

CRUISE NO: 9316 / WOCE P1W
STATION NO: HS-A

UTC DATE: Sept 03/93
ROSETTE No: 1

VESSEL: Ak. Nesmeyanov

Sample No.

Nisk No.

NISK No.

SAMPLE No.

OXY No.

OXY TEMP

Sample Depth db

ROSETTE OPERATION
Trip Depth (db) Trip Temp. Trip Confirmed

THERMOMETER 1
SERIAL AUX MAIN

THERMOMETER 2
SERIAL AUX MAIN

ENTERED BY: C.T.
CHECKED BY:

Bottom Depth: 3200 m
Cast No:
Wire Angle:

LOC UTC
START: 16:07 5:07
DOWN: 16:35 5:35
MESS:
IN:

START POSITION (GPS)
LAT: 44° 55.629
LONG: 150° 28.765

BOTTOM POSITION
LAT: 44° 55.808
LONG: 150° 29.065

END POSITION (GPS)
LAT: 44° 56.123
LONG: 150° 29.562

COMMENTS

CFC Blankets

647-431

679-577

NISK No.	SAMPLE No.	OXY No.	OXY TEMP	Sample Depth db	Trip Depth (db)	Trip Temp.	Trip Confirmed	SERIAL	AUX	MAIN	SERIAL	AUX	MAIN
23	1	1139	3.8	1500	1503.8	2.194	✓						
22	2	1140	4.0	1500	1504.2	2.195	✓						
21	3	1141	4.2	1500	1505	2.195	✓						
20	4	1142	4.8	1500	1505	2.195	✓						
19	5	1143	4.2	1500	1505	2.194	✓						
18	6	1144	4.2	1500	1506	2.192	✓						
17	7			1500	1506	2.189	✓						
16	8*	—		1500	1506	2.189	✓						
15	9			1500	1506	2.187	✓						
14	10			1500	1507	2.188	✓						
13	11			1500	1506	2.187	✓						
12	12			1500	1506	2.186	✓						
11	13			1500	1506	2.185	✓						
10	14			1500	1506	2.185	✓						
9	15			1500	1506	2.186	✓						
8	16			1500	1505	2.185	✓						
7	17			1500	1506	2.185	✓						
6	18			1500	1505	2.186	✓						
5	19*	—		1500	1505	2.186	✓						
4	20			1500	1505	2.187	✓						
3	21			1500	1504	2.187	✓						
2	22			1500	1504	2.187	✓						
1	23*	—		1500	1504	2.187	✓						

23, 19, 8 did not close

No Suggestion: Put first bottle to fire at the top.

VESSEL: Ak. Nesmeyanov

[illegible]

ENTERED BY: *VPT*

CHECKED BY:

Bottom Depth: 5000

Cast No:

Wire Angle:

LOC	UTC
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START: 06.24 | 19.24

DOWN: 07.36 | 20:36

MESS: 08 51 21:58

IN:

START POSITION (GPS)

LAT: 43°59.889 N

LONG: 153°30.249 E

BOTTOM POSITION

LAT: 43°59.610

LONG: 153° 30' 51"

	END POSITION (GPS)
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LAT: 43°59' 24"

LONG: 153° 31.087

COMMENTS

Ox. NG - MA Yogy

CRUISE NO: 9316 / WOCE P1W
STATION NO: HS 02

UTC DATE: Sept 04/93
ROSETTE No: 3

VESSEL: Ak. Nesmeyanov

NISK. No.	SAMPLE No.	OXY. No.	OXY. TEMP	Sample Depth db	ROSETTE OPERATION			THERMOMETER 1			THERMOMETER 2		
					Trip Depth (db)	Trip Temp.	Trip Confirmed	SERIAL	AUX	MAIN	SERIAL	AUX	MAIN
23	24	1161	14.2	10	10	11.9837	✓						
22	25	1140	8.6	50	51	2.5442	✓	T 431	2.79	1	T 647	2.73	8
21	26	1141	7.8	100	99	1.4822	✓						
20	27	1142	7.7	150	149	1.6720	✓						
19	28	1143	7.2	200	200	1.8045	✓						
18	29	1144	7.2	300	299	2.0736	✓						
17	30	1145	8.0	400	401	3.3297	✓						
16	31	1146	7.4	600	600	3.0168	✓						
15	32	1147	6.8	800	801	2.8933	✓						
14	33	1148	6.8	1000	1000	2.6402	✓						
13	34	1149	6.2	1200	1200	2.4509	✓						
12	35	1150	6.2	1400	1401	2.2130	✓						
11	36	1151	6.2	1600	1600	2.1430	✓						
10	37	1152	5.8	1800	1800	2.0234	✓						
9	38	1153	5.6	2000	1998	1.9000	✓						
8	39	1154	5.0	2200	2200	1.8221	✓						
7	40	1155	5.0	2400	2401	1.7456	✓						
6	41	1156	5.2	2600	2600	1.6664	✓						
5	42	1157	4.6	2800	2800	1.6112	✓						
4	43	1158	4.4	3000	3001	1.5637	✓	T 577	1.54	0	T 679	1.55	9
3	44	1159	4.0	3200	3200	1.5300	✓						
2	45	1160	3.6	3400	3400	1.5002	✓						
1	46	1139	4.0	3400	3400	1.5012	✓						

ENTERED BY: KTI, TVP
CHECKED BY:

Bottom Depth: 5160
Cast No:
Wire Angle:

LOC UTC
START: 12:33 | 01:33
DOWN: 13:33 | 02:33
MESS: 14:35 | 03:35
IN:

