

Order occupied
Tow
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Expedition	SHIP	STANO	Sample Date	Start Time	Event No.	Tow Type	Max Depth	Vol H2O filtered	
CCE-LTER-P0605	R/V KNORR	Cycle 1	1	05/10/06	2207	49	Oblique	210.77	416.30
CCE-LTER-P0605	R/V KNORR	Cycle 1	2	05/11/06	1057	63	Oblique	213.98	407.01
CCE-LTER-P0605	R/V KNORR	Cycle 1	3	05/11/06	2222	78	Oblique	213.12	417.68
CCE-LTER-P0605	R/V KNORR	Cycle 1	4	05/12/06	1047	94	Oblique	210.02	419.48
CCE-LTER-P0605	R/V KNORR	Cycle 1	5	05/12/06	1435	109	Oblique	207.52	406.96
CCE-LTER-P0605	R/V KNORR	Cycle 1	6	05/12/06	1806	112	Oblique	213.24	440.03
CCE-LTER-P0605	R/V KNORR	Cycle 1	7	05/12/06	2010	116	Oblique	214.71	415.33
CCE-LTER-P0605	R/V KNORR	Cycle 1	8	05/12/06	2203	119	Oblique	213.49	407.61
CCE-LTER-P0605	R/V KNORR	Cycle 1	9	05/13/06	0130	125	Oblique	215.19	445.97
CCE-LTER-P0605	R/V KNORR	Cycle 1	10	05/13/06	0449	133	Oblique	208.40	446.36
CCE-LTER-P0605	R/V KNORR	Cycle 1	11	05/13/06	0640	144	Oblique	215.80	427.60
CCE-LTER-P0605	R/V KNORR	Cycle 1	12	05/13/06	1014	149	Oblique	213.40	451.18
CCE-LTER-P0605	R/V KNORR	Cycle 1	13	05/13/06	2209	174	Oblique	211.39	409.06
CCE-LTER-P0605	R/V KNORR	Cycle 1	14	05/14/06	1100	191	Oblique	212.38	404.87
CCE-LTER-P0605	R/V KNORR	Cycle 1	15	05/14/06	2212	213	Oblique	208.90	371.76
CCE-LTER-P0605	R/V KNORR	Cycle 2	1	05/15/06	2128	232	Oblique	209.15	402.14
CCE-LTER-P0605	R/V KNORR	Cycle 2	2	05/16/06	1058	253	Oblique	212.26	422.16
CCE-LTER-P0605	R/V KNORR	Cycle 2	3	05/16/06	2202	267	Oblique	214.31	444.00
CCE-LTER-P0605	R/V KNORR	Cycle 2	4	05/17/06	1126	283	Oblique	213.31	444.00
CCE-LTER-P0605	R/V KNORR	Cycle 2	5	05/17/06	1454	292	Oblique	214.06	444.00
CCE-LTER-P0605	R/V KNORR	Cycle 2	6	05/17/06	1805	295	Oblique	212.97	444.00
CCE-LTER-P0605	R/V KNORR	Cycle 2	7	05/17/06	2013	299	Oblique	211.80	444.00
CCE-LTER-P0605	R/V KNORR	Cycle 2	8	05/17/06	2205	303	Oblique	212.64	340.52
CCE-LTER-P0605	R/V KNORR	Cycle 2	9	05/18/06	0129	307	Oblique	210.61	444.00
CCE-LTER-P0605	R/V KNORR	Cycle 2	10	05/18/06	0455	309	Oblique	215.64	458.82
CCE-LTER-P0605	R/V KNORR	Cycle 2	11	05/18/06	0633	311	Oblique	223.74	408.35
CCE-LTER-P0605	R/V KNORR	Cycle 2	12	05/18/06	1040	316	Oblique	210.10	430.39
CCE-LTER-P0605	R/V KNORR	Cycle 2	13	05/18/06	2233	332	Oblique	220.22	408.88
CCE-LTER-P0605	R/V KNORR	Cycle 2	14	05/19/06	1000	345	Oblique	211.46	401.13
CCE-LTER-P0605	R/V KNORR	Cycle 2	15	05/19/06	2314	368	Oblique	211.29	386.15
CCE-LTER-P0605	R/V KNORR	Cycle 2	16	05/20/06	1020	381	Oblique	211.12	415.11
CCE-LTER-P0605	R/V KNORR	Cycle 2	17	05/20/06	2204	400	Oblique	213.81	414.55
CCE-LTER-P0605	R/V KNORR	Cycle 3	1	05/21/06	2313	413	Oblique	87.04	171.49
CCE-LTER-P0605	R/V KNORR	Cycle 3	2	05/22/06	1014	425	Oblique	63.14	143.68
CCE-LTER-P0605	R/V KNORR	Cycle 3	3	05/22/06	2207	447	Oblique	69.97	165.44
CCE-LTER-P0605	R/V KNORR	Cycle 3	4	05/23/06	1005	476	Oblique	84.85	177.82
CCE-LTER-P0605	R/V KNORR	Cycle 3	5	05/23/06	1305	477	Oblique	70.82	164.02
CCE-LTER-P0605	R/V KNORR	Cycle 3	6	05/23/06	1626	479	Oblique	60.18	171.38
CCE-LTER-P0605	R/V KNORR	Cycle 3	7	05/23/06	1803	483	Oblique	67.04	160.14
CCE-LTER-P0605	R/V KNORR	Cycle 3	8	05/23/06	2006	487	Oblique	70.09	157.51
CCE-LTER-P0605	R/V KNORR	Cycle 3	9	05/23/06	2202	495	Oblique	77.65	175.25
CCE-LTER-P0605	R/V KNORR	Cycle 3	10	05/24/06	0104	504	Oblique	78.73	201.49
CCE-LTER-P0605	R/V KNORR	Cycle 3	11	05/24/06	0439	506	Oblique	88.15	193.62
CCE-LTER-P0605	R/V KNORR	Cycle 3	12	05/24/06	0638	508	Oblique	96.87	212.70
CCE-LTER-P0605	R/V KNORR	Cycle 3	13	05/24/06	1014	521	Oblique	108.63	175.00
CCE-LTER-P0605	R/V KNORR	Cycle 3	14	05/24/06	2204	563	Oblique	93.88	175.00
CCE-LTER-P0605	R/V KNORR	Cycle 4	1	05/27/06	1330	576	Oblique	208.77	444.00
CCE-LTER-P0605	R/V KNORR	Cycle 4	2	05/27/06	2239	588	Oblique	211.51	476.20
CCE-LTER-P0605	R/V KNORR	Cycle 4	3	05/28/06	1101	592	Oblique	207.71	513.21
CCE-LTER-P0605	R/V KNORR	Cycle 4	4	05/28/06	1309	596	Oblique	214.52	444.00
CCE-LTER-P0605	R/V KNORR	Cycle 4	5	05/28/06	1610	598	Oblique	217.78	461.06
CCE-LTER-P0605	R/V KNORR	Cycle 4	6	05/28/06	1805	603	Oblique	212.97	444.00
CCE-LTER-P0605	R/V KNORR	Cycle 4	7	05/28/06	2010	605	Oblique	209.42	583.31

side occupied
tow
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CCE-LTER-P0605	R/V KNORR	Cycle 4	8	05/28/06	2237	611	Oblique	217.53	444.00
CCE-LTER-P0605	R/V KNORR	Cycle 4	9	05/29/06	0105	618	Oblique	205.81	528.61
CCE-LTER-P0605	R/V KNORR	Cycle 4	10	05/29/06	0448	620	Oblique	212.13	444.00
CCE-LTER-P0605	R/V KNORR	Cycle 4	11	05/29/06	0645	622	Oblique	217.01	477.58
CCE-LTER-P0605	R/V KNORR	Cycle 4	12	05/29/06	0831	624	Oblique	209.93	516.93
CCE-LTER-P0605	R/V KNORR	Cycle 4	13	05/29/06	1046	635	Oblique	208.74	444.00
CCE-LTER-P0605	R/V KNORR	Cycle 4	14	05/30/06	1039	656	Oblique	215.80	595.67
CCE-LTER-P0605	R/V KNORR	Cycle 4	15	05/30/06	2103	684	Oblique	212.13	588.99
CCE-LTER-P0605	R/V KNORR	Cycle 5	1	06/01/06	1006	697	Oblique	213.49	419.51
CCE-LTER-P0605	R/V KNORR	Cycle 5	2	06/01/06	2300	712	Oblique	212.13	416.47
CCE-LTER-P0605	R/V KNORR	Cycle 5	3	06/02/06	1140	717	Oblique	214.06	395.93
CCE-LTER-P0605	R/V KNORR	Cycle 5	4	06/02/06	1341	720	Oblique	213.71	407.39
CCE-LTER-P0605	R/V KNORR	Cycle 5	5	06/02/06	1603	722	Oblique	211.29	431.87
CCE-LTER-P0605	R/V KNORR	Cycle 5	6	06/02/06	1802	727	Oblique	209.08	445.63
CCE-LTER-P0605	R/V KNORR	Cycle 5	7	06/02/06	2000	729	Oblique	212.13	409.37
CCE-LTER-P0605	R/V KNORR	Cycle 5	8	06/02/06	2243	735	Oblique	212.66	436.47
CCE-LTER-P0605	R/V KNORR	Cycle 5	9	06/03/06	0110	742	Oblique	212.47	444.00
CCE-LTER-P0605	R/V KNORR	Cycle 5	10	06/03/06	0450	744	Oblique	210.95	491.49
CCE-LTER-P0605	R/V KNORR	Cycle 5	11	06/03/06	0645	746	Oblique	216.30	429.00
CCE-LTER-P0605	R/V KNORR	Cycle 5	12	06/03/06	0830	748	Oblique	208.40	447.57
CCE-LTER-P0605	R/V KNORR	Cycle 5	13	06/03/06	1034	762	Oblique	210.27	444.00
CCE-LTER-P0605	R/V KNORR	Cycle 5	14	06/03/06	2222	777	Oblique	210.44	444.00
CCE-LTER-P0605	R/V KNORR	Cycle 5	15	06/04/06	1259	779	Oblique	213.98	444.00
CCE-LTER-P0605	R/V KNORR	Cycle 5	16	06/04/06	1352	805	Oblique	212.13	487.24
CCE-LTER-P0605	R/V KNORR	Cycle 5	17	06/04/06	2213	815	Oblique	209.42	558.39

Extra
Bungs 1

1. no net in water
no net speed
2. dang feel nets
3. 20 m/min
dexter + rate + step
wire tension

LOPC
Bongjo

NET TOW DATA SHEET

(Deployed)
Event # 49

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) PDT BEGIN TOW	END TOW
0605	6N	1	cycle 1	06 05 10	22:07	—
TIME	min. sec.	MESH 202	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	7' 06"	NET NO.	LTER	LTER	TOW NO. 1 OF 3	
TOWING (at depth)	30"	METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend)	14' 36"	CARRYOVER			BOTTOM DEPTH	
AMT. OF WIRE OUT	300 meters	FINAL	48685	04108	ACCEPTED POSITION	
TOTAL NO. OF ANGLES	30	INITIAL	44728	00085	latitude ° . ' N	
		DIFF.	3957		longitude ° . ' W	
		Mesh size (um)	202	202	OBSERVER: SD/R2/PD	

ANGLES	46	44	46	45	45	45	45	45	44	44	45	45	45	46	48
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160

ANGLES	48	48	47	46	45	45	45	46	46	45	43	42	41	45	49
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth half surf.				250				200						

ANGLES															
WIRE OUT	150				100				50						

NO. OF PORT JARS	1 Q	NO. OF STB. JARS	Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots	
FORMALIN & BORATE ADDED	yes	NET WASHING (check 1)	X	none	rinsed	washed	SKY (condition)			
ALCOHOL ADDED	yes	RIPS AND HOLES IN NET	X	none	location:		SWELL direction height FT.			
COLLECTORS INIT.	SD/SE				when mended:	before sta	after sta	SEA (condition)		

REMARKS: Had to reduce cast twice Rinsed during both reduce

NET TOW DATA SHEET

LOPC ✓
Bongo
(Deployed)
Event # 63

CRUISE	SHIP	ORDER OCCUPIED	STATION- LINE STATION		DATE		HOUR (PST)								
			YR	MO	DY	BEGIN TOW	END TOW								
0605	6N	2	1		06-05-11		1057	1119 —							
TIME	min. sec.	MESH	PORT	LOPC	STB.	TOW TYPE: CAL BOBL									
SINKING (descend)	6' 58"	NET NO.	LTER		LTER	TOW NO. 1 OF 1									
TOWING (at depth)	'32"	METER NO.	20318		09446	BUCKET TEMP. °C:									
TOTAL (ascend)	14' 21"	CARRYOVER				BOTTOM DEPTH									
AMT. OF WIRE OUT	300 meters	FINAL	52555		07916	ACCEPTED POSITION									
TOTAL NO. OF ANGLES	30	INITIAL	48685		04108	latitude ___° ___' N									
		DIFF.	3870		3800	longitude ___° ___' W									
		Mesh size (um)	202		202	OBSERVER: JP, RR, MD									
ANGLES	46	46	46	45	45	45	44	44	44	43	44	44	44	45	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	45	45	45	44	43	43	43	41	41	42	42	44	47	55
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10
ANGLES															
WIRE OUT	depth half surf.			250				200							
ANGLES															
WIRE OUT	150			100				50							
NO. OF PORT	JARS	NET CLOGGING	none or slight	moderate	heavy	very heavy	WIND								
1 p	Q	(check 1)	x				direction knots								
FORMALIN & BORATE ADDED	NET WASHING	none	rinsed	washed	SKY (condition)										
* split	(check 1)		x												
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	SWELL											
			when mended:	direction height											
COLLECTORS INIT.		T	before sta	after sta	SEA (condition)										

REMARKS:

NET TOW DATA SHEET

LOPC ✓

Bongjo

(Deployed)
Event # 78

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE			HOUR (PST)								
				YR	MO	DY	BEGIN TOW	END TOW							
0605	6N	3	Cycle 1	06	05	11	2222	2244							
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL										
SINKING (descend)	7' 15"	NET NO.	LTER	LTER	TOW NO. 1 OF 1										
TOWING (at depth)	30"	METER NO.	20318	09446	BUCKET TEMP. °C: -										
TOTAL (ascend)	14' 18"	CARRYOVER			BOTTOM DEPTH 767 meters fathoms										
AMT. OF WIRE OUT	300 meters	FINAL	56567	11828	ACCEPTED POSITION										
		INITIAL	52566	07916	latitude ° ' N										
		DIFF.	3941	3912	longitude ° ' W										
TOTAL NO. OF ANGLES	30	Mesh size (um)	202um	202um	OBSERVER: JP, PD, RR, OE										
ANGLES	53	50	48	46	45	45	41	42	40	40	40	41	42	45	47
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	49	50	50	50	48	47	46	45	44	41	41	40	40	41	45
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10
ANGLES															
WIRE OUT	depth half surf.														
ANGLES															
WIRE OUT	150														
NO. OF JARS PORT	1Q	NET CLOGGING (check 1)	Q	none or slight	moderate	heavy	very heavy	WIND direction knots							
FORMALIN & BORATE ADDED	PD	NET WASHING (check 1)		none	rinsed	washed	SKY (condition)								
ALCOHOL ADDED		RIPS AND HOLES IN NET		none	location:		SWELL direction FT. height								
COLLECTORS INIT.					when mended: before sta after sta		SEA (condition)								

