO_2+NH_4-N). I tillegg er det listet en del forholdstall.

Tabell 2. SYMBOLER OG FORKORTELSER BRUKT I DATAUTSKRIFTENE

	General Comments	*Generelle kommentarer*
CTD	Conductivity - Temperature - Depth recorder	*Konduktivitet - temperatur - dyp sonde*
NH4N	Ammonium NH_4N	*Ammonium NH_4N*
NTR	NuTRients	*Næringssalter*
SLN	SaLiNoterm	*Salinoterm*
STA	STAtion	*Stasjon*
VH	Water sampler	*VannHenter*
VT	Reversing thermometer	*VendeTermometer*
	Parameter headings	***Parameter overskrifter***
DENS	DENSity Sigma-t (σ_τ)	*tetthet, sigma-t (σ_τ)*
H2S	Hydrogen Sulphide (H_2S)	*hydrogensulfid (H_2S)*
M	Meter	*meter*
MG/L	MilliGram/liter, mg/l	*mg/l*
ML/L	MilliLiter/liter (ml/l)	*ml/l*
MYG/L	Microgram/Liter (µg/l)	*µg/l*
NO3N	Nitrate NO_3N	*nitrat NO_3N*
O2	Molecular oxygen O_2	*molekylær oksygen-O_2*
O2-SAT%	Oxygen-SATuration %	*oksygenmetning %*
ORG N	ORGanic Nitrogen	*organisk nitrogen*
ORG P	ORGanic Phosphate	*organisk fosfat*
PO4P	Ortophosphate PO_4P	*ortofosfat PO_4P*
SAL	SALinity	*saltholdighet*

forts. tabell 2

	Parameter Headings	*Parameter overskrifter*
TEMP	TEMPerature	*temperatur*
TOC	Total Organic Carbon	*total organisk karbon*
TOT N	TOTal Nitrogen	*total nitrogen*
TOT P	TOTal Phosphate	*total fosfat*
	Data flags	*Dataflagg*
<	less than	*mindre enn*
>	greater than	*større enn*
(*)	uncertain value	*usikker verdi*
ca.	approximate value	*cirka verdi*
OT	Over-Titrated value	*over-titrert verdi*
R	Repeated analysis	*reanalysert prøve*
S	Spoiled or damaged sample	*ødelagt prøve*

3. Hydrokjemiske data for tidsrommet mai 1977 – november 1979

3.1 Hydrokjemiske data for 1977

Tokt 9. – 11.5 1977

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.1.14-11:40:14 PAGE:14

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	SKIENSELV	S-1	59.11.8	9.37.1	22	770511	10

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0				4.8	YELLOW-GREEN	PARTLY CLOUDY	2/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
CALM; WAVES 0.0M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL 0-20M, SRF NTR 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	3.40	0.000	.188				7	3	4	795	490	40	265	3.60	
4	3.34	0.000	.187	8.81		94.5	5	3	2	620	480	<10	>130		
8	3.34	0.000	.187	8.81		94.5	4	4	0	610	480	10	120		
12	3.33	0.000	.187	8.78		94.1	4	4	0	660	480	20	160		
16	3.35	0.000	.187	8.85		94.9	5	3	2	660	470	<10	>180		
20	3.34	0.000	.187	8.74		93.7	6	4	2	660	470	20	170		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	361	5	1326	251									
4	354			274									
8	265			337									
12	265			365									
16	346			292									
20	260			243									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	SKIENSELV	S-2	59.8.5	9.38.7	20	770511	9

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0						PARTLY CLOUDY	5/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL 0-16M, SRF NTR 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	P04P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	3.30	0.000	.187				10	6	4	695	490	25	180	3.70	
4	3.30	.040	.219	8.78		94.1	7	3	4	555	480	<10	>65		
8	5.51	24.880	19.669				19	5	14	425	240	110	75		
12	5.69	28.490	22.495	5.62		77.2	27	15	12	310	90	115	105		
16	5.70	28.640	22.612	5.48		75.4	30	17	13	320	90	135	95		

DEPTH M	RATIOS NO3/ P04	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	181	6	954	154									
4	354			175									
8	106			49									
12	13			25									
16	12			24									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	FRIERFJORD	BB-1	59.6.6	9.34.2	58	770510	9

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
3.7	10			3.4	BROWN	PARTLY CLOUDY	6/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL 0-55M, SRF NTR 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	P04P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FF
0	4.10	1.150	1.090				8	6	2	5600	3900	(150)	(1550)	4.40	
4	4.39	1.400	1.283	8.33		92.7	6	3	3	1600	550	(160)	(890)		
8	5.67	27.950	22.072	6.39		87.5	12	10	2	480	120	185	175		
12	5.30	31.370	24.810	5.31		73.7	27	25	2	380	130	125	125		
16	5.94	32.770	25.841	2.76		39.2	49	49	0	430	200	100	130		
20	6.54	33.500	26.341	.50		7.2	77	77	0	275	70	65	140		
25	6.25	33.620	26.473		.53		110	110	0	220	<10	85	>125		
30	5.65	33.580	26.515	1.90		27.0	57	57	0	270	130	<10	>130		
40	5.34	33.610	26.575	3.73		52.6	44	44	0	280	170	10	100		
50	5.22	33.630	26.605	4.02		56.5	46	46	0	280	140	80	60		
55	5.20	33.640	26.615												

DEPTH M	RATIOS NO3/ P04	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	1437	1	1418	1548									
4	405			590									
8	27			88									
12	11			31									
16	9			19									
20	2			8									
25	<0			4									
30	5			10									
40	9			14									
50	7			13									
55													

< :LESS THAN VALUE > :GREATER THAN VALUE ( ) :UNCERTAIN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HUGRAN	0-129/76	FRIERFJORD	BC-1	59.6.4	9.37.1		770509	12

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
3.2	10			3.1	YELLOW	PARTLY CLOUDY	4/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL 0-40M, SRF NTR 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	P04P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FF
0	6.20	1.400	1.234				9	9	0	2600	640	(470)	(1490)	3.50	
4	4.48	4.130	3.422	8.26		93.8	10	5	5	2000	560	(470)	(970)		
8	5.96	27.410	21.616	6.32		86.8	11	11	0	345	70	90	185		
12	5.49	30.920	24.433	5.46		75.9	24	24	0	355	110	175	70		
16	5.79	32.550	25.685	3.12		44.1	55	54	1	295	100	85	110		
20	6.32	33.420	26.306	1.36		19.6	72	71	1	280	80	85	115		
25	6.48	33.590	26.419		.79		120	120	0	250	<10	135	>105		
30	6.00	33.560	26.457	.83		11.9	77	77	0	260	90	35	135		
40	5.37	33.590	26.556	3.95		55.7	48	48	0	285	160	<10	>115		
50	5.20	33.647	26.620	4.24		59.6	43	43	0	240	150	10	80		
60	5.13	33.635	26.619	4.38		61.4	43	43	0	215	140	<10	>65		
70	5.10	33.639	26.626	4.49		62.9	44	44	0	230	130	20	80		
80	5.09	33.663	26.646	4.52		63.3	46	46	0	215	120	25	70		
90	5.11	33.655	26.637	4.45		62.4	54	54	0	225	110	40	75		

DEPTH M	RATIOS NO3/ P04	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	157	2	1003	639									
4	248			442									
8	14			69									
12	10			33									
16	4			12									
20	2			9									
25	<0			5									
30	3			7									
40	7			13									
50	8			12									
60	7			11									
70	7			12									
80	6			10									
90	5			9									

< :LESS THAN VALUE > :GREATER THAN VALUE () :UNCERTAIN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	EIDANGERFJORD	BF-1	59.6.1	9.42.7		770510	16

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
1.0	18			4.5	GREEN	DRIZZLE	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	-	-

COMMENT1
SRF STA 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0							13	4	9	855	450	520	-115	3.60	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
					HEAVY METALS								
0	249	5	714	145									

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HIGRAN	0-129/76	EIDANGEREJORD	DE-1	59.4.6	9.42.5	100	770510	16

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
2.4	18			4.0	YELLOW	DRIZZLE	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL 0-95M, SRF NTR 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	7.22	8.230	6.493				12	5	7	855	440	(170)	(245)	3.30	
4	6.44	27.310	21.484	7.98		110.8	15	6	9	1600	30	<100	>1470		
8	5.94	29.560	23.311	6.82		94.9	7	4	3	275	60	30	185		
12	5.60	31.110	24.571	6.38		89.0	12	9	3	250	70	40	140		
16	5.59	31.770	25.093	6.38		89.4	13	11	2	235	60	25	150		
20	5.49	32.060	25.333	5.84		81.8	19	19	0	180	70	40	70		
25	5.45	32.310	25.535	5.66		79.3	27	23	4	240	80	35	125		
30	5.45	32.660	25.812	5.62		78.9	32	27	5	260	90	45	125		
40	5.27	33.250	26.299	5.44		76.4	37	32	5	255	110	30	115		
50	4.98	33.810	26.774	6.02		84.2	26	23	3	230	120	10	100		
60	5.26	34.200	27.051	5.84		82.5	28	26	2	265	130	45	90		
80	5.18	34.490	27.290	5.88		83.0	31	27	4	245	150	15	80		
95	4.65	34.470	27.334	5.95		82.9	32	28	4	265	150	<10	>105		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	195	5	709	158									
4	11			236									
8	33			87									
12	17			46									
16	12			40									
20	8			21									
25	8			20									
30	7			18									
40	8			15									
50	12			20									
60	11			21									
80	12			17									
95	12			18									

< :LESS THAN VALUE > :GREATER THAN VALUE () :UNCERTAIN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HINGRAN	0-129/76	BREVIKFJORD	FG-1	59.2.8	9.43.2	110	770510	11

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
6.1	18			3.5	YELLOW	CONTINOUS LAYER OF CLOUDS	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL 0-30M, SRF NTR 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	5.61	9.600	7.665				10	4	6	220	420	(240)	(-440)	< .20	
4	6.91	26.160	20.528	7.73		107.7	12	5	7	1600	30	<100	>1470		
8	6.46	29.040	22.842	7.07		99.3	9	5	4	290	30	20	240		
12	5.91	30.660	24.181	6.82		95.6	8	8	0	250	50	95	105		
16	5.73	31.530	24.888	6.82		95.7	7	4	3	250	50	30	170.		
20	5.69	32.040	25.295	6.75		94.9	9	7	2	245	50	30	165		
25	5.43	32.580	25.751	6.48		90.9	14	13	1	235	70	80	85		
30	5.37	32.730	25.876	5.59		78.4	30	25	5	270	80	40	150		
40	5.17	33.374	26.408	5.66		79.3	32	25	7	290	100	20	170		
50	5.01	34.015	26.933	5.98		83.8	22	22	0	235	110	15	110		
60	5.12	34.289	27.137	6.02		84.8	26	25	1	260	110	10	140		
80	4.86	34.497	27.332	5.95		83.4	25	24	1	255	140	105	10		
105	4.83	34.576	27.398	6.24		87.4	24	23	1	235	100	15	120		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	232	<1	<52	49									
4	13			295									
8	13			71									
12	14			69									
16	28			79									
20	16			60									
25	12			37									
30	7			20									
40	9			20									
50	11			24									
60	10			22									
80	13			23									
105	10			22									

< :LESS THAN VALUE > :GREATER THAN VALUE ( ) :UNCERTAIN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	HAØYFJORDEN	GI-1	59,1.4	9.48.0	205	770510	15

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
3.8	18			4.1	GREEN	DRIZZLE	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL 0-200M, SRF NTR 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	MICROGR./L TOC MG/L	FE
0	8.42	11.210	8.706				17	4	13	955	390	475	90	2.80	
4	6.84	27.140	21.305												
8	6.28	29.810	23.469												
12	5.83	30.850	24.340												
16	5.49	31.950	25.247												
20	5.34	32.360	25.587												
25	5.23	32.810	25.955												
30	5.13	33.360	26.401												
40	5.37	34.020	26.896												
50	5.15	34.110	26.992												
60	5.07	34.130	27.017												
80	5.03	34.140	27.030												
100	5.52	34.300	27.099												
125	6.00	34.430	27.143												
150	6.07	34.470	27.166												
175	6.11	34.500	27.184												
200	6.13	34.500	27.182												

(CONTINUATION)

DEPTH M	RATIOS NO3/ PO4	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MYG/L	NI MYG/L	CR MYG/L	F MG/L
0	216	3	425	124									
4													
8													
12													
16													
20													
25													
30													
40													
50													
60													
80													
100													
125													
150													
175													
200													

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HUGRAN	0-129/76	LANGESUNDSBUKTA	JH-1	58.58.1	9.37.1	205	770510	14

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
5.0	15			12.0	LIGHT-GREEN	DRIZZLE	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SLIGHT; WAVES 0.5-1.25M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL 0-200M, SRF NTR 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	MICROGR./L P04P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
0	7.70	20.500	16.010				17	5	12	915	230	170	515	2.00	
4	5.92	30.220	23.833												
8	5.75	30.940	24.420												
12	5.75	31.130	24.570												
16	5.77	31.510	24.867												
20	5.72	32.030	25.283												
30	5.70	32.320	25.514												
40	5.70	32.710	25.822												
50	5.60	33.120	26.158												
60	5.19	33.680	26.648												
80	5.01	34.330	27.183												
100	5.01	34.560	27.365												
125	4.95	34.680	27.466												
150	4.96	34.680	27.465												
175	4.93	34.750	27.524												
200	4.92	34.770	27.541												

(CONTINUATION)

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	102	3	303	119									
4													
8													
12													
16													
20													
30													
40													
50													
60													
80													
100													
125													
150													
175													
200													

Tokt 28.7 1977

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.1.14-11:40:51 PAGE:1

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	FRIERFJORD	BB-1	59.6.6	9.34.2		770728	10

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
1.0	16			3.5	YELLOW	PARTLY CLOUDY	7/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	-	-

COMMENT1
SRF STA 0-2M, HM 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	P04P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	17.00	6.750	4.060				22	4	18	3100	500	560	2040	3.70	

DEPTH M	RATIOS NO3/P04	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	276	1	434	312									

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	FRIERFJORD	RC-1	59.6.4	9.37.1	95	770728	11

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0				3.0	YELLOW-BROWN	PARTLY CLOUDY	7/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	-	+

