DAILY SCIENCE LOG BOOK

MISSION NUMBER 2008-27

DATE: From: 12 AUGUST to: 31 AUGUST 2008

VESSEL: J.P. TULLY

PROJECT(S): LING P

Water Properties Group
Fisheries and Oceans Canada
Institute of Ocean Sciences
Ocean Sciences Division
Sidney, BC, Canada

WaterProperties.ca

Captain: MURRAY McGREGOR First Officer: DUNCAN McCALLUM
Second Officer: DOUG MURDOCH Third Officer: RHONA LETTAU
Fishing Master: _____

Mission Participants / Agencies: DFO, UBC, UVIC, CSU, CWS, U. MARYLAND

Scientific Personnel: Chief Scientist: MARIE ROBERT 0700-1900 A

Name	Watch	Cabin	Name	Watch	Cabin
ANISSA MERZOUK	0000-0600	B	JODY KLYMAK	1500-0300	H
MARTY DAVELAAR	0000-1200	C	MICHAEL BENTLEY		UP PORT
RON LINDSAY	1200-2400	D	TORY FITCHETT	1800-2400	UP STBD
DAMIAN GRUNDLE	0600-1200	E	MICHAEL ARYCHUK		5
JOHAN SCHIJF	0000-0600	E			
KARINA GIESBRECHT	0600-1200	F			
HELEN SHEVCHUK	1800-2400	F			
VICTORIA FABRY	1200-1800	G			
TANSEY HALL	1200-1800	G			
IAN BEVERIDGE	0300-1500	H			

Second leg of Mission: Chief Scientist: _____

Name	Watch	Cabin	Name	Watch	Cabin

Data logging computer: HP Compaq
Data acquisition program: SEASAVE 7.16
CTD deck unit make: SBE model: 11 plus serial number: 0424

Primary CTD

Make: SeaBird model: 911 serial number: 0443
Primary temperature serial number: 4054
Primary conductivity serial number: 1766
Secondary temperature serial number: 34700
Secondary conductivity serial number: 2173
Transmissometer: Chelsea Model: _____ s/n: 1005DR
Fluorometer: Model Seapoint Cable gain: 10x 0-15 s/n: 2228 **P, S or NO pump?**
Oxygen sensor: SeaBird Model: SBE 43 s/n: 1176 **P, S or NO pump?**
PAR sensor: IRRADIANCE Model: _____ s/n: 4656
Other sensors: Pressure Digiquartz s/n: 63507 **P, S or NO pump?**
Other sensors: Altimeter s/n: 1252 **P, S or NO pump?**
Other sensors: _____ s/n: _____ **P, S or NO pump?**
Other sensors: _____ s/n: _____ **P, S or NO pump?**

Secondary CTD

Make: _____ model: _____ serial number: _____
Primary temperature serial number: _____
Primary conductivity serial number: _____
Secondary temperature serial number: _____
Secondary conductivity serial number: _____
Transmissometer: _____ Model: _____ s/n: _____
Fluorometer: Model _____ Cable gain: _____ s/n: _____ **P, S or NO pump?**
Oxygen sensor: _____ Model: _____ s/n: _____ **P, S or NO pump?**
PAR sensor: _____ Model: _____ s/n: _____
Other sensors: _____ s/n: _____ **P, S or NO pump?**
Other sensors: _____ s/n: _____ **P, S or NO pump?**
Other sensors: _____ s/n: _____ **P, S or NO pump?**
Other sensors: _____ s/n: _____ **P, S or NO pump?**

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

Rosette Setup:
Number of bottles: 24
Manufacturer: GO
Volume of bottles (litres): 10 litres

Winches:
1. Make: HAWBOLT Model: _____ Serial #: 17027 Used for: Rosette
2. Make: HARRISON Model: 589 Serial #: 515 Used for: _____
3. Make: _____ Model: _____ Serial #: _____ Used for: _____

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

Salinometer:
Make: Portasal Model: 8410A Serial Number: 68627

Comments on performance during cruise (comments should also be reflected in the post-cruise report):
Worked well After it was cleaned

Oxygen Kit(s): Brinkman colorimeter
Make: Brinkman dosimat Model: _____ Kit Number: 4
Make: _____ Model: _____ Kit Number: _____

Comments on performance during cruise (comments should also be reflected in the post-cruise report):
THERE ARE TOO MANY versions of the Auto Oxy program computer ↓ different

Thermosalinograph System (SBE21):
Program: seasave Version: 5.37M
Sampling interval (seconds): ~~60~~ 30
Fluorometer sensor serial number: WS35-713F

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

ADCP Setup: NOT WORKING
Computer time zone:_____ User Exits: Name:_____ Exit points:_____
Sampling interval (sec):_____ Name:_____ Exit points:_____
Bin Length: (2^x):_____ Name:_____ Exit points:_____
Pulse Length:_____ Work File:_____
Buffer (bytes):_____
Gyro Offset:_____

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

CTD Test Cast Information

Test Cast along side? Yes ☐ No ☑
Comments _____

Test Cast in Saanich Inlet or other location? Yes ☑ No ☐
Comments _____

CTD pressure reading on deck (db), before cast: 0.35 after cast: _____

Pumps working? Yes ☑ (0011) No ☐ (0010)