REMARKS:

NET TOW DATA SHEET

LOPC
Bongjo

(Deployed)
Event # 94

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)										
					BEGIN TOW	END TOW									
0605	6N	4	cycle 1	06-05-12	10:47	11:10 —									
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL										
SINKING (descend)	7' 46"	NET NO.	LTER	LTER	TOW NO. 1 OF 1										
TOWING (at depth)	30"	METER NO.	20318	09446	BUCKET TEMP. °C:										
TOTAL (ascend)	14' 14"	CARRYOVER			BOTTOM DEPTH										
AMT. OF WIRE OUT	300 meters	FINAL	60343	15759	7500 meters fathoms										
		INITIAL	36510	11929	ACCEPTED POSITION										
		DIFF.	3883	3930	latitude —° —.'N longitude —° —.'W										
TOTAL NO. OF ANGLES		Mesh size (mm)	202mm	202mm	OBSERVER: PD										
ANGLES	44	44	44	44	44	43	42	41	43	44	46	48	49	47	47
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	45	44	44	44	44	44	43	41	41	44	49	55	58	56
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10
ANGLES															
WIRE OUT	depth half surf.					250					200				
ANGLES															
WIRE OUT	150					100					50				
NO. OF JARS PORT	STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots								
10 jars	Q														
FORMALIN & BORATE ADDED		NET WASHING (check 1)	none	rinsed	washed	SKY (condition) overcast									
PD															
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location:		SWELL direction height FT.									
COLLECTORS INIT.				when mended:	before sta	after sta	SEA (condition) nice								

REMARKS:

NET TOW DATA SHEET

LOPC ✓

Bonjo

(Deployed)
Event # 109

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	6N	5	cycle 1	06-05-12	14:35	14:57 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 7' 08"	NET NO.	LTER	LTER	TOW NO. 1 OF 1		
TOWING (at depth) 30"	METER NO.	20318	09446	BUCKET TEMP. °C:		
TOTAL (ascend) 14' 20"	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT 300 meters	FINAL	6455	19569	ACCEPTED POSITION latitude °. 'N longitude °. 'W		
TOTAL NO. OF ANGLES 30	INITIAL	6039*3	15759	OBSERVER: PD		
	DIFF.	3762				
	Mesh size (um)	202um	202um			

ANGLES	55	54	51	49	47	45	43	42	41	41	42	42	44	44	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160

ANGLES	45	47	48	49	51	51	51	50	47	45	42	39	39	40	48
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth	half surf.				250						200			
ANGLES															
WIRE OUT	150					100						50			

NO. OF JARS PORT 112	NET CLOGGING (check 1) 2	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED V	NET WASHING (check 1)	none	rinsed	washed		SKY (condition) partly cloudy
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:			SWELL direction height FT.
COLLECTORS INIT			when mended:	before sta	after sta	SEA (condition)

REMARKS: Stb. coord → Ryan R. + Moira D.

NET TOW DATA SHEET

LOPC ✓

Bonggo

(Deployed)
Event # 112

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	Rosier	6	Cycle 1	06-05-12	18:06	18:29 —
TIME min. sec.	MESH	PORT Lopc	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 7' 41"	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) 30"	METER NO. 203.18		09446	BUCKET TEMP. °C:		
TOTAL (ascend) 14' 34"	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT 300 meters	FINAL 08351		23696	ACCEPTED POSITION latitude longitude ° 'N ° 'W		
TOTAL NO. OF ANGLES 30	INITIAL 64155		19570	OBSERVER: PD		
	DIFF. 4,96					
	Mesh size (mm) 202 μm		202 μm			

ANGLES	42	42	42	43	44	45	46	48	50	49	49	49	47	47	46
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160

ANGLES	44	43	40	39	41	42	45	46	45	43	41	39	40	46	55
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth half surf.					250						200			
ANGLES															
WIRE OUT	150					100						50			

NO. OF JARS PORT 1 Q	STB. Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND ° direction knots
FORMALIN & BORATE ADDED ✓	NET WASHING (check 1)	none	rinsed	washed	SKY (condition) blue		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:		SWELL ° FT. direction height		
COLLECTORS INIT.			when mended: before sta after sta		SEA (condition)		

REMARKS:

NET TOW DATA SHEET

LOPC ✓

Bonjo

(Deployed)
Event # 116

CRUISE	SHIP	ORDER OCCUPIED	STATION				DATE		HOUR (PST)						
			LINE	STATION	YR	MO	DY	BEGIN TOW	END TOW						
0605	KNORR	7	CYCLE 1				06	05	12	20:10	20:33				
TIME min. sec.		MESH	PORT LOPC		STB.		TOW TYPE: CAL BOBL								
SINKING (descend) 7' 21"		NET NO.					TOW NO. 1 OF 1								
TOWING (at depth) 30"		METER NO.	20318		09446		BUCKET TEMP. °C:								
TOTAL (ascend) 14' 27"		CARRYOVER					BOTTOM DEPTH								
AMT. OF WIRE OUT 300 meters		FINAL	72222		27588		ACCEPTED POSITION								
		INITIAL	68351		23700		latitude ° . ' N								
		DIFF.	3277		3888		longitude ° . ' W								
TOTAL NO. OF ANGLES 30		Mesh size (um)	202 um		202 um		OBSERVER: OE								
ANGLES	44	43	44	45	43	41	40	39	41	42	43	44	45	46	46
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	47	48	48	48	48	47	46	44	41	41	40	44	47	48	46
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10
ANGLES															
WIRE OUT	depth half surf.				250				200						
ANGLES															
WIRE OUT	150				100				50						
NO. OF JARS PORT	1	Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots							
FORMALIN & BORATE ADDED	OE	SPUT	NET WASHING (check 1)	none	rinsed	washed	SKY (condition) clear								
ALCOHOL ADDED			RIPS AND HOLES IN NET	none	location:		SWELL direction height FT.								
COLLECTORS INIT.					when mended: before sta after sta		SEA (condition)								

REMARKS:

NET TOW DATA SHEET

LOPC ✓

Bonjo

(Deployed)
Event # 119

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)										
					BEGIN TOW	END TOW									
0605	KNORR	8	CYCLE 1	06-05-12	2203	2225 —									
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL										
SINKING (descend)	7' 45"	NET NO.			TOW NO. 1 OF 1										
TOWING (at depth)	30"	METER NO.	20318	09446	BUCKET TEMP. °C:										
TOTAL (ascend)	14' 22"	CARRYOVER			BOTTOM DEPTH										
AMT. OF WIRE OUT	300 meters	FINAL	75004	31404	meters fathoms										
		INITIAL	72228	27590	ACCEPTED POSITION										
		DIFF.	37 ³⁰ 3876	3814	latitude ° ' N longitude ° ' W										
TOTAL NO. OF ANGLES	30	Mesh size (um)	202 mm	202 mm	OBSERVER: ER/OE										
ANGLES	46	46	47	47	47	47	46	46	45	45	44	44	43	40	39
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	39	40	40	44	45	47	50	50	47	45	43	41	39	44	53
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10
ANGLES															
WIRE OUT	depth half surf.			250			200								
ANGLES															
WIRE OUT	150			100			50								
NO. OF JARS PORT	12	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots								
FORMALIN & BORATE ADDED	OE	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)									
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location:		SWELL direction height FT.									
COLLECTORS INIT.				when mended:	before sta	after sta	SEA (condition)								

REMARKS: Bridge did not generate an event log yet. (As of 11pm)

NET TOW DATA SHEET

LOPC
Bongo
(Deployed)
Event # 125

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)										
					BEGIN TOW	END TOW									
0605	KNORR	9	CYCLE 1	06-05-73	Approx. 0130	Approx. 0156									
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL										
SINKING (descend)	9' 08"	NET NO.			TOW NO. 1 OF 1										
TOWING (at depth)	30	METER NO.	20318	09446	BUCKET TEMP. °C:										
TOTAL (ascend)	15' 45"	CARRYOVER			BOTTOM DEPTH										
AMT. OF WIRE OUT	300 meters	FINAL	80092	35578	ACCEPTED POSITION										
TOTAL NO. OF ANGLES	30	INITIAL	76004	31405	latitude ° . ' N										
		DIFF.	4088	4173	longitude ° . ' W										
		Mesh size (um)	202 mm	202 mm	OBSERVER: RR										
ANGLES	49	46	43	40	38	37	39	42	47	47	47	47	47	45	
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	43	46	44	42	40	39	39	42	45	48	52	50	47	42
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10
ANGLES															
WIRE OUT	depth half surf.			250			200								
ANGLES															
WIRE OUT	150			100			50								
NO. OF JARS PORT	1 Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots								
FORMALIN & BORATE ADDED	OE	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)									
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location:		SWELL direction height FT.									
COLLECTORS INIT.				when mended:	before sta	after sta	SEA (condition)								

REMARKS:

LOPC ✓
Bongjo
(Deployed)
Event # 133

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION		DATE		HOUR (PST)	
			LINE	STATION	YR	MO	DY	BEGIN TOW
0605	6N	10	CYCLE 1		06 05 13		0449	0512 —
TIME	min.	sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend)	7	27	NET NO.	LTER	LTER	TOW NO. 1 OF 1		
TOWING (at depth)	'	30	METER NO.	20318	09446	BUCKET TEMP. °C:		
TOTAL (ascend)	15	30	CARRYOVER			BOTTOM DEPTH		
AMT. OF WIRE OUT	300	meters	FINAL	84802	40203	ACCEPTED POSITION		
			INITIAL	806796	360744	latitude ° 'N		
			DIFF.	4123		longitude ° 'W		
TOTAL NO. OF ANGLES	30		Mesh size (um)	202 um	202 um	OBSERVER: RR MD		

ANGLES	52	52	48	46	45	42	42	42	43	42	44	45	46	47	47
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	46	44	43	43	43	45	49	51	51	48	45	43	45	49	52
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth	half surf.				250					200				
ANGLES															
WIRE OUT	150					100					50				

NO. OF JARS PORT	JARS STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND
							direction knots
1 p	Q						
FORMALIN & BORATE ADDED		NET WASHING (check 1)	none	rinsed	washed		SKY (condition)
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location:			SWELL FT. direction height
COLLECTORS INIT.				when mended:			SEA (condition)
				before sta	after sta		

REMARKS: Windy problem, Brought nets back up, rinsed, and redeployed.

LOPC

Bonjo

NET TOW DATA SHEET

(Deployed)
Event #144

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
D605	6N	11	Cycle1	060513	6:40	—
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	7' 20"	NET NO.	LTER	LTER	TOW NO. 1 OF 1	
TOWING (at depth)	30'	METER NO.	20318	09416	BUCKET TEMP. °C:	
TOTAL (ascend)	15' 40"	CARRYOVER			BOTTOM DEPTH	
AMT. OF WIRE OUT	300 meters	FINAL	88981	44200	ACCEPTED POSITION	
TOTAL NO. OF ANGLES	30	INITIAL	84802	40204	latitude ° 'N	
		DIFF.	4100		longitude ° 'W	
		Mesh size (um)	200	200	OBSERVER: Morra '50	

ANGLES	55	54	53	54	52	50	49	47	44	40	38	37	37	36	37
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160

ANGLES	38	38	40	44	40	49	51	52	50	45	37	36	43	55	65
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth half surf.				250				200						

ANGLES															
WIRE OUT	150				100				50						

NO. OF JARS / PORT	STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND ° direction knots
1P	Q		Y				
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
5D			X				
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	SWELL ° FT. direction height			
COLLECTORS INIT.		X	when mended: before sta	after sta	SEA (condition)		

REMARKS: Did not come out of water right away
Some angle towards the end - ship was trying to avoid the buoy

LOPC
Bongo

NET TOW DATA SHEET

(Deployed)
Event # 149

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	6N	12	cycle 1	06-5-13	1014	1057 —
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	7' 39"	NET NO.	LTER	LTER	TOW NO. 1 OF 1	
TOWING (at depth)	' 26"	METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend)	14' 51"	CARRYOVER			BOTTOM DEPTH	
AMT. OF WIRE OUT	300 meters	FINAL	93552	48454	100.6 meters fathoms	
		INITIAL	88982	44202	ACCEPTED POSITION	
		DIFF.	4570 4332	4232	latitude ° ' N longitude ° ' W	
TOTAL NO. OF ANGLES	30	Mesh size (um)			OBSERVER: JP RR MD BS	

ANGLES	45		46	45	45	43	42	42	41	42	43	45	45	45	42
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	42	43	42	43	45	48	49	48	46	43	39	35	40	53	70
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth	half surf.				250					200				
ANGLES															
WIRE OUT	150					100					50				

NO. OF JARS PORT	STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
10	Q						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	SWELL direction height FT.			
COLLECTORS INIT			when mended:	before sta	after sta	SEA (condition)	
JP							

REMARKS: Port meter spun on deployment

LOPC ✓

Bonjo

(Deployed)
Event # 174

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	6N	13	Cycle 1	06-05-13	22 09	22 32 —
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	7' 07"	NET NO.			TOW NO. 1 OF 1	
TOWING (at depth)	' 30"	METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend)	14' 56"	CARRYOVER			BOTTOM DEPTH meters fathoms	
AMT. OF WIRE OUT	300 meters	FINAL	97394	52256	ACCEPTED POSITION	
		INITIAL	93552	48433	latitude ° ' N	
		DIFF.	3840		longitude ° ' W	
TOTAL NO. OF ANGLES	30	Mesh size (um)	202 _{um}	202	OBSERVER: OE	

ANGLES	42	42	44	45	47	47	47	47	46	44	42	41	41	42	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	46	47	48	48	46	48	47	47	45	44	41	39	41	49	58
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES																
WIRE OUT	depth half surf							250	200							
ANGLES																
WIRE OUT	150							100							50	