START POSITION (GPS)
LAT: 44° 29' 2.50" N
LONG: 153° 11' 8.68" E

BOTTOM POSITION
LAT: 44° 28' 2.16" N
LONG: 153° 11' 5.69" E

END POSITION (GPS)
LAT: 44° 27' 9.13" N
LONG: 153° 11' 0.37" E

COMMENTS

CRUISE NO: 9316 / WOCE P1W
STATION NO: H5 03

UTC DATE: Sep 4 / 93
ROSETTE No: 4

VESSEL: Ak. Nesmeyanov

ENTERED BY: KTI
CHECKED BY:

NISK. No.	SAMPLE No.	OXY. No.	OXY. TEMP	Sample Depth db	ROSETTE OPERATION			THERMOMETER 1			THERMOMETER 2		
					Trip Depth (db)	Trip Temp.	Trip Confirmed	SERIAL	AUX	MAIN	SERIAL	AUX	MAIN
23	47	1169	12.8	10	9	13.3500	✓						
22	48	1170	5.2	50	50	2.1862	✓	T-431	2.421		T-677	2.434	
21	49	1171	4.4	100	100	1.4174	✓						
20	50	1172	4.8	150	150	1.4505	✓						
19	51			200	199	1.5546	✓	DID NOT CLOSE					
18	52	2000	4.6	300	299	1.8090	✓						
17	53	2001	4.8	400	395	2.2040	✓						
16	54	2002	5.2	600	599	2.9570	✓						
15	55	2004	5.4	600	599	2.9600	✓						
14	56	2005	5.2	800	800	2.9924	✓						
13	57	2006	4.6	1000	1000	2.7400	✓						
12	58	2007	4.8?	1200	1199	2.5137	✓						
11	59	2008	4.2	1400	1400	2.3950	✓						
10	60	2009	4.0	1600	1600	2.2432	✓						
9	61	2010	4.2	1800	1798	2.1325	✓						
8	62	2012	4.0	2000	2000	2.0470	✓						
7	63	2013	3.8	2200	2,200	1.9863	✓						
6	64	2018	3.8	2400	2,400	1.8211	✓						
5	65	2014	3.4	2600	2600	1.7566	✓						
4	66	2015	3.6	2800	2800	1.6827	✓	T-577	1.662		T-679	1.753	
3	67	2017	3.4	3000	2999	1.6277	✓						
2	68	2019	3.6	3200	3200	1.5873	✓						
1	69	2020	3.8	3400	3400	1.5524	✓						

Bottom Depth: 6760
Cast No:
Wire Angle:

LOC UTC
START: 18:14 7:14
DOWN: 19:04 8:04
MESS: 20:06 9:06
IN:

START POSITION (GPS)
LAT: 44°59'899N
LONG: 152°48'433E

BOTTOM POSITION
LAT: 44°59'890N
LONG: 152°48'548E

END POSITION (GPS)
LAT: 44°59'997N
LONG: 152°48'676E

COMMENTS

9316 / WOCE P1W

HS 04

Sept 7/93

3

VESSEL: Ak. Nesmeyanov

CT

CHECKED BY:

Bottom Depth: 6460

Cast No:

Wire Angle:

LOC	UTC
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START: 23:45 | 12:45

DOWN: 0:36 13:30

MESS: 3:06 16:0

IN:

START POSITION (GP)

LAT: 45° 30.460'

LONG: 152° 30.073

BOTTOM POSITION

LAT: 45° 31.3' N

LONG: 152° 30.78E

END POSITION (GPS

LAT: 45° 32.4' N

LONG: 152° 32.7

COMMENTS

UNUSCH PROBLEMS

UP CAST 2420 d

Round to Pake

was interested

at £1000 p

[illegible]

- 3471 meters of cable spooled out.

CRUISE NO: 9316 / WOCE P1W
STATION NO: 1505UTC DATE: 4 Sept 93
ROSETTE No: 6

VESSEL: Ak. Nesmeyanov

ENTERED BY: C.T.

CHECKED BY:

NISK No.	SAMPLE No.	OXY. No.	OXY. TEMP	Sample Depth db	ROSETTE OPERATION			THERMOMETER 1			THERMOMETER 2		
					Trip Depth (db)	Trip Temp.	Trip Confirmed	SERIAL	AUX	MAIN	SERIAL	AUX	MAIN
23	93	1139	8.8	10	10.2	8.4172	✓						
* 22	94	1140	5.4	50	48.9	3.3210	✓	11431		3.898	11647		4.072
21	95	1141	4.4	100	99.3	1.8877	✓						
20	96	1142	4.0	150	150.2	1.4021	✓						
19	97	1143	5.2	200	199.3	3.0976	✓						
18	98	1144	5.2	300	299.8	3.3532	✓						
17	99	1145	5.2	400	399.2	3.3600	✓						
16	100	1146	5.2	600	600.0	3.1949	✓						
15	101	1147	4.8	800	800.2	2.7499	✓						
14	102	1148	4.6	1000	1000.5	2.5719	✓						
13	103	1149	4.4	1000	1000.1	2.5714	✓						
12	104	1150	4.4	1200	1200.4	2.1937	✓						
11	105	1151	4.2	1400	1400.3	2.1295	✓						
10	106	1152	4.0	1600	1599.0	2.0184	✓						
9	107	1153	4.0	1800	1799.5	1.9146	✓						
8	108	1154	3.8	2000	2001.8	1.8690	✓						
7	109	1155	4.0	2200	2199.1	1.8026	✓						
6	110	1156	3.4	2400	2399.1	1.6935	✓						
5	111	1157	3.4	2600	2599.5	1.6255	✓						
* 4	112	1158	3.4	2800	2800.7	1.5536	✓	11577		1.530	11679		1.624
3	113	1159	3.2	3000	3002.4	1.4981	✓						
2	114	1160	3.4	3000	3003.1	1.4990	✓						
1	115	1161	3.8	3000	3001.0	1.4995	✓						

Bottom Depth: 3070

Cast No:

Wire Angle:

LOC	UTC
START: 6:10	19:10
DOWN: 6:48	19:48
MESS:	
IN: 7:40	20:40

START POSITION (GPS)
LAT: 45° 59.916'
LONG: 152° 11.981'

BOTTOM POSITION
LAT: 45° 59.875' N
LONG: 152° 11.819' E

END POSITION (GPS)
LAT: 45° 59.741' N
LONG: 152° 11.514' E

COMMENTS
Depth from sounding begin at beginning of cast is 3100m
sounding at bottom of cast is 3070m

VESSEL: Ak. Nesmeyanov

[illegible]

ENTERED BY: *T.V.P*

CHECKED BY:

Bottom Depth: 2400

Cast No:

Wire Angle:

	LOC	UTC
START:	11:26	00:26
DOWN:	11:59	00:59
MESS:	12 Y6	01:46
IN:		

START POSITION (GPS)
LAT: 46°29'258N
LONG: 151°41'041E

BOTTOM POSITION
LAT: 46° 39' 763 N
LONG: 151° 39' 943 E

END POSITION (GPS)
LAT: 46°29'41.9N
LONG: 151°38'52.8E

COMMENTS	
N. S.K. n	1 is empty

VESSEL: Ak. Nesmeyanov

ENTERED BY: K T I

CHECKED BY:

Bottom Depth: 3240

Cast No:

Wire Angle:

LOC	UTC
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START: 15:53 | 4:53

DOWN: 16:43 | 5:43

MESS: 17:55 6:55

IN:	
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START POSITION (GPS)

LAT: 46°59'7.26N

LONG: 151°23'616 E

BOTTOM POSITION

LAT: 46° 59' 680 N

LONG: 151°22'103E

END POSITION (GPS)	
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LAT: 46°59'207N

LONG: 151° 21' 04.2 E

COMMENTS

2860 up - 5490
10 min.

NISK. No.	SAMPLE No.	OXY. No.	OXY. TEMP	Sample Depth db	ROSETTE OPERATION			THERMOMETER 1			THERMOMETER 2			
					Trip Depth (db)	Trip Temp.	Trip Confirmed	SERIAL	AUX	MAIN	SERIAL	AUX	MAIN	
22	134	2034	6.4	10	10	4.4714	✓							
21	135	2035	5.2	50	49	3.2094	✓	T-431	6.92	1		T-647	7.06	1
20	136	2036	5.4	100	99	3.0315	✓							
19	137	2038	5.2	150	150	2.7183	✓							
18	138	2040	4.4	200	200	2.4066	✓							
17	139	2041	4.6	300	299	1.9637	✓							
16	140	2043	4.2	400	399	2.1111	✓							
15	141	2044	4.2	600	599	2.1027	✓							
14	142	2045	4.2	800	799	2.2616	✓							
13	143	2047	4.2	1000	1000	2.3335	✓							
12	144	2049	3.8	1200	1199	2.2408	✓							
11	145	2051	4.0	1400	1399	2.1328	✓							
10	146	2052	3.4	1600	1601	2.0668	✓							
9	147	2054	3.2	1600	1599	2.0674	✓							
8	148	2055	3.4	1800	1800	1.9927	✓							
7	149	2056	3.2	2000	2000	1.9394	✓							
6	150	2057	3.0	2200	2200	1.9056	✓							
5	151	-	-	2400	2400	1.8694	✓							
4	152	2059	2.6	2600	2599.9	1.8585	✓	T-577	1.83	4		T-678	1.85	3
3	153	2060	2.6	2800	2801	1.8476	✓							
2	154	2061	2.6	3000	2999	1.8485	✓							
1	155	2062	2.6	3200	3200	1.8603	✓							

CRUISE NO: 9316 / WOCE P1W
STATION NO: HS 08

UTC DATE: Sept 5/93
ROSETTE No: 9

VESSEL: Ak. Nesmeyanov

NISK. No.	SAMPLE No.	OXY. No.	OXY. TEMP	Sample Depth db	ROSETTE OPERATION			THERMOMETER 1			THERMOMETER 2		
					Trip Depth (db)	Trip Temp.	Trip Confirmed	SERIAL	AUX	MAIN	SERIAL	AUX	MAIN
23	156	1139	8.0	10	2.9	2.4914	✓						
* 22	157	1140	3.8	50	49.9	2.7265	✓ *	T647		2.679	T431		2.679
21	158	1141	3.4	100	100.9	2.0136	✓						
20	159	1142	3.2	150	150.4	2.0655	✓						
19	160	1143	3.6	200	201.1	2.0797	✓						
18	161	1144	3.0	300	300.7	1.7199	✓						
17	162	1150	3.2	400	400.6	1.2678	✓						
16	163	1149	3.2	600	599.7	1.7241	✓						
15	164	1148	3.2	800	800.2	2.0579	✓						
14	165	1147	3.6	1000	1001.0	2.2934	✓						
13	166	1146	3.4	1200	1200.5	2.3029	✓						
12	167	1145	3.2	1400	1400.9	2.1611	✓						
11	168	1151	3.4	1600	1600.5	2.0967	✓						
10	169	1152	3.4	1800	1800.6	2.0300	✓						
9	170	1153	3.2	2000	2008.1	1.9752	✓						
8	171	1154	3.2	2200	2199.1	1.9236	✓						
7	172	1155	3.0	2400	2400.0	1.8864	✓						
6	173	1156	2.8	2600	2599.3	1.8747	✓						
5	174	1162	2.6	2800	2800.3	1.8637	✓						
* 4	175	1161	2.6	3000	3000.1	1.8545	✓ *	T679		1.850	T577		1.830
3	176	1166	2.4	3200	3200.1	1.8523	✓						
2	177	1159	2.2	3390	3350.8	1.8533	✓						
1	178	1158	2.2	3390	3351.0	1.8525	✓						

ENTERED BY: C.T.

