

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2011 - 10

DATE:

From: 9 SEP 2011

to: 14 SEP 2011

VESSEL:

VECTOR

PROJECT(S):

STRAIT OF GEORGIA / JUAN DE FUCA
WATER PROPERTIES SURVEY

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

WaterProperties.ca

Captain: _____
 Second Officer: _____
 Fishing Master: _____
 First Officer: _____
 Third Officer: _____

Mission Participants / Agencies:

[illegible][illegible]

Data logging computer:

Data acquisition program: SEASAVE V7

CTD deck unit make: SSC model: 11 serial number: 0425

Primary CTD

Make: Subaru model: 911 serial number: 0404

Primary temperature serial number: 2106

Primary conductivity serial number: 1764-

Secondary temperature serial number: 2710

Secondary conductivity serial number: 2128

Transmissometer:	Model:	s/n:	
Fluorometer:	Model	Cable gain:	
Oxygen sensor:	SSE	Model:	43
PAR sensor:	Model:	s/n:	
Other sensors:	ALTIMETER - BENTHOSS	s/n:	201380
Other sensors:		s/n:	
Other sensors:		s/n:	
Other sensors:		s/n:	

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:	
Oxygen sensor:	Model:	s/n:	P, S or NO pump?
PAR sensor:	Model:	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?
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: _____
Volume of bottles (litres): _____

Winches:

1. Make: 329 Model: 1483 Serial #: _____ Used for: CTD/ROSETTE
2. Make: 329 Model: 1307 Serial #: _____ Used for: Backup
3. Make: 420 Model: 1507 Serial #: _____ Used for: Look winch

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

Salinometer:

Make: N/A Model: _____ Serial Number: _____
Comments on performance during cruise (comments should also be reflected in the post-cruise report):

Oxygen Kit(s):

Make: _____ Model: _____ Kit Number: _____
Make: _____ Model: _____ Kit Number: _____
Comments on performance during cruise (comments should also be reflected in the post-cruise report):

Thermosalinograph System (SBE21):

Program: N/A Version: _____
Sampling interval (seconds): _____
Fluorometer sensor serial number: _____
Comments on performance during cruise (comments should also be reflected in the post-cruise report):

ADCP Setup:

Computer time zone: N/A 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 100 m all good

CTD pressure reading on deck (db), before cast: 2.1 after cast: 2.1

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: _____

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Month SEP				Year 2011			Ship VECTOR				Cruise ID 2011-10				
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							
9	SI	21:58	BE	ROS	US	1	48° 39.32	123° 30.26	183		1-9	9	RM	✓	
		22:03	BO				32	26		100					
		22:12	EN				39	30							
10	58	01:44	BE	CTD		2	48° 42.99	123° 14.28	332		—	—	H.M. ETAL	✓	* →
		01:53	BO				48° 43.00	123° 14.30		323					
		01:59	EN				48° 43.01	123° 14.33							
10	59	02:44	BE	ROS		3	48° 37.80	123° 14.62	230		10-23	14	H.M./M/ET	✓	
		02:49	BO				48° 37.79	123° 14.60		222					
		03:07	EN				48° 37.79	123° 14.60							
10	60	04:18	BE	CTD		4	48° 33.87	123° 12.79	292		—	—	H.M./M/ET	✓	
		04:24	BO				48° 33.89	123° 12.80		284					
		04:30	EN				48° 33.88	123° 12.80							
10	61	05:10	BE	CTD		5	48° 29.19	123° 09.17	267		—	—	H.M./M/ET		
		05:15	BO				48° 29.19	123° 09.20		273					
		05:21	EN				48° 29.18	123° 09.17							
10	101	13:05	BE	CTD		6	48° 25.47	124° 45.22	244					✓	
		13:13	BO				48° 25.49	124° 45.24		232			R/M/FL		Small
		13:17	EN				52	26							

Cast Type:

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USW = Sea Water Loop

MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter

Bottle Firing Method:

US = Up / Stop
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Notes:

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depart Port Bay 1430 - clear & warm

— STA 58 1ST CAST CANCELLED AFTER 160 m DUE TO WINCH PROBLEMS — RE DO CAST

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Month <u>SEP</u>				Year <u>2011</u>			Ship <u>VECTOR</u>				Cruise ID <u>2011-10</u>				
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							
10	102	1358	BE	ROS	US	7	48 30.00	124 44.01	254		24-37	14	R/BM/FL	✓	
		1405	BO				30.05	44.09		245					
		1420	EN				30.03	44.09							
10	103	1537	BE	CTD		8	48 32.98	124 42.92	118				R/BM/FL	✓	
		1540	BO				30.02	42.92		114					
		1542	EN				30.03	42.91							
10	76	1647	BE	CTD		9	48 31.41	124 29.97	85				R/BM/FL		
		1650	BO				31.42	29.98		80				✓	
		1652	EN				31.47	29.98							
10	75	1723	BE	ROS	US	10	48 28.19	124 32.78	221				R/BM/FL	✓	
		1729	BO				28.18	32.79		215					
		1745	EN				28.20	32.75							
10	74	1921	BE	CTD		11	48° 25.11	124° 35.66	189				H.M./M.H./E.Y.	✓	
		1927	BO				25.03	35.54		177					
		1931	EN				25.05	35.47							
10	73	2143	BE	CTD		12	48° 14.91	124° 06.73	162				H.M./M.H./E.Y.	✓	ALTIMETER JUMPED
		2148	BO				14.92	06.74		136					FROM 30m OFF BOTTOM
		2151	EN				14.97	06.73							TO 6.5m OFF BOTTOM

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Month <u>SEPT</u>				Year <u>2011</u>			Ship <u>VECTOR</u>				Cruise ID <u>2011-10</u>				
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							
10	72	22 21	BE	ROS	U.S.	13	48° 18.59	124° 04.01	186		52-64	13	HM/MH/ET	✓	
		22 26	BO				18.61	04.02		180					
		22 41	EN				18.61	04.03							
10	71	23 18	BE	CTD		14	48° 22.19	123° 59.36	108		-	-	HM/MH/ET	✓	
		23 21	BO				22.20	59.35		95					
		23 23	EN				22.20	59.37							
11	70	00 37	BE	CTD		15	48° 19.19	123° 43.22	150				HM/MH/ET	✓	
		00 41	BO				19.20	43.22		140					
		00 44	EN				19.21	43.20							
11	69	01 17	BE	ROS	U.S.	16	48° 15.61	123° 43.30	176		65-76	12	HM/MH/ET	✓	
		01 22	BO				15.61	43.27		168					
		01 36	EN				15.61	43.29							
11	68	02 12	BE	CTD		17	48° 12.19	123° 43.05	137		-	-	HM/MH/ET	✓	
		02 16	BO				12.20	43.05		130					
		02 19	EN				12.19	43.05							
11	105	04 23	BE	CTD		18	48° 10.99	123° 18.97	83				HM/MH/ET		
		04 26	BO				10.99	18.98		78					
		04 28	EN				10.99	18.98							

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Month				Year			Ship				Cruise ID				Page		or	
SEPT				2011			VECTOR				2011-10							
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										
11	ADCP	0453	BE	ROS	U.S.	19	48° 13.99	123° 17.99	120		77-85	9	HM/MH/ER	✓				
		0501	BO				14.01	18.02		103								
		0511	EN				14.00	18.00										
11	104	0600	BE	CTD		20	48° 20.01	123° 18.00	81		-	-	HM/MH/ER	✓				
		0602	BO				20.03	18.00		75								
		0604	EN				20.03	18.00										
11	67	0632	BE	CTD		21	48° 22.81	123° 18.09	103				HM/MH/ER	✓				
		0636	BO				22.81	18.09		98								
		0638	EN				22.80	18.09										
11	66	0715	BE	CTD		22	48 19.30	123 14.10	100				PC/BM/FL	✓				
		0717	BO				19.33	14.10		96								
		0719	EN				19.34	14.11										
11	65	0752	BE	ROS	US	23	48 15.88	123 9.81	128		86-95	10	PC/BM/FL	✓				
		0756	BO				15.87	9.81		122								
		0807	EN				15.78	9.82										
11	64	0841	BE	CTD		24	48 12.75	123 5.75	113				PC/BM/FL	✓	VERY CLOSE TO BOTTOM!			
		0846	BO				48 12.68	123 5.66		112								
		0848	EN				48 12.65	123 5.63										