COMMENT1
SRF SMP 0-2M, HM 0-2,4,30,50,70,90M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	17.30	8.315	5.184				29	29	0	4600	790	780	3030	5.00	
4	13.30	26.155	19.549	5.54		89.1	8	8	0	310	200	115	-5		
8	10.42	28.971	22.231	4.70		72.3	13	13	0	310	110	45	155		
12	8.95	30.387	23.563	4.37		65.6	18	18	0	335	140	<10	>185		
16	8.43	31.216	24.288	3.91		58.3	23	23	0	330	190	70	70.		
20	7.98	32.114	25.056	3.76		55.8	30	30	0	345	220	<10	>115		
25	6.75	32.759	25.730	2.67		38.7	51	49	2	900	210	190	500		
30	6.09	33.578	26.460	.55		7.9	82	82	0	385	500	<10	>-125		
40	5.58	33.633	26.565	3.09		43.8	57	57	0	280	170	<10	>100		
50	5.31	33.641	26.603	3.36		47.3	53	53	0	250	160	<10	>80		
60	5.24	33.652	26.620	3.43		48.2	54	54	0	360	300	<10	>50		
70	5.28	33.652	26.615	3.30		46.5	56	56	0	2680	1500	<10	>1170		
80	5.25	33.664	26.628	3.18		44.7	67	65	2	395	220	<10	>165		
90	5.24	33.601R	(26.580)	2.60		(36.6)	92	90	2	470	260	50	160		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
					HEAVY METALS								
0	60	1	445	351									
4	55			86									
8	19			53									
12	17			41									
16	18			32									
20	16			25									
25	9			39									
30	13			10									
40	7			11									
50	7			10									
60	12			15									
70	59			106									
80	7			13									
90	6			11									

< :LESS THAN VALUE > :GREATER THAN VALUE () :UNCERTAIN VALUE
R :REPEATED ANALYSIS

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.1.14-11:40:53 PAGE:3

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	EIDANGEREJORD	BE-1	59.6.1	9.42.7	40	770728	13

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
4.0	18			2.5	BROWN	PARTLY CLOUDY	5/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	-	-

COMMENT1
SRF STA 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	17.40	18.901	13.180				6	<2	>4	2000	280	160	1560	2.70	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY.METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0		2	1160	737									

< :LESS THAN VALUE > :GREATER THAN VALUE

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.1.14-11:40:55 PAGE:6

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	EIDANGEREFJORD	DF-1	59.4.6	90.42.5	100	770728	13

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
5.0	18			2.5	BROWN	PARTLY CLOUDY	5/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	-	-

COMMENT1
SRF STA 0-2M. HW 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	P04P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	17.30	18.296	12.634				17	2	15	2000	330	120	1550	3.10	

DEPTH M	RATIOS N/P	TOC/ TOTN	TOC/ TOTP	TOTN/ TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
	MOL/MOL				HEAVY METALS								
0	345	2	470	260									

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	BREVIKFJORD	FG-1	59.2.8	9.43.2	103	770728	14

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
5.0	18			3.5	YELLOW-BROWN	PARTLY CLOUDY	3/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	-	-

COMMENT1: SRF SMP + HM 0-24

COMMENT2:

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	17.60	18.343	12.713				16	2	14	3000	340	325	2335	2.50	
4	15.80	28.201	20.612	5.95		102.0	10	<2	>8	365	60	25	280		
8	15.09	30.241	22.328	5.75		98.4	7	<2	>5	210	20	25	165		
12	14.70	30.587	22.677	5.74		97.6	6	<2	>4	180	10	45	125		
16	14.07	30.795	22.967	5.57		93.6	5	<2	>3	185	10	15	160		
20	14.00	30.946	23.098	5.59		93.9	7	<2	>5	155	10	10	135		
30	12.55	31.374	23.715	5.21		85.2	8	2	6	210	40	45	125		
40	10.14	31.831	24.500	4.52		70.3	19	14	5	270	120	15	135		
60	6.67	33.785	26.548	5.46		79.5	24	21	3	260	130	10	120		
80	5.45	34.431	27.211	5.14		73.0	36	32	4	290	150	<10	>130		
100	6.13	34.639	27.291	5.31		76.8	30	28	2	245	130	20	95		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	376	1	403	415									
4				81									
8				66									
12				66									
16				82									
20				49									
30	44			58									
40	19			31									
60	14			24									
80	10			18									
100	10			18									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	HAØYFJORD	GI-1	59.1.4	9.48.0	205	770728	16

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
7.0	20			3.5	YELLOW-GREEN	PARTLY CLOUDY	3/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SLIGHT: WAVES 0.5-1.25M	NO	NO	NO	NO	-	-

COMMENT1
SRF STA 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	17.80	23.120	16.295				8	<2	>6	1700	140	70	1490	2.30	

DEPTH M	RATIOS NO3/PO4	MOL/MOL TOC/TOTN	MOL/MOL TOC/TOTP	MOL/MOL TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0		2	741	470									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	LANGESUNDSBUKTA	JH-1	58.58.1	9.47.0	205	770728	15

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DRY	AIR TEMP. WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
7.0	20			9.5	GREEN	PARTLY CLOUDY	2/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SLIGHT; WAVES 0.5-1.25M	NO	NO	NO	NO	-	-

COMMENT1
SRF STA 0-2M, HM 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	15.80	29.714	21.771				2	<2	>0	190	20	15	155	1.30	

DEPTH M	RATIOS NO3/ PO4	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0		8	1676	210									

< :LESS THAN VALUE > :GREATER THAN VALUE

Tokt 29. – 30.11 1977

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	SKIENSELVA	S-1	59.11.8	9.37.1	20	771130	12

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0						PARTLY CLOUDY	6/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
CALM: WAVES 0.0M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL 0-16M, SRF NTR 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	P04P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	5.40	.200	.324				8	7.5	.5	660	360	<10	>290	6.00	
4	5.49	.780	.775	7.18		81.9	7.5	2.5	5	550	420	<10	>120		
8	9.94	25.910	19.929	4.81		71.8	7.5	<2	>5.5	450	300	30	120		
12	10.80	27.730	21.206	.72		11.1	8	<2	>6	310	70	55	185		
16	10.94	27.850	21.276	1.18		18.2	15	<2	>13	360	110	70	180		

DEPTH M	RATIOS NO3/P04	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	106	11	1934	182									
4	371			162									
8				133									
12				86									
16				53									

< :LESS THAN VALUE > :GREATER THAN VALUE

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.1.14-11:41:59 PAGE:11

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	SKIENSELVA	S-2	59,8.5	9,38.7	18	771130	11

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0						PARTLY CLOUDY	6/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
CALM; WAVES 0.0M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL 0-18M, SRF NTR 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	5.75	2.510	2.117				9	5	4	610	400	15	195	3.60	
4	10.28	30.260	23.255	4.06		62.7	26.5	17	9.5	325	180	35	110		
8	11.75	30.560	23.234	2.91		46.5	31	23	8	340	170	70	100		
12	11.82	30.820	23.423	3.45		55.3	28	16.5	11.5	385	160	140	85		
18	11.84	30.880	23.465	2.80		44.9		17.5		370	160	90	120		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	177	7	1032	150									
4	23			27									
8	16			24									
12	21			30									
18	20												

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	FRIERFJORD	BB-1	59.6.6	9.34.2	56	771130	13

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0						PARTLY CLOUDY	6/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
CALM; WAVES 0.0M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL 0-50M, SRF NTR 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	5.34	6.490	5.243				8	3	5	800	480	420	-100	4.80	
4	8.47	23.620	18.352	5.49		78.1	13	6	7	800	390	500	-90		
8	11.81	31.080	23.626	3.91		62.8	24	15.5	8.5	370	190	<10	>170		
12	11.79	31.680	24.094	3.37		54.3	25	20	5	355	210	10	135		
16	11.03	31.710	24.254	3.84		60.9	25	19	6	315	170	10	135		
20	11.08	32.190	24.618	3.95		62.9	25	22	3	290	150	<10	>130		
25	10.73	32.260	24.733	3.45		54.5	29	23	6	330	170	15	145		
30	7.84	32.400	25.300	.68		10.1	58	51	7	350	240	<10	>100		
40	5.69	33.570	26.502	.65		9.2	72	63.5	8.5	295	170	10	115		
50	5.48	33.620	26.567	.43		6.1	70	57	13	235	110	<10	>115		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	354	7	1547	221									
4	144			136									
8	27			34									
12	23			31									
16	20			28									
20	15			26									
25	16			25									
30	10			13									
40	6			9									
50	4			7									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	FRIERFJORD	RC-1	59.6.4	9.37.1	92	771130	10

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0						FOG,THICK DUST OR HAZE	7/8

SEA	ICE	OIL	WRECK	SEA-WEED	RATHY/CTD	SALINOTHERM
CALM: WAVES 0.0M	NO	YES	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL 0-30M, SRF NTR 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	2.72	5.650	4.640				24	8	16	2000	610	740	650		
4	9.21	26.330	20.363	5.85		86.1	46	10	36	1000	390	<10	>600		
8	11.62	30.710	23.374	4.24		67.7	22	15	7	310	160	10	140		
12	11.80	31.550	23.991	3.59		57.8	28	18	10	395	200	20	175		
16	11.59	31.790	24.216	3.70		59.4	27	20	7	320	160	<10	>150		
20	10.44	32.190	24.729	5.13		80.5	24.5	15	9.5	265	80	<10	>175		
25	10.35	32.290	24.822	5.03		78.9	25	15	10	275	90	30	155		
30	8.06	32.460	25.315	1.01		15.1	65	54	11	410	280	<10	>120		
40	5.71	33.616	26.536	1.18		16.8	73	61	12	310	220	20	70		
50	5.48	33.632	26.576	1.65		23.3	68	60	8	305	200	<10	>95		
60	5.35	33.644	26.601	1.80		25.4	68	59	9	305	200	<10	>95		
80	5.26	33.667	26.629	1.83		25.7	68	63	5	330	240	35	55		
90	5.26	33.667	26.629	1.47		20.7	100	76	24	390	220	750	-580		

DEPTH M	RATIOS NO3/PO4	RATIOS TOC/TOTN	MOL/MOL TOC/TOTP	MOL/MOL TOTN/TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
					HEAVY METALS								
0	169			184									
4	86			48									
8	24			31									
12	25			31									
16	18			26									
20	12			24									
25	13			24									
30	11			14									
40	8			9									
50	7			10									
60	7			10									
80	8			11									
90	6			9									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	UHGRAN	0-129/76	EIDANGEREJORD	BE-1	59.6.1	9.42.7		771129	1130

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
2.0	36			10.5	GREEN	PARTLY CLOUDY	6/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
CALM; WAVES 0.0M	NO	NO	NO		-	-

COMMENT1
CTD-TEMP+SAL 0M, SRF NTR 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	5.78	30.120	23.770				15	13.5	1.5	370	140	10	220	1.60	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	23	5	275	55									

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	FIDANGERFJORD	DF-1	59.4.6	9.42.5	100	771129	12

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
2.6	36			12.5	GREEN	PARTLY CLOUDY	4/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL 0-40M, SRF NTR 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	5.00	28.490	22.566				14.5	13.5	1	300	130	30	140	1.40	
4	9.65	31.490	24.315	5.60		86.0	17	13	4	240	100	<10	>130		
8	10.85	32.100	24.588	5.21		82.5	15	13	2	240	90	<10	>140		
12	10.67	32.100	24.619	5.46		86.1	14	12	2	245	80	<10	>155		
16	10.75	32.280	24.745	5.42		85.7	15	12	3	215	70	15	130.		
20	10.92	32.490	24.879	5.68		90.3	15	13.5	1.5	235	70	<10	>155		
30	11.30	32.970	25.183	5.17		83.1	16.5	12	4.5	260	60	<10	>190		
40	11.23	33.230	25.398	4.92		79.1	14	12.5	1.5	180	70	<10	>100		
50	11.08	33.484	25.622	4.95		79.4	15.5	13.5	2	210	70	<10	>130		
60	10.81	33.624	25.779	4.85		77.5	16	13.5	2.5	225	80	<10	>135		
80	9.37	34.000	26.317	4.67		72.4	30	25	5	270	100	<10	>160		
95	6.53	34.445	27.086	3.52		51.3	48	44	4	315	200	<10	>105		

DEPTH M	RATIOS NO3/ PO4	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	21	5	249	46									
4	17			31									
8	15			35									
12	15			39									
16	13			32									
20	11			35									
30	11			35									
40	12			28									
50	11			30									
60	13			31									
80	9			20									
95	10			15									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	BREVIKFJORD	FG-1	59.2.8	9.43.2	105	771129	16

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
2.0	33					PARTLY CLOUDY	7/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	-	-

COMMENT1: CTD-TEMP+SAL 0-40M, SRF NTR 0-2M

COMMENT2:

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	7.60	19.690	15.389				14	8	6	564	240	160	164	1.90	
4	9.48	31.210	24.124	5.67		86.6	18	11.5	6.5	245	80	15	150		
8	10.12	31.540	24.277	5.46		84.8	48	12.5	35.5	235	70	<10	>155		
12	9.57	32.170	24.858	6.03		92.8	25.5	14	11.5	245	60	20	165		
16	9.74	32.270	24.908	5.74		88.8	16.5	13	3.5	250	70	15	165		
20	10.38	32.670	25.112	5.71		89.8	16	13	3	225	70	<10	>145		
30	10.63	32.920	25.264	5.53		87.6	16	11.5	4.5	215	70	<10	>135		
40	11.04	33.250	25.448	5.49		87.9	14.5	11	3.5	225	60	<10	>155		
50	11.06	33.468	25.613	5.21		83.6	18	12.5	5.5	190	60	<10	>120		
60	10.96	33.706	25.816	5.39		86.4	21	13	8	190	60	<10	>120		
80	10.69	34.078	26.153	5.49		87.7	17	13	4	180	60	<10	>110		
100	6.42	34.509	27.151	3.73		54.2	65	41	24	290	190	<10	>90		

DEPTH M	RATIOS NO3/PO4	MOL/MOL TOC/TOTN	MOL/MOL TOC/TOTP	MOL/MOL TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	66	4	350	89									
4	15			30									
8	12			11									
12	9			21									
16	12			34									
20	12			31									
30	13			30									
40	12			34									
50	11			23									
60	10			20									
80	10			23									
100	10			10									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	HAØYFJORD	GI-1	59.7.1	9.38.7		771129	

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
4.7	36			9.5	GREEN	PARTLY CLOUDY	3/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL 0M, SRF NTR 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	5.40	30.100	23.796				15.5	12	3.5	275	100	15	160	1.70	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	18	7	283	39									

MARINE HYDROGRAPHIC DEPTH STATION — CONTROLLED DATA — 80.1.14-11:41:58 PAGE:9

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-129/76	LANGESUNDSFJORD	JH-1	58.58.1	9.47.0	215	771129	930

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
3.1	36			10.0	LIGHT-GREEN	PARTLY CLOUDY	5/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED: WAVES 0.0-0.1M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL OM. SRF NTR 0-2M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	8.40	30.880	24.030				13	12.5	.5	260	80	15	165	1.60	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	14	7	317	44									