NO. OF JARS PORT	JARS STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
1 Q	Q						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
OE					clear		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:		SWELL direction FT. height		
			when mended:	before sta	after sta	SEA (condition)	
COLLECTORS INIT.							
- JP							

REMARKS:

LOPC ✓

Bonjo

(Deployed)
Event # 232

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KN	01	CYCLE 2	06-05-15	2128	2150 —
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	6' 38"	NET NO.			TOW NO. 1 OF 1	
TOWING (at depth)	' 30"	METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend)	15' 03"	CARRYOVER			BOTTOM DEPTH	
AMT. OF WIRE OUT	300 meters	FINAL	08761	63250	ACCEPTED POSITION	
TOTAL NO. OF ANGLES	30	INITIAL	05090	59495	latitude ° ' N	
		DIFF.	3671	3755	longitude ° ' W	
		Mesh size (um)	202	202	OBSERVER: OE	

ANGLES	49	47	49	46	46	45	45	45	45	45	45	45	45	44	44
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	43	45	45	45	46	47	47	47	47	47	46	46	46	46	46
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth half surf.				250					200					
ANGLES															
WIRE OUT	150				100						50				

NO. OF JARS PORT	1 Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED	OE	NET WASHING (check 1)	none	rinsed	washed		SKY (condition) clear
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location:			SWELL direction height FT.
COLLECTORS INIT.	- RR			when mended:	before sta	after sta	SEA (condition)

REMARKS:

NET TOW DATA SHEET

LOPC
Bongjo
(Deployed)
Event # 253

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KN	02	Cycle 2	06 05 16	10 58	11 21 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 6' 44"	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) '30"	METER NO. 20318		09446	BUCKET TEMP. °C:		
TOTAL (ascend) 15' 08"	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT 300 meters	FINAL 12618		67199	ACCEPTED POSITION latitude °. 'N longitude °. 'W		
	INITIAL 08761		63251			
	DIFF. 3857					
TOTAL NO. OF ANGLES 30	Mesh size (um)	202 um	202 um	OBSERVER: JP		

ANGLES	45	44	44	43	43	43	43	44	45	45	47	46	46	45	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160

ANGLES	45	45	45	44	44	43	43	45	47	49	49	48	45	44	45
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth half surf.			250				200							
ANGLES															
WIRE OUT	150			100				50							

NO. OF JARS PORT 1p	STB. Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED 5g formalin		NET WASHING (check 1)	none	rinsed	washed		SKY (condition)
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location: when mended: before sta after sta			SWELL direction height FT.
COLLECTORS INIT.							SEA (condition)

REMARKS:

LOPC

Bongo

(Deployed)
Event # 267

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	Knorr	03	Cycle 2	06 05 16	2202	2224 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 6' 44"	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) ' 30"	METER NO. 20318	09446	BUCKET TEMP. °C:			
TOTAL (ascend) 14' 52"	CARRYOVER		BOTTOM DEPTH 4100 meters fathoms			
AMT. OF WIRE OUT 300 meters	FINAL 16734	70962	ACCEPTED POSITION			
	INITIAL 12618	67202	latitude —° —' N			
	DIFF. *sec remarks 4116	3760	longitude —° —' W			
TOTAL NO. OF ANGLES 50	Mesh size (um)	202um	202um	OBSERVER: OE		

ANGLES	45	46	45	44	44	43	44	40	37	40	44	45	46	46	47
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160

ANGLES	46	45	45	43	43	43	41	43	46	49	51	49	45	40	43
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth half surf.					250						200			
ANGLES															
WIRE OUT	150					100						50			

NO. OF JARS PORT 1 P	STB. Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED OE	NET WASHING (check 1)	none	rinsed	washed	SKY (condition) clear; windy		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	when mended: before sta after sta			SWELL direction height FT.
COLLECTORS INIT JP							SEA (condition)

REMARKS: * PORT-SIDE FLOW METER WAS SPINNING BECAUSE OF THE WIND WHEN WE WERE LOWERING THE BONGO IN THE WATER. IT WILL HAVE A FALSE HIGH READING.

LOPC ✓

Bonjo

(Deployed)
Event # 284/283

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KN	04	CYCLE 2	06-05-17	1126	1150 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 8' 08"	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) '30"	METER NO. 20318	09446		BUCKET TEMP. °C:		
TOTAL (ascend) 15' 07"	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT 300 meters	FINAL 21195	75366		ACCEPTED POSITION latitude ° ' N longitude ° ' W		
TOTAL NO. OF ANGLES 30	INITIAL 16734 *	70964 *		OBSERVER: JP		
	DIFF. 4461					
	Mesh size (um) 202	202				

ANGLES	50	48	46	46	45	45	45	48	48	47	47	48	48	45	44
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160

ANGLES	44	43	42	40	40	42	43	44	45	46	48	49	45	43	42
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES																		
WIRE OUT	depth	half surf.											250					200
ANGLES																		
WIRE OUT	150											100					50	

NO. OF JARS PORT 10	STB. Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED 5g formal.		NET WASHING (check 1)	none	rinsed	washed		SKY (condition)
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location: when mended: before sta after sta			SWELL direction height FT.
COLLECTORS INIT.							SEA (condition)

REMARKS: Spinning in wind on entry to water

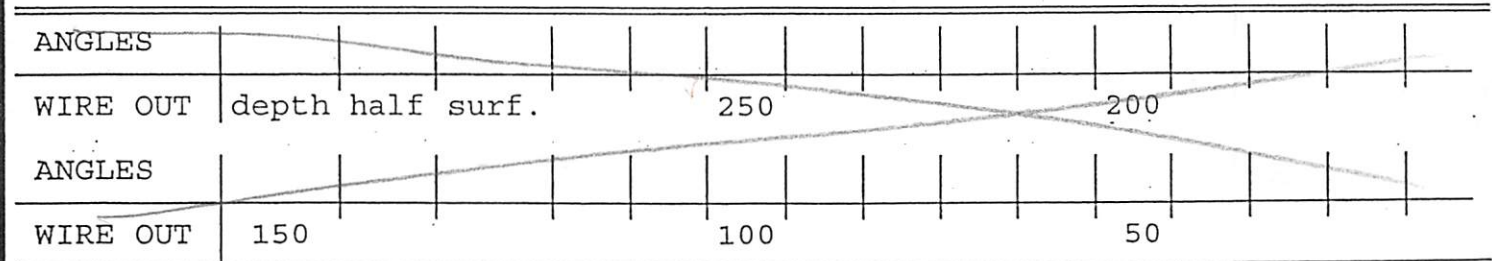
NET TOW DATA SHEET

LOPC
Bongo

(Deployed)
Event # 292

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	Knorr	5	cycle 2	06 5 17	1454	1520 —
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	9' 59"	NET NO.			TOW NO. 1 OF 1	
TOWING (at depth)	' 30"	METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend)	15' 35"	CARRYOVER			BOTTOM DEPTH meters fathoms	
AMT. OF WIRE OUT	300 meters	FINAL	25781	80231	ACCEPTED POSITION	
		INITIAL	21197	75365	latitude ___° ___' N	
		DIFF.	4584	4866	longitude ___° ___' W	
TOTAL NO. OF ANGLES	30	Mesh size (um)	202µm	202µm	OBSERVER: OE	

ANGLES	49	48	47	46	46	46	47	47	46	46	46	47	48	48	46
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	44	41	40	40	40	39	40	41	43	45	50	50	49	
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10



NO. OF JARS PORT	1 P	JARS STB.	Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED	5g form	NET WASHING (check 1)		none	rinsed	washed			SKY (condition) clear
ALCOHOL ADDED		RIPS AND HOLES IN NET		none	location:				SWELL direction height FT.
COLLECTORS INIT.	RR				when mended:				SEA (condition)
					before sta	after sta			

REMARKS: STB. SIDE METER WAS TURNING IN THE WIND WHILE LOWERING THE BONGO, SO IT WILL READ SOMEWHAT HIGHER.

LOPC ✓

Bongjo

(Deployed)
Event # 295

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)	
0605	KNRR	6	CYCLE 2	06-05-17	BEGIN TOW	END TOW
TIME min. sec.		MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend) 7' 24"		NET NO.			TOW NO. 1 OF 1	
TOWING (at depth) ' 30"		METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend) 14' 59"		CARRYOVER			BOTTOM DEPTH	
AMT. OF WIRE OUT 300 meters		FINAL	29765	84633	ACCEPTED POSITION	
TOTAL NO. OF ANGLES 30		INITIAL	25781	80230	latitude ° . ' N	
		DIFF.	3984	4403	longitude ° . ' W	
		Mesh size (um)	202mm	202mm	OBSERVER: OE	

ANGLES	45	45	49	48	49	48	49	48	48	45	41	42	45	47	47
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160

ANGLES	46	44	44	44	45	46	46	47	45	45	45	42	42	43	46
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES																	
WIRE OUT	depth half surf.							250								200	
ANGLES																	
WIRE OUT	150						100						50				

NO. OF JARS PORT	STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
12	Q						
FORMALIN & BORATE ADDED		NET WASHING (check 1)	none	rinsed	washed		SKY (condition)
OE							cloudy/windy
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location:			SWELL direction height FT.
				when mended:			
COLLECTORS INIT.				before sta	after sta		SEA (condition)
RR							

REMARKS: STB METER HAS HIGHER READING B/C IT WAS SPINNING IN THE WIND.

LOPC

Bongo

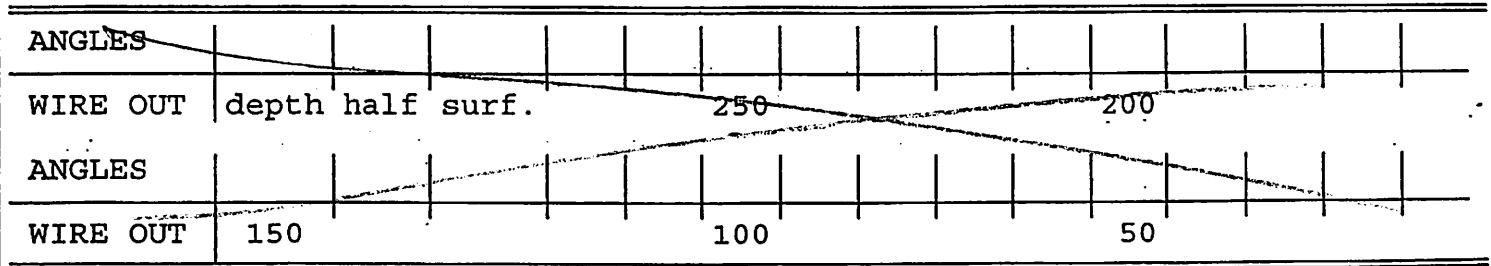
(Deployed)
Event # 299

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KNARR	7	CYCLE 2	06-05-17	2013	2236 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 7' 13"	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) '30"	METER NO. 20318		09446	BUCKET TEMP. °C:		
TOTAL (ascend) 15' 04"	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT 300 meters	FINAL 34495		89473	ACCEPTED POSITION latitude ° ' N longitude ° ' W		
	INITIAL 29765		84635			
	DIFF. 4730		4838			
TOTAL NO. OF ANGLES 30	Mesh size (um)	202	202	OBSERVER: OE		

ANGLES	45	44	40	43	45	43	42	45	46	46	46	46	46	46	46
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160

ANGLES	45	43	42	41	41	42	45	46	47	48	45	43	45	45	52
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10



NO. OF JARS PORT 1 P	STB. Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED OE	NET WASHING (check 1)	none	rinsed	washed	SKY (condition) cloudy, windy		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	when mended: before sta after sta		SWELL direction height FT.	
COLLECTORS INIT. RR						SEA (condition)	

REMARKS: BOTH FLOWMETERS WERE SPINNING IN THE WIND AS WE LOWERED THE BONGOS. READINGS WILL BE FALSELY HIGH.

LOPC ✓

Bonjo

(Deployed)
Event # 303

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KN	8	CYCLE 2	06-05-17	2205	2230 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 9' 34"	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) ' 30"	METER NO. 20318	09446	BUCKET TEMP. °C:			
TOTAL (ascend) 15' 14"	CARRYOVER	BOTTOM DEPTH		meters fathoms		
AMT. OF WIRE OUT 300 meters	FINAL 38686	92631	ACCEPTED POSITION			
	INITIAL 34494	89474	latitude ° . ' N			
	DIFF. 4192	3157	longitude ° . ' W			
TOTAL NO. OF ANGLES 30	Mesh size (um)	202 um	202 um	OBSERVER: OE		

ANGLES *	35	37	39	39	39	37	36	36	36	36	35	36	37	35	35
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	35	35	34	33	33	32	34	35	35	35	33	32	32	37	42
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth half surf.					250						200			
ANGLES															
WIRE OUT	150					100						50			

NO. OF JARS PORT 1 P	STB. 0	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED OE	NET WASHING (check 1)	none	rinsed	washed	SKY (condition) cloudy, windy		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	when mended: before sta after sta			SWELL direction height FT.
COLLECTORS INIT. RR							SEA (condition)

REMARKS: * Add 10° to all the angles. There was a problem w/ inclinometer & readings weren't accurate *

NET TOW DATA SHEET

LOPC ✓

Bonjo

(Deployed)

Event # 309

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)	
					BEGIN TOW	END TOW
0605	KN	10	CYCLE 2	06-05-18	455	517—
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	7'42"	NET NO.			TOW NO. 1 OF 1	
TOWING (at depth)	30"	METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend)	15'34"	CARRYOVER			BOTTOM DEPTH	
AMT. OF WIRE OUT	300 meters	FINAL	48061	02508	ACCEPTED POSITION	
TOTAL NO. OF ANGLES	30	INITIAL	43567	98209	latitude ° 'N	
		DIFF.	4494	4299	longitude ° 'W	
		Mesh size (um)	202 um	202 um	OBSERVER:	

ANGLES	49	48	47	46	46	46	45	44	43	44	44	44	44	44	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	46	47	48	47	47	46	46	46	47	48	47	44	35	32	35
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth	half surf.				250						200			
ANGLES															
WIRE OUT	150					100						50			

NO. OF JARS PORT	STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED		NET WASHING (check 1)	none	rinsed	washed		SKY (condition)
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location:			SWELL direction height FT.
COLLECTORS INIT.				when mended:			SEA (condition)
				before sta	after sta		

REMARKS:

NET TOW DATA SHEET

LOPC
Bongjo

(Deployed)
Event # 311

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)										
0605	KM	11	Cycle 2	06 05 18	BEGIN TOW	END TOW									
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL											
SINKING (descend) 7' 18"	NET NO.			TOW NO. 1 OF 1											
TOWING (at depth) 0' 30"	METER NO. 20318	09446	BUCKET TEMP. °C:												
TOTAL (ascend) 15' 17"	CARRYOVER		BOTTOM DEPTH												
AMT. OF WIRE OUT 300 meters	FINAL 51891	06317	4175 meters fathoms												
	INITIAL 48061	02504	ACCEPTED POSITION												
	DIFF. 3830	3813	latitude ° ' N												
			longitude ° ' W												
TOTAL NO. OF ANGLES 30	Mesh size (um)		OBSERVER: JP, RR												
ANGLES	56	56	55	52	51	49	48	46	45	42	40	40	39	39	36
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	36	36	37	40	42	45	47	49	50	50	48	45	43	36	34
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10
ANGLES															
WIRE OUT	depth half surf.			250			200								
ANGLES															
WIRE OUT	150			100			50								
NO. OF JARS PORT 1P	STB. 2	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND ° direction knots								
FORMALIN & BORATE ADDED JP	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)										
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:			SWELL ° FT. direction height									
COLLECTORS INIT.			when mended: before sta after sta			SEA (condition)									

REMARKS:

NET TOW DATA SHEET

LOPC
 Bongjo
 (Deployed)
 Event # 316

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KN	12	CYCLE 2	06 05 18	10:40	11:03 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 7' 07"	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) 30"	METER NO. 20318	09446		BUCKET TEMP. °C:		
TOTAL (ascend) 15' 40"	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT 306 meters	FINAL 55911	10340		ACCEPTED POSITION latitude ° 'N longitude ° 'W		
	INITIAL 51891	06317				
	DIFF. 4020					
TOTAL NO. OF ANGLES 30	Mesh size (um) 202µm	202µm		OBSERVER: PD		

ANGLES	50	50	48	47	46	46	47	48	49	49	48	48	48	47	47
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160

ANGLES	47	46	46	45	44	42	42	43	44	45	45	45	44	43	45
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES																		
WIRE OUT	depth	half surf.											250					200
ANGLES																		
WIRE OUT	150											100					50	

NO. OF PORT JARS	NO. OF STB. JARS	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	when mended: before sta after sta			SWELL direction height FT.
COLLECTORS INIT.							SEA (condition)

REMARKS:

NET TOW DATA SHEET

LOPC
Bongo
(Deployed)
Event # 345

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KN	14	cycle 2	06 05 19	1000	1022 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 6 ' 49"	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) ' 30"	METER NO. 20318	09446	BUCKET TEMP. °C:			
TOTAL (ascend) 14 ' 51"	CARRYOVER		BOTTOM DEPTH meters fathoms			
AMT. OF WIRE OUT 300 meters	FINAL 63399	17914	ACCEPTED POSITION latitude ° ' N longitude ° ' W			
	INITIAL 59733	14167				
	DIFF. 3666	3747				
TOTAL NO. OF ANGLES 30	Mesh size (um)	202	202	OBSERVER: RR		

ANGLES	51	49	48	47	45	45	44	45	45	46	46	46	46	45	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	45	46	46	46	46	45	45	45	45	43	43	44	46	45
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth	half surf				250						200			
ANGLES															
WIRE OUT	150					100						50			

NO. OF PORT JARS 1P	JARS STB. 0	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED 5/2 formalin	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	when mended: before sta after sta			SWELL direction height FT.
COLLECTORS INIT.							SEA (condition)

REMARKS:

LOPC

Bonjo

(Deployed)
Event # 368

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KN	15	cycle 2	06 05 19	2314	2336 —
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	7 ' 13 "	NET NO.			TOW NO. 1 OF 1	
TOWING (at depth)	30 "	METER NO.	20318	09448	BUCKET TEMP. °C:	
TOTAL (ascend)	14 ' 44 "	CARRYOVER			BOTTOM DEPTH	
AMT. OF WIRE OUT	300 meters	FINAL	67073	21518	ACCEPTED POSITION	
TOTAL NO. OF ANGLES	30	INITIAL	63398	17915	latitude ° . ' N	
		DIFF.	3675		longitude ° . ' W	
		Mesh size (um)	202 mm	202 mm	OBSERVER: OE	

ANGLES	45	44	44	43	43	44	45	45	45	46	46	46	46	45	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	45	45	44	45	44	44	45	46	47	48	47	45	43	43
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth	half	surf.			250						200			
ANGLES															
WIRE OUT	150					100						50			

NO. OF JARS PORT	JARS STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
1 P	Q						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition) clear		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:		SWELL direction height FT.		
COLLECTORS INIT.			when mended:	before sta	after sta	SEA (condition)	

REMARKS:

LOPC

Bongjo

(Deployed)
Event # 381

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KN	16	CYCLE 2	06-05-20	1020	1043 —
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	6' 45"	NET NO.			TOW NO. 1 OF 1	
TOWING (at depth)	30"	METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend)	15' 20"	CARRYOVER			BOTTOM DEPTH	
AMT. OF WIRE OUT	300 meters	FINAL	70950	25397	ACCEPTED POSITION	
TOTAL NO. OF ANGLES	30	INITIAL	67072	2519	latitude ° ' N	
		DIFF.	3878	3878	longitude ° ' W	
		Mesh size (um)	202µm	202µm	OBSERVER: OE	

ANGLES	48	45	45	43	43	43	44	45	45	46	47	47	47	47	46
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160

ANGLES	46	45	44	45	45	44	44	45	45	45	47	47	45	43	39
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth half surf.				250						200				
ANGLES															
WIRE OUT	150					100						50			

NO. OF JARS PORT	NO. OF JARS STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND ° direction knots
1P	Q						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
OE							
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:		SWELL ° FT. direction height		
			when mended:		SEA (condition)		
COLLECTORS INIT.			before sta	after sta			
RR							

REMARKS:

NET TOW DATA SHEET

should be 400
→

LOPC
Bongo
(Deployed)
Event # 396

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KN	17	CNCL2	06-05-20	2204	2227—
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 7' 03"	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) '50"	METER NO. 20318	09446	BUCKET TEMP. °C:			
TOTAL (ascend) 15' 38"	CARRYOVER	BOTTOM DEPTH		meters fathoms		
AMT. OF WIRE OUT 300 meters	FINAL 72781	29205	ACCEPTED POSITION			
	INITIAL 70950	24308	latitude ° 'N			
	DIFF.		longitude ° 'W			
TOTAL NO. OF ANGLES 30	Mesh size (um) 202um	202um	OBSERVER: OE			

ANGLES	45	43	45	45	45	46	46	46	45	46	45	45	45	45	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	45	45	45	45	43	44	42	42	45	46	47	46	39	
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth	half	surf.			250					200				
ANGLES															
WIRE OUT	150					100					50				

NO. OF JARS PORT	NO. OF STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
1P	Q						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
OE					rain		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	SWELL direction FT. height			
			when mended:	SEA (condition)			
COLLECTORS INIT.			before sta	after sta			
RR							

REMARKS:

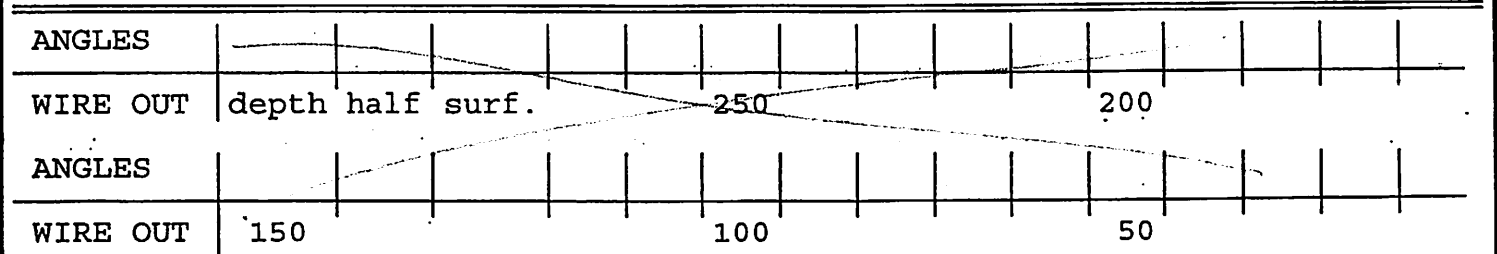
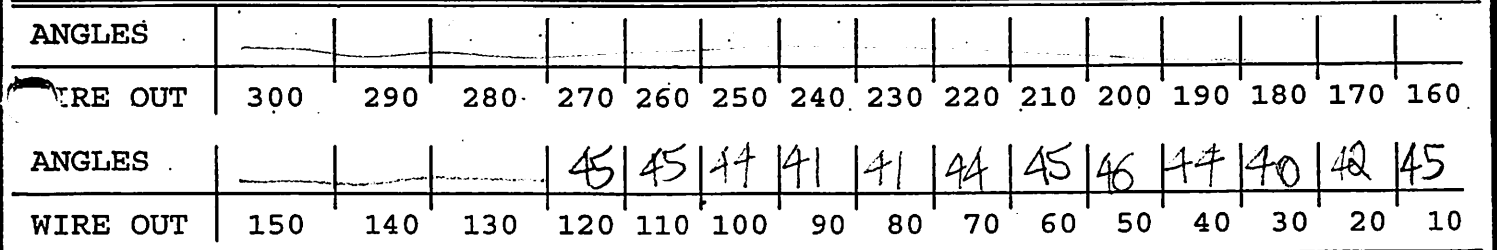
NET TOW DATA SHEET

LOPC ✓

Bonjo

(Deployed)
Event # 413

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)	
					BEGIN TOW	END TOW
0605	KN	1	Cycle 3	06 05 21	23:13	23:23 —
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	3 '07 "	NET NO.			TOW NO. 1 OF 1	
		METER NO.			BUCKET TEMP. °C:	
TOWING (at depth)	'30 "	CARRYOVER			BOTTOM DEPTH	
					128.7	meters fathoms
TOTAL (ascend)	5 '56 "	FINAL	76435	30862	ACCEPTED POSITION	
		INITIAL	74782	29259	latitude	° 'N
AMT. OF WIRE OUT	120 meters	DIFF.	1653	1603	longitude	° 'W
TOTAL NO. OF ANGLES	12	Mesh size (um)	202um	202um	OBSERVER: OE	



NO. OF JARS PORT	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
1 Port / STB. Q						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)	
JP						
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	when mended: before sta after sta		SWELL direction height FT.
COLLECTORS INIT.						SEA (condition)

REMARKS:

LOPC ✓
Bongjo
(Deployed)
Event # 425

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW										
0605	KN	2	cycle 3	06 05 22	1014	—									
TIME min. sec.		MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL										
SINKING (descend) 2' 37"		NET NO.	LTER	LTER	TOW NO. 1 OF 1										
TOWING (at depth) 30"		METER NO.			BUCKET TEMP. °C:										
TOTAL (ascend) 4' 20"		CARRYOVER			BOTTOM DEPTH 80 meters fathoms										
AMT. OF WIRE OUT 90 meters		FINAL	77813	32211	ACCEPTED POSITION										
		INITIAL	76435	30863	latitude ___° ___' N										
		DIFF.			longitude ___° ___' W										
TOTAL NO. OF ANGLES 9		Mesh size (um)	202 _{um}	202 _{um}	OBSERVER: JP, RR										
ANGLES	----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----														
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----														
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10
ANGLES	----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----														
WIRE OUT	depth half surf.				250				200						
ANGLES	----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----														
WIRE OUT	150				100				50						
NO. OF JARS PORT 10		JARS STB. 0		NET CLOGGING (check 1)		none or slight	moderate	heavy	very heavy	WIND ° direction knots					
FORMALIN & BORATE ADDED		NET WASHING (check 1)		none	rinsed	washed				SKY (condition)					
ALCOHOL ADDED		RIPS AND HOLES IN NET		none	location:				SWELL ° FT. direction height						
COLLECTORS INIT.						when mended:		before sta		after sta		SEA (condition)			

REMARKS:

NET TOW DATA SHEET

LOPC ✓

Bonjo

(Deployed)
Event # (417)

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)	
0605	KN	3	cycle 3	06 05 22	22:07	22:17 —
TIME min. sec.	MESH	PORT Lopc	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 3' 38"	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) 30"	METER NO. 20318	09446	BUCKET TEMP. °C:			
TOTAL (ascend) 6' 25"	CARRYOVER	BOTTOM DEPTH				
AMT. OF WIRE OUT meters 100	FINAL 79394	33759	ACCEPTED POSITION			
TOTAL NO. OF ANGLES 10	INITIAL 77813	32210	latitude ___° ___' N			
	DIFF.		longitude ___° ___' W			
	Mesh size (um) 202 um	202 um	OBSERVER: PTJ			

ANGLES	[Graph showing angle vs wire out]																
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160		
ANGLES	[Graph showing angle vs wire out]																
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10		
ANGLES	[Graph showing angle vs wire out]																
WIRE OUT	depth half surf.					250						200					
ANGLES	[Graph showing angle vs wire out]																
WIRE OUT	150						100						50				

NO. OF PORT JARS 1P	STB. Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:		SWELL direction height FT.		
COLLECTORS INIT.			when mended:	before sta	after sta	SEA (condition)	

REMARKS:

NET TOW DATA SHEET

LOPC

Bonjo

(Deployed)
Event # 467

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE			HOUR (PST)								
				YR	MO	DY	BEGIN TOW	END TOW							
0605	Kuarr	4	Cycle 3	06	05	23	10 05	1016 —							
TIME	min. sec.	MESH	PORT Lopc	STB.	TOW TYPE: CAL BOBL										
SINKING (descend)	3' 39"	NET NO.			TOW NO. 1 OF 1										
TOWING (at depth)	0' 30"	METER NO.	20318	09446	BUCKET TEMP. °C:										
TOTAL (ascend)	6' 32"	CARRYOVER			BOTTOM DEPTH										
AMT. OF WIRE OUT	120 meters	FINAL	81094	35418	110 meters fathoms										
		INITIAL	79394	33759	ACCEPTED POSITION										
		DIFF.			latitude ___° ___'N longitude ___° ___'W										
TOTAL NO. OF ANGLES	12	Mesh size (um)	202 um	202 um	OBSERVER:										
ANGLES	_____														
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	_____			44	43	42	41	44	46	47	47	46	45	46	49
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10
ANGLES	_____														
WIRE OUT	depth half surf.				250				200						
ANGLES	_____														
WIRE OUT	150				100				50						
NO. OF JARS PORT	12	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots								
FORMALIN & BORATE ADDED	Q	NET WASHING (check 1)	none	rinsed	washed		SKY (condition)								
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location:			SWELL direction height FT.								
COLLECTORS INIT.				when mended:			SEA (condition)								
REMARKS:															

