

DAILY LOG BOOK

MISSION
NUMBER

2002-16

DATE:

From: 29 JUNE 2002 to:

VESSEL:

JOHN P TULLY

PROJECT:

LINE P / SERIES-SOLAS

IRON INJECTION EXPERIMENT

INSTITUTE OF OCEAN SCIENCES
OCEAN SCIENCES AND PRODUCTIVITY DIVISION
SIDNEY, BC, CANADA

Captain: SVD WEBB
 Second Officer: STEVE PAULEY
 First Officer: RICHARD SUSAKER
 Third Officer: DUNCAN McCAULUM

Mission Participants / Agencies:

Scientific Personnel:

Scientific Personnel:			Party Chief:		
Name	Watch	Cabin	Name	Watch	Cabin
Mike Henry	1600-1900	A	Philip Boyd, up port; Marie Robert, #16	0800-0800	E
Robert Strzepek		A			F
Graham Peers	0400-0800	A	Wendy Richardson		F
Cliff Law	2000-0600	B	Vai Forsland		G
Charlie Trick	0000-0400	B	Keith Johnson		G
Coral Adity	0800-1200	C	David Crawford		H
Wang Lu		C	Bob Moore		H
Mike Artychuk		D	Jean Eric Tremblay	1200-1400	H
Doug Anderson	1600-0000	D	Ruslan Chichkin	Up	St6a
Janet Bernwell Clarke		E	Tim Soutar	0800-1600	7

Second leg of Mission:

Party Chief:

[illegible]

Data logging computer:

Data logging computer: F503
Data acquisition program: SEASAVE WIN 32 Version 5.25
 CTD data unit: 1

CTD deck unit make: SEASAVE WIN 32 Version 5.25 6
Primary CTD model: SBE serial number: 11 0619

Make: Seabird model: all birds serial number:

Primary temperature serial number: 222 model: 911 plus serial number: 0585

Primary conductivity serial number:	2023
Primary conductivity serial number:	1712

Primary conductivity serial number: 1763
Secondary temperature serial number: 1763

Secondary temperature serial number: 2106
Secondary conductivity serial number: 2106

Secondary conductivity serial number: 1764

Transmissometer: Wetlabs Model: C-Star

Fluorometer: Model Spectra Cable gain: 10x

Oxygen sensor: _____
Oxygen sensor: _____

Seabird _____ Model: _____
~~Seabird~~ _____ ~~Cable gam.~~ _____

SER 42
10X

PAR sensor: _____ Model: _____

Other sensors: _____
Model: _____

Other sensors:

Other sensors:

Other sensors:

[illegible]

Make: Scabird model: SRE 200 serial number:

Primary temperature serial number: 303102 model: 35E 25 serial number: 35E 25

Primary temperature serial number: _____

Primary conductivity serial number: _____

Primary conductivity serial number: _____
Secondary temperature serial number: _____

Secondary temperature serial number: _____
Secondary conductivity serial number: _____

Secondary conductivity serial number:

Transmissometer: _____
Model: _____

Fluorometer: Model _____ Cable gain: _____

Oxygen sensor: _____
 Model: _____
 Caution: _____

PAR sensor: _____ Model: _____
PAR sensor: _____ Model: _____

Other sensors: _____ Model: _____

Other sensors:

Other sensors:

Other sensors: _____

Other sensors: _____

Other sensors: _____

Other sensors:

CTD calibration bottle location (height above CTD in metres):

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month JUNE					Year 2002			Ship JOHN P TULLY				Cruise ID 2002-16		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
30	SI03	0020	ROS	US	1	48 35.93	123 29.98	228		1-12	12	DA		Jelly fish in duet (sec)
"	"	0029	"			48 35.96	123 30.03		221					
"	"		"			48 35.93	123 29.85							
30	JF1	0714	USW			48 15.925	123 30.002	151				MR		Loop JF1
	JF2	0907	USW			48 18.25	124 00.00	185				MR		Loop JF2
	JF3	1111	USW			48 27.01	124 30.13	225				MR		Loop JF3
	JF4	1323	USW			48 32.24	125 00.00	61				MR		Loop JF4
30	P1	1558	ROS	DE	2	48 34.46	125 29.96	115		13	1	T.S.		
		1603		BO	2	48 34.45	125 29.94		110					
		1608		EN	2	48 34.44	125 29.92							
30	P2	1928	ROS	BE	3	48 36.06	126 00.34	116		14	1	T.S.		
				BO	3	48 36.08	126 00.39		110					
		1937		EN	3	48 36.11	126 00.44							
30	P3		ROS	BE	4	48 37.85	126 19.99	710		15				
		2147		BO	4	48 37.99	126 20.14		756					
		2201		EN	4	48 37.94	126 20.09							
30	P4	2355	NET	BE	5	48 39.08	126 39.98		250					
		0010	"	EN	5									
31	P4	0040	ROS	BE	6	48 39.44	126 39.80							

Cast type:

BOT = bottle cast, no CTD
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DRF = drifter

bottle firing method:
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UN = up / no stop
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Time Code

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Transmissometer to be cleaned for each cast, do not use Ammonia products