3.2 Hydrokjemiske data fra 1978

Tokt 7. – 8.3 1978

MARINE HYDROGRAPHIC DEPTH STATION — CONTROLLED DATA — 80.1.14-11:36:37 PAGE: 1

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	SKIENSELVA	S-1	59.11.8	9.37.1	21	780308	1500

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
3.0	18			4.0	YELLOW-GREEN	SNOW,OR RAIN AND SNOW MIXED	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	YES	YES	NO	+	-

COMMENT1
NUTRIENTS + SUSPENDED INORG. + TOTAL SUSPENDED MATTER 0-2,4,18M

COMMENT2
TEMPERATURE AND SALINITY BY CTD

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	1.31	.080	.206				13.5	6.5	7	640	395	95	150	2.80	
4	1.31	.080	.206	8.23		83.6	11	3	8	580	390	<10	>180		
8	1.31	0.000	.143	8.26		83.9	11	5	6	620	385	<10	>225		
12	1.32	.160	.270	8.30		84.4	9	3	6	600	415	45	140		
18	2.69	16.970	13.602	1.70		20.1	S	<2		480	290	<10	>180		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	134	5	535	105									
4	287			117									
8	170			125									
12	306			147									
18													

< :LESS THAN VALUE > :GREATER THAN VALUE S :SPOILED OR DAMAGED SAMPLE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	SKIENSELVA	S-2	59.8.5	9.38.7	18	780308	1400

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
2.0	15			5.0	GREEN	SNOW,OR RAIN AND SNOW MIXED	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED: WAVES 0.0-0.1M	NO	NO	NO	NO	+	-

COMMENT1
NUTRIENTS + SUSPENDED INORG. + TOTAL SUSPENDED MATTER 0-2,4,16M

COMMENT2
TEMPERATURE AND SALINITY BY CTD

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	1.30	1.320	1.190				13	4	9	640	385	720	-465	3.90	
4	1.32	7.750	6.296	8.15		87.2	17	6	11	600	415	25	160		
8	1.54	26.300	21.077	4.61		56.3	29	16.5	12.5	355	195	60	100		
12	1.64	26.850	21.512	6.77		83.1	29	20	9	305	165	90	50		
16	6.02	29.870	23.546	.43		6.0	46	23.5	22.5	250	30	70	150.		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	213	7	774	109									
4	153			78									
8	26			27									
12	18			23									
16	3			12									

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	FRIERFJORD	BB-1	59.6.6	9.34.2	56	780308	1125

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0				.4	BROWN	SNOW,OR RAIN AND SNOW MIXED	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
CALM; WAVES 0.0M	NO	NO	NO	NO	+	-

COMMENT1
NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	1.60	3.620	3.022				18	7	11	1600	480	155	965	7.60	
4	1.79	6.080	4.976	7.55		80.9	15	3	12	1900	530	660	710		
8	1.61	26.570	21.289	7.20		88.2	25	17.5	7.5	300	150	700	-550		
12	3.78	28.590	22.755	6.06		79.5	31	21.5	9.5	320	170	50	100		
16	6.74	31.720	24.915	3.69		53.1	42	31.5	10.5	680	185	60	435		
20	7.09	32.750	25.678	3.05		44.5	53	42.5	10.5	255	155	S			
25	7.14	33.260	26.072	2.80		41.1	52	42	10	245	140	35	70		
30	6.80	33.380	26.212	.71		10.3	72	57	15	205	110	<10	>85		
40	5.63	33.600	26.533		1.38		90	80	10	135	<10	10	>115		
50	5.47	33.630	26.576	.32		4.5	81	71	10	220	110	<10	>100		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	152	6	1089	197									
4	391			280									
8	19			27									
12	17			23									
16	13			36									
20	8			11									
25	7			10									
30	4			6									
40	<0			3									
50	3			6									

< :LESS THAN VALUE > :GREATER THAN VALUE S :SPOILED OR DAMAGED SAMPLE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	UHGRAN	7612903	FRIERFJORD	BC-1	59.6.4	9.37.1	95	780307	1600

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0				3.8	YELLOW-GREEN	PARTLY CLOUDY	4/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED: WAVES 0.0-0.1M	NO	NO	NO	NO	+	-

COMMENT1
NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD 0-25M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	1.80	3.420	2.868				16.5	3	13.5	1900	560	650	690	3.65	
4	1.93	9.140	7.404	7.76		85.2	21	8	13	1800	470	550	780		
8	1.75	25.980	20.811	7.13		87.3	26	23.5	2.5	345	160	60	125		
12	2.20	27.590	22.072	6.74		84.4	32.5	21	11.5	325	155	50	120		
16	5.51	31.500	24.889	4.57		63.8	34	28	6	355	175	60	120.		
20	6.92	32.560	25.552	3.05		44.3	49	42	7	255	160	<10	>85		
25	6.90	32.880	25.806	2.84		41.3	27.5	51	-23.5	305	160	<10	>135		
30	6.80	33.597	26.383	2.59		37.8	53	47	6	260	150	<10	>100		
40	5.76	33.652	26.559	1.35		19.2	72	65	7	260	150	<10	>100		
50	5.63	33.667	26.586	L			73	67	6	250	160	<10	>80		
60	6.01	33.757	26.611	2.80		40.1	58	48	10	265	150	<10	>105		
80	6.50	33.867	26.635	4.82		69.9	39	32	7	215	130	<10	>75		
90	6.52	33.929	26.681	4.54		65.9	45	43	2	225	120	20	85		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	413	2	570	255									
4	130			190									
8	15			29									
12	16			22									
16	14			23									
20	8			12									
25	7			25									
30	7			11									
40	5			8									
50	5			8									
60	7			10									
80	9			12									
90	6			11									

< :LESS THAN VALUE > :GREATER THAN VALUE L :LACKING FOR UNKNOWN REASONS

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	FIDANGERFJORD	DF-1	59.4.6	9.42.5	97	780307	1400

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0				14.0	GREEN	CONTINOUS LAYER OF CLOUDS	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED: WAVES 0.0-0.1M	IN VICINITY, TYPE/AMOUNT UNKNOWN	NO	NO	NO	+	-

COMMENT1
NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD 0-30M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	.80	14.760	11.877				24.5	11	13.5	1400	500	700	200	3.30	
4	.26	25.840	20.755	7.66		90.1	25	16	9	800	125	45	630		
8	1.18	27.330	21.917	7.16		87.2	28	19	9	265	130	60	75		
12	3.50	30.020	23.914	6.52		85.8	30	21.5	8.5	330	130	15	185		
16	4.55	31.550	25.031	5.81		79.2	24	23.5	.5	270	135	65	70		
20	5.35	32.560	25.744	4.89		68.5	32	27	5	230	130	<10	>90		
30	6.92	33.640	26.401	5.00		73.2	31	25.5	5.5	185	100	10	75		
40	6.74	34.246	26.902	5.35		78.3	30	24.5	5.5	255	115	S			
50	6.87	34.584	27.150	5.50		80.9	28	23.5	4.5	220	110	<10	>100		
60	6.83	34.725	27.266	5.71		84.0	29	23.5	5.5	190	110	25	55		
80	6.64	34.847	27.388	5.32		77.9	33	29	4	205	125	<10	>70		
95	6.56	34.882	27.426	5.32		77.8	39	34	5	210	130	<10	>70		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	101	3	347	126									
4	17			71									
8	15			21									
12	13			24									
16	13			25									
20	11			16									
30	9			13									
40	10			19									
50	10			17									
60	10			14									
80	10			14									
95	8			12									

< :LESS THAN VALUE > :GREATER THAN VALUE S :SPOILED OR DAMAGED SAMPLE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	BREVIKEJORD	EG-1	59.2.8	9.43.2	110	780307	1200

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
4.0	35			7.0	YELLOW-GREEN	CONTINOUS LAYER OF CLOUDS	8/8

SEA: RIPPLED: WAVES 0.0-0.1M

ICE: NOT OBSERVED

OIL | WRECK | SEA-WEED | BATHY/CTD + | SALINOTHERM -

COMMENT1: NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2:

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	1.20	1.030	.956				26	12	14	1200	260	225	715	2.20	
4	.07	25.920	20.825	7.80		91.3	27	9	18	700	130	25	545		
8	.16	26.920	21.626	7.59		89.7	27	16	11	230	125	<10	>95		
12	1.77	29.470	23.598	6.77		84.9	27.5	23	4.5	215	120	<10	>85		
16	2.60	31.180	24.908	7.02		91.0	29	20	9	220	115	<10	>95.		
20	4.05	32.060	25.484	5.50		74.3	36	30	6	225	130	10	85		
30	6.62	33.620	26.425	4.96		72.1	42	32	10	205	130	<10	>65		
40	6.70	34.130	26.816	5.32		77.7	31	29	2	135	120	30	-15		
50	6.70	34.530	27.131	5.57		81.6	30.5	23	7.5	180	110	<10	>60		
60	6.74	34.700	27.259	5.67		83.2	31	25	6	185	110	10	65		
80	6.67	34.810	27.355	5.53		81.1	33	25	8	200	125	15	60		
105	6.56	34.890	27.433	5.11		74.7	38	35	3	275	130	<10	>135		

DEPTH M	RATIOS NO3/PO4	MOL/MOL TOC/TOTN	MOL/MOL TOC/TOTP	MOL/MOL TOTN/TOTP
0	48	2	218	102
4	32			57
8	17			19
12	12			17
16	13			17
20	10			14
30	9			11
40	9			10
50	11			13
60	10			13
80	11			13
105	8			16

DEPTH M	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	HÅØYEJORDED	GI-1	59.1.4	9.48.0	205	780307	1100

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
4.5	35			9.0	GREEN	CONTINOUS LAYER OF CLOUDS	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
SURFACE STATION, NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	.40	20.800	16.710				28	15	13	275	185	85	5	1.95	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	27	8	180	22									

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.1.14-11:36:46 PAGE:14

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	LANGESUNDSBUKTA	JH-1	58.58.1	9.47.0	205	780307	1000

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
4.0	33			8.0	GREEN	CONTINOUS LAYER OF CLOUDS	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
SURFACE STATION, NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FF
							MICROGR./L								
0	.20						29.5	17	12.5	365	185	90	90	2.18	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	TOC/TOTP	TOTN/TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
	MOL/MOL				HEAVY METALS								
0	24	7	191	27									

Tokt 30. –31.5 1978

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.1.14-11:36:52 PAGE:1

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	SKIENSELVA	S-1	59.11.8	9.37.1	21	780530	900

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0				3.5	GREEN	CLEAR	NO

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
CALM: WAVES 0.0M	NO	YES	YES	NO	+	-

COMMENT1
NUTRIENTS + SUSPENDED INORG. + TOTAL SUSPENDED MATTER 0-2,4,18M

COMMENT2
TEMPERATURE AND SALINITY BY CTD

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	5.00	0.000	.177				9	5	4	760	420	<10	>330	3.18	
4	5.00	0.000	.177	9.02		101.0	6	2	4	920	420	<10	>490		
8	4.97	0.000	.177	9.13		102.2	6	<2	>4	740	415	<10	>315		
12	4.96	0.000	.178	9.13		102.2	7	3	4	780	415	<10	>355		
18	4.98	0.000	.177	9.06		101.4	6	3	3	720	415	<10	>295		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	186	5	911	187									
4	464			339									
8				273									
12	306			246									
18	306			265									

< :LESS THAN VALUE > :GREATER THAN VALUE

MARINE HYDROGRAPHIC DEPTH STATION — CONTROLLED DATA — 80.1.14-11:36:52 PAGE:2

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HUGRAN	7612903	SKIENSELVA	S-2	59.8.5	9.38.7	18	780530	1000

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0				2.5	GREEN	CLEAR	NO

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
CALM: WAVES 0.0M	NO	YES	YES	NO	+	-

COMMENT1
NUTRIENTS + SUSPENDED INORG. + TOTAL SUSPENDED MATTER 0-2,4,16M

COMMENT2
TEMPERATURE AND SALINITY BY CTD

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	5.00	0.000	.177				20	10	10	600	420	<10	>170	3.80	
4	5.04	0.000	.176	8.99		100.8	9	3	6	740	420	<10	>310		
8	5.04	0.000	.176	8.95		100.4	8	4	4	660	420	<10	>230		
12	5.03	0.000	.176	8.91		99.9	8	3	5	880	450	<10	>420		
16	5.02	0.000	.176	8.99		100.8	6	3	3	760	425	<10	>325		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	93	7	490	66									
4	310			182									
8	232			182									
12	332			243									
16	313			280									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	FRIERFJORD	BB-1	59.6.6	9.34.2	58	780530	1500

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
4.0	9			3.0	YELLOW-GREEN	CLEAR	NO

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	YES	YES	NO	+	-

COMMENT1
NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	6.50	.250	.327				10	5	5	1600	460	50	1090	3.10	
3.5	6.16	.270	.355	8.50		98.2	8	3	5	1300	460	65	775		
8	6.22	5.430	4.374	7.95		95.2	9	5	4	820	390	510	-80		
12	4.50	26.890	21.348	6.60		87.2	13	12	1	275	105	90	80		
16	5.57	32.200	25.435	3.90		54.8	39	37	2	325	245	10	70		
20	5.54	32.760	25.880	4.05		57.0	38	37	1	265	230	<10	>25		
25	5.72	33.420	26.380	3.58		50.8	40	35	5	275	200	<10	>65		
30	5.84	33.550	26.468	2.22		31.6	54	49	5	230	175	<10	>45		
40	5.87	33.670	26.559	.36		5.1	67	59	8	200	115	10	75		
50	5.93	33.700	26.576	0.00		0.0	69	56	13	120	<10	<10	>100		

DEPTH M	RATIOS NO3/ PO4	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	203	2	799	354									
3.5	339			359									
8	172			201									
12	19			47									
16	15			18									
20	14			15									
25	13			15									
30	8			9									
40	4			7									
50	<0			4									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	FRIERFJORD	BC-1	59.6.4	9.37.1	95	780530	1615

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
4.0	9			3.5	YELLOW-GREEN	CLEAR	NO

