

Static information												
Country	Norway	Institute	NIVA	Ship	Trygve Braarud		Station Name	Station	VT10	Position	N E	
Project no	18089	ØKOKYST Skagerrak			Location	Oslofjorden		Breiangen Vest		WGS84	59.4867 10.4583	
Dynamic information - Information to be noted for each trip												
Date	Observer		Wind from		Eccodepth	Ankomsttid	Avgangstid	Weather	Sky	Sea-state	Ice	Wreck
17/7-18	ANS +ROSE		vel.(m/s)	dir.(deg)	(m)	LT 11:12	LT 1145		/8			
						UTC 09:12	UTC 0945					
Optics	TRIOS	LISST	HS6	AC9	Refl 135	Refl 90	other					
Sampling information												
	CP vol	CN/CC vol	Klorofyll a	Siktdyp	Siktdyp	Oksygen	TSM	Samples at this station				
Dyp	ml	ml	ml	Dyp	Farge			check	task	depth	conservation	
0				8,5	GRØNN				Klorofyll a, 2L	0,5,10,20,30	Holdes kald	
5									Siktedyd		none	
10									Nitrogen + Fosfor	0,5,10,20,30	H <sub>2</sub> SO <sub>4</sub> 1 ml	
20									Plankton	5, planktonet	Lugol 8 drops	
30									TSM, 1L	0,5,10,20,30	none	
											none	
									C/N/P	0,5,10,20,30	Holdes kald	
											H <sub>2</sub> SO <sub>4</sub> 1 ml	
Avvik / kommentarer												
									Tidligere stasjonskode OF-5			
75									CTD type / name: STD @ BRAARUD			
100									BATCH NR. 54-6257			
125												
150												
190												
Toktskjema												
sendes til	<a href="mailto:ans@niva.no">ans@niva.no</a>			<a href="mailto:abl@niva.no">abl@niva.no</a>			<a href="mailto:cwf@niva.no">cwf@niva.no</a>					
S <sub>R</sub> :	3,5		S <sub>G</sub> :	6		S <sub>B</sub> :	4,5		Sblack:	2		

$$LT = UTC + 2$$

Static information												
Country	Norway	Institute	NIVA	Ship	Trygve Braarud		Station Name	Station	VT2	Position	N	E
Project no	18089	ØKOKYST Skagerrak			Location		Oslofjorden		Bastøy	WGS84	59.3587	10.5906
Dynamic information - Information to be noted for each trip												
Date	Observer	Wind from		Eccodepth	Ankomsttid	Avgangstid	Weather	Sky	Sea-state	Ice	Wreck	
17/7-18	ANS / RUSE	vel.(m/s)	dir.(deg)	(m)	LT 1305	LT 1354	X	3/8	0m	X	X	
		4.7	331	302.8	UTC 1105	UTC 1154						
Optics	TRIOS	LISST	HS6	AC9	Refl 135	Refl 90	other					
											$T_{sea} = 21.3 \quad T_{air} = 22.7$	
Sampling information												
	CP vol	CN/CC vol	Klorofyll a	Siktdyp	Siktdyp	Oksygen	TSM	Samples at this station				
Dyp	ml	ml	ml	Dyp	Farge			check	task	depth	conservation	
0				10	BLP-GRØNN				Klorofyll a, 2L	0,5,10,20,30	Holdes kald	
5									Siktedyp		none	
10									Nitrogen + Fosfor	0,5,10,20,30	$H_2SO_4$ 1 ml	
20									Plankton	5, planktonet	Lugol 8 drops	
30									TSM, 1L	0,5,10,20,30	none	
									C/N/P	0,5,10,20,30	Holdes kald	
										$H_2SO_4$	1 ml	
Avvik / kommentarer												
125									Stasjonen omtalt som Ytre Oslofjorden			
150									Tidligere stasjonskode OF-4			
200									CTD type / name: TB sin saiv			
250												
280												
Toktskjema sendes til	<a href="mailto:ans@niva.no">ans@niva.no</a>			<a href="mailto:abl@niva.no">abl@niva.no</a>			<a href="mailto:cwf@niva.no">cwf@niva.no</a>					
S <sub>R</sub> :	5,5	S <sub>G</sub> :	9,5	S <sub>B</sub> :	6,5	Sblack:	4					