22 March 2002
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Additional comments

hydro files

1 6, 10, 15, 20, 25 33, 34, 37 38 42, 60, 61, 62, 63, 64, 65, 66 67 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83

x

x

84 85 86 87 88 89 90 92 93 94 95 96

Salinity data for casts 60 to 81 are invalid due to salinometer problems

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month JULY					Year 2002			Ship JOHN P TULLY				Cruise ID 2002-16			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned		Comments
						Latitude	Longitude								
01	P4	0106	ROS	BO	6	48 39.65	126 39.60	1320							
01	"	0148	"	EN	6	48 39.87	126 39.19		1310	16-34	19	DA			
01	P5	0442	ROS	BE	7	48 41.48	127 10.11	2106							
01	P5	0554	"	BO	7	48 41.35	127 10.12		1500	35	1				
01	P5	0524	"	EN	7	48 41.22	127 10.16								
1	P6	0758	ROS	BE	8	48 44.61	127 39.99	2558				MR			LOOP TAKEN TOO, @ BO.
		0822		BO	8	48 44.62	127 40.00		1507	36	1				
		0850		EN	8	48 44.66	127 40.06								
1	P7	1116	ROS	BE	9	48 46.62	128 09.90	2520				MR			
		1139		BO		48 46.63	128 09.99		1504	37	1				
		1205		EN		48 46.64	128 10.07								
1	P8	1431	ROS	BE	10	48 49.00	128 40.05	2531				MR	✓		No samples on
		1510		BO		48 49.01	128 40.13		2540	38-58	21				
		1616		EN		48 49.04	128 40.44								
1	P8	1640		NET	11	48 48.97	128 39.95								BEGIN. BONGO
		1705			11	48 48.95	128 40.06								END BONGO
1	P9	1934	ROS	BE	12	48 51.23	129 09.99	2370 ^{APP}		59	1				
		2003		BO	12	48 50.84	129 09.25		1500						
		2026		EN	12	48 50.83	129 09.63								

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22 March 2002
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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month JULY					Year 2002			Ship JOHN P TULLY				Cruise ID 2002-16			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
01	P10	23:40	ROS	BE	13	48 53.63	129 40.11	2453							
02	P10	00:06	ROS	BO	13	48 53.59	129 44.19		1500	60	1	DA	✓		
02	P10	00:31	ROS	EN	13	48 53.56	129 40.20								
02	P11	03:11	ROS	BE	14	48 56.05	130 09.93	2767							
02	P11	03:36	ROS	BO	14	48 56.09	130 09.29		1580	61	1	DA			
02	P11	03:59	ROS	EN	14	48 56.18	130 09.76								
2	P12	0721	ROS	BE	15	48°58.16	130°39.81	3244				MR	✓		
		0810		BO		48°58.17	130°39.81		3264	62-84	23				
		0917		EN		48°58.20	130°39.89								
						60-FLOS									
2	P12	1120	NET	BO	16	48°58.17	130°39.98	3244							0945 - 1130 Go FLO'S
		1131	NET	EN	16	48°58.20	130°40.02		250						10, 25, 40, 75, 100, 200 m
2	P13	1550	ROS	BE	17	49 02.60	131 39.92	~3050							
	P13	1617		BO		49 02.54	131 39.93		1500	85	3				NISKS 192 TRIPPED AT 1500M FOR B. MOORE
	P13	1641		EN		49 02.56	131 39.97								10 M SURFACE SAMPLE FROM NISK 3
2	P14	2125	ROS	BE	18	49 07.43	132 40.04	3328							cleaned Nisk-Fluorometer 02/07/02 19:25
		2157		BO		49 07.24	132 39.12		1500	86	4				NISKS 1, 2, 3 TRIPPED @ 1500 FOR MIKE.A.
		22		EN		49 06.82	132 39.41								10 M SAMPLE FROM NISK 4
23	P15	0307	ROS	BE	19	49 11.85	133 40.16	3392							