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD 0-25M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	8.00	.380	.349				14	8	6	1800	520	335	945	2.95	
4	6.92	.430	.448	8.50		100.2	15	7	8	1500	540	415	545		
8	6.58	8.340	6.622	7.28		89.6	15	7	8	1340	390	1000	-50		
12	4.78	26.260	20.825	6.43		85.2	16	16	0	310	125	90	95		
16	5.52	32.270	25.496	3.93		55.1	39	39	0	310	250	10	50		
20	5.54	32.730	25.857	4.21		59.3	39	34	5	330	235	<10	>85		
25	5.40	33.330	26.347	3.61		50.9	41	41	0	260	225	<10	>25		
30	5.59	33.527	26.480	3.11		44.1	51	45	6	270	210	<10	>50		
40	5.56	33.601	26.542	2.50		35.4	55	50	5	260	190	<10	>60		
50	5.80	33.683	26.578	.86		12.3	65	59	6	245	150	<10	>85		
60	5.71	33.699	26.602	2.36		33.6	54	49	5	245	160	<10	>75		
80	6.29	33.835	26.637	2.71		39.1	56	54	2	250	175	<10	>65		
90	6.35	33.859	26.648	1.93		27.9	70	65	5	255	210	<10	>35		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	144	2	543	284									
4	171			221									
8	123			198									
12	17			43									
16	14			18									
20	15			19									
25	12			14									
30	10			12									
40	8			10									
50	6			8									
60	7			10									
80	7			10									
90	7			8									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	FIDANGERFJORD	BF-1	59.6.1	9.42.7	70	780531	1445

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
5.0	16	15.5		5.5	GREEN	PARTLY CLOUDY	2/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
SURFACE STATION 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	10.50	7.220	5.405				14	3	11	1500	400	140	960	2.88	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	TOC/TOTP	TOTN/TOTP	MOL/MOL	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	295	2	531	237										

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	EIDANGERFJORD	DF-1	59.4.6	9.42.5	97	780531	1400

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
6.0	17	14.7		4.0	GREEN	PARTLY CLOUDY	4/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	YES	+	-

COMMENT1
NUTRIENTS 0-2M, CTD TEMPERATURE AND SALINITY 0-30M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	10.90	6.030	4.445				10	2	8	760	410	255	95	3.46	
4	9.56	15.140	11.629	8.21		113.4	15	5	10	465	220	135	110		
8	9.10	23.050	17.826	6.93		99.6	8	<2	>6	230	40	90	100		
12	6.05	26.790	21.118	6.35		87.0	8	6	2	245	70	110	65		
16	5.01	31.380	24.849	5.00		68.9	21	17	4	320	190	55	75		
20	4.93	32.840	26.012	4.78		66.4	22	20	2	295	220	30	45		
30	4.89	33.840	26.808	5.57		77.8	25	23	2	260	220	<10	>30		
40	5.68	34.250	27.040	5.43		77.5	27	26	1	230	185	45	0		
50	6.14	34.595	27.255	5.14		74.3	44	30	14	230		<10			
60	5.49	34.619	27.355	5.14		73.2	38	33	5	245	180	<10	>55		
80	4.83	34.611	27.425	5.71		80.0	28	28	0	235	165	<10	>60		
95	4.95	34.658	27.449	5.50		77.3	36	32	4	220	170	<10	>40		

DEPTH M	RATIOS NO3/ PO4	MOL/MOL TOC/ TOTN	MOL/MOL TOC/ TOTP	MOL/MOL TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MYG/L	NI MYG/L	CR MYG/L	F MG/L
0	453	5	892	168									
4	97			69									
8				64									
12	26			68									
16	25			34									
20	24			30									
30	21			23									
40	16			19									
50				12									
60	12			14									
80	13			19									
95	12			14									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	BREVIKFJORD	FG-1	59.2.8	9.43.2	110	780531	1000

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
2.0	18	13.4		4.0	YELLOW-GREEN	CONTINOUS LAYER OF CLOUDS	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	YES	YES	YES	+	-

COMMENT1
NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	8.30	7.600	5.918				13	7	6	1400	360	250	790	3.13	
4	9.39	15.100	11.618	7.64		105.1	16	5	11	1200	220	170	810	3.13	
8	10.03	23.690	18.192	6.60		97.3	10	2	8	250	10	20	220	2.90	
12	6.82	28.150	22.100	6.64		93.5	7	<2	>5	235	35	35	165	2.13	
16	5.29	31.660	25.040	5.68		78.9	21	18	3	315	180	35	100.	1.30	
20	5.06	32.970	26.101	5.21		72.6	26	22	4	320	220	15	85	1.10	
30	4.95	33.850	26.809	5.36		74.9	28	25	3	290	205	<10	>75	1.08	
40	4.99	34.210	27.090	5.75		80.7	29	26	3	275	190	<10	>75	1.03	
50	5.18	34.470	27.274	5.64		79.6	28	25	3	255	175	<10	>70	.88	
60	5.37	34.580	27.338	5.39		76.5	36	31	5	250	180	<10	>60	.98	
80	4.88	34.610	27.419	5.85		82.1	28	26	2	245	165	<10	>70	1.03	
105	5.07	34.670	27.445	5.57		78.5	35	35	0	245	170	<10	>65	1.88	

DEPTH M	RATIOS NO3/ PO4	MOL/MOL TOC/ TOTN	MOL/MOL TOC/ TOTP	MOL/MOL TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	114	3	621	238									
4	97	3	504	166									
8	11	14	748	55									
12		11	785	74									
16	22	5	160	33									
20	22	4	109	27									
30	18	4	99	23									
40	16	4	92	21									
50	15	4	81	20									
60	13	5	70	15									
80	14	5	95	19									
105	11	9	139	15									

< :LESS THAN VALUE > :GREATER THAN VALUE

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.1.14-11:36:58 PAGE:10

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	HÅØYFJORD	GI-1	59.1.4	9.48.0	205	780531	1100

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
3.0	18	15.8		5.0	GREEN	CONTINOUS LAYER OF CLOUDS	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	YES	+	-

COMMENT1
SURFACE STATION, NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	10.70	8.280	6.198				16	6	10	640	345	235	60	2.80	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	TOC/TOTP	MOL/MOL TOTN/TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	127	5	451	88									

MARINE HYDROGRAPHIC DEPTH STATION — CONTROLLED DATA — 80.1.14-11:36:58 PAGE: 11

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	LANGESUNDSBUKTA	JH-1	58,58.1	9,47.0	205	780531	1200

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
1.0	14			4.5	GREEN	CONTINOUS LAYER OF CLOUDS	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	YES	NO	NO	+	-

COMMENT1
SURFACE STATION, NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	13.60	19.680	14.521				15	14	1	265	25	50	190	3.25	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
					HEAVY METALS								
0	4	14	559	39									

Tokt 8. – 9.8 1978

MARINE HYDROGRAPHIC DEPTH STATION — CONTROLLED DATA — 80.1.14-11:37:22 PAGE:1

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	SKIENSELVA	S-1	59.11.8	9.37.1	21	780809	900

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0				4.5	BROWN	PARTLY CLOUDY	1/8 OR LESS

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	+	-

COMMENT1
NUTRIENTS + SUSPENDED INORG. + TOTAL SUSPENDED MATTER 0-2.4.18M

COMMENT2
TEMPERATURE AND SALINITY BY CTD

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	17.00	.600	-.579				9	<2	>7	480	250	<10	>220	3.18	
4	16.94	2.480	.848	5.94		89.2	7	<2	>5	500	250	35	215		
8	15.27	26.950	19.768	2.22		37.4	10	2	8	355	50	90	215		
12	11.69	28.620	21.743	.21		3.3	<2	<2		335	20	65	250		
18	11.23	28.720	21.901		1.58		16	11	5	295	<10	15	>270.		

DEPTH M	RATIOS NO3/ P04	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MYG/L	NI MYG/L	CR MYG/L	F MG/L
0		8	911	118	.06	< .5	1.7			< .01			
4				158									
8	55			78									
12													
18	<2			41									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HIGRAN	7612903	SKIENSELVA	S-2	59.8.5	9.38.7	20	780809	1000

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0				4.0	BROWN	PARTLY CLOUDY	2/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	+	-

COMMENT1
NUTRIENTS + SUSPENDED INORG. + TOTAL SUSPENDED MATTER 0-2.4.16M

COMMENT2
TEMPERATURE AND SALINITY BY CTD

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	17.20	3.000	1.193				5	2	3	500	245	40	215	3.80	
4	17.74	20.050	13.978	5.37		91.1	7	<2	>5	660	200	590	-130		
8	15.71	27.650	20.210	3.96		67.5	5	<2	>3	350	20	70	260		
12	11.75	29.700	22.568		1.85		37	36	1	395	<10	175	>210		
18	11.16	29.920	22.843		1.25		33	30	3	360	<10	140	>210.		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	271	9	1960	221	.04	< .5	1.1			< .01			
4				203									
8				155									
12	<1			24									
18	<1			24									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	FRIEREJORD	BB-1	59.6.6	9.34.2	58	780809	1300

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
4.5	10			2.8	BROWN	PARTLY CLOUDY	2/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	17.50	4.300	2.117				8	<2	>6	1900	365	240	1295	3.10	
4	16.34	19.100	13.554	5.73		93.9	8	<2	>6	2100	370	360	1370		
8	17.98	25.640	18.169	5.30		93.4	7	<2	>5	290	160	80	50		
12	15.14	27.260	20.032	5.06		85.1	7	5	2	250	50	80	120		
16	10.68	29.160	22.335	4.35		67.3	14	9	5	295	95	75	125		
20	10.07	30.990	23.857	4.03		62.3	18	14	4	315	100	80	135		
25	7.58	31.870	24.921	3.68		54.1	29	27	2	395	185	75	135		
30	5.77	33.130	26.145	2.12		30.1	38	36	2	330	210	10	110		
40	5.72	33.670	26.578	.35		5.0	59	54	5	210	50	<10	>150		
55	5.91	33.800	26.657		3.69		90	90	0	220	<10	<10	>200		

DEPTH M	RATIOS NO3/PO4	MOL/MOL TOC/TOTN	MOL/MOL TOC/TOTP	MOL/MOL TOTN/TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0		2	999	525	< .05	< .5	1.6			< .01			
4				580	.05	.5	1.5			< .01			
8				92									
12	22			79									
16	23			47									
20	16			39									
25	15			30									
30	13			19									
40	2			8									
55	<0			5	< .05	< .5	< .2			.16			

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HUGRAN	7612903	FRIERFJORD	BC-1	59.6.4	9.37.1	95	780809	1000

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0				2.2	BROWN	PARTLY CLOUDY	2/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED: WAVES 0.0-0.1M	NO	NO	NO	NO	+	-

COMMENT1
NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD 0-25M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	17.00	5.500	3.116				7	2	5	2400	490	460	1450	4.00	
4	17.15	19.640	13.794	5.23		87.4	15	5	10	2700	35	650	2015		
8	17.97	25.540	18.096	5.37		94.6	7	<2	>5	310	40	140	130		
12	15.91	27.740	20.236	5.30		90.8	11	6	5	270	110	75	85		
16	11.87	29.550	22.431	4.35		69.3	13	11	2	280	165	90	25		
20	8.35	30.890	24.045	3.78		56.2	26	24	2	375	195	105	75		
25	7.93	31.850	24.856	3.43		50.8	29	29	0	365	230	60	75		
30	6.19	33.027	26.013	2.90		41.5	41	42	-1	420	195	<10	>215		
40	5.67	33.628	26.550	2.33		33.1	60	60	0	335	190	<10	>135		
50	5.65	33.683	26.596	1.70		24.1	57	56	1	330	180	<10	>140		
60	5.62	33.706	26.618	2.44		34.6	55	54	1	500	190	<10	>300		
70															
80	5.71	33.769	26.657	2.30		32.7	68	67	1	320	225	<10	>85		
90	5.77	33.781	26.659	1.48		21.1	82	79	3	370	270	<10	>90		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	542	2	1474	758	< .05	< .5	1.7			< .01			
4	15			398	.11	< .5	1.4			< .01			
8				98									
12	41			54									
16	33			48									
20	18			32	.18	< .5	.8			< .01			
25	18			28									
30	10			23	.05	< .5	.8			< .01			
40	7			12	.19	< .5	.8			< .01			
50	7			13	.20	4.1	.9			< .01			
60	8			20	.31	.9	.7			< .01			
70					.08	1.0	1.2			< .01			
80	7			10	.08	< .5	.9			< .01			
90	8			10	.06	< .5	.7			< .01			

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	EIDANGEREJORD	BF-1	59.6.1	9.42.7	70	780808	1400

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
2.0	9			3.2	YELLOW-GREEN	PARTLY CLOUDY	2/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	+	-

COMMENT1
SURFACE STATION, NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	MICROGR./L MG/L	TOC	FE
0	19.60	23.200	15.933				8	<2	>6	1500	85	60	1355	3.50		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0		3	1128	415									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	UHGRAN	7612903	EIDANGEREJORD	DF-1	59.4.6	9.42.5	97	780808	1230

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
2.5	17			3.5	YELLOW-GREEN	PARTLY CLOUDY	2/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD 0-30M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	19.20	18.200	12.247				7	2	5	1400	140	60	1200	3.40	
4	18.58	23.820	16.647	6.01		106.0	<2	<2		285	10	15	260		
8	18.96	24.920	17.391	5.59		100.0	5	2	3	230	<10	15	>205		
12	17.43	27.080	19.393	5.23		92.0	6	2	4	245	10	65	170		
16	15.52	29.340	21.545	5.02		86.1	7	<2	>5	235	15	60	160		
20	13.18	30.980	23.289	4.45		73.5	8	3	5	265	60	55	150		
30	11.38	31.970	24.393	4.81		77.0	15	7	8	255	115	<10	>130		
40	8.96	32.506	25.216	4.35		66.2	21	16	5	295	160	<10	>125		
50	6.72	33.242	26.114	4.60		66.8	30	24	6	320	195	<10	>115		
60	6.05	33.753	26.603	4.98		71.4	27	23	4	295	200	<10	>85		
80	5.43	34.250	27.070	4.77		67.6	36	29	7	320	220	<10	>90		
95	5.42	34.548	27.307	3.64		51.7	50	50	0	345	260	<10	>75		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	155	3	1253	442	.06	< .5	1.9			< .01			
4													
8	<11			102									
12	11			90									
16				74									
20	44			73									
30	36			38									
40	22			31									
50	18			24									
60	19			24									
80	17			20									
95	11			15									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	BREVIKFJORD	FG-1	59.2.8	9.43.2	110	780808	1400