CHECKED BY:

Bottom Depth: 3450

Cast No:

Wire Angle:

LOC UTC

START: 21:05 10:05

DOWN: 22:05 11:05

MESS:

IN: 2305 12:05

START POSITION (GPS)

LAT: 47° 30.123' N

LONG: 150° 57.777'E

BOTTOM POSITION

LAT: 47° 50.990' N

LONG: 150° 58.774'E

END POSITION (GPS)

LAT: 47° 30.582' N

LONG: 150° 57.927'E

COMMENTS

Sounding at Bottom
was 3440 m. May
have struck bottom
at 3378 dbar.
Last sample was
difficult to place as
winch seemed to
move quickly.

VESSEL: Ak. Nesmeyanov

ENTERED BY: C.T.

CHECKED BY:

Bottom Depth: 3370

Cast No:

Wire Angle:

LOC	UTC
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START: 2:05 | 15:05

DOWN: 2:57 | 15:57

MESS: 3:53 | 16:53

IN:

START POSITION (GPS)

LAT: 48° 0.013' N

LONG: 150° 42.050' E

BOTTOM POSITION

LAT: 48° 0.194' N

LONG: 150° 42.087'E

END POSITION (GPS)

LAT: 48° 0.427' N

LONG: 150° 41.888' E

COMMENTS

Sanding at
Bottom was 3330m

[illegible]

VESSEL: Ak. Nesmeyanov

ENTERED BY: *ITVP*

CHECKED BY:

Bottom Depth: 2185

Cast No:

Wire Angle:

LOC	UTC
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START: 03:55 | 16:55

DOWN: 04:20 | 17:20

MESS: 04:56 | 17:56

IN:

START POSITION (GPS)

LAT: 48°30.095' N

LONG: 150° 18. 185' E

BOTTOM POSITION

LAT: 48°30.227 N

LONG: 150° 18 780 E

END POSITION (GPS)

LAT: 48° 30.158N

LONG: 150° 19.6501

COMMENTS

[illegible]

VESSEL: Ak. Nesmeyanov

ENTERED BY: *VP*

CHECKED BY: _____

Bottom Depth: 1350

Cast No:

Wire Angle:

	LOC	UTC
START:	07:43	20:43
DOWN:	08:00	21:00
MESS:	08:27	21:27
IN:		

START POSITION (GPS)
LAT: 48°59.384N
LONG: 149°48.429E

BOTTOM POSITION /	
LAT:	48.58.994 N
LONG:	149.48.323 E

END POSITION (GPS)
LAT: 48° 58.452 N
LONG: 149° 47.915 E

COMMENTS

VESSEL: Ak. Nesmeyanov

[illegible]

ENTERED BY: TVP

CHECKED BY:

Bottom Depth: 975

Cast No:

Wire Angle:

LOC	UTC
-----	-----

START: 03:45 | 16:45

DOWN: 03:59 | 16:59

MESS: 04:21 17:21

IN:

START POSITION (GPS)

LAT: 49° 29.874' N

LONG: 149' 30.419 E

BOTTOM POSITION

LAT: $49^{\circ} 29.959' N$

LONG: 149.30.64915

END POSITION (GPS)	
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LAT: 49° 30.009 N

LONG: 49° 31' 05.3" E

COMMENTS

VESSEL: Ak. Nesmeyanov

[illegible]

ENTERED BY: TVP

CHECKED BY:

Bottom Depth: 1110
Cast No:
Wire Angle:

	LOC	UTC
START:	07:37	20:37
DOWN:	07:57	20:55
MESS:	08:17	21:17
IN:		

START POSITION (GPS)
LAT: 49°59.702N
LONG: 149°06.536E

BOTTOM POSITION	
LAT:	49° 59.571 N
LONG:	149° 06.573 E

END POSITION (GPS)
LAT: 49° 59.475' N
LONG: 149° 06.415' E

COMMENTS

VESSEL: Ak. Nesmeyanov

[illegible]

ENTERED BY: KFI

CHECKED BY:

Bottom Depth: 12.50

Cast No:

Wire Angle:

	LOC	UTC
START:	11:48	0:40

DOWN:	12:05	01:08
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MESS: 12:40 01:40

IN:

START POSITION (GPS)

LAT: $50^{\circ}30.707'N$

LONG: 148° 41.675 E

BOTTOM POSITION

LAT: 50° 31' 21" N

LONG: 148° 41' 940E

END POSITION (GPS)	
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LAT: 50° 32' 04.3 N

LONG: 142° 42' 41" E

COMMENTS

VESSEL: Ak. Nesmeyanov

ENTERED BY:	AVK
CHECKED BY:	

Bottom Depth:	1370
Cast No:	1
Wire Angle:	

	LOC	UTC
START:	17:00	6:00
DOWN:	17:29	6:29
MESS:	18:03	7:03
IN:		

START POSITION (GPS)
LAT: 51°01.310
LONG: 148°19.618

BOTTOM POSITION	
LAT:	51° 02.111
LONG:	148° 20.185

END POSITION (GPS)
LAT: 51°02'88.9
LONG: 148°20.615

COMMENTS

[illegible]

VESSEL: Ak. Nesmeyanov

ENTERED BY: C7.

CHECKED BY:

Bottom Depth: 1330

Cast No:

Wire Angle:

LOC	UTC
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START: 22:23 | 11:23

DOWN: 22:53 11:53

MESS:

IN:	23:23	12:23
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START POSITION (GPS)

LAT: 51° 29.947' N

LONG: 147° 48.22' E

BOTTOM POSITION

LAT: 59 34 42.2' N

LONG: 147° 48.65' E

END POSITION (GPS)

LAT: 51° 30.772' N

LONG: 147° 48.98"E

COMMENTS

Some Temperature
Fluctuations Between
the Upcast and
the Downcast. The
Upcast had a hard
time tracking the
coldest temps.