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>July</i>					Year <i>2002</i>			Ship <i>Tully</i>				Cruise ID <i>2002-16</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
<i>02³</i>	<i>P15</i>		<i>ROS</i>	<i>BO</i>	<i>19</i>			<i>1500</i>		<i>87</i>	<i>1</i>			<i>Firing bottle 20 and 10 m to test.</i>
<i>02³</i>	<i>P15</i>	<i>03:54</i>	<i>ROS</i>	<i>EN</i>	<i>19</i>	<i>49 11.71</i>	<i>133 40.63</i>							
<i>3</i>	<i>P16</i>	<i>0859</i>	<i>ROS</i>	<i>BO</i>	<i>20</i>	<i>49 16.96</i>	<i>134 39.81</i>	<i>3636</i>				<i>MR</i>		
		<i>0953</i>		<i>BO</i>		<i>49 16.97</i>	<i>134 40.07</i>		<i>3685</i>	<i>88-111</i>	<i>24</i>			
		<i>1110</i>		<i>EN</i>		<i>49 16.93</i>	<i>134 40.04</i>							
						<i>GO - FLOS</i>								
<i>3</i>	<i>P16</i>	<i>1249</i>	<i>NET</i>	<i>BO</i>	<i>21</i>	<i>49 16.92</i>	<i>134 40.07</i>	<i>3636</i>				<i>MR</i>		
		<i>1301</i>		<i>EN</i>	<i>21</i>				<i>250</i>					
<i>3</i>	<i>P16</i>	<i>1305</i>	<i>DRF</i>	<i>BE</i>		<i>49 16.913</i>	<i>134 40.357</i>					<i>MR</i>		<i>Deploy Argo Float 512</i>
<i>3</i>	<i>P17</i>	<i>1738</i>	<i>ROS</i>	<i>BE</i>	<i>22</i>	<i>49 20.99</i>	<i>135 39.91</i>	<i>3650</i>		<i>112</i>	<i>2</i>	<i>T-9</i>		
		<i>1805</i>		<i>BO</i>		<i>49 20.99</i>	<i>135 39.98</i>							<i>BOTTLE 1 SAMPLED @ 1500 FOR HIRE, A.</i>
		<i>1826</i>		<i>EN</i>		<i>49 21.02</i>	<i>135 39.99</i>							<i>SURFACE SAMPLES FROM #2</i>
<i>3</i>	<i>P18</i>	<i>2312</i>	<i>ROS</i>	<i>BE</i>	<i>23</i>	<i>49 25.97</i>	<i>136 40.12</i>	<i>3833</i>						<i>Reworked #29 lanyard, see cable hopefully, 20 will trip next time.</i>
<i>3</i>	<i>P18</i>	<i>2338</i>	<i>ROS</i>	<i>BO</i>	<i>23</i>	<i>49 26.07</i>	<i>136 40.06</i>		<i>1500</i>	<i>113</i>	<i>2</i>	<i>DA</i>		
<i>3</i>	<i>P18</i>	<i>0000</i>	<i>ROS</i>	<i>EN</i>	<i>23</i>	<i>49 26.11</i>	<i>136 40.07</i>							<i>Bottle 20 → *</i>
<i>4</i>	<i>P19</i>	<i>0429</i>	<i>ROS</i>	<i>BE</i>	<i>24</i>	<i>49 30.23</i>	<i>137 40.13</i>	<i>3867</i>						
<i>4</i>	<i>P19</i>	<i>0456</i>	<i>ROS</i>	<i>BO</i>	<i>24</i>	<i>49 30.45</i>	<i>137 40.20</i>		<i>1500</i>	<i>114</i>	<i>2</i>	<i>DA</i>		
<i>4</i>	<i>P19</i>	<i>0517</i>	<i>ROS</i>	<i>EN</i>	<i>24</i>	<i>49 30.61</i>	<i>137 40.21</i>							
<i>4</i>	<i>P19</i>	<i>0530</i>	<i>DRF</i>		<i>—</i>	<i>49 30.77</i>	<i>137 40.25</i>	<i>3926</i>				<i>MR/DA</i>		<i>Deploy Argo Float 511</i>

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Additional comments

* Bottle 20 problems appear to be pylon related. The screws on the pylon are fused to the pressure case making repairs at this time a problem. The spare pylon won't fit into the rosette cage without modifications to the cage. For now, bottle 20 is inoperable.

P16 GO FLO Fe SAMPLING 10, 25, 40, 75, 100 + 200 m 1100 UTC to 1300 UTC

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month JULY					Year 2002-02			Ship JOHN P TULLY				Cruise ID 2002-16		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
4	P20	0956	ROS	BE	25	49° 33.98	138° 39.89	3921				MR	✓	
		1053		BO		49° 33.98	138° 39.90		4013	115-137	23			Break not holding on winch
		1208		EN		49° 34.03	138° 39.94							
4	P20	1353	NET	BO	26	49° 34.05	138° 40.02		250			MR		Bury
4	P21	1856	ROS	BE	27	49° 38.04	139° 40.05	3955		138	✓ 1	TS		
		1924		BO		49° 38.14	139° 40.10		1501					
		1948		EN		49° 38.23	139° 40.12							
5	P22	0010	ROS	BE	28	49° 42.16	140° 39.91	3989		139	✓ 1	DA		
		0037		BO		49° 42.60	140° 39.89		1500					
		0102		EN		49° 41.99	140° 39.95							
5	P23	0525	ROS	BE	29	49° 46.21	141° 40.02	4046						
		0550		BO		49° 46.35	141° 39.96		1500	140	✓ 1	DA		
		0607		EN		49° 46.42	141° 39.95							
5	P24	1022	ROS	BE	30	49° 50.13	142° 40.06	3982						SURF + LOOP @ Bo
		1046		BO		49° 49.95	142° 40.20		1505	141	✓ 1	MR		Fluo Runy on d, ok ↑
		1105		EN		49° 49.81	142° 40.26							
5	P25	1515	ROS	BE	31	49° 59.98	143° 36.28	4144				TS		
		1535		BO		49° 59.99	143° 36.46		15	142	✓ 1			
		1556		EN		49° 59.81	143° 36.75							

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Additional comments

P20

Fe SAMPLING

PUMP

10, 25, +40m

GO-FLO'S

40, 75, 100 + 200m

GO-FLO TEST

- ALL FROM 40m

DAILY LOG

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Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
5	P35	2100	ROS	BE	32	50 00.06	144 18.24	4150		143	2	T.S.		TRIPPED A BOTTLE (21) @ 1500 M. SURFACE 10M BOTTLE #2
		2127		BO		49 59.92	144 18.38		1501					
		2154		EN		49 59.76	144 19.53							
6	EDDY	1626	ROS	BE	33	49 14.41	145 41.89	4391				T.S.		
		1655		BO		49 14.40	145 41.94		1500	144-162	19			LOOP SAMPLES TAKEN @ BO.
				EN		49 14.42	145 41.98							
6	EDDY	1757		DRF		49 14.37	145 42.07							*272 ARGO FLOAT DEPLOY
6	EDDY	1803		DRF		49 14.50	145 42.08							DRIFTER 30090. DEPLOY
6	P26	2329		MOR		49 57.8	145 09.56	4250						PA31A TRAP MOORING DEPLOYED.
7	P26	0022		DRF		49 59.55	145 59.87							*GPS DRIFTER 20310. DEPLOY
7	P26	0130	ROS	BE	34	49 59.94	144 39.95	4250				DA		Should be 144 not 145... in header
		0241		BO		49 59.96	144 39.90		4324	163-186	24			
		0428		EN		49 59.95	144 59.61							
	P26	0614	Bongo	BE	35	50 00.04	144 59.96	4250						Bongo 0-250 m
		0625		EN										
7	P26	0725	ROS	BE	36	50 00.02	145 00.09	4250				MR		Calibration cast
		0748		BO		50 00.02	145 00.03		1500	187-210	24			
		0808		EN		50 00.04	145 00.06							