Secondary Temp – Primary Temp: _____
(Average from the mixed region)

Secondary Salinity – Primary Salinity: _____
(Average from the mixed region)

Additional Comments:

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month AUGUST **Year** 2008 **Ship** J.P. TULLY **Cruise ID** 2008 27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
13	SI 03	1728	BE	ROS	US	001	48 35 363	123 29 965	222	214	1-11	11		✓	Test CAST
		1734	BO				4835 579	123 30 036							
		1750	EN				4835 590	123 30 127							
		2053	BE	MVP		002	38.23	14.64	234						F.L. 007
		1025	EN	MVP			48 11.21	125 30.58	103						F.L. 302
14	JF1	0035	BE	USW	—	—	48 16.06	123 29.87	154						SAL, CHL, NUT×2
14	JF2	02:29	BE	USW	—	—	48 18.05	124 00.00	186						Sal, CHL, NUT×2
14	JF3	05:21	BE	USW	—	—	48.27.00	124 29.88	222						Sal, CHL, NUT×2
14	JF4	824	BE	USW	—	—	48 32.25	125 00.49	68						SAL, CHL, NUT×2
14	P1	1058	BE	ROS	US	003	48 34 489	125 29 963	111	105	12	1		✓	
		1104	BO				48 34 489	125 29 953							
		1109	EN				48 34 454	125 29 939							
14	P1→P2	1121	BE	MVP		004	48 34 51	125 32 40	131						F.L. 303
		1313	EN	MVP			48 36.08	125 37.93	108						F.L. 305
14	P2	1344	BE	ROS	US	005	48 35 395	125 59 937			13-24	12	KG	✓	
		1348	BO				48 35 950	125 59 935	115	105			MD		
		1359	EN				48 35 966	125 59 975					DG		

Cast Type:
BOT = Bottle cast, no CTD
CTD = CTD without Rosette
ROS = Rosette plus CTD
SET = Fish Set
USW = Sea Water Loop
MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter
____ = _____

Bottle Firing Method:
US = Up / Stop
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Time Code:
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Notes: _____

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 06 March 2008

Zoom bottle did NOT WAIT 30 SECONDS

→ SYRINGES WERE NOT removed SO CAST WAS REDONE
Labelled EVENT 006

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month August **Year** 2008 **Ship** Tully **Cruise ID** 2008-27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
14	P2	1410	BE	ROS	US	006	48 35 959	125 59 970	116		13-24	12	MD	✓	big diff. between
		1412	BO				48 35956	125 59 981		105			DG/KG		1°&2° SALINITY
		1421	EN				48 35 974	126 00 014							
14	P2	1436	BE	NET		007	48 35 998	126 00.032	116						
		1440	BO				48 35 995	126 00.038		100					
		1443	EN				48 35 984	126 00.059							
14	P2-P3	1452	BE	MVP		8	48 35 87	126 00.52	120						
		1617	EN				48 37 130	126 17 44	519						
14	P3	1646	BE	ROS	US	009	4837 445	12619 978	816		25	1			
		1656	BO				48 37 484	12619 908		812					
		1716	EN				48 37462	126 19 950							
14	P3→P4	1726	BE	MVP		010	48 37.453	126 20 941	892						Ele. 387
		1849	EN				48° 38.76	126° 37.859							402
14	P4	19:24	BE	ROS	US	11	48 37.10	126 44.48	1310						
		19:44	BO				48 39.01	126 39.97	1315						
		20:22	END				48 38 93	126 39 94							
14	P4 2	2040	BE	NET	US	12	48° 39.077	126° 39.923	250						
		2036	BO				48 38 92	126 39 925							
		2052	EN	✓											

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Notes: _____

→ Difference may be because CAP possibly left ON pump. Salinity seemed fine at P3

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Month AUGUST | **Year** 2008 | **Ship** J.P. TULLY | **Cruise ID** 2008-27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
14	P4	21:42	BE	ROS	US	13	48 38.968	126 40.098	1310	300	45-67	23	RL	✓	PAR installed
		21:48	BO				48 38.995	126 39.997							
		22:12	EN				48 39.008	126 40.000							
14	P4	23:15	BE	ROS	US	14	48 38870	126 40 060	1330	300	68-91	24	RL		Restarted Cast
		23:33	BO				48 38986	126 40032		1300					
		23:56	EN				48 38.993	126 40 061							Bottle 15 did not fire
15	P4	0103	BE	NET		15	48 38.95	126 40. 12	1330				RL		
		0205	EN				48 39 48	126 43. 81							recovered.
15	P4	0240	BE	ROS		16	48 39.94	126 39.99	1323	1000	92-110	19	RL		UBC shallow cast.
		0255	BO				48 38.98	126 40.01		1000					13 bottles @ 1000
			EN												
15	P4-P5	0327	BE	MVP		17	48 38.92	126 40 22	1327						
		0539	EN				48 41 4	127 08. 8							
15	P5	0604	BE	ROS		18	48° 41.644	127° 9.592	2333	2005	111	1	RL		
		0632	BO				48 41.531	127° 9.987		2005					
		0715	EN				48 41 43	127 10 .022							
15	P5-P6	725	BE	MVP		19	48 41 43	127 10 022							
		940	EN				48 44 31	127 38 35	2545						

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Notes: _____

This page is for any notes or observations

Lanyard on Botis has large loop on pylon trigger end. may cause lanyard to hang up.