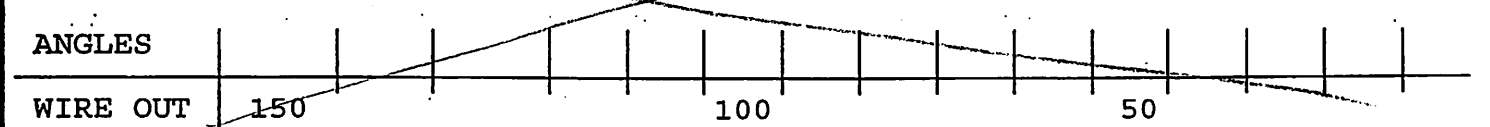
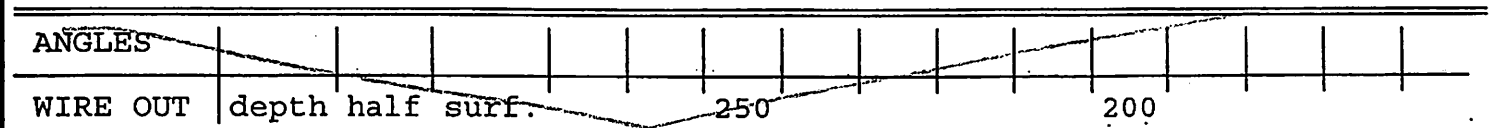
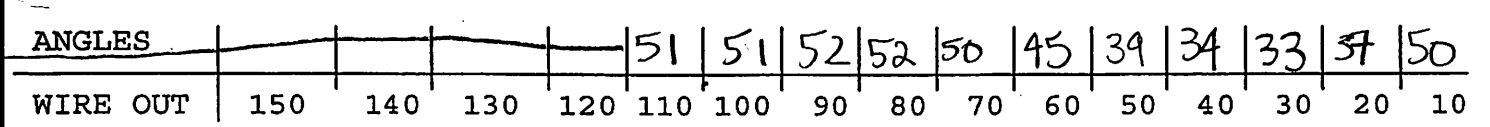
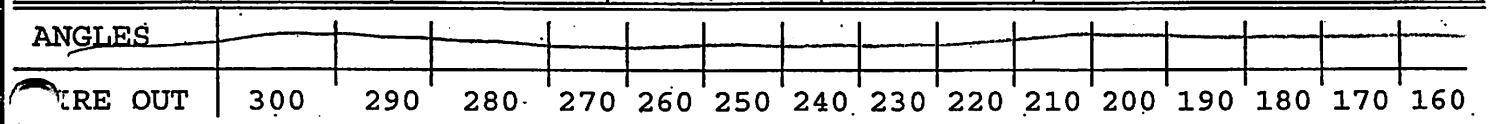
NET TOW DATA SHEET

LOPC

Bongo

(Deployed)
Event # 476

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)	
					BEGIN TOW	END TOW
0605	Koor	5	cycle 3	06 05 23	1305	1314 —
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	3 ' 20 "	NET NO.	LTER	LTER	TOW NO. 1 OF 1	
TOWING (at depth)	' 30 "	METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend)	5 ' 34 "	CARRYOVER			BOTTOM DEPTH	
AMT. OF WIRE OUT	100 meters	FINAL	82662	36953	ACCEPTED POSITION	
		INITIAL	81094	35419	latitude ___° ___'N	
		DIFF.			longitude ___° ___'W	
TOTAL NO. OF ANGLES	10	Mesh size (um)	202µm	202µm	OBSERVER: OE	



NO. OF JARS PORT	JARS STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND ° direction knots
1 Q	Q						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
53 formalin							
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:		SWELL ° FT. direction height		
			when mended: before sta after sta		SEA (condition)		

REMARKS:

NET TOW DATA SHEET

LOPC

Bongjo

(Deployed)
Event # 477

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE		HOUR (PST)									
				YR	MO	DAY	BEGIN TOW	END TOW							
0605	KNOR	6	Cycle 3	06	05	23	1626	1635							
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL										
SINKING (descend)	2' 32"	NET NO.			TOW NO. 1 OF 1										
TOWING (at depth)	30"	METER NO.	28318	09446	BUCKET TEMP. °C:										
TOTAL (ascend)	5' 08"	CARRYOVER			BOTTOM DEPTH										
AMT. OF WIRE OUT	100 meters	FINAL	84282	38565	ACCEPTED POSITION										
TOTAL NO. OF ANGLES	0	INITIAL	82663	36956	latitude ___° ___' N										
		DIFF.			longitude ___° ___' W										
		Mesh size (um)	202um	202um	OBSERVER: PD										
ANGLES	[Graph: Angles vs Wire Out]														
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	[Graph: Angles vs Wire Out]														
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10
ANGLES	[Graph: Angles vs Wire Out]														
WIRE OUT	depth half surf.				250	200									
ANGLES	[Graph: Angles vs Wire Out]														
WIRE OUT	150	100				50									
NO. OF JARS PORT	1P	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots								
FORMALIN & BORATE ADDED	0	NET WASHING (check 1)	none	rinsed	washed		SKY (condition)								
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location:		when mended:		SWELL direction height FT.							
COLLECTORS INIT				before sta	after sta		SEA (condition)								

REMARKS:

NET TOW DATA SHEET

LOPC

Bonjo

(Deployed)

Event # 479

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)																
					BEGIN TOW	END TOW															
0605	Knarr	7	code 3	06 05 23	18 03	18 13 —															
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL																
SINKING (descend)	2 ' 58 "	NET NO.			TOW NO. 1 OF 1																
TOWING (at depth)	' 30 "	METER NO.	20318	09446	BUCKET TEMP. °C:																
TOTAL (ascend)	5 ' 03 "	CARRYOVER			BOTTOM DEPTH																
AMT. OF WIRE OUT	100 meters	FINAL	85833	40065	87 meters fathoms																
		INITIAL	84282	38564	ACCEPTED POSITION																
		DIFF.	1651	1501	latitude ___° ___'N longitude ___° ___'W																
TOTAL NO. OF ANGLES	10	Mesh size (um)	202 um	202 um	OBSERVER: OE																
ANGLES	[Graph: Angles vs Wire Out]																				
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160						
ANGLES	[Graph: Angles vs Wire Out]																				
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10						
ANGLES	[Graph: Angles vs Wire Out]																				
WIRE OUT	depth half surf.						250							200							
ANGLES	[Graph: Angles vs Wire Out]																				
WIRE OUT	150							100							50						
NO. OF JARS PORT	1 Pint	JARS STB.	Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND ° direction knots												
FORMALIN & BORATE ADDED	OE	NET WASHING (check 1)		none	rinsed	washed	SKY (condition)														
ALCOHOL ADDED		RIPS AND HOLES IN NET		none	location:		SWELL ° FT. direction height														
COLLECTORS INIT.					when mended: before sta after sta		SEA (condition)														

REMARKS:

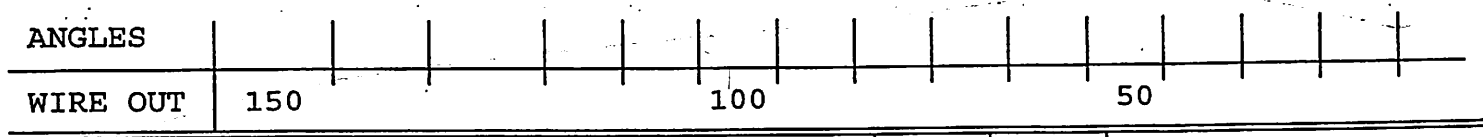
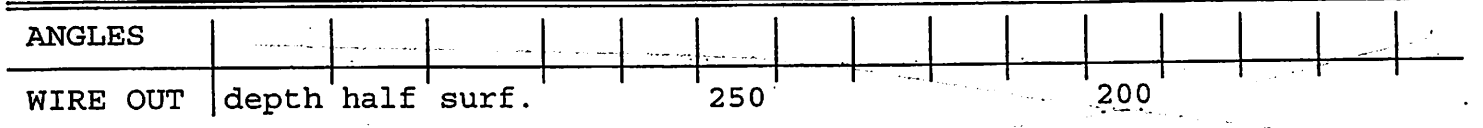
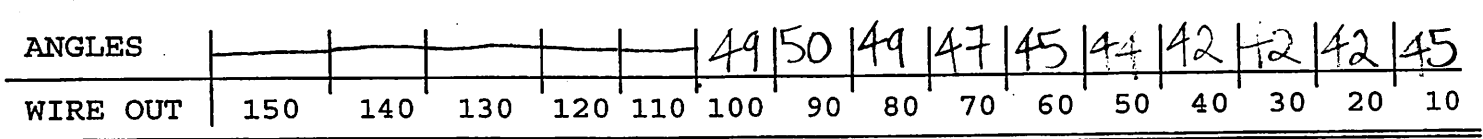
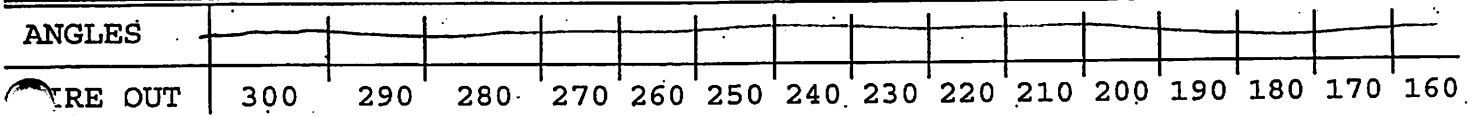
LOPC

Bonjo

(Deployed)
Event # 483

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	Knorr	8	cycle 3	06 05 83	20 06	20 15 —
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	3 ' 13 "	NET NO.			TOW NO. 1 OF 1	
TOWING (at depth)	' 30 "	METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend)	5 ' 20 "	CARRYOVER			BOTTOM DEPTH 94 ^{meters} fathoms	
AMT. OF WIRE OUT	100 meters	FINAL	87365	41538	ACCEPTED POSITION	
		INITIAL	85833	40065	latitude ° ' N	
		DIFF.	1532	1473	longitude ° ' W	
TOTAL NO. OF ANGLES	10	Mesh size (um)	202um	202um	OBSERVER: OE	



NO. OF JARS PORT	Q	NET CLOGGING (check 1)	Q	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED		NET WASHING (check 1)		none	rinsed	washed		SKY (condition)
ALCOHOL ADDED		RIPS AND HOLES IN NET		none	location:			SWELL direction height
COLLECTORS INIT.					when mended:			SEA (condition)
					before sta	after sta		

REMARKS:

LOPC

Bonjo

(Deployed)
Event # 487

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KNORR	9	CYCLE 3	06-05-23	22 02	22 12 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 3 ' 30 "	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) ' 30 "	METER NO. 20318		09446	BUCKET TEMP. °C:		
TOTAL (ascend) 5 ' 59 "	CARRYOVER			BOTTOM DEPTH 100 meters fathoms		
AMT. OF WIRE OUT 110 meters	FINAL 89013		43177	ACCEPTED POSITION		
	INITIAL 87365		41538	latitude —° —.' 'N		
	DIFF. 1648		1639	longitude —° —.' 'W		
TOTAL NO. OF ANGLES 11	Mesh size (um) 202mm		202mm	OBSERVER: OE		

ANGLES	----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----																
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160		
ANGLES	----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----																
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10		
ANGLES	----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----																
WIRE OUT	depth half surf. 250 200																
ANGLES	----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----																
WIRE OUT	150											100					50

NO. OF JARS PORT 12	JARS STB. 0	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND ° direction knots
FORMALIN & BORATE ADDED OE	NET WASHING (check 1)	none	rinsed	washed			SKY (condition)
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:				SWELL ° FT. direction height
COLLECTORS INIT			when mended:				SEA (condition)
			before sta	after sta			

REMARKS:

NET TOW DATA SHEET

LOPC

Bongo

(Deployed)
Event # 495

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	Knorr	10	cycle 3	06 05 24	0104	0117 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 4 '54"	NET NO.	LTER	LTER	TOW NO. 1 OF 1		
TOWING (at depth) '30"	METER NO.	20318	09446	BUCKET TEMP. °C:		
TOTAL (ascend) 7 '00"	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT 120 meters	FINAL	90958	45062	ACCEPTED POSITION latitude ° 'N longitude ° 'W		
	INITIAL	89013	43178			
	DIFF.	1945	1884			
TOTAL NO. OF ANGLES 12	Mesh size (um)	202µm	202µm	OBSERVER: OE		

ANGLES	[Graph showing angle vs wire out]														
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES				54	51	47	47	46	46	45	47	51	55	53	46
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES	[Graph showing angle vs wire out]													
WIRE OUT	depth half surf.				250				200					
ANGLES	[Graph showing angle vs wire out]													
WIRE OUT	150				100				50					

NO. OF JARS PORT 12	STB. 2	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED OE	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	when mended: before sta after sta			SWELL direction height FT.
COLLECTORS INIT.						SEA (condition)	

REMARKS:

NET TOW DATA SHEET

LOPC

Bonjo

(Deployed)
Event # 504

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)	
					BEGIN TOW	END TOW
0605	KNORR	11	CYCLE 3	060524	0439	0449 —
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	3' 50"	NET NO.			TOW NO. 1 OF 1	
TOWING (at depth)	0' 30"	METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend)	6' 25"	CARRYOVER			BOTTOM DEPTH	
AMT. OF WIRE OUT	130 meters	FINAL	92946	46881	ACCEPTED POSITION	
TOTAL NO. OF ANGLES	13	INITIAL	90958	45068	latitude —° —.' —" N	
		DIFF.			longitude —° —.' —" W	
		Mesh size (um)	202 um	202 um	OBSERVER: RR, AK	

ANGLES																		
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160			
ANGLES			54	50	47	45	45	45	45	46	49	49	49	47	44			
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10			

ANGLES																		
WIRE OUT	depth	half surf.				250						200						
ANGLES																		
WIRE OUT	150					100						50						

NO. OF JARS PORT	1 Q	STB.	Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND	334 ° 15	direction knots
FORMALIN & BORATE ADDED	SD			NET WASHING (check 1)	none	rinsed		washed	SKY (condition)	night	
ALCOHOL ADDED				RIPS AND HOLES IN NET	none	location:			SWELL	NNW ° 1	FT. direction height
COLLECTORS INIT.	SD					when mended:			SEA (condition)	light chop	

REMARKS:

NET TOW DATA SHEET

LOPC

Bongjo

(Deployed)
Event # 506

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KNORR	12	cycle 3	06 05 24	0638	0649 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 3 ' 46 "	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) ' 30 "	METER NO. 20318	09446		BUCKET TEMP. °C:		
TOTAL (ascend) 6 ' 43 "	CARRYOVER			BOTTOM DEPTH 130 meters fathoms		
AMT. OF WIRE OUT 140 meters	FINAL 9507	48882		ACCEPTED POSITION latitude ° ' N longitude ° ' W		
	INITIAL 92946	46887				
	DIFF. 2071	1995				
TOTAL NO. OF ANGLES 14	Mesh size (um)	202 um		OBSERVER: JR		

ANGLES																
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160	
ANGLES		53	53	55	55	51	49	47	47	46	43	41	35	34	38	
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10	

ANGLES																
WIRE OUT	depth half surf.			250							200					
ANGLES																
WIRE OUT	150					100						50				

NO. OF JARS PORT 10	JARS STB. Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED JR		NET WASHING (check 1)	none	rinsed	washed		SKY (condition)
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location: when mended: before sta after sta			SWELL direction height FT.
COLLECTORS INIT.							SEA (condition)

REMARKS:

LOPC
Bongjo
(Deployed)
Event # 508

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	Knorr	13	0203	06 05 24	1014	1027 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 5'40"	NET NO.	LTER	LTER	TOW NO. 1 OF 1		
TOWING (at depth) 0'30"	METER NO.	20318	00000	BUCKET TEMP. °C:		
TOTAL (ascend) 7'37"	CARRYOVER			BOTTOM DEPTH 140 meters fathoms		
AMT. OF WIRE OUT 150 meters	FINAL			ACCEPTED POSITION latitude longitude ° 'N ° 'W		
TOTAL NO. OF ANGLES 15	INITIAL	95017*	488424	OBSERVER:		
	DIFF.	98002	57892			
	Mesh Size (um)	202/um	202/um			

ANGLES															
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	44	50	52	52	51	48	47	44	40	35	33	34	35	39	50
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth half surf.					250						200			
ANGLES															
WIRE OUT	150					100						50			

NO. OF JARS PORT	JARS STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
10	0						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition) mostly clear		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location: when mended: before sta after sta		SWELL direction height FT.		
COLLECTORS INIT.					SEA (condition) Chop		

REMARKS: * Spinning in wind on descent

LOPC

Bonjo

(Deployed)
Event # 521

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0005	bonjo	14	Cycle 3	2004	2204	2216 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 4 ' 43 "	NET NO.	LTER	LTER	TOW NO. 1 OF 1		
TOWING (at depth) ' 30 "	METER NO.	20318	20316	BUCKET TEMP. °C:		
TOTAL (ascend) 6 ' 56 "	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT 130 meters	FINAL	00187	54334	125		
	INITIAL	98006	51892	ACCEPTED POSITION latitude ° ' N longitude ° ' W		
	DIFF. *	2181	3442			
TOTAL NO. OF ANGLES 13	Mesh size (um)	202	202	OBSERVER: OE		

ANGLES	[Graph showing angle vs wire out]														
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160

ANGLES			46	46	45	42	41	42	46	48	49	46	41	35	42
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES	[Crossed out graph]													
WIRE OUT	depth half surf.				250				200					

ANGLES	[Crossed out graph]													
WIRE OUT	150				100				50					

NO. OF JARS PORT 1 Q	STB. Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED OE	NET WASHING (check 1)	none	rinsed	washed	SKY (condition) WINDY		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:		SWELL direction FT. height		
COLLECTORS INIT.			when mended:	before sta	after sta	SEA (condition)	

REMARKS: * High meter reading due to wind.

NET TOW DATA SHEET

LOPC

Bonjo

(Deployed)
Event # 563

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KNORR	1	Cycle 4	06 05 27	1330	1353 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 7' 13"	NET NO.	LTER 402	LTER #01	TOW NO. 1 OF 1		
TOWING (at depth) '30"	METER NO.	20318	09446	BUCKET TEMP. °C:		
TOTAL (ascend) 16' 00"	CARRYOVER			BOTTOM DEPTH 3414 meters fathoms		
AMT. OF WIRE OUT 300 meters	FINAL	17348	58607	ACCEPTED POSITION		
	INITIAL	13105 *	54338	latitude —° —' N		
	DIFF.	4243	4271	longitude —° —' W		
TOTAL NO. OF ANGLES 30	Mesh size (um)	202	202	OBSERVER: OE		

ANGLES	45	47	47	47	47	48	47	48	47	46	45	43	41	40	44
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	45	46	49	49	50	52	49	48	45	45	45	45	42	40
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth	half surf.				250						200			
ANGLES															
WIRE OUT	150					100						50			

NO. OF JARS PORT 1 pt	STB. Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED OE		NET WASHING (check 1)	none	rinsed	washed		SKY (condition) clear + windy
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location:			SWELL direction height FT.
COLLECTORS INIT. JP				when mended:			SEA (condition)
				before sta	after sta		

REMARKS: * flow meter was spinning in the wind, false high reading.

NET TOW DATA SHEET

LOPC

Bonjo

(Deployed)
Event # 592

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	Knorr	4	Cycle 4	06 05 28	1309	1332 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 7' 10"	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) ' 30"	METER NO. 20 318		09446	BUCKET TEMP. °C:		
TOTAL (ascend) 15' 03"	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT 300 meters	FINAL 34282		72769	ACCEPTED POSITION latitude ° ' " N longitude ° ' " W		
TOTAL NO. OF ANGLES 30	INITIAL 29458		67910	OBSERVER: OE		
	DIFF. 4824		4859			
	Mesh size (um) 202um		202um			

ANGLES	48	49	48	46	46	46	45	45	43	43	43	42	44	44	43
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160

ANGLES	43	44	44	44	44	44	44	44	44	45	45	46	49	48	
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES																
WIRE OUT	depth half surf.				250				200							

ANGLES																
WIRE OUT	150				100				50							

NO. OF JARS PORT 1 Q	STB. 0	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED OE	NET WASHING (check 1)	none	rinsed	washed	SKY (condition) windy		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	when mended: before sta after sta			SWELL direction height FT.
COLLECTORS INIT. JP							SEA (condition)

REMARKS: High meter reading due to wind.

NET TOW DATA SHEET

LOPC
Bongo
(Deployed)
Event # 598

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)	
					BEGIN TOW	END TOW
0605	Knorr	6	Cycle 4	060528	1805	1827 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 7' 04"	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) '30"	METER NO. 20318	09446	BUCKET TEMP. °C:			
TOTAL (ascend) 14' 46"	CARRYOVER		BOTTOM DEPTH			
AMT. OF WIRE OUT 300 meters	FINAL * 43226	81363	ACCEPTED POSITION			
TOTAL NO. OF ANGLES 30	INITIAL 38657	77101	latitude ° ' " N			
	DIFF. 4569	4262	longitude ° ' " W			
	Mesh size (um) 202um	202um	OBSERVER: OE			

ANGLES	49	49	48	49	48	48	47	48	48	42	48	48	46	45	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	45	45	45	45	46	45	43	40	40	41	45	46	43	43
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth	half surf.				250						200			
ANGLES															
WIRE OUT	150					100						50			

NO. OF JARS PORT	STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
1 Q	Q						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition) WINDY		
OE							
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	SWELL direction height FT.			
			when mended: before sta after sta	SEA (condition)			

REMARKS: High meter reading due to wind.

NET TOW DATA SHEET

LOPC

Bonjo

(Deployed)
Event # 603

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)										
					BEGIN TOW	END TOW									
0605	KNORR	7	CYCLE4	06 05 28	2010	2032 —									
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL										
SINKING (descend)	7 '00"	NET NO.			TOW NO. 1 OF 1										
TOWING (at depth)	'28"	METER NO.	20318	09446	BUCKET TEMP. °C:										
TOTAL (ascend)	14 '55"	CARRYOVER			BOTTOM DEPTH										
AMT. OF WIRE OUT	300 meters	FINAL	48712	87143	ACCEPTED POSITION										
TOTAL NO. OF ANGLES	30	INITIAL	43226	81633	latitude ° ' N										
		DIFF.	5486	5510	longitude ° ' W										
		Mesh size (um)	202um	202um	OBSERVER: PMH										
ANGLES	47	46	47	48	48	46	46	47	49	52	50	49	48	47	47
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	47	46	46	45	45	45	46	46	45	40	35	35	43	49	51
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10
ANGLES															
WIRE OUT	depth half surf.			250				200							
ANGLES															
WIRE OUT	150			100				50							
NO. OF JARS PORT	1 Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots								
FORMALIN & BORATE ADDED	OE	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)									
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location:		SWELL direction height FT.									
COLLECTORS INIT.				when mended:	before sta	after sta	SEA (condition)								
REMARKS:															

NET TOW DATA SHEET

LOPC
Bongjo
(Deployed)
Event # 605

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)	
0605	Knorr	8	Cycle 4	06 05 28	BEGIN TOW	END TOW
TIME min. sec.		MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend) 7' 48"		NET NO.	LTER	LTER	TOW NO. 1 OF 1	
TOWING (at depth) 30"		METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend) 15' 08"		CARRYOVER			BOTTOM DEPTH	
AMT. OF WIRE OUT 300 meters		FINAL	53404	91978	ACCEPTED POSITION	
TOTAL NO. OF ANGLES 30		INITIAL	48712	87143	latitude ___° ___' N	
Mesh size (um) 202µm		DIFF.			longitude ___° ___' W	
			202µm	202µm	OBSERVER: DE	

ANGLES	45	44	48	50	49	49	47	45	41	45	45	45	45	42	42
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	42	41	40	40	40	40	41	45	52	51	47	41	39	35	56
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth	half surf.				250					200				
ANGLES															
WIRE OUT	150					100					50				

NO. OF JARS PORT	1	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED	✓	NET WASHING (check 1)	none	rinsed	washed		SKY (condition)
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location: port			SWELL direction height FT.
COLLECTORS INIT.				when mended: before sta after sta			SEA (condition)

REMARKS: Port side net torn (6" hole below first white panel), replaced.

NET TOW DATA SHEET

LOPC

Bongo

(Deployed)

Event # 611

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE			HOUR (PST)								
				YR	MO	DY	BEGIN TOW	END TOW							
0605	KNORR	9	Cycle 4	06	05	29	0105	0130							
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL										
SINKING (descend)	7' 33"	NET NO.	LTER	LTER	TOW NO. 1 OF 1										
TOWING (at depth)	' 30"	METER NO.	20318	09446	BUCKET TEMP. °C:										
TOTAL (ascend)	15' 24"	CARRYOVER			BOTTOM DEPTH										
AMT. OF WIRE OUT	300 meters	FINAL	58368	96955	ACCEPTED POSITION										
TOTAL NO. OF ANGLES	30	INITIAL	53405	91979	latitude ___° ___' N										
		DIFF.			longitude ___° ___' W										
		Mesh size (um)	202um	202um	OBSERVER:										
ANGLES	46	47	45	44	43	44	44	45	45	45	44	44	45	44	43
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	43	42	46	46	48	48	47	47	45	42	34	51	55	60	63
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10
ANGLES															
WIRE OUT	depth half surf.			250			200								
ANGLES															
WIRE OUT	150			100			50								
NO. OF PORT JARS	10	NET CLOGGING (check 1)	Q	none or slight	moderate	heavy	very heavy	WIND ° direction knots							
FORMALIN & BORATE ADDED		NET WASHING (check 1)		none	rinsed	washed	SKY (condition)								
ALCOHOL ADDED		RIPS AND HOLES IN NET		none	location:		SWELL ° FT. direction height								
COLLECTORS INIT.					when mended:	before sta	after sta	SEA (condition)							

REMARKS:

NET TOW DATA SHEET

LOPC

Bongo

(Deployed) 618
Event # 101

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)										
					BEGIN TOW	END TOW									
0005	Kmrd	10	Bongo 21	06/05/29	0448	0510 —									
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL										
SINKING (descend)	7' 37"	NET NO.	LTEX	LTEX	TOW NO. 1 OF 1										
TOWING (at depth)	30"	METER NO.	20318	09446	BUCKET TEMP. °C:										
TOTAL (ascend)	14' 39"	CARRYOVER			BOTTOM DEPTH										
AMT. OF WIRE OUT	300 meters	FINAL	63452	02118	ACCEPTED POSITION										
TOTAL NO. OF ANGLES		INITIAL	58368	90954	latitude ___° ___'N										
		DIFF.			longitude ___° ___'W										
		Mesh size (um)	202	202	OBSERVER: MD, AK										
ANGLES	50	48	47	47	46	46	46	46	46	46	47	47	47	46	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	45	43	44	45	44	43	42	45	47	46	45	43	43	46
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10
ANGLES															
WIRE OUT	depth half surf.			250				200							
ANGLES															
WIRE OUT	150			100				50							
NO. OF JARS PORT	STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND								
	Q			X	X		334	° 25							
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		direction knots								
					starry / partly cloudy										
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	when mended:		SWELL									
				before sta	after sta	° 5-8 FT.									
COLLECTORS INIT.						direction height									
						SEA (condition)									
						~ 4.5									

REMARKS: cold, windy, a little out board angle (-25° outboard angle).