CRUISE NO: 9316 / WOCE P1W
STATION NO: HS17

UTC DATE: Sept. 20 / 93 (UTC)
ROSETTE No: 18 9

VESSEL: Ak. Nesmeyanov

NISK. No.	SAMPLE No.	OXY. No.	OXY. TEMP	Sample Depth db	ROSETTE OPERATION			THERMOMETER 1			THERMOMETER 2		
					Trip Depth (db)	Trip Temp.	Trip Confirmed	SERIAL	AUX	MAIN	SERIAL	AUX	MAIN
14	300	1143	11.4	10	9.1	✓ 11.621	✓						
13	301	1142	1.8	50	50.5	✓ 0.173	✓						
12	302	1141	1.4	75	75	✓ -0.498	✓						
11	303	1140	1.8	100	100	✓ 0.103	✓						
10	304	1145	2.6	150	151	✓ 0.478	✓ *	T647	0.476		T431	0.979	
9	305	1139	2.6	200	202	✓ 0.735	✓						
8	306	1149	3.2	300	300	✓ 1.128	✓						
7	307	1148	3.6	400	402	✓ 1.501	✓						
6	308	1147	3.8	600	602	✓ 2.157	✓						
5	309	1146	4.2	800	804	✓ 2.305	✓						
4	310	2045	4.4	800	801	✓ 2.304	✓						
3	311	1144	4.6	1000	1000	✓ 2.363	✓						
2	312	1155	4.4	1200	1200	✓ 2.321	✓ ✓ *	T679	2.317		T577	2.298	
1	313	1154	4.6	1260	1259	✓ 2.30	✓						
								P2099	1201.7				
					14 Bottles closed, only 12 detected by Program.								

ENTERED BY: C.T.
CHECKED BY:

Bottom Depth: 1320
Cast No:
Wire Angle:

LOC UTC
START: 3:44 16:44
DOWN: 17:20
MESS:
IN: 17:54

START POSITION (GPS)
LAT: 52° 0.271' N
LONG: 147° 50.703' E

BOTTOM POSITION
LAT: 52° 00.717
LONG: 147° 31.737

END POSITION (GPS)
LAT: 52° 1.066' N
LONG: 147° 32.509' E

COMMENTS

VESSEL: Ak. Nesmeyanov

[illegible]

ENTERED BY:	KTI
CHECKED BY:	

Bottom Depth:	1470
Cast No:	
Wire Angle:	

	LOC	UTC
START:	12:43	01:43
DOWN:	13:31	02:31
MESS:	14:08	03:08
IN:		

START POSITION (GPS)	
LAT:	52° 29' 965 N
LONG:	144° 06' 364 E

BOTTOM POSITION	
LAT:	52°29'700N
LONG:	147°07'800E

END POSITION (GPS)	
LAT:	52°29'52.5N
LONG:	147°08'89.1E

COMMENTS	
02:10	STOP WINCH
02:15	START WINCH
02:18	STOP WINCH
02:26	START WINCH

CRUISE NO: 9316 / WOCE P1W
STATION NO: HS-19

UTC DATE: Sept 10/93
ROSETTE No: 20

VESSEL: Ak. Nesmeyanov

ENTERED BY: KTI
CHECKED BY:

NISK. No.	SAMPLE No.	OXY. No.	OXY. TEMP	Sample Depth db	ROSETTE OPERATION			THERMOMETER 1			THERMOMETER 2		
					Trip Depth (db)	Trip Temp.	Trip Confirmed	SERIAL	AUX	MAIN	SERIAL	AUX	MAIN
15	329	1139	11.0	10	10	12.3500	✓						
14	330	1145	2.0	50	50	-0.6636	✓						
13	331	1140	1.6	75	76	-0.8843	✓						
12	332	1141	1.4	100	100	-0.9771	✓						
11	333	1142	2.0	150	149	0.1438	✓						
10	334	1143	2.6	200	199	0.6632	✓	T-431	0.661		T-647	0.659	
9	335	1144	3.0	300	299	0.9988	✓						
8	336	2045	3.2	400	398	1.3767	✓						
7	337	1146	3.4	600	600	2.1084	✓						
6	338	1147	3.6	800	801	2.3240	✓						
5	339	1148	3.2	1000	999	2.3697	✓						
4	340	1149	3.2	1000	998	2.3697	✓						
3	341	1153	3.0	1200	1200	2.3313	✓						
2	342	1152	3.0	1400	1399	2.3196	✓	T-575 P-2099	2.297 14.02	2	T-679	2.315	
1	343	1151	2.6	1600	1600	2.3265	✓						

Bottom Depth: 1670
Cast No:
Wire Angle:

LOC UTC
START: 17:47 6:47
DOWN: 18:20 7:20
MESS: 18:56 07:56
IN:

START POSITION (GPS)
LAT: 53°00'150N
LONG: 146°42'182E

BOTTOM POSITION
LAT: 53°00'252N
LONG: 146°41'882E

END POSITION (GPS)
LAT: 53°00'648N
LONG: 146°41'683E

COMMENTS

VESSEL: Ak. Nesmeyanov

ENTERED BY: C.T.