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							Latitude	Longitude							
15	P6	1016	BE	ROS	US	20	48 44 528	127 39 952	2546	2005	112-120	9	MD	✓	
		1040	BO				48 44 599	127 39 997							
		1108	EN				48 44 467	127 40 421							
15	P6→P7	1121	BE	MVP		21	48 44 254	127 40 814	~250						
		1326	EN				48 46 380	128 09 622	2506						File
15	P7	1355	BE	ROS	US	22	48 46 60	128 09 94	2502		121	1			File 0467
		1432	BO				48 46 603	128 09 977		2005					
		1455	EN				48 46 55	128 10.13							
15	P7-P8	1506	BE	MVP		23	48 46 57	128 10 22							
		1730	EN				48 48 56	128 10 90	2519						File 0468
15	P8	1745	BE	ROS	US	24	48 48 929	128 39 905	2519		122-144	23			→
		1817	BO				48 48 989	128 40 003		2005					
		1905	EN				48 48 757	128 40 678					Ron L		
15	P8	1922	BE	NET	-	25	48 48 71	128 40 76	2519						
		1929	BO				48 48 67	128 40.85		250			Ron L		
		1934	EN				48 48 71	128 40 92							
15	P8	1956	BE	Net		26	48 48 84	128 40 79	2519	700		—	Ron L		
		2017	BO				48 48 769	128 41.165	2517	700					
		2030	EN				48 48 67	128 41 45	—						

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→ incorrect bottom depth entered into SeaSave

DAILY SCIENCE LOG

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15	P8→P9	2040	BE	MVP		27	48 48.989	128 43.373	2512						
		—	EN				—	—							recovered
15	P9	2332	BE	ROS	US	28	48 51397	129 10.003	2330	2005	145	1	Lon L.	✓	
		2349	BO				48 51.408	129 10.038							
16		00:20	EN				48 51.466	129 10.015							
16	P9-P10	00:37	BE	MVP		29	48 51.412	129 10.342	2360						
		03:10	EN				48°53.58	129°39.55							
16	P10	03:23	BE	ROS	US	30	48°53 60	129°39.86	2645	2005	146	1	Lon L	✓	
		04:00	BO				48°53 62	129°40.00		2005					
		04:34	EN				48 5363	129 39.98							
16	P10-11	04:43	BE	MVP		31	48°53 62	129 40.20	2645						
		07:09	EN				48 5593	130 09.36							
16	P11	723	BE			32	48 56 020	130 09.977	2754				MS	✓	
		757	BO				48 56070	130 09695		2005	147				
		822	EN				48 56113	130 09 311							
		0832					48 56 212	130 09 537	2757						
16	P11-12	0934	BE	MVP		33	48 56.25	130 09.99	2751						
	P12	1027	EN				48 57.753	130 35.035	3025						File 0590

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Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month AUGUST | **Year** 2008 | **Ship** J.P. TULLY | **Cruise ID** 2008 27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
16	P12	1037 1050	BE	White NET		34	48 57 94 80	130 35 60 922	3230				MD		
		1145	EN				48 58.21	130 40.15							
16	P12	1122	BE	NET		35	48 58.197	130 39.963	3230	250			MD		
		1138	EN				48 58.099	130 39.859							
16	P12	1321	BE	ROS		36	48 58 184	130 39 941	3114						
		1348	BO				48 58 196	130 39 980		2005	148-171	24	MD	✓	
		1417	EN				48 58 218	130 39 998							
16	P12	1458	BE	ROS	US	37	48 58 196	130 39 980	3114						Loop shut off @ 8:50 local 1550 UTC
		1510	BO				48 58 18	130 39 98		1000	172-190	19			
		1530	EN				48 58 20	130 3989							
16	P12	1614	BE	ROS	US	38	48 58 192	130 39 965	3224						
		1702	BO				48 58 204	130 40 010		3275	191-213	23			1810 UTC Pump BACK ON
		1804	EN				48 58 193	130 39913							
16	P12	1915	BE	ROS	US	39	48 5820	130 40 02	3227	300m	214-236	23	Ral		
		1920	BO				48 5825	130 40 00		300m					
		1942	EN				48 5827	130 4003							
16	P12	19:56	DE	ARGO		40	48 58 327	130 40.309					SN 3889		ARGO Deployment
16	P12-P13	20:03	BE	MVP		41	48 58.32	130 40.59							
		00:50	EN				49°02.70	131°38.88							