Static information												
Country	Norway	Institute	NIVA	Ship	Trygve Braarud		Station Name	Station	VT66	Position	N E	
Project no	18089	ØKOKYST Skagerrak			Location		Oslofjorden		Håøyfjorden	WGS84	59.0227 9.7968	
Dynamic information - Information to be noted for each trip												
Date	Observer		Wind from		Eccodepth	Ankomsttid	Avgangstid	Weather	Sky	Sea-state	Ice	Wreck
17/7-18	ANS / ROSE		vel.(m/s)	dir.(deg)	(m)	LT 1815	LT 1849	NICE men	3/8	Our	X	X
		1,2	204	203,3	UTC 1615	UTC 1649						
Optics	TRIOS ✓	LISST X	HS6 X	AC9 X	Refl 135 ✓	Refl 90 X	other	Klamt.				
									T <sub>SEA</sub> =22,4 T <sub>AIR</sub> =26,9			
Sampling information												
	CP vol	CN/CC vol	Klorofyll a	Siktdyp	Siktdyp	Oksygen	TSM	Samples at this station				
Dyp	ml	ml	ml	Dyp	Farge			check	task	depth	conservation	
0				4	GRØNN				Klorofyll a, 2L	0,5,10,20,30	Holdes kald	
5									Siktedyp		none	
10									Nitrogen + Fosfor	0,5,10,20,30	H <sub>2</sub> SO <sub>4</sub> 1 ml	
20									Plankton	5, planktonet	Lugol 8 drops	
30									TSM, 1L	0,5,10,20,30	none	
									C/N/P	0,5,10,20,30	Holdes kald	
										H <sub>2</sub> SO <sub>4</sub> 1 ml		
Avvik / kommentarer												
									Tidligere stasjonskode GI-1			
75									CTD type / name: TB sin SAV.			
100									Mye O <sub>2</sub> i bunnavannet.			
125									Skarpd max i kff-a-fluer @			
150									20-24m.			
200												
Toktskjema												
sendes til	<a href="mailto:ans@niva.no">ans@niva.no</a>		<a href="mailto:cwf@niva.no">cwf@niva.no</a>		<a href="mailto:abl@niva.no">abl@niva.no</a>							
S <sub>R</sub> :	3,0	S <sub>G</sub> :	3,5	S <sub>B</sub> :	2,5	Sblack:	1,5					

Static information												
Country	Norway	Institute	NIVA	Ship	Trygve Braarud		Station Name	Station	VT67	Position	N E	
Project no	18089	ØKOKYST Skagerrak			Location	Oslofjorden		Langesundsfjorden	WGS84	59.0391	9.7232	
Dynamic information - Information to be noted for each trip												
Date	Observer		Wind from		Eccodepth	Ankomsttid	Avgangstid	Weather	Sky	Sea-state	Ice	Wreck
17/7-18	ANS/Rose		vel.(m/s)	dir.(deg)	(m)	LT 1906	LT 1938		2/8	0m	X	
	TRIOS	LISST	HS6	AC9	Refl 135	Refl 90		other				
Sampling information												
	CP vol	CN/CC vol	Klorofyll a	Siktdyp	Siktdyp	Oksygen	TSM	Samples at this station				
Dyp	ml	ml	ml	Dyp	Farge			check	task	depth	conservation	
0				3,5	GUL				Klorofyll a, 2L	0,5,10,20,30	Holdes kald	
5									Siktedyp		none	
10									Nitrogen + Fosfor	0,5,10,20,30	H <sub>2</sub> SO <sub>4</sub> 1 ml	
20									Plankton	5, planktonet	Lugol 8 drops	
30									TSM, 1L	0,5,10,20,30	none	
									C/N/P	0,5,10,20,30	Holdes kald	
										H <sub>2</sub> SO <sub>4</sub> 1 ml		
Avvik / kommentarer												
									Stasjonen omtales feilaktig som "Breviks fjorden"			
									Tidligere stasjonskode FG-1			
30									CTD type / name: TB SIN SAIU			
50												
75												
100												
Toktskjema												
sendes til	<a href="mailto:ans@niva.no">ans@niva.no</a>		<a href="mailto:cwf@niva.no">cwf@niva.no</a>		<a href="mailto:cwf@niva.no">cwf@niva.no</a>							
S <sub>R</sub> :	2,5		S <sub>G</sub> : 2,5		S <sub>B</sub> : 1,5		Sblack: 1,5					

Avvik Lys: Sensor som så opp  
ga bare verdien 0.