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Additional comments

P 35 V-FIN TOW / PUMP @ 3 m depth For McGill + Fe

P26 ZODIAC SURFACE Fe 0115 - 0130 UTC
 Fe PUMPING 10, 25, 40 m 0300 -
 Fe GO-FLO'S 75, 100, 125, 150, 200, 300, 400 + 600 m

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Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
7	P26	0958	ROS		37	49 59.99	144 59.91	4250				MR	✓	Night DMS cast
		1003				49 59.97	144 59.93		200	211-223	13			Loop TAILOR @ BC
		1018				49 59.91	144 59.99							
7	P26	1354	DRF			50 02.40	144 59.63					TS		PRODUCTIVITY DRF DEP. VHF CH 72.
7	P26	1544	ROS	BE	38	49 59.99	145 00.12	4250		224-252	11	TS		
		1605		EN		49 59.94	145 00.18							
7	S1	1743	ROS	BE	39	49 56.10	144 59.93			253	1	TS		
		1751		BO		49 56.05	144 59.99							10M SAMPLE FOR NUT.
		1756		EN		49 56.03	145 00.02							
7	S2	1837	ROS	BE	40	49 52.19	144 59.93			254	1	TS		
		1846		BO		49 52.08	144 59.95							
		1853		EN		49 52.05	144 59.97							
7	S3	1940	ROS	BE	41	49 47.99	145 00.02			255	1	TS		
		1950		BO		49 48.04	145 00.00							
		1956		EN		49 47.06	144 59.95							
7	P26	2204	ROS	BE	42	50 00.08	145 00.03			256-268	13	TS		DAYTIME DMS CAST
		2209		BO		50 00.14	145 00.01							BOTTLE #1 VENT OPEN
		2223		EN		50 00.33	144 59.91							
8		0053	USW			50 02.03	145 07.65							Loop for Nuts only

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ROS = Rosette plus CTD

USW = sea water loop
MOR = mooring
NET = net haul
DRF = drifter

bottle firing method:
• US = up / stop
• UN = up / no stop
• DN = down / no stop

Time Code
• BE = beginning time of cast
• BO = bottom time of cast
• EN = end of cast time

DE = deployment time
MR = messenger release time
RE = recover mooring time

Transmissometer to be cleaned for each cast, do not use Ammonia products

22 March 2002
Daily_log_book.doc

Additional comments

7 23:35 50 04.877 145 00.425 Recovered PROD Drifter

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>July</i>					Year <i>2002</i>			Ship <i>Tully</i>				Cruise ID <i>2002-16</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
8	S4	01:27	ROS	BE	43	50 02.99	145 11.81	4594						called P26 in header
		01:36		BO		50 03.12	145 11.68		400	269	✓ 1	DA		
		01:43		EN		50 03.18	145 11.52							
	S5	02:59	ROS	BE	44	50 05.98	145 23.99	3749						
				BO		50 06.12	145 23.97		400	270	1	DA		
				EN		50 06.12	145 23.97							
	S6	04:03	ROS	BE	45	50 09.03	145 18.00	4518						
		04:11		BO		50 09.03	145 17.96		400	271	1	DA		
		04:16		EN		50 09.00	145 18.00							
	S7	05:09	ROS	BE	46	50 12.01	145 12.01							Long written 145.18 in header should be 145 12
		05:15		BO		50 12.02	145 12.03		400	272	✓ 1	DA		
		05:23		EN		50 11.99	145 12.02							
	S8	06:19	ROS	BE	47	50 14.95	145 05.99							
		06:29		BO		50 14.99	145 05.93		400	273	1	DA		
		06:35		EN		50 14.98	145 05.92							
8	S9	0809	ROS	BE	48	50 07.66	145 03.10	3269?		274	✓ 1	MR		
		0817		BO		50 07.64	145 03.05		400					
		0824		EN		50 07.63	145 03.01							

Cast type:
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22 March 2002
Daily_log_book.doc

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month JULY					Year 2002			Ship TULLY				Cruise ID 2002-16			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
8	S10	0928	ROS	BE	49	50° 03.11	145° 00.40	N/A				MR		Hit enter key too fast, LONG wrong in header.	
		0937		BO		50° 03.09	145° 00.33		400	275	✓ 1				
		0945		EN		50° 03.10	145° 00.24								
8	S11	1038	ROS	BE	50	50° 03.01	144° 54.25	N/A				MR			
		1046		BO		50° 03.01	144° 54.14		400	276	✓ 1				
		1054		EN		50° 02.97	144° 54.05								
8	S12	1203	ROS	BE	51	50° 09.07	144° 51.33	4213				MR			
		1212		BO		50° 09.08	144° 51.22		400	277	✓ 1				
		1219		EN		50° 09.09	144° 51.15								
8	S13	1336	ROS	BE	52	50° 15.05	144° 48.05	4222				MR			
		1344		BO		50° 15.06	144° 48.05		400	278	✓ 1				
		1351		EN		50° 15.05	144° 47.98								
8	S14	1436	ROS	BE	53	50° 12.06	144° 44.10	4182				MR			
		1444		BO		50° 12.07	144° 44.08		400	279	✓ 1				
		1450		EN		50° 12.07	144° 44.02								
8	S15	1534	ROS	BE	54	50° 09.12	144° 40.14	4169				TS.			
		1542		BO		50° 09.06	144° 40.11		400	280	✓ 1				
		1549		EN		50° 09.43	144° 40.10								