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							Latitude	Longitude							
17	P13	01:12	BE	ROS	US	42	49°02.64	131°39.90	2989	2005	237	1	RmL	✓	
		1:41	BO				49°02.60	131° 39.99							
		02:13	EN				49 02 57	131 39.91							
17	P13-14	02:18	BE	MVP		43	49°02 64	131 40.01	3031						
		a sg	EN				49 07.42	132 39.57							
17	P14	0712	BE	ROS		44	49 07 409	132 39 965	3310		238-242	5	MD	✓	→
		0737	BO				49 07 523	132 40 050		2005					
		0759	EN				49 07 648	132 40 069							
17	P14-15	0607	BE	MVP		45	49 07 834	132 40.67							
		1152	EN				49 12.024	133 39.843	3396						File 070
17	P15	1204	BE	ROS	US	46	49 12 030	133 40 003	3399					✓	→
		1229	BO				49 12 022	133 40 031		2005			MD		
		1249	EN				49 12 050	133 40 142			243	1			
17	P15-16	1300	BE	MVP		47	49 12 05	133 40 14	3400						File 073
	P16	1758	EN				49 16 86	134 35.230	3624						File 07
17	P16	1818	BE	NET		48	49°16.65	134° 39.30	3626						White net
		1917	EN				49°16.89	134°39.10		200					

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Notes: _____

0700
⇒ TSG flow Rate down, relief valve ONTOP was wide open, lots of bubbles. Flow rate increased, relief valve put to slightly open to hopefully remove bubbles

1204 UTC
STILL LOTS of bubbles IN TSG, ENGINEER will try switching PUMP back to the way it WAS set UP yesterday MORNING when the system WAS working without bubbles

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month AUGUST **Year** 2008 **Ship** J P TULLY **Cruise ID** 2008-17

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
17	P16	1933	BE	NET		49	49 17.07	134 39.72	3621						
		1941	BO				49° 17.07	134° 39.76		250					
		1945	EN				49° 17.04	134° 39.80							
17	P16	2001	BE	ROS	US	50	49° 16.94	134° 39.92	3621					✓	
		2005	BO				49° 16.93	134° 39.89		300	244-265	22			
		2026	EN				4916.99	134 39.97							
17	P16	2120	BE	ROS	US	51	4916.943	134 39.77	3621	2000	266-289	24	RmL	✓	UBC 2000m Cast
		2148	BO				4916.97	134 40.01							
		22:20	EN				49°16.96	134° 39.94							
17	P16	22:58	BE	ROS	US	52	4916.94	134 39.96	3622	1000	290-307	18	RmL	✓	
		23:12	BO				49°16.98	134°39.97							
		2332	EN				49° 17.02	134° 39.98							
18	P16	00:00	BE	ROS	US	53	4917.04	134 39.95	3621					✓	
		0052	BO				49°17.03	134° 40.07		3685	308-331	24			
		02:08	EN				49° 17.04	134° 39.88							
18	P16-17	0218	BE	MVP		54	49° 17.11	134° 41.65	3621						
			EN												

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MR = Messenger Release Time
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Transmissometer to be cleaned before each cast, do not use Ammonia products

Notes: _____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 06 March 2008

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month AUGUST **Year** 2008 **Ship** J.P. TULLY **Cruise ID** 2008-27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
18	P17	731	BE	ROS	US	55	4920.972	135 39.997	3619		332	1	MD JS	✓	
		758	BO				49 20.903	135 40.201		2005			AM		
		820	EN				49 20.936	135 39.958							
18	Leaving P17	835	BE	White Net		56	4920.745	135 40.039	3656			-			
		935	EN				49 21.065	135 44.246		200	--				
18	P17-P18	943	BE	MVP		57	49 21.17	135 44.54	3478						
		1319	EN				49 25.951	136 39.183	3815						
18	P18	1335	BE	ROS	US	58	49 26.01	136 40.010	3816					✓	+Loop CTC took over to Niskin Loop
		1400	BO				49 25.93	136 40.03		2005	333-337	5	MD DG KG		
		1420	EN				4926.022	136 40.05							
18	P18-P19	1435	BE	MVP		59	49 26.15	136 40.57	3815						File 0057
		1820	EN				49 29.971	137 39.201	3907						
18	P19	1835	BE	ROS	US	60	4930.061	137 39.985	3907		338	1	MD KG DG		+Loop
		1904	BO				49 30.00	137 39.93		2005					
		1939	EN				49 29.98	137 40.01							
18	P19-20	1944	BE	MVP		61	49 29.95	137 40.46	3909						File P19
		23:46	EN				49 33.81	138 39.44							

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US = Up / Stop
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Time Code:
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1449, 18 AUG UTC: STOPPED EK60, Restarted on C: 2008-27.