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Month <u>Sept</u>				Year <u>2011</u>			Ship <u>Vector</u>				Cruise ID <u>2011-10</u>				
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							
11	63	0928	BE	CTD		25	48 14.58	122 58.52	155				PC/BM/FL	✓	
		0932	BO				48 14.52	122 58.50		152					
		0936	EN				48 14.50	122 58.47							
11	62	1032	BE	ROS	US	26	48 22.80	123 2.59	147			11	PC/BM/FL	✓	
		1032	BO				48 22.86	123 2.55		144					
		1047	EN				48 22.94	123 2.46							
11	54	1211	BE	CTD		27	48 26.56	122 44.27	80			—	PC/FL	✓	
		1214	BO				48 26.54	122 44.82		75.9					
		1215	EN				48 26.53	122 44.28							
11	53	1313	BE	CTD		28	48 33.24	122 44.95	58			—	PC/FL	✓	
		1316	BO				48 33.24	122 44.95		52					
		1317	EN				48 33.24	122 44.96							killer whale pod
11	52	1415	BE	CTD		29	48 38.85	122 43.29	82			—	PC/FL	✓	6-8, one breaching
		1416	BO				48 38.80	122 43.27		76.5					
		1418	EN				48 38.76	122 43.26							
11	51	1551	BE	CTD		30	48 46.70	122 51.49	166			—	PC/FL	✓	close to bottom.
		1555	BO				48 46.59	122 51.45		152					
		1557	EN				48 46.52	122 51.41							

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Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Latitude	Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
11	56	1649	BE	ROS	US	31	48 46.89	123 0.440	200		107-120	14	PC/FL		→
		1703	BO				48 46.39	123 0.1	150	140					
		1714	EN				48 45.908	123 0.127							
11	57	1800	BE	CTD		32	48 43.97	123 8.12	159			/	PC/FL		
		1806	BO				48 43.97	123 8.15							
		1808	EN				48 43.97	123 8.17							
11	47	1937	BE			33	48° 49.29	123° 06.21	180				HM/MH/EX	✓	
		1942	BO				49.30	06.20		170					
		1946	EN				49.31	06.18							
11	48	2024	BE			34	48° 51.70	123° 03.20	226				HM/MH/EX	✓	
		2029	BO				51.70	03.15		219					
		2034	EN				51.72	03.11							
11	49	2107	BE			35	48° 55.00	122° 59.59	130				HM/MH/EX	✓	
		2110	BO				55.00	59.59		120					
		2113	EN				54.99	59.60							
11	50	2142	BE			36	48° 57.69	122° 56.12	24				HM/MH/EX		
		2144	BO				57.69	56.13		23					
		2144	EN				57.69	56.14							

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Rosette @ Station 56

- large tidal current - rosette steaming away from Udon at large angle aft
- water depth originally 185 m
- vessel drift into shallower water - bottom depth 150 m
- sampling commenced with line angle straight up & down @ 150 m depth
- samples planned for depths 200, 175, 150 m made redundant