Cast type:
BOT = bottle cast, no CTD
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• bottle firing method:
• US = up / stop
• UN = up / no stop
• DN = down / no stop

• Time Code
• BE = beginning time of cast
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DE = deployment time
MR = messenger release time
RE = recover mooring time

Transmissometer to be cleaned for each cast, do not use Ammonia products

26 f

26 e

Additional comments

When leaving SW 510: start TS file 2002-16-0008

Time seems to be ok now!

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month					Year			Ship				Cruise ID			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
8	S16	1632	ROS	BE	55	50 06.06	144 7	4155							
				BO		50 06.02	144 35.95		400					oops NO 10M SAMPLE	
		1647		EN		50 06.00	144 35.90			281				LOOP SAMPLE INSTEAD.	
8	S17	1748	ROS	BE	56	50 03.03	144 44.87	?							
		1756		BO		50 03.01	144 44.95		400	282		DA			
		1803		EN		50 02.99	144 44.98								
8	S18	1905	ROS	BE	57	49 59.97	144 53.94	4199							
				BO		49 59.94	144 53.88		400	283		DA		bottle net trips loop sample instead.	
				EN		49 59.94	144 53.83								
8	WP2	2305	ROS	BE	58	50 15.02	144 27.00	4130							
		2308		BO		50 15.02	144 26.99		100	284		DA		1 @ 100 m 2 bottles trips from M. Anchuk	
		2312		EN		50 15.01	144 27.00								
9	S20	0128	ROS	BE	59	50 21.12	144 53.98	4137							
		0133		BO		50 21.02	144 54.03		100	285		DA		closing all bottles to 15m from prevent from contamination #24	
		0138		EN		50 21.03	144 54.03							#20 didn't trip.	
10	IN1	2143	ROS	BE	60	50 11.65	144 44.01	4181						T.M. PUMPING 10, 20, 30-40 m	
		2148		BO		50 11.64	144 44.09		200	286-309	24	DA			
		2204		EN		50 11.58	144 44.27								
11	OUT TRAP	0130	DRF	DE		50 24.45	144 53.87							DEPLOY OUT TRAP.	

Cast type:

USW = sea water loop

• bottle firing method:

• Time Code

BOT = bottle cast, no CTD

MOR = mooring

• US = up / stop

• BE = beginning time of cast

DE = deployment time

CTD = CTD without Rosette

NET = net haul

• UN = up / no stop

• BO = bottom time of cast

MR = messenger release time

ROS = Rosette plus CTD

DRF = drifter

• DN = down / no stop

• EN = end of cast time

RE = recover mooring time

Transmissometer to be cleaned for each cast, do not use Ammonia products

22 March 2002

Daily_log_book.doc

Additional comments

9th 0750 UTC INJECTION STARTED

10th 0145 UTC END OF EXPANDING SQUARE INJECTION - CONTINUED INJECTION

AS RETURNING TO CRATER

1000 V-FIN TEST SURVEY Fe ONLY

1900 V-FIN SURVEY Fe, LIGANDS, ETC

OUT TRAP VHF CH 72 ORANGE FLASHER ARGOS/GPS 20310

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month JULY					Year			Ship				Cruise ID			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
11	OUT	0232	DRF		61	50 20.24	144 46.36							OUT STATION DRIFTER DEP. →	
11	OUT	0254	ROS	BE	61	50 20.60	144 45.78	4219							
		0257		BO		50 20 62	144 45 83		100	310-321	12	DA			
		0308		EN		50 20 63	144 45 90								
11	IN 2	1806	ROS	BE	62	50 12 79	144 45.65	4142		322-345	24				
		1812		BO		50 12 79	144 45 67		200			DA			
		1831		EN		50 12 81	144 45 67								
11	OUT 2	2206	ROS	BE	63	50 20 42	144 46 34	3881							
		2213		BO		50 20.42	144 46.32		200	346-369	24	DA			
		2230		EN		50 20 42	144 46.45								
12	IN TRAP	0019	DRF			50 15.34	144 45.71							IN TRAP DEP. →	
12	IN 3	0104	ROS	BE	64	50 16.09	144 45.53	4149							
		0109		BO		50 16.11	144 45.55		100	370-384	15	DA			
		0124		EN		50 16.19	144 45.63								
12	-	0500	SF6 SURVEY			START								DELAY DUE TO GPS CONNECTION PROBLEM	
12	LOCAL (1000AM)		SF6 SURVEY			STOP									
12	IN 4	1814	ROS	BE	65	50 16.52	144 47.34	4087							
		1822		BO		50 16.52	144 47.34		200	384-408	24	DA			

Cast type:
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Transmissometer to be cleaned for each cast, do not use Ammonia products