1658, 18 AUG UTC: BACK TO D DRIVE, EK60

⇒ 1625 TSG STOPPED and Loop pump switched back to original pump from cruise to hopefully fix bubble problem

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month August **Year** 2008 **Ship** J P TULLY **Cruise ID** 2008-27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
19	P20	00:01	BE	ROS	US	62	49°33.39	138° 39.94	3941		339-361	23	Bonk.	✓	
		0010	BO				~~49~~ 3397	138 40.00		300					
		00:25	EN				49°33.95	138° 39.99							
19	P20	01:14	BE	ROS	US	63	49°33.97	138°3994	3944		362-385	24	R.L	✓	
		02:08	BO				49°34.02	138°40.07		4025					
		03:27	EN				49° 34.02	138° 39.93							
19	P20	4:41	BE	ROS	US	64	49° 33 97	138° 40.00	3944		386-409	24		✓	
		5:06	BO				49 33.98	138°39.97		2000					
		05:40	EN				49 33.99	138 39 95	3						
19	P20	06:20	BE	ROS	US	65	49 34.06	138 40.01	3982		410-425	16		✓	
		0633	BO				49 34 10	138 39.94		1000					
		0655	EN				4934 13	13839.66							
19	P20	07:15	BE	NET		66	49 : —	138 —	3943		—	—			Bongo
		07:22	BO				49 34 19	138°40.01		250					
		07:29	EN				4934 27	13840.03							15888
19	P20	07:40	BE	WHITE NET		67	49 3446	13840.44	3942						
		09:42	EN				49 34.18	139 44.97							
19	P20-21	0855	BE	MVP		68	49 35 375	138 46 080	3936						
	P21	1300	EN				4937.967	139 38.754	3937						F/L 0969

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Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month AUGUST **Year** 2008 **Ship** J.P. TULLY **Cruise ID** 2008-17

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
19	P21	1322	BE	ROS	US	69	49 37 966	139 39 826	3937						
		1347	BO				49 37 970	139 39 969		2005	426	1	KG MD DS	✓	+ Loop
		1410	EN				49 37 952	139 40 045							
19	P21-P22	1423	BE	MVP		70	49 37 99	139 40 127							
		1830	EN				49 46.787	140 18.777	3483						File 0020
20	P25-P24	1920	BE	MVP		71	49 54 86	143 42 41	—						
		—	EN	—			50° 0.002	144° 59.87							
21	P26	01:30	BE	ROS		72	50° 0.002	144° 59.87	4223	4315	427-450	24	Ron L		5m drr error
		02:27	BO				50° 0.007	144 59.96							
		03:53	EN				49 59.981	144 59 988							
21	P26	05:39	BE	ROS		73	49 59.98	145.0098	4222		451	1			PQ
		05:41	BO				49 59 98	145 00.07		10m					
		05:42	EN				49 59 98	145 00 07							
21	P26	06:18	BE	ROS		74	50° 00 37	144 59 96	4223						
		06:45	BO				49° 59 94	145 00.15		2000	452-475	24			UBC deep Cast.
		07:13	EN				49° 59 97	144 59.97							
21	P26	751	BE	ROS		75	50 00.018	145 00.012	4385		476-497	22			UBC 1000m
		800	BO				50 00 .0	145 00.0		1000					
		0830	EN				50 00 008	145 00 001							

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month August **Year** 2008 **Ship** Tully **Cruise ID** 2008-27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
21	P26	1005	BE	ROS	US	76	49 59 999	144 59 958	4222	10	498		MD	✓	PQ
		1007	BO				50 00 002	144 59 951							
		1008	EN				50 00 014	144 59 932							
21	P26	1037	BE	White Net		77	50 00 025	144 59 970	4223	200			MD		
		1145	EN												
21	P26	0010	BE	Bongo		78	50 00 04	144 59 906	424	250m			MD		
		00 24	BO				50 00.15	144 59 907							
		1232	EN												
21	P26	1238	BE	Bongo		79	50 00.00	144 59.988	4223	1000m					
		1310	BO				50 00.011	144 59.982							
		1334	EN				50.00.004	145 00.129							
21	P26		BE	Bongo		80				700m					
			BO												
		1438	EN				50.00.07	145 00.153	4222						
21	P26														
21	P26	1449	BE	ROS		81	50 00 037	145 00 071	4222	10					PQ
		1450	BO				50 00 052	145 0 082							
		1451	EN				50 00 058	145 00 091							

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Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month AUGUST **Year** 2008 **Ship** J.P TULLY **Cruise ID** 2008-27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
21	P26 to Moo	1506	BE	MVP		82	50 00.398	145 00 117	4222						
21		1608	EN				50 08 02	144 58 95							
21	Mooring	1636	BE	ROS	US	83	50 08 27A	144 50 035	4188						
21		1644	BO				50 8 278	14450 029		200	500-508	9	DG KG	✓	
21		1656	EN				50 08 244	144 50 052					MD		
21	Moor →	1709	BE	MVP		84	50 07.871	144 57.488	4195						
	P26	202	EN				49 2.64	145 02.73							File 1093
21	P26	20:40	BE	ROS	US	85	50:0000	144.59.96	4222		509-524	16			File 1123
		20:57	BO				50 0.005	145 0.005		1250					CMAR, CSV
		21:32	EN				50° 0.024	144 59.97							
21	P26	23.01	BE	ROS	US	86	49°59.99	145°00.08	4222		525-546	22			
		/	BO				49°59.99	145°00.05		300					DMS-300m
		23:35	EN				4959.98	145°00.07							
22	P26	00:56	BE	ROS	US	87	4959.994	145°00.08	4222		547-551	5			
		00:58	BO				50° 0.02	144°59.97		37m					
		01:04	EN				50° 0.02	144 59.97							
22	P26-P35	01:26	BE	MVP		88	49.59.99	145°00.05	4222						
	P35	1124	EN				49 59.813	144 17.982							File 1214