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
4.0	18			2.8	YELLOW	PARTLY CLOUDY	3/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	18.10	12.680	8.320				6	<2	>4	1500	145	90	1265	3.48	
4	18.20	23.800	16.720	5.73		100.3	2	<2	>0	1200	10	50	1140		
8	18.49	24.750	17.374	5.37		95.1	5	<2	>3	235	<10	65	>160		
12	18.51	26.980	19.063	5.44		97.6	6	<2	>4	225	<10	35	>180		
16	16.26	29.260	21.321	5.23		91.1	5	<2	>3	210	<10	75	>125		
20	13.13	30.600	23.005	4.52		74.4	11	5	6	250	50	80	120		
30	11.09	31.590	24.150	4.31		68.4	18	14	4	310	115	55	140		
40	10.28	32.830	25.254	4.45		69.9	15	11	4	265	105	25	135		
50	8.56	33.640	26.164	4.67		71.0	19	14	5	270	125	<10	>135		
60	7.50	33.900	26.525	4.88		72.5	20	17	3	245	135	S			
80	6.09	34.520	27.202	4.67		67.4	33	30	3	285	175	10	100		
90															
100															
105	5.31	34.690	27.433	4.17		59.1	47	47	0	345	230	<10	>105		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
					HEAVY METALS								
0		3	1496	553	..25	1.4	3.1			< .01			
4				1327	.12	< .5	1.2			< .01			
8				104									
12				83									
16				93									
20	22			50	.06	< .5	1.2			< .01			
30	18			38									
40	21			39	.06	< .5	.9			< .01			
50	20			31									
60	18			27	.06	< .5	.6			< .01			
80	13			19	.08	1.0	1.7			< .01			
90					.30	.5	1.7			< .01			
100					.17	< .5	1.5			< .01			
105	11			16									

< :LESS THAN VALUE > :GREATER THAN VALUE S :SPOILED OR DAMAGED SAMPLE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	HÅØYFJORDEN	GI-1	59.1.4	9.48.0	205	780808	1200

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
4.3	5			5.5	GREEN-YELLOW	PARTLY CLOUDY	4/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	+	-

COMMENT1
SURFACE STATION, NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	19.20	22.100	15.197				9	<2	>7	360	40	60	260	2.73	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0		9	782	88	.13	.5	1.6			< .01			

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	LANGESUNDSBUKTA	JH-1	58.58.1	9.47.0	205	780808	11

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
2.0	16			8.3	GREEN	PARTLY CLOUDY	3/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
SURFACE STATION, NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	NUTRIENTS PO4P	NUTRIENTS ORGP	NUTRIENTS TOTN	MICROGR./L NO3N	MICROGR./L NH4N	MICROGR./L ORGN	TOC MG/L	FF
0	18.20	21.670	15.104				5	2	3	280	20	25	235	2.78	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MG/L	CR MG/L	F MG/L
0	22	12	1434	124	.16	< .5	1.7			< .01			

< :LESS THAN VALUE

Tokt 21. – 22.11 1978

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.1.14-11:38:30 PAGE:1

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	SKIENSELVA	S-1	59,11.8	9,37.1	23	781122	1400

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0				1.6	GRAY	PARTLY CLOUDY	6/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	YES	YES	NO	+	-

COMMENT1
NUTRIENTS + SUSPENDED INORG. + TOTAL SUSPENDED MATTER 0-2,4,20M

COMMENT2
TEMPERATURE AND SALINITY BY CTD

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	7.20	2.530	2.064				14	8	6	465	210	<10	>245	20.60	
4	7.23	3.250	2.621	5.75		69.6	12	9	3	450	260	<10	>180		
8	10.34	29.790	22.880	2.02		31.2	14	8	6	265	120	15	130		
12	10.49	30.700	23.562	2.98		46.4	20	12	8	355	130	105	120		
16	10.54	30.890	23.702	2.49		38.9	16	9	7	340	125	120	95		
20	10.56	30.900	23.706	2.06		32.2	16	8	8	355	120	105	130		

DEPTH M	RATIOS NO3/ PO4	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	58	52	3795	73									
4	64			83									
8	33			42									
12	24			39									
16	31			47									
20	33			49									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HMGRAN	7612903	SKIENSELVA	S-2	59.8.5	9.38.7	23	781122	1500

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
2.0	18			3.7	YELLOW	CONTINOUS LAYER OF CLOUDS	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	+	-

COMMENT1
NUTRIENTS + SUSPENDED INORG. + TOTAL SUSPENDED MATTER 0-2,4,20M

COMMENT2
TEMPERATURE AND SALINITY BY CTD

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	NUTRIENTS PO4P	NUTRIENTS ORGP	MICROGR./L TOTN	MICROGR./L NO3N	MICROGR./L NH4N	MICROGR./L ORGN	TOC MG/L	FE
0	7.23	4.790	3.817				9	9	0	485	360	10	115	4.40	
4	8.95	23.090	17.877	5.89		84.4	9	7	2	455	280	60	115		
8	10.74	31.860	24.421	4.54		71.6	20	17	3	355	140	125	90		
12	10.77	31.880	24.431	3.91		61.7	20	18	2	365	125	150	90		
16	10.80	31.930	24.465	3.48		55.0	21	17	4	380	120	175	85		
20	10.81	31.930	24.463	3.62		57.2	22	17	5	375	125	165	85		

DEPTH M	RATIOS NO3/PO4	RATIOS TOC/TOTN	MOL/MOL TOC/TOTP	MOL/MOL TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MYG/L	NI MYG/L	CR MYG/L	F MG/L
0	88	11	1261	119									
4	88			112									
8	18			39									
12	15			40									
16	16			40									
20	16			38									

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HIGRAN	7612903	FRIERFJORD	BB-1	59.6.6	9.34.2	58	781122	1100

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
2.0	21			4.2	GREEN	PARTLY CLOUDY	1/8 OR LESS

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	+	-

COMMENT1
NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	6.47	5.930	4.750				12	3	9	1200	490	330	380	3.60	
4	9.57	25.960	20.023	5.72		84.7	16	8	8	1200	450	360	390		
8	10.67	31.550	24.192	4.12		64.7	22	19	3	300	190	<10	>100		
12	10.92	32.110	24.584	4.19		66.4	22	19	3	285	160	20	105		
16	10.86	32.240	24.695	4.33		68.6	19	18	1	255	120	15	120		
20	10.93	32.310	24.737	4.12		65.4	21	18	3	240	130	<10	>100		
25	10.91	32.480	24.873	4.40		69.9	20	18	2	245	110	<10	>125		
30	10.58	32.940	25.288	3.69		58.4	22	21	1	245	50	10	185		
40	6.38	33.370	26.259	.99		14.3	54	54	0	320	160	20	140		
55	5.76	33.740	26.628		.80		89	89	0	265	<10	75	>180		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MYG/L	NI MYG/L	CR MYG/L	F MG/L
0	361	3	774	221									
4	124			166									
8	22			30									
12	19			29									
16	15			30									
20	16			25									
25	14			27									
30	5			25									
40	7			13									
55	<0			7									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	FRIERFJORD	BC-1	59.6.4	9.37.1	95	781122	900

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
4.0	31			3.4	GREEN-BROWN	PARTLY CLOUDY	1/8 OR LESS

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD 0-25M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	6.50	5.840	4.678				14	3	11	1600	535	500	565	3.68	
4	9.65	29.370	22.664	5.33		80.8	19	13	6	1000	335	310	355		
8	10.62	32.050	24.589	5.18		81.6	17	13	4	215	100	<10	>105		
12	10.82	32.210	24.679	4.58		72.5	20	17	3	240	120	15	105		
16	10.83	32.210	24.677	4.47		70.8	19	17	2	245	120	<10	>115		
20	10.86	32.350	24.781	4.54		72.0	19	17	2	245	120	20	105		
25	10.94	32.550	24.922	4.69		74.6	21	17	4	220	105	<10	>105		
30	10.68	32.981	25.302	4.54		72.0	23	20	3	260	95	15	150		
40	6.43	33.558	26.401	1.67		24.1	105	102	3	300	190	<10	>100		
50	5.85	33.652	26.548	.92		13.1	63	62	1	295	180	<10	>105		
60	5.78	33.687	26.584	.75		10.7	63	61	2	270	160	<10	>100		
80	5.77	33.745	26.631	.28		4.0	83	81	2	335	220	<10	>105		
90	5.77	33.765	26.647	.28		4.0	95	87	8	340	230	<10	>100		

DEPTH M	RATIOS NO3/ PO4	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	394	3	678	253									
4	57			116									
8	17			28									
12	16			27									
16	16			29									
20	16			29									
25	14			23									
30	11			25									
40	4			6									
50	6			10									
60	6			9									
80	6			9									
90	6			8									

< :LESS THAN VALUE > :GREATER THAN VALUE

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.1.14-11:38:38 PAGE:9

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	EIDANGEREJORD	BF-1	59.6.1	9.42.7	70	781121	1200

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DRY	AIR TEMP. WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
5.0	18			7.5	BROWN-GREEN	PARTLY CLOUDY	4/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
SURFACE STATION, NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	P04P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	5.58	13.600	10.800				12	6	6	1300	420	290	590	2.90	

DEPTH M	RATIOS NO3/P04	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	155	3	623	240									

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	EIDANGERFJORD	DF-1	59.4.6	9.42.5	97	781121	1300

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
5.0	18			6.5	YELLOW-GREEN	PARTLY CLOUDY	3/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD 0-30M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	7.14	13.460	10.573				10	4	6	1000	390	250	360	2.88	
4	9.35	30.180	23.341	6.04		91.4	11	9	2	255	90	60	105		
8	9.43	30.930	23.913	6.85		104.3	11	9	2	230	60	60	110		
12	9.71	31.390	24.227	6.32		97.1	11	9	2	220	60	60	100		
16	10.24	31.930	24.561	6.18		96.4	10	9	1	200	70	25	105		
20	10.42	32.180	24.725	5.96		93.5	13	10	3	180	80	<10	>90		
30	10.74	32.570	24.972	5.54		87.7	10	10	0	180	65	<10	>105		
40	10.96	32.798	25.111	5.40		86.1	10	9	1	185	50	<10	>125		
50	11.00	33.133	25.364	5.68		90.8	9	9	0	140	50	10	80		
60	10.90	33.394	25.584	5.18		82.8	12	11	1	215	65	15	135		
80	6.91	34.278	26.904	4.01		58.9	35	35	0	265	195	10	60		
95	6.33	34.509	27.163	3.37		48.9	50	50	0	320	230	<10	>80		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	216	3	743	221									
4	22			51									
8	15			46									
12	15			44									
16	17			44									
20	18			31									
30	14			40									
40	12			41									
50	12			34									
60	13			40									
80	12			17									
95	10			14									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612903	BREVIKFJORD	FG-1	59.2.8	9.43.2	110	781121	1500

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
5.1	21			6.3	GREEN-BROWN	PARTLY CLOUDY	1/8 OR LESS

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	7.50	15.330	11.999				9	4	5	1400	400	280	720	2.80	
4	9.25	30.240	23.403	6.39		96.5	12	9	3	600	100	70	430		
8	9.54	31.270	24.161	6.18		94.5	11	10	1	225	40	30	155		
12	9.85	31.770	24.501	5.82		89.9	12	10	2	200	50	15	135		
16	10.14	32.060	24.678	6.00		93.5	11	10	1	175	55	35	85		
20	10.23	32.270	24.827	5.72		89.4	11	9	2	170	60	30	80		
30	10.40	32.610	25.062	5.75		90.4	10	8	2	150	45	<10	>95		
40	10.66	32.960	25.289	5.75		91.1	11	9	2	165	50	10	105		
50	10.79	33.230	25.476	5.75		91.6	11	9	2	160	50	10	100		
60	10.82	33.560	25.728	5.40		86.2	12	9	3	190	35	10	145		
80	6.85	34.130	26.796	4.08		59.8	34	33	1	290	190	<10	>90		
105	6.41	34.600	27.224	3.34		48.6	50	49	1	285	220	10	55		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	221	2	802	344									
4	25			111									
8	9			45									
12	11			37									
16	12			35									
20	15			34									
30	12			33									
40	12			33									
50	12			32									
60	9			35									
80	13			19									
105	10			13									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	INGRAN	7612903	HAØYFJORDEN	GI-1	59.1.4	9.48.0	205	781121	1100

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
8.0	20			9.0	LIGHT-GREEN	PARTLY CLOUDY	2/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
SURFACE STATION, NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	P04P	ORGP	TOTN	N03N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	7.09	20.190	15.833				12	7	5	720	290	375	55	2.23	

DEPTH M	RATIOS N03/P04	RATIOS TOC/TOTN	MOL/MOL TOC/TOTP	MOL/MOL TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	92	4	479	133									

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.1.14-11:38:39 PAGE: 11

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HINGRAN	7612903	LANGESUNDBUKTA	JH-1	58.58.1	9.47.0	205	781121	1000

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
10.0	21					PARTLY CLOUDY	2/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
MODERATE; WAVES 1.25-2.5M	NO	NO	NO	NO	+	-

COMMENT1
SURFACE STATION, NUTRIENTS 0-2M, TEMPERATURE AND SALINITY BY CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	9.40	30.480	23.567				13	10	3	210	35	60	115	1.75	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	8	10	347	36									

3.3 Hydrokjemiske data fra 1979

Tokt 13. – 14.3 1979

MARINE HYDROGRAPHIC DEPTH STATION — CONTROLLED DATA — 80.3.27-17:49:13 PAGE:1

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	SKIENSELVA	S-1	59.11.8	9.37.1	23	790313	9

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0		0.0	0.0	2.6	GREEN	PARTLY CLOUDY	4/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
CALM: WAVES 0.0M	NO	NO	NO	NO	-	+

COMMENT1 -

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	1.90	<2.846	<2.415				13	9	4	660	370	80	210	8.50	
4	1.70	<2.846	<2.411	8.28		(86.6)	14	8	6	580	370	25	185		
8	1.49	3.465	2.897	8.14		85.0	10	5	5	550	360	15	175		
12	3.09	26.072	20.808	4.86		61.6	22	12	10	335	110	65	160		
16	5.00	28.026	22.199		1.47		34	13	21	285	<10	125	>150		
20	5.71	29.006	22.900		4.79		45	30	15	325	<10	<10	>305		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MYG/L	NI MYG/L	CR MYG/L	F MG/L
0	91	15	1686	112									
4	102			92									
8	159			122									
12	20			34									
16	<2			19									
20	<1			16									

< :LESS THAN VALUE > :GREATER THAN VALUE () :UNCERTAIN VALUE

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.3.27-17:49:13 PAGE:2

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	SKIENSELVA	S-2	59.08.5	9.38.7	23	790313	1115

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0				4.3	GREEN-BROWN	PARTLY CLOUDY	5/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
CALM; WAVES 0.0M	NO	NO	NO	NO	-	+

COMMENT1

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	4.10	<2.846	<2.422				14	9	5	700	400	145	155	4.30	
4	1.82	11.323	9.137	7.71		85.7	14	10	4	500	305	120	75		
8	2.65	27.950	22.331	6.71		85.2	19	15	4	295	100	85	110		
12	2.67	28.632	22.873	5.85		74.7	22	15	7	290	80	90	120		
16	5.62	30.245	23.886	.71		9.9	37	19	18	370	100	160	110		
20	6.70	30.957	24.320	.14		2.0	32	24	8	205	<10	125	>70		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	98	7	792	111									
4	67			79									
8	15			34									
12	12			29									
16	12			22									
20	<1			14									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	FRIEREJORD	BB-1	59.06.6	9.34.2	58	790313	1615