Additional comments

OUT STATION DRIFTER UHF CH 15 STROBE 9 ARGOS 30110

0745 UTC 11th PATCH CENTER Fe + TM etc

1810 UTC 11 F 11th MCGILL 10m ONLY

1902 UTC 11 11 ? 10m for Fe + TM etc

1902 UTC 11 11 ? 10m for Fe + TM etc

2206 OUT STN PUMPING @ 20m FOR FILTERED SW (TRAPS + Fe STDs)

IN TRAP UHF 72. ~~STROBE~~ ORANGE LITE 9 ARGOS/GPS. 20307

0107 UTC PATCH CENTRE PUMP Fe SAMPLES 5, 10, 15, 20, 30 + 40m
"11B"

1950 UTC 12A IN 10m ONLY IRT, Fe, LISANDS + M ETC

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month JULY					Year			Ship				Cruise ID			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
11	OUT	0232	DRF		61	50 20.24	144 46.36							OUT STATION DRIFTER DEP. →	
11	OUT	0254	ROS	BE	61	50 20.60	144 45.78	4219							
		0257		BO		50 20 62	144 45 83		100	310-321	12	DA			
		0308		EN		50 20 63	144 45 90								
11	IN 2	1806	ROS	BE	62	50 12 79	144 45.65	4142		322-345	24				
		1812		BO		50 12 79	144 45 67		200			DA			
		1831		EN		50 12 81	144 45 67								
11	OUT2	2206	ROS	BE	63	50 20 42	144 46 34	3881							
		2213		BO		50 20.42	144 46.32		200	346-369	24	DA			
		2230		EN		50 20 42	144 46.45								
12	IN TRAP	0019	DRF			50 15.34	144 45.71							IN TRAP DEP. →	
12	IN 3	0104	ROS	BE	64	50 16.09	144 45.53	4149							
		0109		BO		50 16.11	144 45.55		100	370-384	15	DA			
		0124		EN		50 16.19	144 45.63								
12	-	0500	SF6 SURVEY			START								DELAY DUE TO GPS CONNECTION PROBLEM	
12	LOCAL (1000AM)		SF6 SURVEY			STOP									
12	IN4	1814	ROS	BE	65	50 16.52	144 47.34	4087							
		1822		BO		50 16.52	144 47.34		200	384-408	24	DA			

Cast type:
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US = up / stop
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Transmissometer to be cleaned for each cast, do not use Ammonia products

Additional comments

OUT STATION DRIFTER UHF CH 15 STROBE 9 ARGOS 30110

0745 UTC	11 th	PATCH CENTER	Fe + TM etc
----------	------------------	--------------	-------------

1810	UTC				11	611	McGILL		10m ONLY
------	-----	--	--	--	----	-----	--------	--	----------

1902	UTC				11		11	?	10m For Fe + Mn etc	10m ONLY
------	-----	--	--	--	----	--	----	---	---------------------	----------

P 20	1926	344	pp	1945	4	1945	4
------	------	-----	----	------	---	------	---

220 G OUT SW PUMPING @ 20m FOR FILTERED SW (TRAPS + Fe SIDS)

IN TRAP	VHF	72	ORANGE LITE	STROKE	9	ARGOS/GPS	20307
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0107	UTC	PATCH	CENTRE	PUMP	Fe	SAMPLES	5, 10, 15, 20, 30 + 40 m
		"11B"					

1950 UTC 12A IN 10m ONLY JBT, Fe, LIGANDS + M RTO

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <u>July</u>					Year <u>2002</u>			Ship				Cruise ID		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
12	IN4	1842	ROS	EN		50 16.52	144 47.34	4187				DA		
12	IN4	1808	SFG	MAPPING		SURVEY END								
12		2157	DRF	BE		50 17.30	144 58.66							OUT STATION DRIFTER RE DEPLOYED →
12	OUT 3	2222	ROS	BE	66	50 18.60	144 58.97	4180						
12		2228		BO		50 18.66	144 58.96		200	409-421	13	DA		
12		2245		EN		50 18.79	144 59.01							
13	IN5	0156	ROS	BE	67	50 17.61	144 46.78	4158						
13		0201		BO		50 17.63	144 46.83		100	422-436	15	DA		
13		0215		EN		50 17.70	144 46.92							
13	-	0611	SFG	SURVEY		MAPPING BEGINS								
13		1615	SFG	SURVEY		MAPPING COMPLETE								
13	IN6	1830	ROS	BE	68	50 20.38	144 48.87	3975						
		1838		BO		50 20.38	144 48.92		200	437-460	24	DA		Bottle 19 didn't drip
		1855		EN		50 20.35	144 48.90							
13	OUT 4	2109	ROS	BE	69	50 19.95	144 54.68	3814						
		2116		BO		50 19.92	144 54.58		200	461-484	24	DA		
		2133		EN		50 19.82	144 54.48							
14	IN7	0321	ROS	BE	70	50 22.14	144 45.96	4223						PUMPING Fe 10, 20, 30, 40m
		0326		BO		50 22.13	144 45.99		200	485-500	16	DA		

Cast type:
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bottle firing method:
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Transmissometer to be cleaned for each cast, do not use Ammonia products