Static information														
Country	Norway	Institute	NIVA	Ship	Trygve Braarud		Station Name	Station	VT68	Position	N	E		
Project no	18089	ØKOKYST Skagerrak			Location		Oslofjorden		Jomfrulandsrenna	WGS84	58.9069	9.6233		
Dynamic information - Information to be noted for each trip														
Date	Observer	Wind from		Eccodepth	Ankomsttid	Avgangstid	Weather	Sky	Sea-state	Ice	Wreck			
18/7-18	ANS/Rose	vel.(m/s)	dir.(deg)	(m)	LT 0800 UTC 0600	LT 0829 UTC 0629		8/8	0m	X	X			
Optics	TRIOS ✓	LISST X	HS6 X	AC9 X	Refl 135 ✓	Refl 90 X	other X							
Sampling information														
	CP vol	CN/CC vol	Klorofyll a	Siktdyp	Siktdyp	Oksygen	TSM	Samples at this station						
Dyp	ml	ml	ml	Dyp	Farge			check	task	depth	conservation			
5				8,5	GRONT				Klorofyll a, 2L	5m	Holdes kald			
									Siktedyp		none			
									Nitrogen + Fosfor	5m	H <sub>2</sub> SO <sub>4</sub> 1 ml			
									TSM, 1L	5m	none			
									C/N/P	5m	Holdes kald			
Avvik / kommentarer														
30	CTD type / name:  Alger på bunn. Minimum i 3-7m. Salv fra TB.													
50														
75														
100														
Toktskjema sendes til	ans@niva.no		abl@niva.no		cwf@niva.no									
S <sub>R</sub> :	4,5	S <sub>G</sub> :	5,5	S <sub>B</sub> :	3,5	Sblack:	2							

Static information												
Country	Norway	Institute	NIVA	Ship	Trygve Braarud		Station Name	Station	VT3	Position	N	E
Project no	18089	ØKOKYST Skagerrak			Location	Oslofjorden		Torbjørnsskjær		WGS84	59.0407	10.7608
Dynamic information - Information to be noted for each trip												
Date	Observer		Wind from		Eccodepth	Ankomsttid	Avgangstid	Weather	Sky	Sea-state	Ice	Wreck
18/7-18	ANS/Rose		vel.(m/s)	dir.(deg)	(m)	LT 12:12	LT 1330		8/8	0,2m		
			4,8	350	456	UTC 10:12	UTC 1130					
Optics	TRIOS	LISST	HS6	AC9	Refl 135	Refl 90	other					
Sampling information												
	CP vol	CN/CC vol	Klorofyll a	Siktdyp	Siktdyp	DIC	TSM	Samples at this station				
Dyp	ml	ml	ml	Dyp	Farge			check	task	depth	conservation	
0				9,5	Blå-grønn	OA-108			Klorofyll a, 2L	0,5,10,20,30	Holdes kald	
5						OA-44			DIC	0,5,10,20,30	HgCl2 0,1 ml	
10						OA-62			Nitrogen + Fosfor	0,5,10,20,30	H <sub>2</sub> SO <sub>4</sub> 1 ml	
20 ✓✓						OA-192			Plankton	5, planktonet	Lugol 8 drops	
11 12 30						OA-164			TSM, 1L	0,5,10,20,30	none	
10 50									Cdom	0,5,10,20,30	none	
9 75 ✓	NUT								C/N/P	0,5,10,20,30	Holdes kald	
4 100 ✓	NUT								DOC	0.5	H <sub>2</sub> SO <sub>4</sub> 1 ml	
7 125 ✓	NUT							Avvik / kommentarer				
6 150 ✓	NUT							Tidligere stasjonskode OF-1				
5 200 ✓	NUT							DOC + DIC + CDOM				
4 250 ✓	NUT							CTD type / name: SAIV@TB				
3 300 ✓	NUT							NUT at 10 depths in jan, feb, jun, jul, aug, sep, nov				
2 400 ✓AVVIK	NUT							Fluorescens Max @ 15m & 25m				
1 440 ✓	NUT							Avvik = NO W17 or @ 400m				
Toktskjema												
sendes til		<a href="mailto:ans@niva.no">ans@niva.no</a>		<a href="mailto:abl@niva.no">abl@niva.no</a>		<a href="mailto:cwf@niva.no">cwf@niva.no</a>						
S <sub>R</sub> :	3,5	S <sub>G</sub> :	7	S <sub>B</sub> :	5	Sblack:	2,5					