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
1.0	5			3.2	GREEN-BROWN	PARTLY CLOUDY	5/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	-	-

COMMENT1

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	1.75	<2.846	<2.412				16	6	10	1500	600	250	650	4.40	
4	2.36	11.956	9.634	7.14		80.8	27	19	8	2400	620	500	1280		
8	2.51	28.026	22.400	6.85		86.7	19	13	6	290	90	75	125		
12	3.51	29.335	23.369	7.07		92.6	19	14	5	275	100	40	135		
16	6.15	30.996	24.418	4.28		60.5	34	29	5	335	200	80	55		
20	7.32	32.040	25.090	3.71		54.2	35	34	1	305	190	<10	>105		
25	7.37	32.595	25.519	3.74		54.9	38	37	1	300	180	<10	>110		
30	6.95	33.363	26.179	2.50		36.5	42	41	1	230	150	<10	>70		
40	6.15	33.620	26.485	.93		13.4	57	56	1	165	90	<10	>65		
55	5.84	33.667	26.561		.14		61	77	-16	135	<10	65	>60		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	221	3	709	207									
4	72			197									
8	15			34									
12	16			32									
16	15			22									
20	12			19									
25	11			17									
30	8			12									
40	4			6									
55	<0			5									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	FRIERFJORD	BC-1	59,06.4	9,37.1	95	790313	15

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
1.0	5			2.8	GREEN	PARTLY CLOUDY	6/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	-	+

COMMENT1

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	2.90	3.204	2.709				25	17	8	2300	730	470	1100	4.30	
4	1.89	4.468	3.700	8.07		85.8	20	14	6	2000	720	500	780		
8	3.02	27.882	22.251	6.85		87.8	17	15	2	310	110	65	135		
12	2.42	29.232	23.368	7.00		89.1	23	18	5	240	80	60	100		
16	5.35	30.810	24.362	5.21		72.1	27	26	1	300	150	60	90		
20	6.72	31.966	25.111	4.07		58.6	37	36	1	305	170	25	110		
25	7.09	32.335	25.352	3.71		54.0	38	38	0	300	170	15	115		
30	6.75	33.191	26.070	3.36		48.8	40	42	-2	270	160	<10	>100		
40	6.24	33.620	26.474	2.78		40.0	46	50	-4	255	140	<10	>105		
50	5.95	33.679	26.557	1.57		22.5	55	59	-4	190	95	<10	>85		
60	5.86	33.706	26.589	1.21		17.3	59	63	-4	145	65	<10	>70		
80	5.85	33.738	26.615	.79		11.3	73	76	-3	125	35	55	35		
90	5.78	33.738	26.624	.36		5.1	81	77	4	135	<10	65	>60		

DEPTH M	RATIOS NO3/PO4	RATIOS TOC/TOTN	MOL/MOL TOC/TOTP	MOL/MOL TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	95	2	.444	203									
4	114			221									
8	16			40									
12	10			23									
16	13			25									
20	10			18									
25	10			17									
30	8			15									
40	6			12									
50	4			8									
60	2			5									
80	1			4									
90	<0			4									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	EIDANGERFJORD	DF-1	59.04.6	9.42.5	97	790314	1030

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
.5	5			7.5	GREEN	CLEAR	1/8 OR LESS

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED: WAVES 0.0-0.1M	IN VICINITY, TYPE/AMOUNT UNKNOWN	NO	NO	NO	-	+

COMMENT1

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	1.60	15.823	12.718				19	10	9	1800	410	240	1150	3.40	
4	.96	27.608	22.149	7.93		96.1	12	7	5	400	45	30	325		
8	.89	28.518	22.882	7.85		95.6	12	6	6	165	25	55	85		
12	1.24	29.274	23.471	4.57		56.5	16	8	8	220	40	55	125		
16	2.63	30.545	24.400	6.93		89.5	18	13	5	240	75	45	120		
20	3.36	31.274	24.922	6.43		85.0	22	16	6	255	90	30	135		
30	4.35	32.160	25.534	5.85		79.7	24	22	2	250	115	20	115		
40	4.74	32.739	25.953	5.85		80.8	26	23	3	250	125	20	105		
50	4.78	33.320	26.408	5.93		82.3	25	24	1	235	130	15	90		
60	6.05	34.199	26.954	5.43		78.1	32	29	3	265	165	<10	>90		
80	6.10	34.815R	(27.434)	5.14		(74.3)	36	36	0	280	180	<10	>90		
95	5.63	34.788	27.471	5.43		77.7	40	36	4	275	170	<10	>95		

DEPTH M	RATIOS NO3/ PO4	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MYG/L	NI MYG/L	CR MYG/L	F MG/L
0	91	2	461	209									
4	14			74									
8	9			30									
12	11			30									
16	13			29									
20	12			26									
30	12			23									
40	12			21									
50	12			21									
60	13			18									
80	11			17									
95	10			15									

< :LESS THAN VALUE > :GREATER THAN VALUE () :UNCERTAIN VALUE
R :REPEATED ANALYSIS

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	BREVIKEJORD	EG-1	59.02.8	9.43.2	110	790314	1250

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
.5	5			6.5	GREEN	CLEAR	2/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	-	+

COMMENT1	COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	2.30	11.512	9.283				16	8	8	1500	490	300	710	3.20	
4	.98	27.396	21.979	7.78		94.2	14	5	9	400	50	90	260		
8	.98	28.926	23.205	7.78		95.2	12	6	6	200	20	55	125		
12	1.51	29.695	23.793	7.50		93.6	16	9	7	235	45	55	135		
16	2.69	30.980	24.742	6.64		86.1	21	14	7	235	70	40	125		
20	2.33	31.305	25.027	7.14		92.0	17	12	5	200	55	35	110		
30	3.43	32.098	25.571	6.35		84.5	22	17	5	240	90	15	135		
40	3.59	32.576	25.937	6.50		87.2	22	18	4	240	100	35	105		
50	4.13	33.004	26.225	6.21		84.6	26	20	6	260	110	25	125		
60	4.90	33.910	26.862	5.78		80.8	29	25	4	260	140	<10	>110		
80	5.91	34.792	27.440	5.43		78.2	33	33	0	265	170	<10	>85		
105	5.56	34.792	27.483	5.57		79.5	38	35	3	265	170	<10	>85		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MYG/L	NI MYG/L	CR MYG/L	F MG/L
0	135	2	516	207									
4	22			63									
8	7			37									
12	11			32									
16	11			25									
20	10			26									
30	12			24									
40	12			24									
50	12			22									
60	12			20									
80	11			18									
105	11			15									

< :LESS THAN VALUE > :GREATER THAN VALUE

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.3.27-17:49:17 PAGE:7

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	HAØYFJORD	GI-1	59.01.4	9.48.0	205	790314	1530

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
.5	5			9.5	BRIGHT-GREEN	PARTLY CLOUDY	7/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	-	+

COMMENT1

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	1.65	19.656	15.770				15	10	5	1100	270	140	690	4.00	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	60	4	688	162									

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	LANGESUNDSBUKTA	JH-1	58.58.1	9.47.0	205	790314	1430

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
.2	5			8.5	GREEN	PARTLY CLOUDY	3/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	-	+

COMMENT1

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FF
							MICROGR./L								
0	2.55	26.091	20.857				14	9	5	325	75	135	115	2.40	

DEPTH M	RATIOS NO3/PO4	RATIOS TOC/TOTN	MOL/MOL TOC/TOTP	MOL/MOL TOTN/TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MYG/L	NI MYG/L	CR MYG/L	F MG/L
					HEAVY METALS								
0	18	9	442	51									

Tokt 19. – 20.6 1979

MARINE HYDROGRAPHIC DEPTH STATION — CONTROLLED DATA — 80.3.27-17:49:22 PAGE:1

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	SKIENSELVA	S-1	59.11.8	9.37.1	23	790620	9

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0		14.0		1.3	GREY	PARTLY CLOUDY	1/8 OR LESS

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
CALM; WAVES 0.0M	NO	YES	YES	NO	-	-

COMMENT1
TEMP+SAL WITH CTD, SURFACE VERY DIRTY

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	10.50	.030	-.118				10	4	6	480	365	<10	>105	4.50	
.5	10.50	.030	-.118				14	6	8	500	350	<10	>140	7.50	
4	10.45	.030	-.114	7.54		96.6	9	4	5	470	360	<10	>100		
8	10.45	.040	-.106	7.83		100.3	7	3	4	500	365	<10	>125		
12	10.23	.070	-.062	7.76		98.9	7	2	5	480	365	<10	>105		
16	10.43	1.170	.762	7.76		100.1	5	2	3	570	360	<10	>200		
20	10.41	2.550	1.825	7.03		91.4	7	2	5	475	320	<10	>145		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MYG/L	NI MYG/L	CR MYG/L	F MG/L
0	202	11	1160	106									
.5	129	17	1382	79									
4	199			115									
8	269			158									
12	404			152									
16	398			252									
20	354			150									

< :LESS THAN VALUE > :GREATER THAN VALUE

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.3.27-17:49:23 PAGE:2

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HIGRAN	0-76129	SKIENSELVA	S-2	59.08.5	9.38.7	23	790620	11

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0		18.0		3.4	BROWN-GREEN	PARTLY CLOUDY	1/8 OR LESS

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
CALM; WAVES 0.0M	NO	NO	NO	NO	-	-

COMMENT1
TEMP+SAL WITH CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	P04P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	13.20	.880	.221				8	2	6	485	350	<10	>125	4.00	
4	10.32	7.780	5.857	7.61		102.1	6	2	4	485	350	<10	>125		
8	7.85	24.770	19.328	5.66		79.9	17	10	7	485	130	100	255		
12	7.23	25.450	19.934	4.93		68.9	20	11	9	400	110	95	195		
16	6.07	26.480	20.872	1.38		18.9	23	9	14	335	90	70	175		
20	6.05	26.570	20.945	1.45		19.8	22	9	13	325	90	60	175		

DEPTH M	RATIOS NO3/ P04	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
					HEAVY METALS								
0	387	10	1289	134									
4	387			179									
8	29			63									
12	22			44									
16	22			32									
20	22			33									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	VOLLSFJORD	AA-1	59.07.7	9.31.5	18	790620	14

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
2.0	16	22.0		2.5	BROWN	PARTLY CLOUDY	1/8 OR LESS

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED: WAVES 0.0-0.1M	NO	NO	NO	NO	-	-

COMMENT1
TEMP+SAL WITH CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	P04P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	15.40	2.420	1.066				14	2	12	1000	480	160	360	3.70	
4	11.14	3.250	2.284												
8	6.16	24.210	19.079												
12	4.40	28.320	22.488												
16	5.56	30.280	23.921												
17	5.72	30.440	24.029												

DEPTH M	RATIOS NO3/ P04	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	531	4	682	158									
4													
8													
12													
16													
17													

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	VOLLSFJORD	AB-1	59,07.4	9,33.4	30	790620	15

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
5.0	12	22.0		2.5	BROWN-GREEN	PARTLY CLOUDY	1/8 OR LESS

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	-	-

COMMENT1
TEMP+SAL WITH CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	P04P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FF
							MICROGR./L								
0	14.00	2.230	1.138				12	2	10	1100	440	200	460	3.80	
4	9.98	3.810	2.836	7.76		100.7	13	3	10	440	460	225	-245		
8	7.31	24.460	19.150	6.02		83.8	12	9	3	380	130	105	145		
12	5.17	28.180	22.304	5.51		74.6	18	16	2	340	150	70	120		
16	5.45	30.160	23.838	4.79		66.2	28	27	1	350	220	40	90		
20	5.39	30.530	24.137	4.86		67.2	27	26	1	330	200	20	110		
30	5.13	31.150	24.654	4.28		59.0	33	32	1	600	190	<10	>400		

DEPTH M	RATIOS NO3/P04	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	486	4	817	203									
4	339			75									
8	32			70									
12	21			42									
16	18			28									
20	17			27									
30	13			40									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HAGRAN	0-76129	FRIERFJORD	BB-1	59.06.6	9.34.2	58	790620	15

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
4.0	12	22.0		2.7	BROWN	PARTLY CLOUDY	1/8 OR LESS

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	-	-

COMMENT1
TEMP+SAL WITH CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	15.70	1.880	.608				12	4	8	1100	430	250	420	3.80	
4	10.92	6.500	4.804	7.43		100.2	10	4	6	720	430	300	-10		
8	7.55	24.870	19.442	6.02		84.5	11	10	1	350	120	85	145		
12	5.35	28.600	22.618	5.58		76.1	23	20	3	355	150	90	115		
16	5.48	30.190	23.858	5.00		69.1	23	23	0	365	200	30	135		
20	5.41	30.520	24.126	5.08		70.3	26	25	1	345	200	20	125		
25	5.18	30.840	24.404	4.86		67.0	27	26	1	335	210	<10	>115		
30	4.85	31.860	25.245	4.93		67.9	27	26	1	300	180	<10	>110		
40	6.11	33.740	26.585	1.38		19.8	46	44	2	235	160	<10	>65		
55	6.08	33.900	26.715		.11		90	92	-2	140	<10	<10	>120		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MYG/L	NI MYG/L	CR MYG/L	F MG/L
0	238	4	817	203									
4	238			159									
8	27			70									
12	17			34									
16	19			35									
20	18			29									
25	18			27									
30	15			25									
40	8			11									
55	<0			3									

< :LESS THAN VALUE > :GREATER THAN VALUE -

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NI/A	HIGRAN	0-76129	FRIERFJORD	BC-1	59.06.4	9.37.1	95	790620	12

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
2.0	17	20.2		2.2	GREY-BROWN	PARTLY CLOUDY	1/8 OR LESS

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED: WAVES 0.0-0.1M	NO	NO	NO	NO	-	-