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Notes:

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month August **Year** 2008 **Ship** Tully **Cruise ID** 2008-27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
22	P35	1135	BE	ROS	US	89	50 00.043	144 18.106	4124		552	1	MD	✓	
		1202	BO				50 00.08	144 18.037		2005			JS		
		1227	EN				50 00.266	144 17.946					AM		
22	P35→25	1242	BE	MVP		90	50 00.132	144 16.937							
	P25	1515	EN				49 59.786	143 36.429	4122						Fl. to 1236
22	P25	1530	BE	ROS	US	91	49 59.972	143 36.310	4122	2005	553-576		KG		
		1608	BO				49 59.981	143 36.380					DG		
		1636	EN				49 59.819	143 36.816					MD		
22	P25→P24	1646	BE	MVP		92	49 59.412	143 36.042							
		20:33	EN				4950.18	142 40.30							
22	P24	20:47	BE	ROS		93	4950.22	142 40.04	3965		577-581		RLinke		
		21:13	BO				49°50.248	142° 40.043		2005					
		21:42	EN				49 50.23	142 40.97							
22	P24-P23	21:56	BE	MVP		94	49 50.34	142 39.63							
		01:35	EN				4946.01	141. 40.9							
23	P23	01:52	BE	ROS		95	49 46.088	141. 40.00	4029		582				+ Loop
		02:19	BO				49° 46.089	141.° 40.024		2005					
		02:48	EN				49 46.02	141° 40.01							

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Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month August **Year** 2008 **Ship** JP Tully **Cruise ID** 2008-27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
23	P23-P22	02:58	BE	MVP	—	96	49°46.00	141°39.69	4028	—					
		06:37	EN				49 42.00	140 40.59							
23	P22	06:53	BE	ROS		97	49 42 06	140 39.9			583-587	5	RL/MD	—	
		0725	BO				49 42 079	140 39 814							
		752	EN				49 42 024	140 39 756							
23	P22	808	DE	Argos		98	49 41.99	140 39.98W	3893				MD		
23	P22	0820	DR	White			49 41 82	140 39 78	3893						
		0940	EN	Net											
23	P22→Eddy	0944	BE	MVP		99	49 39.26	140 35.16	3938						File 1359
		1506	EN	MVP			49 00.222	139 30.562	4026						Checking Fish
23	Centre Eddy → SE	1520	BE	MVP		100	48 59.676	139 29.472	4047						File 1375
		1820	EN				48 37 04	138 59 996	4065						
23	Continue SE	1840	BE	MVP		101	48 36.754	138 59.620	4066						File 1399
		22:08	EN				48 30 29	138 30.79	4059						
23	Continue N	22:17	DE	White Net		102	48 30 54	138 30.47	4059				RL.		20@300, 20@200 200@100
		23:39	RE				48 34 40	138 29.19							
23	Continue N	23:45	BE	MVP		103	48°34.0	138°29.19	4056						
		03:56	EN				48 14.5	138 15.8							
24	Loop 1	02:19	-	USW			48°59.07	138°20.86	4072		—		RL		1ST Loop 1, EVERY 6 HRS

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month August **Year** 2008 **Ship** Tully **Cruise ID** 2008-27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
24	Continue N	04:01	BE	MVP	-	104	49° 14.69	138° 15.68							
		0750	EN												
24	Loop 2	06:49	-	USW			49°41.63	138°06.24							Loop every 6 HRS
24		0800	BE	White		105	49 50 97	138 03 04	3917						
		0822	EN	Net			4954 98	138 03 64	3906	300					300, 200, 100 m depths
24		0922	BE	MVP		106	49 54.98	138 01.107	3906						
		1333	EN				50 02.921	137 01.207	3799						File 1538
24	Loop 3	1256		USW			50 07 477	137 10 768	3806			MD			Loop
		1339	BE	MVP		107	50 08.921	137 00.766	3798			1A			File 1539
		1803	EN				5017.839	135 49.956							
24	to SSL	1818	BE	MVP		108	50 18.095	135 48.242	3628			1G			File 1574
		07:15	EN				5046.82	133° 36.68							
24	Loop 4	1900		USW			50 19 8512	135 36 214	3581			MD			Loop 4
25	Loop 5	0100		USW			50°3310	134°05.52	3394						
25	Loop 6	0700		USW			50°4680	133° 39.68	3313						
25		0728	BE	White NET		109									
		0842	EN												
25	Continue E	0849	BE	MVP		110	50° 44.22	133° 38.92	3320						
		1332	EN				50 51.782	132 20.315							File 1712