Static information												
Country	Norway	Institute	NIVA	Ship	Trygve Braarud		Station Name	Station	VT65	Position	N	E
Project no	18089	ØKOKYST Skagerrak				Location	Oslofjorden		Missingene	WGS84	59.1867	10.6917
Dynamic information - Information to be noted for each trip												
Date	Observer		Wind from		Eccodepth	Ankomsttid	Avgangstid	Weather	Sky	Sea-state	Ice	Wreck
18/7-18	ANS / ROSE		vel.(m/s)	dir.(deg)	(m)	LT 1427	LT 1507	X	8/8	0,1m	X	X
			2,5	320	355	UTC 1227	UTC 1307					
Optics	TRIOS	LISST	X	HS6	AC9	Refl 135	Refl 90	other				
Sampling information												
	CP vol	CN/CC vol	Klorofyll a	Siktdyp	Siktdyp	Oksygen	TSM	Samples at this station				
Dyp	ml	ml	ml	Dyp	Farge			check	task	depth	conservation	
0				8,5	BLÅ-GRONN				Klorofyll a, 2L	0,5,10,20,30	Holdes kald	
5									Siktedyp		none	
10									Nitrogen + Fosfor	0,5,10,20,30	H <sub>2</sub> SO <sub>4</sub> 1 ml	
20									Plankton	5, planktonet	Lugol 8 drops	
30									TSM, 1L	0,5,10,20,30	none	
											none	
									C/N/P	0,5,10,20,30	Holdes kald	
										H <sub>2</sub> SO <sub>4</sub>	1 ml	
Avvik / kommentarer												
50												
75												
100												
200												
250												
Toktskjema												
sendes til <a href="mailto:ans@niva.no">ans@niva.no</a> <a href="mailto:abl@niva.no">abl@niva.no</a> <a href="mailto:cwf@niva.no">cwf@niva.no</a>												
S <sub>R</sub> :	4,0	S <sub>G</sub> :	6,5	S <sub>B</sub> :	4,5	Sblack:	2,5					

Tidligere stasjonskode OF-2

CTD type / name: SAIU@TB

Fluorescence Max @ ~~12~~ & 25m  
12m

FLUOR



## BATCH NR: 54-6257

STASJON	DYP	KLF-A	Part CN	Part P
VT 10	30	2000	350	750
-11-	20	2000	350	750
-11-	10	2000	350	350
-11-	5	2000	350	750
-11-	0	2000	350	750
VT 2	30	2000	350	750
-11-	20	2000	350	600
-11-	10	2000	350	750
-11-	5	2000	350	500
-11-	0	2000	350	450
VT 66	30	2000	350	750
-11-	20	2000	350	750
-11-	10	2000	350	750
-11-	5	2000	300	550
-11-	0	2000	300	600
VT 67	30	2000	350	500
-11-	20	2000	350	500
-11-	10	2000	250	500
-11-	5	2000	350	450
-11-	0	2000	320	500
VT 68	5	2000	350	500
VT 3	30	2000	350	500
-11-	20	2000	350	500
-11-	10	2000	350	500
-11-	5	2000	350	500
-11-	0	2000	350	500
VT 65	30	2000	350	500
-11-	20	2000	350	500
-11-	10	2000	350	500
-11-	5	2000	3	500
-11-	0	2000	350	500