COMMENT1
TEMP+SAL 0-30M WITH CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	P04P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	13.00	2.570	1.536				27	11	16	1600	560	560	480	3.70	
4	10.19	9.070	6.865	7.03		94.8	20	8	12	2400	670	990	740		
8	9.02	25.100	19.432	6.02		87.5	16	11	5	375	110	85	180		
12	6.45	29.120	22.906	5.66		79.5	20	16	4	390	130	85	175		
16	5.43	30.170	23.848	4.86		67.1	31	29	2	385	240	15	130		
20	5.42	30.450	24.070	5.08		70.3	26	25	1	355	200	40	115		
25	5.30	30.740	24.312	5.44		75.2	24	23	1	365	180	20	165		
30	5.01	32.090	25.410	5.37		74.3	25	24	1	315	160	20	135		
40	6.00	33.484	26.397	1.81		25.9	53	52	1	265	160	<10	>95		
50	6.01	33.644	26.522	1.23		17.6	64	65	-1	235	130	<10	>95		
60	5.97	33.679	26.554	.87		12.5	69	64	5	210	100	<10	>100		
80	5.88	33.722	26.599		.11		97	95	2	180	<10	15	>155		
90	5.87	33.726	26.604		.27		190	180	10	600	<10	105	>485		

DEPTH M	RATIOS NO3/P04	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	113	3	353	131									
4	185			265									
8	22			52									
12	18			43									
16	18			27									
20	18			30									
25	17			34									
30	15			28									
40	7			11									
50	4			8									
60	3			7									
80	<0			4									
90	<0			7									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HUGRAN	0-76129	EIDANGEREJORD	BE-1	59.06.1	9.42.7	55	7906.19	12

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
4.5	18	18.5		3.2	BROWN-GREEN	PARTLY CLOUDY	3/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	-	-

COMMENT1
TEMP+SAL WITH CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	P04P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	16.50	9.680	6.370				13	3	10	700	340	140	220	3.00	
4	11.42	21.100	15.978												
8	9.12	24.950	19.301												
12	6.41	27.730	21.818												
16	4.45	30.670	24.344												
20	4.20	31.710	25.192												
30	3.75	33.110	26.347												
40	3.98	33.690	26.785												
50	4.12	33.910	26.946												

DEPTH M	RATIOS NO3/ P04	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	251	5	595	119									
4													
8													
12													
16													
20													
30													
40													
50													

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	EIDANGERFJORD	DF-1	59,04.6	9,42.5	98	790619	14

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
4.0	18			3.4	YELLOW-GREEN	PARTLY CLOUDY	3/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	-	-

COMMENT1
TEMP+SAL WITH CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FF
0	14.90	9.360	6.415				11	3	8	640	320	175	145	2.40	
4	11.68	21.560	16.291												
8	10.18	24.690	18.946												
12	7.80	27.430	21.414												
16	4.87	30.380	24.073												
20	4.60	31.880	25.287												
30	4.18	33.010	26.225												
40	4.18	33.620	26.709												
50	4.29	33.860	26.888												
60	4.30	34.090	27.070												
70	4.30	34.170	27.133												
80	4.46	34.320	27.235												
90	4.75	34.480	27.331												
95	4.79	34.520	27.358												

DEPTH M	RATIOS NO3/PO4	RATIOS TOC/TOTN	MOL/MOL TOC/TOTP	MOL/MOL TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	236	4	563	129									
4													
8													
12													
16													
20													
30													
40													
50													
60													
70													
80													
90													
95													

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	BREVIKFJORD	FG-1	59,02.8	9,43.2	110	790619	15

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
6.0	18	17.0		3.1	YELLOW-BROWN	PARTLY CLOUDY	1/8 OR LESS

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	-	-

COMMENT1
TEMP+SAL 0-30M WITH CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	NUTRIENTS PO4P	NUTRIENTS ORGP	NUTRIENTS TOTN	MICROGR./L NO3N	MICROGR./L NH4N	MICROGR./L ORGN	TOC MG/L	FE
0	12.80	8.100	5.785				10	3	7	680	330	215	135	3.60	
4	11.94	22.190	16.735	7.32		111.5	11	3	8	400	100	65	235		
8	10.67	25.580	19.560	7.40		112.0	13	5	8	570	220	180	170		
12	8.43	27.680	21.525	6.60		96.2	8	4	4	275	50	50	175		
16	5.49	30.530	24.126	6.02		83.4	8	5	3	335	70	75	190		
20	5.32	31.650	25.029	5.80		80.7	16	13	3	395	130	85	180		
30	5.10	33.330	26.381	6.31		88.2	16	14	2	300	130	45	125		
40	4.75	33.511	26.563	6.45		89.6	14	15	-1	275	90	30	155		
50	4.72	33.831	26.820	6.45		89.7	16	16	0	260	90	25	145		
60	4.63	34.019	26.978	6.38		88.6	18	17	1	240	90	25	125		
80	4.50	34.219	27.151	6.02		83.5	26	23	3	270	130	<10	>130		
90	4.58	34.309	27.214	5.66		78.7	31	29	2	250	160	<10	>80		
105	4.79	34.438	27.293	5.15		72.0	39	38	1	260	200	<10	>50		

DEPTH M	RATIOS NO3/PO4	RATIOS TOC/TOTN	MOL/MOL TOC/TOTP	MOL/MOL TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MYG/L	NI MYG/L	CR MYG/L	F MG/L
0	243	6	928	150									
4	74			80									
8	97			97									
12	28			76									
16	31			93									
20	22			55									
30	21			41									
40	13			43									
50	12			36									
60	12			29									
80	12			23									
90	12			18									
105	12			15									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	HAØYFJORD	GI-1	59.01.4	9.48.0	205	790619	11

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
4.0	18	17.3		3.5	GREEN	PARTLY CLOUDY	6/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	-	-

COMMENT1
TEMP+SAL WITH CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	P04P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	14.30	13.070	9.257				11	2	9	800	210	100	490	3.10	
4	12.53	23.030	17.321												
8	10.04	25.650	19.712												
12	7.38	28.170	22.047												
16	5.50	30.730	24.282												
20	5.10	31.810	25.179												
30	5.24	32.840	25.978												
40	5.00	33.700	26.685												
50	5.48	34.300	27.104												
60	5.86	34.390	27.129												
80	5.95	34.450	27.165												
100	5.94	34.490	27.198												
125	5.93	34.510	27.215												
150	5.94	34.510	27.214												
195	5.94	34.550	27.245												

DEPTH M	RATIOS NO3/ P04	MOL/MOL TOC/ TOTN	MOL/MOL TOC/ TOTP	MOL/MOL TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	232	5	727	161									
4													
8													
12													
16													
20													
30													
40													
50													
60													
80													
100													
125													
150													
195													

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	LANGESUNDSBUKTA	JH-1	58.58.1	9.47.0	205	790619	10

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
2.0	18	17.0		4.0	GREEN	PARTLY CLOUDY	6/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	-	-

COMMENT1
TEMP+SAL WITH CTD

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	14.60	19.400	14.124				7	2	5	290	30	30	230	3.10	
4	12.91	22.240	16.608												
8	11.09	25.220	19.214												
12	9.56	27.770	21.432												
16	7.02	31.480	24.690												
20	6.48	32.340	25.435												
30	6.25	33.230	26.165												
40	6.27	33.730	26.557												
50	6.33	33.930	26.707												
60	6.50	34.390	27.047												
80	6.25	34.490	27.158												
100	5.29	34.520	27.300												
125	4.66	34.620	27.451												
147	4.55	34.770	27.582												

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	33	12	1142	92									
4													
8													
12													
16													
20													
30													
40													
50													
60													
80													
100													
125													
147													

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COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HGRAN	0-76129	SKIENSELVA	S-1	59.11.8	9.37.1	23	790822	900

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0		14.9		2.5	BROWN	PARTLY CLOUDY	2/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED: WAVES 0.0-0.1M	NO	YES	YES	NO	+	-

COMMENT1
CTD-TEMP+SAL 0-20M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	12.92	0.000	-.411				6	2	4	560	350	<10	>200	4.20	
4	12.58	0.000	-.369	6.99		94.0	7	3	4	560	350	15	195		
8	12.56	0.000	-.366	6.92		93.0	6	4	2	580	350	<10	>220		
12	12.63	0.000	-.375	7.07		95.2	9	5	4	560	350	<10	>200		
16	12.57	0.000	-.368	7.04		94.7	8	4	4	550	350	15	185		
20	12.61	0.000	-.373	6.99		94.1	8	4	4	560	345	80	135		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	387	9	1805	206									
4	258			177									
8	193			214									
12	155			138									
16	193			152									
20	191			155									

< :LESS THAN VALUE > :GREATER THAN VALUE

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.3.27-17:49:40 PAGE: 11

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	SKIENSELVA	S-2	59,08.5	9,38.7	23	790822	1000

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0		16.5		2.9	BROWN	PARTLY CLOUDY	2/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	YES	NO	+	-

COMMENT1
CTD-TEMP+SAL 0-20M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	12.68	0.000	-.381				8	3	5	500	345	25	130	3.80	
4	12.98	0.000	-.419	6.92		93.9	8	4	4	550	350	15	185		
8	12.54	0.000	-.364	6.87		92.3	9	4	5	540	355	10	175		
12	12.90	4.052	2.679	6.38		88.6	10	3	7	530	325	50	155		
16	13.98	20.015	14.709	4.42		69.4	13	3	10	370	140	115	115		
20	14.06	20.773	15.275	4.07		64.3	13	3	10	345	135	105	105		

DEPTH M	RATIOS NO3/ PO4	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	254	9	1225	138									
4	193			152									
8	196			133									
12	240			117									
16	103			63									
20	100			59									

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.3.27-17:49:33 PAGE:1

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	VOLLSFJORD	AA-1	59.07.7	9.31.5	18	790822	1200

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0		16.0		3.0	GREEN-BROWN	RAIN	7/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED; WAVES 0.0-0.1M	NO	NO	NO	NO	+	-

COMMENT1
CTD-TEMP+SAL

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FF
0	16.15	.720	-.342				10	2	8	800	390	60	350	4.00	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	431	6	1032	177									

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.3.27-17:49:34 PAGE:2

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HMGRAN	0-76129	VOLLSFJORD	AB-1	59.07.4	9.33.4	33	790822	1330

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
2.0	15	17.2		2.4	BROWN	PARTLY CLOUDY	5/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
CTD-TEMP+SAL 0-30M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	P04P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	15.11	.456	-.374				9	3	6	900	400	40	460	2.50	
4	14.80	.484	-.305	6.39		90.5	10	2	8	800	400	60	340		
8	13.34	25.670	19.168	4.47		71.7	9	5	4	465	150	185	130		
12	10.08	28.054	21.573	4.10		62.2	11	8	3	415	140	120	155		
16	8.50	29.288	22.771	4.23		62.4	19	16	3	410	200	85	125		
20	7.92	29.584	23.083	4.03		58.8	21	17	4	420	200	80	140		
30	7.45	30.170	23.605	3.59		52.0	24	20	4	395	185	85	125		

DEPTH M	RATIOS NO3/ P04	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	295	3	716	221									
4	442			177									
8	66			114									
12	39			83									
16	28			48									
20	26			44									
30	20			36									

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	FRIERFJORD	BB-1	59,06.6	9,34.2	58	790822	1400

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
3.0	18	17.4		3.2	BROWN	PARTLY CLOUDY	5/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
CTD-TEMP+SAL 0-55M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FF
							MICROGR./L								
0	14.52	.273	-.423				7	2	5	430	360	85	-15	1.80	
4	13.28	.876	.208	6.53		89.7	7	3	4	445	380	175	-110		
8	14.66	26.205	19.322	4.84		80.1	9	7	2	400	105	150	145		
12	10.94	27.985	21.380	4.49		69.4	10	8	2	405	105	120	180		
16	8.44	29.343	22.823	4.26		62.8	18	16	2	445	190	130	125		
20	8.13	29.594	23.062	4.34		63.6	20	17	3	405	195	85	125		
25	7.56	30.133	23.562	4.00		58.1	19	16	3	400	195	90	115		
30	7.03	30.929	24.256	4.03		58.1	22	19	3	370	205	50	115		
40	5.92	33.503	26.421	1.07		15.3	47	42	5	265	155	15	95		
50	6.11	33.713	26.564	.22		3.2	98	89	9	170	10	35	125		
55	5.78	34.047	26.868		9.88R		120	120	0	230	<10	130	>90		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MYG/L	NI MYG/L	CR MYG/L	F MG/L
0	398	5	663	136									
4	280			141									
8	33			98									
12	29			90									
16	26			55									
20	25			45									
25	27			47									
30	24			37									
40	8			12									
50	0			4									
55	<0			4									

< :LESS THAN VALUE > :GREATER THAN VALUE R :REPEATED ANALYSIS

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	FRIEREFJORD	BC-1	59.06.4	9.37.1	95	790822	1100

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
4.0	20	16.0		3.3	YELLOW	PARTLY CLOUDY	6/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
CTD-TEMP+SAL 0-25M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	13.44	.736	.080				10	3	7	1200	510	340	350	3.80	
4	13.79	1.026	.252	6.46		89.8	9	3	6	1100	505	330	265		
8	14.61	25.639	18.898	4.90		80.7	14	8	6	335	85	105	145		
12	11.48	28.330	21.556	4.60		72.1	13	8	5	330	100	100	130		
16	8.66	29.372	22.814	4.26		63.1	20	16	4	455	185	<10	>260		
20	8.33	29.738	23.147	4.34		64.0	23	18	5	385	200	130	55		
25	10.02	30.700	23.640	4.25		65.5	20	15	5	320	180	80	60		
30	10.21	31.405	24.157	4.08		63.4	21	16	5	320	160	35	125		
40	5.84	33.413	26.360	1.14		16.2	61	57	4	290	160	<10	>120		
50	6.04	33.620	26.499	.99		14.2	67	65	2	255	140	30	85		
60	6.03	33.671	26.540	.20		2.9	69	62	7	150	45	15	90		
80	5.91	33.706	26.583		1.13		130	130	0	140	<10	50	>80		
90	5.89	33.710	26.588		1.13		170	180	-10	230	<10	105	>115		

DEPTH M	RATIOS NO3/ PO4	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MYG/L	NI MYG/L	CR MYG/L	F MG/L
0	376	4	980	265									
4	372			270									
8	23			53									
12	28			56									
16	26			50									
20	25			37									
25	27			35									
30	22			34									
40	6			11									
50	5			8									
60	2			5									
80	<0			2									
90	<0			3									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HUGRAN	0-76129	EIDANGEREJORD	BF-1	59.06.1	9.42.7	55	790821	1200

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
7.0	18			2.7	BROWN-GREEN	RAIN	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1	COMMENT2
CTD-TEMP+SAL	

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FF
0	17.72	8.550	5.279				51	30	21	908	420	285	203	3.80	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	31	5	192	39									

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.3.27-17:49:37 PAGE:6

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	EIDANGEREJORD	DF-1	59.04.6	9.42.5	98	790821	1300

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
6.0	18	14.5		3.5	BROWN	RAIN	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
CTD-TEMP+SAL