22 March 2002
 Daily_log_book.doc

OUT STATION DRIFTER CH 15 VHF STROBE + ARGOS/GPS 20305
2222 UTC 12th OUT STN Fe PUMP 20m
Go-FLO's 30m + 8m

0158 UTC (13th) 12B' IN PUMPING Fe only @ 40, 30 + 20m
10m

1915

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month July					Year 2002			Ship Tully				Cruise ID 2002-16		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
14	IN 7	0339	ROS	EN	70	50 22.10	144 46.03					DA		
14		0441	SFG MAPPING SURVEY STARTED											
14		1530	SFG MAPPING SURVEY STOPPED.											
14	IN 8	1745	ROS	BE	71	50 23.21	144 46.21	4175						PUMPING CHAINS McGill Fe 10m
		1751		BO		50 23.20	144 46.18		200	501-524	24	DA		5 m swells 17 knot wind
		1809		EN		50 23.20	144 46.20							
14	OUT 5	2201	ROS	BE	72	50 22.84	144 29.98	3975						
		2208		BO		50 22.86	144 30.06		200	525-537	13	DA		4 m swells 16 knot wind
15		2224		EN		50 22.94	144 30.20							
14	IN 9	0248	ROS	BE	73	50 23.19	144 46.06							PUMPING CHAINS Fe 10, 20, 30, 40m
		0253		BO		50 23.18	144 46.08	4169	100	538-554	17	DA		
		0308		EN		50 23.26	144 46.03							
15	IN TRAP	0221	DRF	BE		50 23.42	144 46.21							DEPLOY SECOND IN TRAP MOORING →
		0550	SFG SURVEY STARTED.											
15	IN 10	1720	ROS	BE	74	50 25.15	144 44.85	3845						
		1726		BO		50 25.14	144 44.98		200	555-578	24	DA		20 knot wind, 4 m swell
		1746		EN		50 25.13	144 45.08							
15		1730	SFG MAPPING SURVEY ENDS											
15		2015	DRF											RECOVERY ATTEMPT FAILED OUT TRAP

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Transmissometer to be cleaned for each cast, do not use Ammonia products

22 March 2002

Daily_log_book.doc

Additional comments

IN TRAP CH 72 VHF YELLOW FLASHER ARGOS 30110 (ARGOS ONLY)

LOST OUT STATION TRAP MOORING LOST IN PROPS ON RECOVERY

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month					Year			Ship				Cruise ID			
July					2002			Tully				2002-16			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
15	OUT 6	2049	ROS	BE	75	50 37.16	144 44.87	3875							
		2056		BO		50 37.17	144 44.92		200	579-592	14	DA		20 Knot wind 4-5 m seas	
		2114		EN		50 37.15	144 45.06								
16	IN 11	0237	ROS	BE	76	50 25.20	144 44.93	3861							
		0242		BO		50 25.20	144 44.95		200	593-615	23	DA		Carousel release difficulties 2nd try at cast.	
		0256		EN		50 25.27	144 45.03								
16	IN 12	1836	ROS	BE	77	50 28.07	144 46.60	4089							
		1843		BO		50 28.06	144 46.50		200	615a-638	24	DA		15 Knot wind 2 m seas	
		1904		EN		50 28.05	144 46.72								
16	IN.	2033												NEW IN POSITION	
	START	2145				50 27.404	144 45.552							DRIFTER DEPLOYED →	
	ROUSE 2													IRON RELEASE ONLY	
														SHIP SPEED 5 KNOTS	
17		1532	Fe RELEASE STOPPED				50° 33.15' N	144° 49.73' W							
17		0815L	-SF6 SURVEY E Fe STOPPED												
17	IN 13	1808	ROS	BE	78	50 30.20	144 45.27	4212							
		1815		BO		50 30.18	144 45.28		200	639-653	15	DA		10 Knot wind, calm seas	
		1833		EN		50 30.01	144 45.32								
17			DRF												
17	OUT 7	2257	ROS	BE	79	50 33.22	144 36.72	4172							
				BO		50 33.25	144 36.76		200	654-677	240	DA			

Cast type:

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bottle firing method:

• US = up / stop
• UN = up / no stop
• DN = down / no stop

Time Code

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DE = deployment time
MR = messenger release time
RE = recover mooring time

Transmissometer to be cleaned for each cast, do not use Ammonia products

Additional comments

29867 + FLASHING YELLOW LITE

ONT TRAP. ARGOS/GAS # 20310 VHF #15 YELLOW LITE

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>July</i>					Year <i>2002</i>			Ship			Cruise ID				
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
17	OUT 7	2318	ROS	EN	79	50 33.36	144 36.80								
18	IN 14	0205	ROS	BE	80	50 30.13	144 45.31	4175							
		0211		BO		50 30.12	144 45.32		100	(678-701) 616-639	24	DA		Calm seas / 9 knot wind	
		0228		EN		50 30.08	144 45.34								
18		0301	SFL MAPPING SURVEY STARTED \												
18	IN 15	1742	ROS	BE	81	50 34.82	144 48.03	4175							
		1748		BO		50 34.78	144 48.07		200	(702-725)					
		1807		EN		50 34.82	144 48.16			640-663	24	DA		Calm seas / 7 knot wind	
18	OUT 8	2100	ROS	BE	82	50 41.20	144 37.99	3853							
		2107		BO		50 41.14	144 38.01		200	726-739	14	DA			
		2125		EN		50 40.98	144 38.13								
19	IN 16	0252	ROS	BE	83	50 35.15	144 48.85	3975							
		0257		BO		50 35.17	144 48.90		100	740-760	21	DA			
		0312		EN		50 35.25	144 49.12								
19		0500	MAPPING BEGINS												
		~1900	STOP MAPPING												
19	OUT 9	2028	ROS	BE	84	50 39.83	144 35.66	2028		761-776	16	DA		30 knot wind	
		2037		BO		50 39.87	144 35.48		200					4 m seas	
		2053		EN		50 39.92	144 35.09								