Start setup  
water frame



$$1 \text{ bar} = 10^5 \text{ Pa}$$

$$1 \text{ bar} = 10 \cdot 100 \text{ hPa}$$

$$0,1 \text{ bar} = 100 \text{ hPa}$$
$$= 1 \text{ dbar}$$

$$1 \text{ mbar} \approx 1 \text{ cm}$$

$$1 \text{ dbar} \approx 1 \text{ m} - 100 \text{ hPa}$$

VT10 17/7-2018

START

@ 30m 09:32:54 - 09:34:00

20 09:35

15 09:36

5 09:37:30

2 09:38:27

0 09:39:09

AIR 09:39:32 - 09:39:55

135° 09:42:39 - 09:44:39

VT2 17/7-2018

Start: 113729

30 113940

25 114112

20 114216

15 114343

10 114431

5 114525

2 114613

0 114706

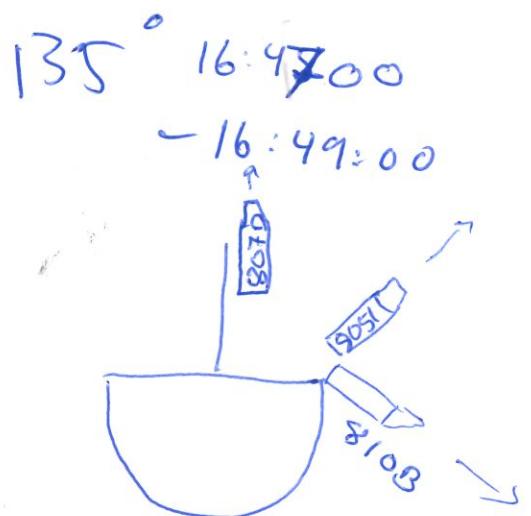
AIR 114739 -

135° 115150 - 115330

115200 - 115400

VT66 17/7 -2018

		$\text{SOE}_7^{\text{MAX}}$
START	16 34 19	
30	16 36 17	(0.65)
25	16 37 32	(1.4)
20	16 38 33	(3.4)
15	16 39 27	(7.3)
10	16 40 35	(16.5)
5	16 41 57	(42)
2	16 42 54	(80)
0	16:43:45	(165)
AIR	16:44:30	(230)



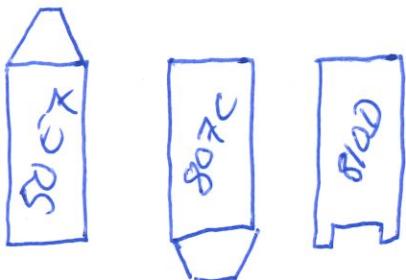
VT67 17/7-2018

START	1721 50	$\text{SOE}_7$	$\text{MW}/(\text{m}^2 \cdot \text{nm})$
30	1723 56	0?	
25	1725 26	0?	
20	1726 44	0?	
15	1728 24	0?	
10	1729 39	0?	
5	1730 59	0	
2	1731 38	6	
0	17 32 51	0	<u><math>\text{SOE}_7</math> must be wrong!</u>
AIR	1733 50		
135	1736 00	1738 00	

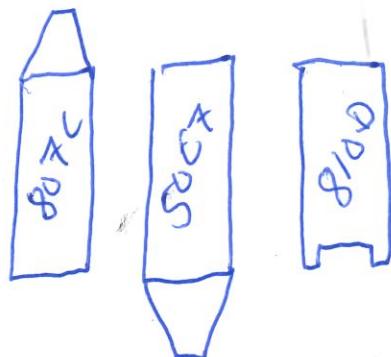
UP  $\text{SOE}_7 < 807\text{C}$  DOWN

\* SOET → gives only noise.

Previous setup



NEW SETUP



HOPFULLY SOET is not leaking.

VT68 18/7 -2018

	<del>SOET</del>	$\approx 807 \text{ hPa}_{\text{max}}$	100 hPa @ SOET	
Start	061529			
20	061737	2.5	20.99	Pressure sensor
15	061910	6.0	15.86	Seems ok,
10	062014	12.5	10.96	but
5	062113	26	5.74	SOET still
2	062158	44	<del>2.74</del> 2.74	gives zero
0	062241	75	0.48	Signal.
AIR	062323	92	6.21	
135	062630	062900		

VT3 18/7 - 2018

Start	11/16/13	80°C <sub>max</sub>	100hPa
30	11/17/13	2.1	30.99
25	11/19/13	4.7	25.77
20	11/20/13	11.5	20.97
15	11/21/13	27	15.79
10	11/22/13	62	10.92
5	11/23/13	130	5.85
2	11/24/13	208	2.70
0	11/25:08	260	0.7
AIR	11/25:36	350	0.07
135	11/28:00	11:30:00	

VT6S 18/7 - 2018

START	12:51:38	80°C <sub>MAX</sub>	100hPa @ 50E7
30	12:53:22	0.72	30.78
25	12:54:47	1.3	25.77
20	12:55:50	2.75	20.93
15	12:57:20	5.5	15.79
10	12:58:39	12.5	10.86
5	12:59:37	29	5.83
2	13:00:28	50	2.85
0	13:01:20	70	0.68
AIR	13:01:42	91	0.14
135	13:05:00	13:07:00	