CHECKED BY:

Bottom Depth: 390

Cast No:

Wire Angle:

LOC	UTC
-----	-----

START: 0:52 / 13:54

DOWN: 1:06 14:06

MESS:

IN:	1:21	14:21
-----	------	-------

START POSITION (GPS)

LAT: 55° 30.628' N

LONG: 144° 35.384' E

BOTTOM POSITION

LAT: 55° 30.788

LONG: 1440 35.020'

END POSITION (GPS)	
--------------------	--

LAT: 55° 30.950' N

LONG: 144° 34.720' E

COMMENTS

VESSEL: Ak. Nesmeyanov

ENTERED BY: A V K

CHECKED BY: *Bm*

Bottom Depth: 330

Cast No: 51

Wire Angle:

LOC UTC

START: 4:50 | 17:50

DOWN:	5:00	18:00
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MESS: 5:13 18:13

IN:

START POSITION (GPS)

LAT: 55°59.730 N

LONG: 144°12.321

BOTTOM POSITION

LAT: 55°59.782

LONG: 144' 2.357

END POSITION (GPS)

LAT: 56° 00, 0' 13"

LONG: 144°12.063

COMMENTS

[illegible]

VESSEL: Ak. Nesmeyanov

[illegible]

ENTERED BY: AVK

CHECKED BY: _____

Bottom Depth:	270
Cast No:	1
Wire Angle:	

	LOC	UTC
START:	8:20	21:20
DOWN:	8:25	21:25
MESS:	8:36	21:36
IN:		

START POSITION (GPS)
LAT: 56°29.773N
LONG: 143°48.331E

BOTTOM POSITION
LAT: 56°29.613N
LONG: 143°48.407E

END POSITION (GPS)
LAT: 56°29.404N
LONG: 143°48.431E

COMMENTS

VESSEL: Ak. Nesmeyanov

ENTERED BY: KTI

CHECKED BY:

Bottom Depth: 130

Cast No:

Wire Angle:

LOC	UTC
1	1
2	2
3	3
4	4
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6	6
7	7
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10	10
11	11
12	12
13	13
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93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

START: 12:37 | 01:37

DOWN: 12:42 01:42

MESS: 12:48 01:48

IN:

START POSITION (GPS)

LAT: 57° 00' 00G N

LONG: 143° 18' 38.0 E

BOTTOM POSITION

LAT: 56° 59' 869 N

LONG: 143° 18' 35" E

END POSITION (GPS)

LAT: 56°59'230N

LONG: 143° 18' 29"E

COMMENTS

VESSEL: Ak. Nesmeyanov

[illegible]

ENTERED BY: *K T I*

CHECKED BY:

Bottom Depth: 190

Cast No:

Wire Angle:

	LOC	UTC
START:	16:29	05:29
DOWN:	16:37	05:37
MESS:	16:47	05:47
IN:		

START POSITION (GPS)	
LAT:	57° 29' 842 N
LONG:	142° 48' 505 E

BOTTOM POSITION	
LAT:	57° 29' 41" N
LONG:	142° 48' 64" E

END POSITION (GPS)
LAT: 57°29'63.0 N
LONG: 142°48'28.0 E

COMMENTS

[illegible]

ENTERED BY: C.T.

CHECKED BY:

Bottom Depth: 148

Cast No:

Wire Angle:

LOC	UTC
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START: 7:27

DOWN:	9:32
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MESS: _____

IN:	9:40
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START POSITION (GPS)

LAT: 57° 59.910' N

LONG: 142° 17.946' E

BOTTOM POSITION

LAT: 57° 57.975' N

LONG: 142° 17.872'

END POSITION (GPS)

LAT: 57° 59.966' N

LONG: $142^{\circ} 17.827'$

COMMENTS

Mixt layer ends
between 17 and
25 cBar. Minimum
temperature at ~50 cBar

VESSEL: Ak. Nesmeyanov

Sample

ROSETTE OPERATION

UTC DATE:

ROSETTE No:

ENTERED BY:

CHECKED BY:

Bottom Depth:

Cast No:

Wire Angle:

LOC

UTC

START:

13:07

DOWN:

MESS:

IN:

13:16

START POSITION (GPS)

LAT: 58° 29.916' N

LONG: 141° 48.256' E

BOTTOM POSITION

LAT: 58° 29 9/12' N

LONG: 141° 48.251' E

END POSITION (GPS)

LAT: 58° 29.871' N

LONG: 141° 48.225' E

COMMENTS

Depth varied from

80 m $\rightarrow$ 75 m $\rightarrow$ 70 m

during cast.

ENTERED BY: AVK

CHECKED BY:

Bottom Depth:	155 m
Cast No:	1
Wire Angle:	

	LOC	UTC
START:	5:59	18:59
DOWN:	6:04	19:04
MESS:	6:11	19:11
IN:		

START POSITION (GPS)
LAT: 57°30.011 N
LONG: 142°02.510 E

BOTTOM POSITION
LAT: 57°30.008N
LONG: 142°02.631E

END POSITION (GPS)
LAT: 57°30.956N
LONG: 142°02.723E

COMMENTS

[illegible]

VESSEL: Ak. Nesmeyanov

[illegible]

ENTERED BY: A V K.

CHECKED BY:

Bottom Depth: 230

Cast No: 1

Wire Angle:

LOC	UTC
-----	-----

START: 11 79 | 00 '29

DOWN: 11 38 | 00:38

MESS: 11:49 | 00:49

IN:

START POSITION (GPS)

LAT: 56° 30.114 N

LONG: 142°15.670E

BOTTOM POSITION

LAT: 56°30.203 N

LONG: 142°15.963E

START POSITION (GPS)	END POSITION (GPS)
1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16
17	18
19	20
21	22
23	24
25	26
27	28
29	30
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83	84
85	86
87	88
89	90
91	92
93	94
95	96
97	98
99	100

LAT: 56°30,277 N

LONG: 142°16.270 E

COMMENTS

VESSEL: Ak. Nesmeyanov

ENTERED BY: KTT

CHECKED BY:

Bottom Depth:	300
Cast No:	
Wire Angle:	

	LOC	UTC
START:	17:17	6:17
DOWN:	17:32	6:32
MESS:	17:45	6:45
IN:		

START POSITION (GPS)
LAT: 55°30' 013N
LONG: 142°28' 055E

BOTTOM POSITION	
LAT:	55° 29' 971N
LONG:	142° 24' 829E

END POSITION (GPS)
LAT: 55°29'940N
LONG: 142°24'695E

COMMENTS

[illegible]

VESSEL: Ak. Nesmeyanov

ENTERED BY: C.T.