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>July</i>					Year <i>2002</i>			Ship				Cruise ID		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
20	IN17	0044	ROS	BE	85	50 37.47	144 47.16	4235						
		0051		BO		50 37.46	144 47.17		200	777-800	24	DA		
		0108		EN		50 37.45	144 47.12							
	IN18	1708	ROS	BE	86	50 41.81	144 43.07	4235						
		1715		BO		50 41.77	144 43.07		100	801-824	24	DA		
		1728		EN		50 41.73	144 43.08							
20	IN TRAP	1615	DRF			50 40.71	144 43.58							DEPLOY IN TRAP. →
20	OUT 10	1950	ROS	BE	87	50 46.99	144 34.15	4275						
		1957		BO		50 46.95	144 34.15		200	825-845	21	DA		Wind 22 knot 5 m seas
		2016		EN		50 46.84	144 34.14							
20	IN19	2347	ROS	BE	88	50 41.35	144 43.45	4013						
		2352		BO		50 41.35	144 43.51		100	846-866	21	DA		Wind 25 knot 5 m seas
21		0005		EN		50 41.24	144 43.80							
21		0330												Start Mapping SFG patch
21	N/A					STOP	SURVEY OF SFG PATCH							
21	IN20	1809	ROS	BE	89	50 51.02	144 40.82	3886						1756
		1815		BO		50 50.99	144 40.87		200	866a-889	24	DA		
				EN		50 50.95	144 40.93							
21	IN TRAP.	2100 2149	DRF			50 49.56	144 39.88							RECOVER IN TRAP. TRAP HOOKED AT AROUND 21:30 EXACT POSITION NOT KNOWN

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POSITION OF SHIP AT 21:00
EXACT POSITION OF SHIP AT TRAP RECOVERY ABOUT
2 MILES SOUTH AT 21:30

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22 March 2002
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Additional comments

INTRAP ARBDS/GPS 20305 LITE 9 UHF CH 15 16:15 50°40.711 144°43.586

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month July					Year 2002			Ship Tully				Cruise ID		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
21	OUT TRAP	00:19	DRF			50 56.288	144 31.426							Deploy OUT TRAP →
22	OUT 11	00:42	ROS	BE	90	50 55.78	144 31.28	3785						
		00:46		BO		50 55.75	144 31.20		200	890-913	24	DA		
		01:08		EN		50 55.67	144 31.18							
		0345				50 59.973	144 36.446							Start mapping SFG patch
22	IN 21	0234	ROS	BE	91	50 52.32	144 37.67	3975						
		0239		BO		50 52.28	144 37.68		100	914-934	21	DA		21 Knot wind
		0253		EN		50 52.16	144 37.62							5 m swells
22	IN 22	2010	ROS	BE	92	50 53.83	144 36.72							
		2016		BO		50 53.82	144 36.69	3975	100	935-958	24	DA		17 Knot wind
		2032		EN		50 53.78	144 36.65							2 m seas
		2100				50 53.608	144 36.668							End SFG mapping
22	IN	2119				50 53.53	144 37.12							DEPLOY CENTER BUOY →
22	OUT 12	2314	ROS	BE	93	51 02.12	144 23.92	4207						
		2322		BO		51 02.09	144 23.58		200	959-981	23	DA		
		2341		EN		51 02.03	144 23.56							
		0209				50 54.337	144 36.502							START SFG PATCH MAPPING
23	IN 23	0252	ROS	BE	94	50 54.89	144 36.05	4975						
		0256		BO		50 54.89	144 36.01		100	982-1012	22	DA		

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22 March 2002
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OUT TRAP 20305 ARGOS/GPS YELLOW WTE CH 15 VHF.

29867.

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>July</i>					Year <i>2002</i>			Ship <i>Tally</i>				Cruise ID <i>2002-16</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
23	IN 23	0312	ROS	EN	94	50 54.92	144 35.94			982-1012	22	DA		
23		1442	—	—	—	→	STOP SF6 PATCH SURVEY ←							
23	IN 24	19:27	ROS	BE	95	50 57.24	144 21.26	4128						
		19:32		BO		50 57.24	144 21.25		100	1013-1036	24	DA		19 Knot wind 4 m. Swells
		19:46		EN		50 57.24	144 21.22							
23	OUT TRAP	2200	DRF	EN		51 02.686	144 21.536							RECOVER "OUT" TRAP
23	IN TRAP	2343	DRF	BE		50 57.15	144 21.46							DEPLOY IN TRAP
24	OUT 13	0134	ROS	BE	96	50 53.95	143 58.51	2088						
		0142		BO		50 53.95	143 58.59		200	1037-1060	24	DA		
		0159		EN		50 53.93	143 58.82							
24	Loop R1	0421	USW			50 49.85	143 27.63			Loop R-1				USW Return Line P R-1
24	Loop R2	1651	USW			50 15.04	140 17.60							Loop AM
						49 55.07	136 19.29			50.0967 - 137.6649				
25	LOOP L3	03:15	USW			48 44.93	124 18.12			~P16/P17 ← H62LO !!! 00x5				LOOP PM 03:15-7
25	LOOP L4	1425 [?]	USW	19:25		49 35.007	134 17.272		49.6525	-134.1618				LOOP TH. AM 06:00-67
26	LOOP L5	01:35 [?]	USW			49 10.11	130 43.77							LOOP TH PM (Local)
26	LOOP L6	09:29	USW			49 3.83	129 29.14							
26	Loop L7	1305	USW			48 56.194	128 38.25	2526						

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Additional comments

IN TRAP ARGOS ONLY # 30110 VHF CH 72 STROBE.