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	15.21	7.910	5.260				7	<2	>5	728	350	375	3	3.30	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
					HEAVY METALS								
0		5	1216	230									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HUGRAN	0-76129	BREVIKFJORD	FG-1	59.02.8	9.43.2	110	790821	1400

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
8.0	18	14.1		3.5	BROWN	RAIN	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SLIGHT: WAVES 0.5-1.25M	NO	NO	NO	NO	+	-

COMMENT1
CTD-TEMP+SAL 0-30M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	14.76	7.952	5.368				6	3	3	628	290	425	-87	1.90	
4	14.80	22.647	16.569	5.28		85.7	6	2	4	295	40	65	190		
8	14.89	27.263	20.086	4.62		77.3	10	7	3	285	45	70	170		
12	12.63	30.288	22.861	4.35		70.7	12	10	2	280	85	40	155		
16	12.80	31.388	23.678	4.47		73.4	10	9	1	260	95	15	150		
20	12.92	31.930	24.073	4.62		76.4	10	7	3	220	65	10	145		
30	12.73	32.316	24.408	4.80		79.2	9	6	3	200	60	55	85		
40	12.06	32.805	24.915	4.80		78.3	10	7	3	210	70	10	130		
50	11.33	33.164	25.328	4.78		77.0	10	9	1	205	70	<10	>125		
60	8.85	33.261	25.823	4.88		74.5	15	12	3	235	120	<10	>105		
80	4.72	33.929	26.897	5.30		73.7	28	25	3	295	170	<10	>115		
105	4.67	34.278	27.179	4.12		57.4	48	45	3	305	220	<10	>75		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	214	4	817	231									
4	44			109									
8	14			63									
12	19			52									
16	23			57									
20	21			49									
30	22			49									
40	22			46									
50	17			45									
60	22			35									
80	15			23									
105	11			14									

< :LESS THAN VALUE > :GREATER THAN VALUE

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.3.27-17:49:38 PAGE:8

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	HÅØYFJORD	GI-1	59.0.4	9.48.0	205	790821	1100

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
7.5	18	17.0		4.3	BROWN	CONTINOUS LAYER OF CLOUDS	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	+	-

COMMENT1
CTD-TEMP+SAL

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	15.89	9.330	6.218				7	<2	>5	648	300	340	8	3.00	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
					HEAVY METALS								
0		5	1105	205									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	0-76129	LANGESUNDSBUKTA	JH-1	58.58.1	9.47.0	205	790824	1000

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
6.0	18	16.4		4.5	GREEN	CONTINOUS LAYER OF CLOUDS	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SLIGHT; WAVES 0.5-1.25M	NO	NO	NO	NO	+	-

COMMENT1	COMMENT2
CTD-TEMP+SAL	

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	16.63	14.370	9.901				7	2	5	370	60	85	225	3.60	

DEPTH M	RATIOS NO3/ PO4	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	66	11	1326	117									

Tokt 27. – 28.11 1979

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.3.28-11:47:49 PAGE:1

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612904	SKIENSELVA	S-1	59.11.8	9.37.1	23	791128	900

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0		6.5		.7	GREY	SNOW,OR RAIN AND SNOW MIXED	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
CALM: WAVES 0.0M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	5.11	0.000	.175				17	11	6	500	390	10	100	20.50	
4	4.95	.020	.193	7.02		78.5	15	10	5	860	390	15	455		
8	4.99	.060	.224	7.30		81.8	8	6	2	570	390	15	165		
12	9.00	20.130	15.568	6.38		89.8	6	4	2	490	345	15	130		
16	11.17	27.460	20.935	.28		4.3	15	10	5	295	170	30	95		
20	11.16	27.580	21.030	.19		2.9	19	9	10	310	165	25	120		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	78	48	3110	65									
4	86			127									
8	144			158									
12	191			181									
16	38			43									
20	41			36									

MARINE HYDROGRAPHIC DEPTH STATION — CONTROLLED DATA — 80.3.28-11:47:50 PAGE:2

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612904	SKIENSELVA	S-2	59.08.5	9.38.7	23	791128	1005

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0				3.5	GREY-GREEN	SNOW,OR RAIN AND SNOW MIXED	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHPRM
CALM: WAVES 0.0M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	MICROGR./L TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
0	5.09	1.660	1.473				6	4	2	540	380	15	145	4.60	
4	8.11	18.850	14.678	5.48		74.9	10	8	2	485	320	20	145		
8	11.74	31.130	23.677	3.25		52.1	23	20	3	345	190	20	135		
12	11.66	31.300	23.823	2.32		37.2	22	17	5	275	140	25	110		
16	11.74	31.250	23.770	2.25		36.1	21	15	6	265	140	20	105		
20	11.60	31.340	23.865	2.17		34.7	22	15	7	305	140	30	135		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	210	10	1977	199									
4	88			107									
8	21			33									
12	18			28									
16	21			28									
20	21			31									

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.3.28-11:47:51 PAGE:3

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612904	VOLLSFJORD	AA-1	59.07.7	9.31.5	18	791128	1400

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0				5.0	GREEN	CONTINOUS LAYER OF CLOUDS	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
CALM: WAVES 0.0M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	3.18	5.160	4.252				9	4	5	1300	450	189	661	2.80	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	249	3	802	319									

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612904	VOLLSFJORD	AB-1	59.07.4	9.33.4	33	791128	1420

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0				3.8	GREEN	CONTINOUS LAYER OF CLOUDS	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
CALM: WAVES 0.0M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	P04P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	3.73	4.300	3.569				8	4	4	1200	460	173	567	4.50	
4	7.13	15.620	12.259	6.49		84.9	9	5	4	1200	440	192	568		
8	11.76	31.330	23.828	3.02		48.5	26	25	1	300	170	<10	>120		
12	11.15	31.670	24.202	3.67		58.3	24	23	1	265	140	<10	>115		
16	10.58	31.790	24.394	4.21		66.1	21	20	1	250	125	<10	>115		
20	10.55	32.190	24.710	4.12		64.8	22	21	1	230	120	<10	>100		
30	10.24	32.560	25.051	3.22		50.4	30	29	1	235	130	<10	>95		

DEPTH M	RATIOS NO3/ P04	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	254	4	1451	332									
4	195			295									
8	15			26									
12	13			24									
16	14			26									
20	13			23									
30	10			17									

< :LESS THAN VALUE > :GREATER THAN VALUE

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612904	FRIERFJORD	BB-1	59.06.6	9.34.2	58	791128	1500

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
0.0				3.7	GREEN	CONTINOUS LAYER OF CLOUDS	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
CALM: WAVES 0.0M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	P04P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	4.68	3.640	3.033				6	3	3	1000	410	74	516	4.20	
4	6.71	15.580	12.265	6.35		82.2	7	4	3	1200	420	148	632		
8	11.85	31.260	23.758	3.49		56.2	21	21	0	305	170	40	95		
12	10.98	31.710	24.263	4.10		64.9	18	20	-2	135	125	<10	>0		
16	10.38	31.820	24.451	4.36		68.2	18	18	0	245	120	<10	>115		
20	10.14	32.000	24.632	4.69		73.1	18	17	1	225	105	<10	>110		
25	10.13	32.380	24.929	4.38		68.4	21	20	1	195	105	<10	>80		
30	9.37	32.610	25.151	3.29		51.1	27	25	2	245	120	<10	>115		
40	6.70	33.000	25.927	.94		13.6	43	42	1	215	140	<10	>65		
50	6.04	33.670	26.538		.41		94	92	2	120	<10	55	>55		
55	6.01	33.750	26.605		1.03		110	110	0	165	<10	75	>80		

DEPTH M	RATIOS NO3/P04	MOL/MOL TOC/TOTN	TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	302	5	1805	369									
4	232			379									
8	18			32									
12	14			17									
16	15			30									
20	14			28									
25	12			21									
30	11			20									
40	7			11									
50	<0			3									
55	<0			3									

< :LESS THAN VALUE > :GREATER THAN VALUE

MARINE HYDROGRAPHIC DEPTH STATION — CONTROLLED DATA — 80.3.28-11:47:53 PAGE:6

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612904	FRIERFJORD	BC-1	59,06.4	9,37.1	95	791128	1115

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
1.0	33			3.9	BROWN-GREEN	SNOW,OR RAIN AND SNOW MIXED	8/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
RIPPLED: WAVES 0.0-0.1M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL 0-25M

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	4.20	4.710	3.884				13	5	8	1500	540	343	617	3.10	
4	8.71	20.300	15.737	5.48		76.7	15	11	4	1400	410	266	724		
8	12.21	31.860	24.155	3.49		56.8	22	20	2	300	180	20	100		
12	11.03	31.520	24.106	3.96		62.7	23	20	3	285	150	30	105		
16	10.17	31.710	24.401				22	20	2	235	120	<10	>105		
20	9.95	31.950	24.624	4.57		70.9	21	19	2	225	120	<10	>95		
25	9.37	32.140	24.866	5.22		80.0	19	17	2	215	90	<10	>115		
30	9.26	32.680	25.305	4.82		73.9	22	20	2	210	95	<10	>105		
40	6.74	33.010	25.929	2.10		30.5	42	46	-4	240	140	<10	>90		
50	6.05	33.560	26.450	.16		2.3	91	85	6	130	<10	25	>95		
60	5.99	33.560	26.458	0.00		0.0	91	91	0	130	<10	40	>80		
80	5.94	33.720	26.590		1.19		150	150	0	195	<10	95	>90		
90	5.98	33.680	26.554		1.59		200	200	0	295	<10	175	>110		

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	239	2	615	255									
4	82			206									
8	20			30									
12	17			27									
16	13			24									
20	14			24									
25	12			25									
30	11			21									
40	7			13									
50	<0			3									
60	<0			3									
80	<0			3									
90	<0			3									

< :LESS THAN VALUE > :GREATER THAN VALUE

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.3.28-11:47:54 PAGE:7

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612904	EIDANGERFJORD	BF-1	59.06.1	9.42.7	55	791127	1500

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
3.4	33			10.3	GREEN	PARTLY CLOUDY	2/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	6.62	24.190	19.015				17	15	2	335	150	50	135	2.20	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	22	8	334	44									

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.3.28-11:47:54 PAGE:8

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612904	EIDANGERFJORD	DF-1	59,04.6	9,42.5	98	791127	1520

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
2.4	33			10.0	GREEN	PARTLY CLOUDY	2/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	7.73	25.960	20.273				18	15	3	315	150	50	115	1.70	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
					HEAVY METALS								
0	22	6	244	39									

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HIGRAN	7612904	BREVIKFJORD	FG-1	59.02.8	9.43.2	110	791127	1350

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
10.1	33	8.0		5.5	GREEN	PARTLY CLOUDY	2/8

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH: WAVES 0.1-0.5M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. O/OO	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT O/O	NUTRIENTS TOTP	PO4P	ORGP	TOTN	MICROGR./L NO3N	NH4N	ORGN	TOC MG/L	FE
0	6.48	15.260	12.034				12	9	3	740	370	280	90	2.40	
4	7.43	24.810	19.410	6.21		86.8	16	14	2	380	170	75	135		
8	7.75	31.570	24.662	6.53		96.1	17	15	2	240	60	40	140		
12	7.75	31.710	24.772	6.41		94.4	18	15	3	220	55	45	120		
16	7.84	31.870	24.885	6.44		95.2	18	15	3	175	50	35	90		
20	7.97	32.160	25.093	6.41		95.2	18	15	3	210	50	35	125		
30	8.52	32.630	25.380	6.18		93.2	17	14	3	220	55	30	135		
40	9.16	33.000	25.571	5.85		89.7	15	14	1	190	65	<10	>115		
50	9.46	33.450	25.874	5.54		85.8	14	14	0	185	70	<10	>105		
60	9.45	33.800	26.148	5.37		83.3	17	16	1	220	90	25	105		
80	8.39	34.220	26.644				23	22	1	290	115	20	155		
105	5.96	34.340	27.077	3.33		47.9	53	50	3	300	215	<10	>75		

DEPTH M	RATIOS NO3/ PO4	TOC/ TOTN	MOL/MOL TOC/ TOTP	TOTN/ TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	91	4	516	136									
4	27			53									
8	9			31									
12	8			27									
16	7			21									
20	7			26									
30	9			29									
40	10			28									
50	11			29									
60	12			29									
80	12			28									
105	10			13									

< :LESS THAN VALUE > :GREATER THAN VALUE

MARINE HYDROGRAPHIC DEPTH STATION CONTROLLED DATA 80.3.28-11:47:55 PAGE:10

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612904	HAØYFJORD	GI-1	59.01.4	9.48.0	205	791127	1210

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
6.2	32	6.7		8.8	GREEN	CLEAR	1/8 OR LESS

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
SMOOTH; WAVES 0.1-0.5M	NO	NO	NO	NO	-	-

COMMENT1
CTD-TEMP+SAL

COMMENT2

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	PO4P	ORGP	TOTN	NO3N	NH4N	ORGN	TOC MG/L	FE
							MICROGR./L								
0	5.57	21.980	17.382				14	12	2	500	240	135	125	1.50	

DEPTH M	RATIOS NO3/PO4	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
					HEAVY METALS								
0	44	3	276	79									

COUNTRY	INSTITUTION	SHIP	PROJECT	LOCATION	STATION	POSITION NORTH	POSITION EAST	DEPTH M	DATE	TIME
NORWAY	NIVA	HHGRAN	7612904	LANGESUNDSBUKTA	JH-1	58,58.1	9,47.0	205	791127	1115

WIND SPEED M/S	WIND DIRECTION (0-36)	AIR TEMP. DEG.CELS DRY	AIR TEMP. DEG.CELS WET	SECCHI-DISC DEPTH M	SECCHI-DISC COLOUR	WEATHER	CLOUDS
8.9	32	7.0		8.0	GREEN	CLEAR	NO

SEA	ICE	OIL	WRECK	SEA-WEED	BATHY/CTD	SALINOTHERM
MODERATE; WAVES 1.25-2.5M	NO	NO	NO	NO	-	-

COMMENT1	COMMENT2
CTD-TEMP+SAL	

DEPTH M	TEMP. DEG.C	SAL. 0/00	DENS. SIGMA-T	O2 ML/L	H2S ML/L	O2-SAT 0/0	NUTRIENTS TOTP	P04P	ORGP	TOTN	MICROGR./L N03N	NH4N	ORGN	TOC MG/L	FE
0	6.40	23.570	18.552				16	15	1	395	175	100	120	1.90	

DEPTH M	RATIOS N03/P04	TOC/TOTN	MOL/MOL TOC/TOTP	TOTN/TOTP	HEAVY METALS HG MYG/L	PB MYG/L	CU MYG/L	ZN MYG/L	CD MYG/L	MN MG/L	NI MYG/L	CR MYG/L	F MG/L
0	26	6	306	55									

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