NET TOW DATA SHEET

LOPC
Bongjo
(Deployed)
Event # 620

CRUISE 0605	SHIP Knoir	ORDER OCCUPIED 11	STATION LINE STATION Circle 4	DATE YR MO DY 0605 29	HOUR (PST) BEGIN TOW END TOW 0645 0708	
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 8' 07"	NET NO.	LTER	LTER	TOW NO. 1 OF 1		
TOWING (at depth) 1' 30"	METER NO.	20318	09446	BUCKET TEMP. °C:		
TOTAL (ascend) 14' 30"	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT meters 300	FINAL	68028	06609	ACCEPTED POSITION latitude ° ' N longitude ° ' W		
TOTAL NO. OF ANGLES 30	INITIAL	03452	02119	OBSERVER: Mo, JP, MD		
	DIFF.					
	Mesh size (um)	202	202			

ANGLES	53	52	51	48	47	47	47	47	47	47	47	47	47	47	46
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	47	47	45	45	45	43	47	41	41	42	42	42	20	42	
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth half surf.				250				200						
ANGLES															
WIRE OUT	150				100				50						

NO. OF JARS PORT	STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
1Q	Q						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
Mo							
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:		SWELL direction height FT.		
			when mended: before sta after sta		SEA (condition)		

REMARKS:

LOPC

Bongo

NET TOW DATA SHEET

(Deployed)
Event #

622

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	Knorr	12	Cycle 4	06 05 29	0831	0855 —
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	7 ' 39 "	NET NO.			TOW NO. 1 OF 1	
TOWING (at depth)	28 "	METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend)	14 ' 52 "	CARRYOVER			BOTTOM DEPTH meters fathoms	
AMT. OF WIRE OUT meters		FINAL			3575	
		INITIAL	06661	68078	ACCEPTED POSITION	
		DIFF. <i>Find</i>	11529	72729	latitude ° ' " N longitude ° ' " W	
TOTAL NO. OF ANGLES		Mesh size (um)	202um	202um	OBSERVER: MOSE, PH	

ANGLES	51	47	46	47	48	46	45	44	43	45	45	47	45	44	44
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	44	44	45	45	45	47	48	48	48	48	46	45	45	46	46
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth	half	surf.				250					200			
ANGLES															
WIRE OUT	150						100					50			

NO. OF JARS PORT	STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND ° direction knots
12	Q						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
Mo							
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	when mended: before sta after sta		SWELL ° FT. direction height	
						SEA (condition)	

REMARKS:

NET TOW DATA SHEET

LOPC
Bongo
(Deployed)
Event # 624

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	Knorr	13	Cycle 4	060529	1046	1107 —
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	8' 18"	NET NO.			TOW NO. 1 OF 1	
TOWING (at depth)	' 30"	METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend)	15' 24"	CARRYOVER			BOTTOM DEPTH ^{SD 81/00} meters fathoms	
AMT. OF WIRE OUT	300 meters	FINAL	77579	16403	ACCEPTED POSITION	
		INITIAL*	7279	15529	latitude ___° ___' N	
		DIFF.			longitude ___° ___' W	
TOTAL NO. OF ANGLES	30	Mesh size (um)	202	202	OBSERVER: JP	

ANGLES	45	43	42	41	42	42	45	47	47	47	45	45	45	45	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160

ANGLES	44	44	44	45	45	45	47	47	47	45	45	45	48	52	48
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth half surf.				250				200						

ANGLES															
WIRE OUT	150				100				50						

NO. OF JARS PORT	JARS STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
12	0						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:			SWELL direction height FT.	
COLLECTORS INIT.			when mended: before sta after sta			SEA (condition)	

REMARKS: * Spinning mess due to wind

*starboard initial flowmeter # probably wrong

NET TOW DATA SHEET

LOPC

Bonjo

(Deployed)
Event # 635

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	Knorr	14	Cycle 4	06 05 30	10:39	11 02 —
TIME min. sec.		MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend) 7' 22"		NET NO.			TOW NO. 1 OF 1	
TOWING (at depth) 1' 15"		METER NO. 20318	09426		BUCKET TEMP. °C:	
TOTAL (ascend) 14' 52"		CARRYOVER			BOTTOM DEPTH meters fathoms	
AMT. OF WIRE OUT 300 meters		FINAL 23063	22034		ACCEPTED POSITION latitude ° 'N longitude ° 'W	
TOTAL NO. OF ANGLES 30		INITIAL 77617	16402		OBSERVER: PD	
DIFF.						
MESH SIZE (um) 202 µm		202 µm	202 µm			

ANGLES	48	48	48	48	48	50	49	46	46	45	47	46	47	46	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	44	43	42	42	44	45	45	45	45	50	52	49	30	25
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES																
WIRE OUT	depth half surf.				250				200							
ANGLES																
WIRE OUT	150				100				50							

NO. OF JARS PORT 1 Q	STB. Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED 59 formalin		NET WASHING (check 1)	none	rinsed	washed		SKY (condition)
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location:			SWELL direction height FT.
COLLECTORS INIT.				when mended:	before sta	after sta	SEA (condition)

REMARKS:

39
22

LOPC

Bongjo

(Deployed)
Event # 650

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KNOX	15	Cycle-4	060530	2123	2128 —
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	7' 12"	NET NO.			TOW NO. 1 OF 1	
TOWING (at depth)	30"	METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend)	16' 21"	CARRYOVER			BOTTOM DEPTH	
AMT. OF WIRE OUT	20 meters	FINAL	83097	22034	ACCEPTED POSITION	
TOTAL NO. OF ANGLES	20	INITIAL	5729	5552	latitude ° 'N	
		DIFF.			longitude ° 'W	
		MESH size (um)	202 um	202 um	OBSERVER: DE	

ANGLES	47	47	47	46	45	42	41	45	45	45	45	45	42	45	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	43	43	42	44	45	42	49	50	47	45	45	40	40	42	55
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth	half	surf.				250					200			
ANGLES															
WIRE OUT	150						100					50			

NO. OF JARS PORT	NO. OF JARS STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
1	0						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	when mended: before sta after sta		SWELL direction height FT.	
						SEA (condition)	

REMARKS:

LOPC

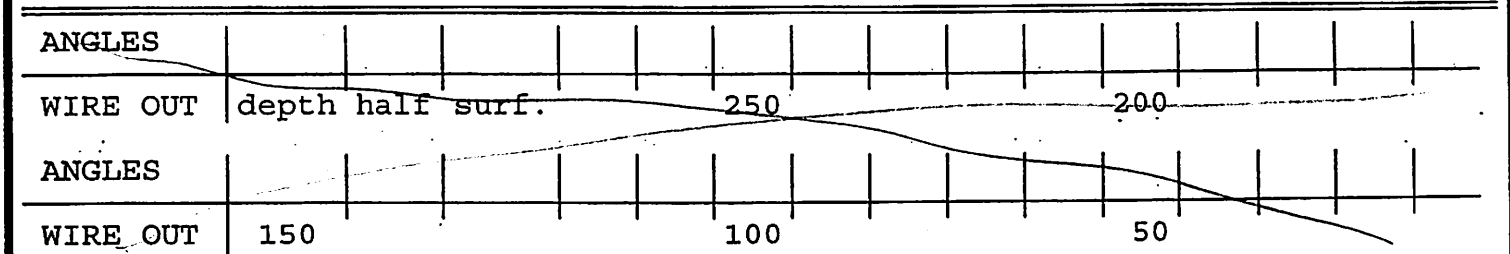
Bonjo

(Deployed)
Event # 654

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	Knoll	1		06 06 01	1206	1230
TIME min. sec.		MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend) 7' 27"		NET NO.			TOW NO. 1 OF 1	
TOWING (at depth) 30"		METER NO. 30318		09446	BUCKET TEMP. °C:	
TOTAL (ascend) 15' 04"		CARRYOVER			BOTTOM DEPTH meters fathoms	
AMT. OF WIRE OUT 300 meters		FINAL 96635		31501	ACCEPTED POSITION latitude ° ' N longitude ° ' W	
TOTAL NO. OF ANGLES 30		INITIAL 92618		37596	OBSERVER: JP?	
		DIFF.				
		Mesh size (um) 202 um		202 um		

ANGLES	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160		
ANGLES	45	45	44	44	43	43	44	43	44	44	45	45	45	45	44		
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10		



NO. OF JARS PORT 1	STB. Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	when mended:	SWELL direction height FT.		
COLLECTORS INIT.			before sta	after sta	SEA (condition)		

REMARKS:

LOPC

Bonjo

(Deployed)
Event # 712

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KINRR	3	CYCLE 5	06 06 02	1140	1202
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 6 ' 39 "	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) ' 35 "	METER NO. 20318		09446	BUCKET TEMP. °C:		
TOTAL (ascend) 14 ' 37 "	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT 300 meters	FINAL 04458	39162		ACCEPTED POSITION latitude ° ' N longitude ° ' W		
	INITIAL 00606	35464				
	DIFF.					
TOTAL NO. OF ANGLES 30	Mesh size (um) 202mm	202mm	202mm	OBSERVER:		

ANGLES	45	45	45	45	45	45	44	44	43	43	43	43	43	43	
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	42	42	42	42	44	45	45	46	49	50	50	49	46	44	
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES																
WIRE OUT	depth half surf.	250					200									
ANGLES																
WIRE OUT	150	100					50									

NO. OF JARS PORT 1p	STB. Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND ° direction knots
FORMALIN & BORATE ADDED		NET WASHING (check 1)	none	rinsed	washed		SKY (condition)
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location:			SWELL ° FT. direction height
COLLECTORS INIT.				when mended:	before sta	after sta	SEA (condition)

REMARKS:

NET TOW DATA SHEET

LOPC

Bongjo

(Deployed)
Event # 717

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)										
					BEGIN TOW	END TOW									
0502	K-10	4	0085	05 02	1341	1423 —									
TIME min. sec.		MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL										
SINKING (descend) 7'25"		NET NO.			TOW NO. 1 OF 1										
TOWING (at depth) 30"		METER NO.			BUCKET TEMP. °C:										
TOTAL (ascend) 4'28"		CARRYOVER			BOTTOM DEPTH										
AMT. OF WIRE OUT 300 meters		FINAL	0824E	42973	ACCEPTED POSITION										
TOTAL NO. OF ANGLES 50		INITIAL	0445E	39162	latitude ___° ___' N										
		DIFF.			longitude ___° ___' W										
		Mesh size (um)	100 um	100 um	OBSERVER: KL SP OE PH										
ANGLES	50	49	49	47	47	47	45	45	45	45	45	45	45	45	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	45	35	45	45	45	44	44	43	43	42	42	42	42	42
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10
ANGLES															
WIRE OUT	depth half surf.			250				200							
ANGLES															
WIRE OUT	150			100				50							
NO. OF PORT JARS	10	NET CLOGGING (check 1)	Q	none or slight	moderate	heavy	very heavy	WIND direction knots							
FORMALIN & BORATE ADDED	KL	NET WASHING (check 1)	1	none	rinsed	washed	SKY (condition)								
ALCOHOL ADDED		RIPS AND HOLES IN NET		none	location:		SWELL direction height FT.								
COLLECTORS INIT.					when mended:	before sta	after sta	SEA (condition)							

REMARKS:

NET TOW DATA SHEET

LOPC

Bongjo

(Deployed)
Event # 720

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0302	R/V	S	Cycle 5	05 05	1630	—
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 6 ' 37 "	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) ' 30 "	METER NO. 2000	09405		BUCKET TEMP. °C:		
TOTAL (ascend) 14 ' 48 "	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT meters 300	FINAL 12463	47224		ACCEPTED POSITION latitude ° ' " N longitude ° ' " W		
TOTAL NO. OF ANGLES 30	INITIAL 08240	42974		OBSERVER: JP KL		
	DIFF. 4220	4050				
	Mesh size (um) 300					

ANGLES	50	55	54	54	52	49	49	48	47	47	47	47	47	46	46
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	46	45	45	44	42	41	41	41	41	43	46	48	49	48	48
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth half surf.				250				200						
ANGLES															
WIRE OUT	150				100				50						

NO. OF JARS PORT 10	NET CLOGGING (check 1) Q	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED ✓	NET WASHING (check 1)	none	rinsed	washed		SKY (condition)
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:			SWELL direction height FT.
COLLECTORS INIT.			when mended:	before sta	after sta	SEA (condition)

REMARKS:

NET TOW DATA SHEET

LOPC

Bonjo

(Deployed)
Event # 701

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
030	Kona	7	1000 E	08 06 00	2000	2000—
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 6' 52"	NET NO.	2708	1704	TOW NO. 1 OF 1		
TOWING (at depth) 30"	METER NO.	2080	1000	BUCKET TEMP. °C:		
TOTAL (ascend) 14' 49"	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT 300 meters	FINAL	2080	55033	ACCEPTED POSITION latitude °. 'N longitude °. 'W		
TOTAL NO. OF ANGLES 30	INITIAL	1272	5206	OBSERVER: JP		
	DIFF.					
	Mesh size (um)	202um	100um			

ANGLES	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	44	44	43	42	43	45	46	48	48	46	45	44	44	41	52
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth half surf.				250				200						
ANGLES															
WIRE OUT	150				100				50						

NO. OF JARS PORT	STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
1P	Q						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
					clouds - light		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	SWELL direction height			
			when mended:	2 FT.			
COLLECTORS INIT.			before sta	after sta	SEA (condition)		
					calm		

REMARKS:

30 50

NET TOW DATA SHEET

LOPC

Bonjo

(Deployed)
Event # 729

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE			HOUR (PST)								
				YR	MO	DY	BEGIN TOW	END TOW							
0605	Knorr	8	cycle 5	06	06	02	2243	2306 —							
TIME	min. sec.	MESH	PORT Lopc	STB.	TOW TYPE: CAL BOBL										
SINKING (descend)	8' 02"	NET NO.	LTER	LTER	TOW NO. 1 OF 1										
TOWING (at depth)	' 30"	METER NO.	20318	09446	BUCKET TEMP. °C:										
TOTAL (ascend)	14' 58"	CARRYOVER			BOTTOM DEPTH										
AMT. OF WIRE OUT	300 meters	FINAL	24742	59122	ACCEPTED POSITION										
TOTAL NO. OF ANGLES	30	INITIAL	20541	55034	latitude ___° ___' N										
		DIFF.	4201	4088	longitude ___° ___' W										
		Mesh size (mm)	202µm	202µm	OBSERVER: 46 JP										
ANGLES	45	45	46	46	46	46	46	46	46	46	46	45	44	44	
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	44	43	42	44	45	47	49	50	50	47	45	42	40	38
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10
ANGLES															
WIRE OUT	depth half surf.				250				200						
ANGLES															
WIRE OUT	150				100				50						
NO. OF JARS PORT	1P	NET CLOGGING (check 1)	Q	none or slight	moderate	heavy	very heavy	WIND direction knots							
FORMALIN & BORATE ADDED	✓	NET WASHING (check 1)		none	rinsed	washed	SKY (condition)								
ALCOHOL ADDED		RIPS AND HOLES IN NET		none	location:		SWELL direction height FT.								
COLLECTORS INIT.					when mended: before sta after sta		SEA (condition)								
REMARKS:															

LOPC

Bonjo

(Deployed)
Event # 735

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	K-11	9	cycle 5	06 06 05	1330	1333
TIME min. sec.	MESH	PORT Lopc	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 7' 19"	NET NO.	LTER	LTER	TOW NO. 1 OF 1		
TOWING (at depth) '35"	METER NO.	20318	09446	BUCKET TEMP. °C:		
TOTAL (ascend) 14' 50"	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT 300 meters	FINAL	64072	29683	ACCEPTED POSITION latitude longitude		
TOTAL NO. OF ANGLES 30	INITIAL	59123	24742	OBSERVER:		
	DIFF.					
	Mesh size (um)	202um	202um			

ANGLES	45	47	46	45	45	45	45	45	45	46	46	46	46	45	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	45	44	44	45	45	45	45	45	45	46	46	44	40	
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth half surf.					250						200			
ANGLES															
WIRE OUT	150					100						50			