CHECKED BY:

Bottom Depth: 110 m

Cast No:

Wire Angle:

LOC	UTC
-----	-----

START: 20:33 9:33

DOWN:	9:39
-------	------

MESS: _____

IN:	9:45
-----	------

START POSITION (GPS)

LAT: 54° 57.180' N

LONG: 142° 35.135' E

BOTTOM POSITION

LAT: 54° 57.983' N

LONG: $141^{\circ} 35.058'$

END POSITION (GPS)	
--------------------	--

LAT: 54° 59.960' N

LONG: 1412° 34.949

COMMENTS

Fresh water

surface layer

extends down to

about 15 m.

VESSEL: Ak. Nesmeyanov

[illegible]

ENTERED BY: C.I.
CHECKED BY:

Bottom Depth:	72
Cast No:	
Wire Angle:	

	LOC	UTC
START:		12:25
DOWN:		12:28
MESS:		
IN:		12:32

START POSITION (GPS)	
LAT:	54 39.956
LONG:	142 39.728

BOTTOM POSITION	
LAT:	54° 40.276' N
LONG:	142° 39.842' E

END POSITION (GPS)
LAT: 54° 40.320' N
LONG: 142° 39.718' W

[illegible]

VESSEL: Ak. Nesmeyanov

[illegible]

ENTERED BY: A V K

CHECKED BY:

Bottom Depth: 552

Cast No: 1

Wire Angle:

LOC	UTC
-----	-----

START: 10:11 | 23:11

DOWN: 10:31 | 23:31

MESS: 10:53 23:53

IN:

START POSITION (GPS)

LAT: 54°40.393N

LONG: 143°55.938E

BOTTOM POSITION

LAT: 54°40.49'N

LONG: 143°56.036 E

END POSITION (GPS)	
--------------------	--

LAT: 54°40.517N

LONG: 143°56.266E

COMMENTS

The signal to
close bottle
was sent 2 times
on 50m and
3 times on 10/2
(uper)

VESSEL: Ak. Nesmeyanov

ENTERED BY: *KTI*

CHECKED BY:

Bottom Depth: 1360

Cast No:

Wire Angle:

LOC	UTC
-----	-----

START: 14:45 | 03:45

DOWN: 15 12 04:12

MESS: 15:43 04:43

IN:	
-----	--

START POSITION (GPS)

LAT: 55°00'135N

LONG: 145°00'043E

BOTTOM POSITION

LAT: 55° 00' 8.88 N

LONG: 145° 00' 24.9

	END POSITION (GPS)
--	--------------------

LAT: 55° 01' 702.2

LONG: 145° 00' 250E

COMMENTS

04:00	DEPT-133
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B4:07 - 1326

04:11 - 1215

04-16 - 1305

[illegible]

UTC DATE: 14 SEPT/93
ROSETTE No: 35

ENTERED BY: KPI
CHECKED BY:

Bottom Depth:	1540 m
Cast No:	
Wire Angle:	

	LOC	UTC
START:	19:06	08:06
DOWN:	19:36	08:36
MESS:	20:14	09:14
IN:		

START POSITION (GPS)	
LAT:	54°30.015N
LONG:	145°24.196E

BOTTOM POSITION	
LAT:	54° 30.535 N
LONG:	145° 23.670 E

END POSITION (GPS)	
LAT:	54° 31' 33" N
LONG:	145° 22' 865" E

COMMENTS	
600	- 3 confirm
150	- I/o not changed

CRUISE NO: 9316 / WOCE P1W
STATION NO: 4521UTC DATE: Sept. 14/93
ROSETTE No: 36

VESSEL: Ak Nesmeyanov

NISK. No.	SAMPLE No.	OXY. No.	OXY. TEMP	Sample Depth db	ROSETTE OPERATION			THERMOMETER 1			THERMOMETER 2		
					Trip Depth (db)	Trip Temp.	Trip Confirmed	SERIAL	AUX	MAIN	SERIAL	AUX	MAIN
14	458	1139	11.6	10	9.7	12.0723	✓						
13	459	1140	2.6	50	49.8	2.130	✓						
12	460	1141	1.6	100	103.5	-1.0904	✓						
11	461	1142	1.4	100	100.6	-1.9704	✓						
10	462	1143	2.8	150	151.2	3.3780	✓ (2) #	7647	356		7431	363	
9	463	1154	2.8	200	200.4	8605	✓						
8	464	2045	2.8	300	301.3	1.0964	✓						
7	465	1145	3.2	400	401.1	1.5510	✓						
6	466	1147	3.2	600	600.8	2.1320	✓						
5	467	1146	3.4	800	801.7	2.3699	✓						
4	468	1149	3.6	1000	1001.7	2.3637	✓						
3	469	1148	3.4	1200	1200.8	2.3269	✓						
2	470	1153	3.2	1400	1399.4	2.3155	✓ *	7679	2.311		7577	2.293	
1	471	1152	3.4	1600	1599.6	2.3281	✓		P2099	1298.3			

ENTERED BY: C.T.

CHECKED BY:

Bottom Depth: 1640

Cast No:

Wire Angle:

LOC	UTC
START: 23:43	12 43
DOWN:	13:23
MESS:	
IN:	14:07

START POSITION (GPS)
LAT: 54° 0.136' N
LONG: 145° 48.196' E

BOTTOM POSITION
LAT: 54° 0.877' N
LONG: 145° 47.117' E

END POSITION (GPS)
LAT: 54° 1.583' N
LONG: 145° 45.963' E

COMMENTS

Coldest water at
± 90 dB.