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Notes: _____

Change the filters btw Loop 5 + Loop 6

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month August **Year** 2008 **Ship** Tully **Cruise ID** 2008-27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
25	Loop 7	1300		USW			50 51 117	132 28 18	2841				MD		Loop
25	E to SS0	1352	BE	MVP		111	50 52.031	132 18.710	2885				VB		E.k 1713
		~1635	EN				50 55.541	131 34.413							
25	E to SS0	1643	BE	MVP		112	50.55.541	131 34.413	2913						
		1925	EN				50.59 93	130 49.97							
25	Loop 8	1900		USW			50°59.05	130 57 18	2533.9				RL		Loop
25	SS0	19:38	BE	ROS	US	113	50°59.01	130°49.72	2638		588-593		RL		
		20:04	BO				50. 0.01	130 49.97							
		20:33	EN				50° 0.07	130 50.01							
25	E to SS1	20:45	BE	MVP		114	51 00.08	13049.92	2638						
		41:00	EN				51°11.89	130 00.00							
26	SS1	00:52	BE	ROS	US	115	51°11.91	129°59.97	497		594-614				
		01:05	BO				51°11.98	129° 59.99	485						
		01:25	EN				51°11.99	129° 59.99							
26	SS2	02:46	BE	ROS	-	116	51 13.00	129 42.99	586	575	633				BOT @ 5m.
		02:56	BO				51 13.00	129 42.99							Bottom -10
		03:07	EN				51°12.98	129°42.96							
26	SS2	03:24	BE	Net		117	51°13.10	129°4296	586	250					start 395 20 415 15
		03:31	EN				51 1310	129°42.96							BONGO.

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Notes: _____

NOTE: BONGO #117 - TAPE WAS LEFT OVER the screen on the plastic cups on this cast ONLY.

* COLOR CODE ON THE BONGO PLASTIC CUPS + PAILS IS screwed up. CUP MARKED RED TAPE IS on the "NON Flowmeter Net" - Sample pail "Red tape" IS marked Flowmeter.
- THROUGHOUT THE cruise we have been freezing the sample from the CUP MARKED with RED TAPE.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month AUGUST | **Year** 2008 | **Ship** J.P. TULLY | **Cruise ID** 2008 27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
26	SS2-3	0347	BE	MVP	/	118	51°13.10	129°42.96	566	/					
			EN				51 14.99	129 21.19							
26	SS3	05:27	BE	ROS		119	51°15.00	129°21.19	292		615-632	18	KL		
		05:33	BO				51°14.99	129°21.3		282					
		05:52	EN				51°14.99	129°21.28							
26	SS3-4	06:06	BE	WHITE NET.		120	51 14.99	129 21.28							2 depths
		06:58	EN				51 15.97	129 17.88							30 mins each
26	SS3-4	07:04	BE	MVP		121	51 15.97	129 17.88							
		813	EN				51 20.679	129 00.775	240						
26	SS4	830	BE	BONGO		122	51 20.969	129 00.07		220					BONGO
		837	BO				51 20.930	129 00.132							
		848	EN				51 20.99	129 00.214							
26	SS4	858	BE	ROS		123	51 21.036	129 000.293	239		634				NOTE: SS2 used sample #633
		902	BO				51 21.012	129 0.044		230					
		904	EN				51 21.012	129 0.043							
26	SS4→PH.	0914	BE	MVP		124	51 21.02	129 00.243	230						
		B40	EN				51017.402	127 57.78	142						
26		B52	BE	MVP		125	51 01.69	127 57.65	142						Fle 1871
	↓P.H.	1606	EN				50 49.916	127 27.392	200						

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month August **Year** 2008 **Ship** J.P. Tully **Cruise ID** 2008-27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
26	NTOSS6	23:39	BE	MVP		126	—	—					RL		
27		03:02	EN				51°18.72	127°52.68	90						
27	SS7	04:51	BE	ROS	US	127	51 24.781	127°47.602	125		635-646	12	RL		
		4:54	BO				51°24.78	127°47.6		115					
		5:05	EN				51°24.7	127° 47.6							
27	Ri1	06:13	BE	ROS	US	128	51°26.39	127°38.26	325		647-666	20	RL		
		06:18	BO				51°26.42	127°38.25		313					
		06:37	EN				51° 26 42	127 38.20							
27	Ri1	7.08	BE	NET		129	31 26 35	127 3820	333				MD		BONGO
		723	BO				51 26 33	127 38 164		315			JS		
		7:35	EN				51.2635	127 3818					AM		
27	Ri 2	0837	BE	Net		130	51 31 288	127 33 614	331				MD		
		853	BO				51 31 228	127 33 54		320			AM		
		0910	EN				51 31 213	12733 555					JS		
27	Ri 2	919	Be	ROS	US	131	51 31 201	127 33 552	330		667	1	MD/AM	✓	
		924	BO				5131 186	127 33 527		320			JS		
		929	EN				5131 171	127 33 490							