NO. OF JARS PORT	JARS STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
10	Q						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	SWELL direction height			
COLLECTORS INIT.			when mended: before sta after sta	SEA (condition)			

REMARKS: May need to switch stbd. + port meter readings

LOPC

Bonggo

(Deployed)
Event # 702

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	Knorr	10	CYCLES	060603	0450	0515 —
TIME min. sec.	MESH	PORT Lopc	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 7' 19"	NET NO.	LTER	LTER	TOW NO. 1 OF 1		
TOWING (at depth) 30"	METER NO.	20318	09446	BUCKET TEMP. °C:		
TOTAL (ascend) 15' 02"	CARRYOVER			BOTTOM DEPTH		
AMT. OF WIRE OUT meters	FINAL	34349	68692	ACCEPTED POSITION		
300	INITIAL	29684	64072	latitude ___° ___' N		
	DIFF.			longitude ___° ___' W		
TOTAL NO. OF ANGLES	Mesh size (um)	202um	202um	OBSERVER:		
30				Moira Natalie		

ANGLES	47	48	46	46	45	44	44	44	45	45	46	46	46	46	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	45	45	44	44	44	44	45	46	47	47	46	46	45	45
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth	half	surf.				250					200			
ANGLES															
WIRE OUT	150						100					50			

NO. OF JARS PORT	NO. OF STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND ° direction knots
10	2						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
					partly cloudy		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:		SWELL 1 FT. direction height		
			when mended:		SEA (condition)		
COLLECTORS INIT.			before sta	after sta	calm		

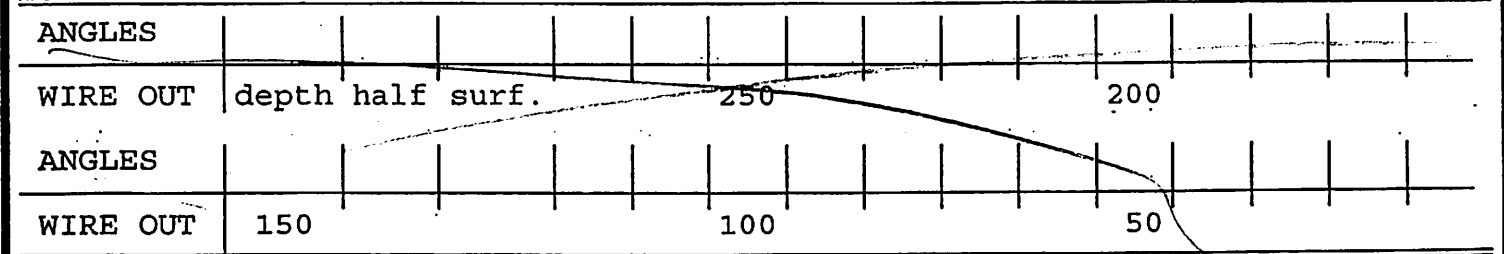
REMARKS:

NET TOW DATA SHEET

LOPC
Bongo
(Deployed)
Event # 744

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KNOX	11	Cycle 5	06 06 03	0645	0707
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	6 ' 48 "	NET NO.			TOW NO. 1 OF 1	
TOWING (at depth)	' 20 "	METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend)	15 ' 03 "	CARRYOVER			BOTTOM DEPTH	
AMT. OF WIRE OUT	300 meters	FINAL	38188	72709	ACCEPTED POSITION	
TOTAL NO. OF ANGLES	30	INITIAL	34350	68694	latitude ___° ___' ___" N longitude ___° ___' ___" W	
		DIFF.			OBSERVER: JP	
		Mesh size (um)	202 um	202 um		

ANGLES	55	54	53	50	47	46	45	45	43	41	41	41	41	41	41
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	41	42	45	45	45	45	45	46	46	46	47	47	46	45	45
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10



NO. OF JARS PORT	1P	NET CLOGGING (check 1)	Q	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED	✓	NET WASHING (check 1)		none	rinsed	washed		SKY (condition)
ALCOHOL ADDED		RIPS AND HOLES IN NET		none	location:			SWELL direction height FT.
COLLECTORS INIT.					when mended:	before sta	after sta	SEA (condition)

REMARKS: 

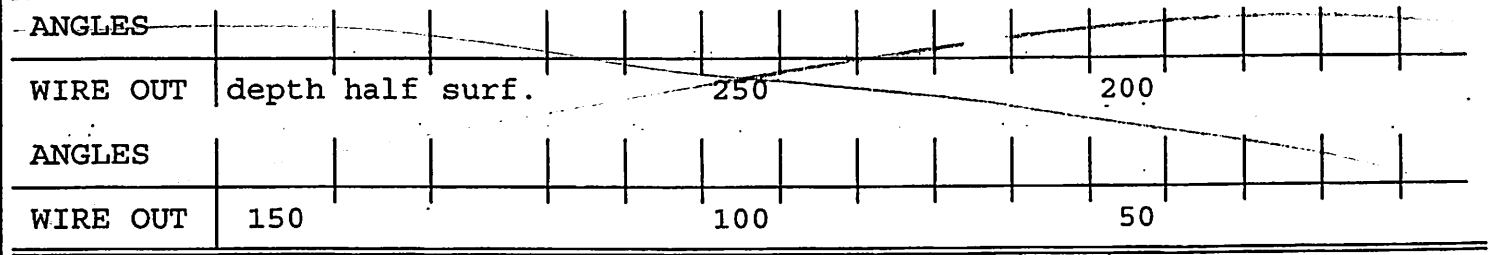
LOPC
Bongo

NET TOW DATA SHEET

(Deployed)
Event #

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0505	Karoo	12	6002	7 5 7	0830	2200
TIME min. sec.	MESH	PORT Lopc	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 05 15	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) 30	METER NO.			BUCKET TEMP. °C:		
TOTAL (ascend) 14 20	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT meters	FINAL	21925	72209	ACCEPTED POSITION latitude ° ' N longitude ° ' W		
TOTAL NO. OF ANGLES	INITIAL	32188				
	DIFF.					
	Mesh size (um)	202		OBSERVER: JP		

ANGLES	40	40	41	41	40	44	45	46	46	46	46	46	46	45	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	45	45	46	49	49	49	49	45	48	46	45	45	43	45
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10



NO. OF JARS PORT 10	STB. Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND ° direction knots
FORMALIN & BORATE ADDED ✓	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location: when mended: before sta after sta		SWELL ° FT. direction height		
COLLECTORS INIT.					SEA (condition)		

REMARKS:

LOPC

Bongjo

(Deployed)
Event # 748

Event # 748

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST)	
					BEGIN TOW	END TOW
0605	Kagor	13	cycle 5	06 26 58	1034	1057 —
TIME	min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend)	6' 38"	NET NO.	422P	422P	TOW NO. 1 OF 1	
TOWING (at depth)	' 38"	METER NO.	20312	20312	BUCKET TEMP. °C:	
TOTAL (ascend)	14' 59"	CARRYOVER			BOTTOM DEPTH	
AMT. OF WIRE OUT	300 meters	FINAL			meters fathoms	
		INITIAL	41952	76958	ACCEPTED POSITION	
		DIFF.			latitude ° ' N longitude ° ' W	
TOTAL NO. OF ANGLES	20	Mesh size (um)	202	202	OBSERVER:	

ANGLES	43	43	43	43	44	44	44	45	45	45	45	45	45	45	
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	45	44	44	46	48	42	46	46	47	46	43	41	45	50	
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES														
WIRE OUT	depth	half surf.				250					200			
ANGLES														
WIRE OUT	150					100					50			

NO. OF JARS PORT	STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
4	Q						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	SWELL direction height FT.			
COLLECTORS INIT.			when mended:	before sta	after sta	SEA (condition)	

REMARKS:

In Quart box

LOPC

Bonjo

(Deployed)
Event # 762

NET TOW DATA SHEET

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	Kearl	14	cycle 5	06 06 03	22 22	2245 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 7 ' 05"	NET NO.	LTER	LTER	TOW NO. 1 OF 1		
TOWING (at depth) ' 31"	METER NO.	20318	09446	BUCKET TEMP. °C:		
TOTAL (ascend) 14 ' 48"	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT meters	FINAL*	51717	86122	ACCEPTED POSITION latitude ° ' N longitude ° ' W		
TOTAL NO. OF ANGLES	INITIAL*	45860	80987	OBSERVER: JP		
	DIFF.	5857	5135			
	Mesh size (um)	202	202			

ANGLES	46	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160	
ANGLES	43	40	41	42	43	44	46	48	49	49	48	49	49	46	48	
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10	

ANGLES																
WIRE OUT	depth	half surf.				250						200				
ANGLES																
WIRE OUT	150					100						50				

NO. OF JARS PORT	STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
18	Q						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
✓							
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	SWELL direction height FT.			
			when mended: before sta after sta	SEA (condition)			

REMARKS: * Meters Spun - in quart box

NET TOW DATA SHEET

777

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW	END TOW
0005	Knorr	15	cycle 5	060604	1259	1323 —
TIME	min. sec.	MESH	PORT	STB. 505	TOW TYPE:	
SINKING (descend)	8' 27"	NET NO.			TOW NO. 1 OF 1	
TOWING (at depth)	' 30"	METER NO.	20318	09446	BUCKET TEMP. °C:	
TOTAL (ascend)	14' 57"	CARRYOVER			BOTTOM DEPTH meters fathoms	
AMT. OF WIRE OUT	300 meters	FINAL	55951	90762	ACCEPTED POSITION	
TOTAL NO. OF ANGLES	30	INITIAL*	51171	86122	latitude ___° ___' N longitude ___° ___' W	
		DIFF.			OBSERVER: OE	

ANGLES	55	54	53	53	52	51	51	50	49	49	46	46	46	45	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160
ANGLES	44	44	44	43	43	43	44	44	45	46	45	44	43	41	40
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth	half	surf.			250						200			
ANGLES															
WIRE OUT	150					100						50			

NO. OF PORT	JARS STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
10	Q						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:	when mended: before sta after sta			SWELL direction height
COLLECTORS INIT.							SEA (condition)

REMARKS: * meters spun in quart box

E-TOTHS

LOPC

Bongjo

NET TOW DATA SHEET

(Deployed)

Event # 779

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	Knorr	16	Cycle 5	060604	1352	1418 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 8 '31 "	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) '30 "	METER NO. 20318	09446	BUCKET TEMP. °C:			
TOTAL (ascend) 15 '28 "	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT 300 meters	FINAL 60623	95337	ACCEPTED POSITION latitude ° 'N longitude ° 'W			
TOTAL NO. OF ANGLES 30	INITIAL* 55951	90762	OBSERVER: JP			
	DIFF. 4672	4575				
	Mesh size (um) 202	202				

ANGLES	45	46	47	47	49	49	49	50	50	49	49	47	47	47	47
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160

ANGLES	45	44	43	42	42	41	43	44	46	47	47	46	44	42	38
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES															
WIRE OUT	depth half surf.							250	200						

ANGLES																
WIRE OUT	150							100				50				

NO. OF JARS PORT	JARS STB.	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND ° direction knots
IP	Q						
FORMALIN & BORATE ADDED	NET WASHING (check 1)	none	rinsed	washed	SKY (condition)		
ALCOHOL ADDED	RIPS AND HOLES IN NET	none	location:		SWELL ° FT. direction height		
COLLECTORS INIT.			when mended:	before sta	after sta	SEA (condition)	

REMARKS: * wind spun metals — in freezer (collections)

NET TOW DATA SHEET

LOPC
Bongo
(Deployed)
Event # 805

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	Knorr	17	Cycle 5	06-00-04	2213	2236 —
TIME min. sec.	MESH	PORT LOPC	STB.	TOW TYPE: CAL BOBL		
SINKING (descend) 7' 53"	NET NO.	LTER	LTER	TOW NO. 1 OF 1		
TOWING (at depth) 26"	METER NO.	20318	09446	BUCKET TEMP. °C:		
TOTAL (ascend) 14' 49"	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT meters 300	FINAL	65909	00608	ACCEPTED POSITION latitude ° ' " N longitude ° ' " W		
TOTAL NO. OF ANGLES 30	INITIAL	60624	95338	OBSERVER:		
	DIFF.					
	Mesh size (um)	202	202			

ANGLES	46	45	45	46	46	45	45	45	45	45	45	45	45	45	45	45
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160	
ANGLES	45	46	46	46	45	45	45	45	45	45	45	46	47	50	50	
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10	

ANGLES																
WIRE OUT	depth half surf.					250						200				
ANGLES																
WIRE OUT	150					100						50				

NO. OF JARS PORT 10	STB. Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED		NET WASHING (check 1)	none	rinsed	washed		SKY (condition)
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location:			SWELL direction height FT.
COLLECTORS INIT.				when mended: before sta	after sta		SEA (condition)

REMARKS:

LOPC

Bongjo

NET TOW DATA SHEET

(Deployed)
Event # 815

29
23
57

CRUISE	SHIP	ORDER OCCUPIED	STATION LINE STATION	DATE YR MO DY	HOUR (PST) BEGIN TOW END TOW	
0605	KNOSS	1	Extra Bongjo ^{Line 80}	06 06 06	07 29	07 52
TIME min. sec.	MESH	PORT	LOPC	STB.	TOW TYPE: CAL BOBL	
SINKING (descend) 7' 52"	NET NO.			TOW NO. 1 OF 1		
TOWING (at depth) 30	METER NO. 20318	09446		BUCKET TEMP. °C:		
TOTAL (ascend) 14' 48"	CARRYOVER			BOTTOM DEPTH meters fathoms		
AMT. OF WIRE OUT 300 meters	FINAL 70277	05054 70277		ACCEPTED POSITION latitude longitude		
TOTAL NO. OF ANGLES 30	INITIAL 65910	00609		latitude longitude		
	DIFF.			OBSERVER:		

ANGLES	55	54	53	51	52	50	47	45	45	43	42	41	41	41	
WIRE OUT	300	290	280	270	260	250	240	230	220	210	200	190	180	170	160

ANGLES	42	43	44	43	43	41	40	40	41	42	41	40	35	32	
WIRE OUT	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10

ANGLES														
WIRE OUT	depth half surf.				250				200					

ANGLES														
WIRE OUT	150				100				50					

NO. OF JARS PORT	STB. Q	NET CLOGGING (check 1)	none or slight	moderate	heavy	very heavy	WIND direction knots
FORMALIN & BORATE ADDED		NET WASHING (check 1)	none	rinsed	washed		SKY (condition)
ALCOHOL ADDED		RIPS AND HOLES IN NET	none	location: when mended: before sta after sta			SWELL direction height FT.
COLLECTORS INIT.							SEA (condition)

REMARKS: ETOH in freezer (collection)