CRUISE NO: 9316 / WOCE P1W
STATION NO: HS 20

UTC DATE: 14 Sep 1993
ROSETTE No: 37

VESSEL: Ak. Nesmeyanov

NISK. No.	SAMPLE No.	OXY. No.	OXY. TEMP	Sample Depth db	ROSETTE OPERATION			THERMOMETER 1			THERMOMETER 2		
					Trip Depth (db)	Trip Temp.	Trip Confirmed	SERIAL	AUX	MAIN	SERIAL	AUX	MAIN
15	472	1169	10.8	10	9.7	11.295	V						
14	473	1170	1.8	50	50.8	-0.376	V						
13	474	1171	1.0	100	99	-1.060	V						
12	475	1172	2.4	150	150.7	0.477	V						
11	476	2000	2.4	200	200	0.862	V						
10	477	1173	2.8	300	* 300.5	1.166	V	T647	1.158		T431	1.161	
9	478	2001	2.6	400	372	1.404	V						
8	479	2002	3.2	600	600.7	2.137	V						
7	480	2004	3.2	800	* 799.7	2.323	V						
6	481	2005	3.2	800	800	2.324	V						
5	482	2006	3.2	1000	1000	2.365	V						
4	483	2007	3.2	1200	1200	2.328	V						
3	484	2008	3.2	1400	1400	2.315	V						
2	485	2009	3.0	1600	* 1599	2.328	V 2 times	T679	2.324	P2099	1601.3	T577	2.306
1	486	2010	3.6	1660	1660	2.334	V						
					15 Bottles closed.								

ENTERED BY: AVK
CHECKED BY:

Bottom Depth: 1700
Cast No: 1
Wire Angle:

LOC UTC
START: 7:23 | 20:23
DOWN: 8:02 | 21:02
MESS: 8:47 | 21:47
IN:

START POSITION (GPS)
LAT: 52°29.912 N
LONG: 146°18.163 E

BOTTOM POSITION
LAT: 53°29.921 N
LONG: 146°18.960 E

END POSITION (GPS)
LAT: 53°29.917 N
LONG: 146°18.552 E

COMMENTS

VESSEL: Ak. Nesmeyanov

[illegible]

ENTERED BY: A V K

CHECKED BY:

Bottom Depth: 2020

Cast No: 1

Wire Angle: Normal

LOC	UTC
1	1
2	2
3	3
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100	100

START: 10:24 | 23:24

DOWN: 10:49 | 23:49

MESS: 11:13 | 0:19

IN:	
-----	--

START POSITION (GPS)

LAT: 48°00.703 N

LONG: 147° 38.786E

BOTTOM POSITION

LAT: $48^{\circ}00.542' N$

LONG: 147° 38.976E

END POSITION (GPS)

LAT: 48°00.372N

LONG: 147°39.186E

COMMENTS

570 m - jump of
probe current

CRUISE NO: 9316 / WOCE P1W
STATION NO: HS 38

UTC DATE: 17 sept / 1993
ROSETTE No: 39

VESSEL: Ak. Nesmeyanov

NISK. No.	SAMPLE No.	OXY. No.	OXY. TEMP	Sample Depth db	ROSETTE OPERATION			THERMOMETER 1			THERMOMETER 2		
					Trip Depth (db)	Trip Temp.	Trip Confirmed	SERIAL	AUX	MAIN	SERIAL	AUX	MAIN
✓ 22	510	1169	13.4	10	10	14.4001	✓						
✓ 21	511	1170	4.2	50	50	-0.6722	✓						
✓ 20	512	1171	3.8	100	100	-0.4686	✓						
✓ 19	513	1172	4.6	150	153	0.3600	✓						
✓ 18	514	2000	4.6	200	202	0.4926	✓						
✓ 17	515	1173	4.6	300	300	0.9090	✓						
✓ 16	516	2001	4.8	400	402	0.7932	✓						
✓ 15	517	2002	5.2	600	599	1.8504	✓						
✓ 14	518	2004	5.0	800	801	2.2337	✓						
✓ 13	519	2005	4.8	1000	1001	2.3020	✓						
✓ 12	520	2006	4.4	1000	999	2.3035	✓						
✓ 11	521	2007	4.8	1200	1200	2.2346	✓						
✓ 10	522	2008	4.2	1400	1400	2.1562	✓	* T-431	2.149		T-647	2.144	
✓ 9	523	2009	4.2	1600	1601	2.0883	✓						
✓ 8	524	2010	4.0	1800	1798	2.0220	✓						
✓ 7	525	2012	4.0	2000	2000	1.9634	✓						
✓ 6	526	2013	3.6	2200	2201	1.9148	✓						
✓ 5	527	2014	3.8	2400	2397	1.8803	✓						
✓ 4	528	2015	3.2	2600	2598	1.8600	✓						
✓ 3	529	2017	3.2	2800	2799	1.8493	✓						
✓ 2	530	2018	2.8	3000	2996	1.8491	✓	* T-577	1.827		T-679	1.845	
✓ 1	531	2019	3.2	3200	3200	1.8556	✓	T-2099					

ENTERED BY: KTI
CHECKED BY:

Bottom Depth: 3290

Cast No:

Wire Angle:

LOC UTC
START: 15:44 04:44
DOWN: 16:12 05:42
MESS: 18:15 04:15
IN:

START POSITION (GPS)
LAT: 47° 30' 09" N
LONG: 147° 00' 60" E

BOTTOM POSITION
LAT: 47° 29' 35" N
LONG: 147° 02' 12" E

END POSITION (GPS)
LAT: 47° 28' 03" N
LONG: 147° 04' 09" E

COMMENTS

1200 -
350-340

[illegible]