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month AUGUST **Year** 2008 **Ship** JP Tully **Cruise ID** 2008-27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
27	RI3	1023	BE	ROS	USW	132	5135.882	12732.095	325		668	1	AM,JS	✓	
		1028	BO				5135 898	127 32054		320			MD		
		1032	EN				5135906	127 32 021							
27	RI3	1042	BE	BONGO		133	5135 942	127 31 936	325						
		1048	BO				51359917	127 31 9197		315			AM JS, MD		BONGO
		1100	EN				5135 902	127 31 91							
27	RI4	1142	BE	BONGO		134	5138 88	12726 75	298				AM, JS MD		BONGO
		1155	BO				51 38 861	127 26.58		285					
		1205	EN				51 38 78	127 26 55							
27	RI4	1225	BE	ROS	USW	135	5138 878	127 26 704	300		669-684	18		✓	
		1237	BO				5138 862	127 26 693		290					
		1302	EN				5138 770	127 26 684							
27	RI5	1347	BE	ROS	USW	136	5140 722	12719 961	200		687	1		✓	
		1351	BO				5140 716	127 19 961		190					
		1353	EN				5140 710	127 19 962							
27	RI5	1402	BE	NET		137	51 40.69	127 19.97	200						
		1408	BO				51 40.68	127 19.97		190					
		1413	EN				51 40.67	127 19 96							

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At start of cast there was a significant difference between both primary + secondary temp + salinity values, but by the time the Rosette reached the bottom the difference was gone.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month August **Year** 2008 **Ship** J.P. Tully **Cruise ID** 2008-27

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27	RIG	1500	BE	Bongo		138	51 40 490	127 17 490	143				MD		
		1504	BO				51 40 473	127 17 05		133					
		1516	EN				51 40 402	127 1701							
27	RIG	1528	BE	ROS		139	51 40 529	127 17 020	145						
		1533	BO				51 40 546	127 17035		140	688	1			
		1537	EN				51 40 554	127 17 058							
27	RIG→M2	1548	BE	MVP		140	51 40.633	127 17.732	145						File 1957
		20:03	EN				51°37.50	127°51.6							
27	M2	22:22	BE	ROS		141	51 46.50	127 53 24	188		689-700	12			
		22:26	BO				51 46.48	127.53.25		188					
		22:39	EN				51 4644	127.53.27							
27	M3	2326	BE	ROS		142	51 46.35	127 54.56	325?		701-714	14			Raining
		2331	BO				51 46 32	127 54 60		324					
		2347	EN				51 46 26	127 54.62							
27	M4	0039	BE	ROS		143	51 44.71	128 00.10	432		715-730	16			Raining
		0046	BO				51 4470	128 00 4		425					
		0107	EN				51 4468	128 00.11							

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Ocean Sciences Division, Institute of Ocean Sciences

Month August **Year** 2008 **Ship** Tully **Cruise ID** 2008-27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
28	M5	01:53	BE	ROS	US	144	51 43.47	128 03.50	340		731	1			
		2:00	BO				51 43.46	128 3.53		355					
		2:00	EN				51 43.45	128 3.57							
28	M6	3:00	BE	ROS	US	145	51°42.73	128°07.46	240		732-736	5			
		3:05	BO				51°42.77	128°07.59		231					
		3:13	EN				51°42.85	128°07.62							
28	M6-SSS	3:20	BE	MVP		146	51 42.85	128 07.62	340						
		06:03	EN				—	—							
28	SSS	06:12	BE	ROS		147	51°28.23	128°30.12	201		738-750	12			
		6:20	BO				51° 28.15	128°29.89	174	192					
28		6.41	EN				51°28.07	128.30.03							
29	SSS to CS02	07:05	BE	MVP		148	51°27.61	128°30.88							
28	CS2	1350	EN				50 45.224	129 23.337							
29	CS02	1444	Be	ROS	US	149	50 41 274	129 28 273	1899		751-769	19	DG KG MD	✓	
		1514	BO				50 41 236	129 28 294							
28		1607	EN				50 41 347	129 28 747							
29	CS02			MVP		—									
29	CS02	1700	BE	White		150	50 41 3[illegible]	129 28							
		1815	EN	Net			50 41. 50	129 34.91							

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→ MVP PUT INTO Water to look at Cable, there is chaffing ON CABLE SO IT WILL BE Replaced

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month Aug **Year** 2008 **Ship** J P Tully **Cruise ID** 2008-27

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
29	Loop9	07:00		USW			4919 226	12729 298		1834			RL		
29		1145	BE	White Net		151	48 50 857	126 55 3212		1243					NUT, CHL, SAL
29		1245	EN				48 4709	126 50 87							
29	Loop10	1258		USW			4846 300	126 49 919		1396					
29	P4	1411	US	ROS		152	48 38984	126 39 962	1324		770, 771	2			Loop 10
							4838 986	126 39956		25					15m + 5m
		1412													
29		1710	BE	MVP		153	4830 276	126 03 756	170						
29	Lateral	1804	BE	MVP		154	4831.631	126 01.542	145						Test Transmissometer
	CC Line	2100	EN				48°49.84	125 30.01							File Loop
29	Loop11	19:10		USW		155	48°39.13	125°48.43	67m						
29	End Cline	21:10	BE	White Net		165	4849 84	125 30.01	104m						NUT, CHL, Sal
		21:30	EN				4848 52	125 28.8							
30	Loop12	00:54		USW		90m	4847 79	125 20.99							
30	Loop13	0105		USW		86	48 3269	125 34 89							Loop
30		1142	RE	MVP			48 29.661	124 33.233							Loop
		1604	EN	MVP			4817.479	123 36.859							

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