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Month <u>SEPT</u>				Year <u>2011</u>			Ship <u>VECTOR</u>				Cruise ID <u>2011-10</u>				
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							
11	44	2230	BE	CTD		37	48° 56.79	123° 06.01	119		—	—	HM/MH/ET	✓	
		2233	BO				56.79	06.02		111					
		2235	EN				56.81	06.03							
11	45	2306	BE	CTD		38	48° 53.88	123° 08.40	126		—	—	HM/MH/ET	✓	
		2309	BO				53.89	08.40		120					
		2312	EN				53.89	08.39							
11	46	2339	BE	ROS	V.S.	39	48° 51.39	123° 10.81	178		121-132	12	HM/MH/ET	✓	
		2343	BO				51.40	10.79		170					
		2356	EN				51.39	10.79							
12	106	0103	BE	CTD		40	49° 00.01	123° 13.29	117		—	—	HM/MH/ET	✓	
		0107	BO				00.01	13.29		110					
		0109	EN				00.01	13.28							
12	107	0142	BE	CTD		41	48° 58.39	123° 17.99	182		—	—	HM/MH/ET	✓	
		0146	BO				58.39	17.99							
		0150	EN				58.39	17.99							
12	43	0252	BE	CTD		42	49° 00.20	123° 30.07	202		—	—	HM/MH/ET	✓	
		0256	BO				00.20	30.09		190					
		0300	EN				00.20	30.10							

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							Latitude	Longitude							
12	42	0328	BE	ROS	U.S.	43	49° 01.80	123° 26.20	320		133-147	15	HM/MH/EX	✓	
		0335	BO				01.76	26.15		310					
		0358	EN				01.64	25.94							
12	41	0458	BE	CTD		44	49° 03.29	123° 22.29	240		-	-	HM/MH/EX	✓	
		0503	BO				03.30	22.29		230					
		0507	EN				03.29	22.29							
12	108	0529	BE	CTD		45	49° 04.39	123° 19.10	87		-	-	HM/MH/EX	✓	
		0532	BO				04.39	19.11		75					
		0534	EN				04.39	123° 19.11							
12	37	0641	BE	CTD		46	49° 13.60	123 20.70	212				HM/MH/EX	✓	
		0645	BO				13.60	20.71		204					
		0649	EN				13.60	20.72							
12	38	0721	BE	CTD		47	49 11.99	123 26.41	310				R/B/FL	✓	
		0728	BO				11.96	26.37		302					
		0732	EN				11.95	26.33							
12	39	0812	BE	ROS	OS	48	49 9.37	123 32.94	386		148-164	17	R/B/FL	✓	
		0820	BO				9.38	32.93		377					
		0839	EN				9.31	32.67							

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Month <u>SEP</u>				Year <u>2011</u>			Ship <u>VECTOR</u>				Cruise ID <u>2011-10</u>				
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							
12	40	0940	BE	CTD		49	49 8.59	123 36.83	152				R/BM/FL	✓	
		0944	BO				8.58	36.84		148					
		0946	EN				8.59	36.84							
12	26	1105	BE	CTD		50	49 14.29	123 50.81	255				R/BM/FL	✓	
		1112	BO				14.31	50.76		254					
		1116	EN				14.31	50.74							
12	27	1153	BE	ROS	US	51	49 19.12	123 47.95	350		165-180	16	R/BM/R	✓	
		1201	BO				19.12	47.84		346					
		1219	EN				19.12	47.55							
12	28	1256	BE	CTD		52	49 24.13	123 45.35	136				R/BM/FL	✓	
		1300	BO				24.16	45.34		131					
		1302	EN				24.18	45.35							
12	24	1434	BE	CTD		53	49 30.28	124 6.05	432				R/BM/FL	✓	
		1443	BO				49 30.24	124 6.06		425					
		1450	EN				49 30.23	124 6.01							
12	25	1512	BE	CTD		54	49 27.66	124 7.49	304				R/BM/FL	✓	
		1519	BO				27.64	7.49		298					
		1524	EN				27.65	7.50							

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Month <u>SEP</u>				Year <u>2011</u>				Ship <u>VECTOR</u>				Cruise ID <u>2011-10</u>			
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							
12	2	1554	BE	ROS	US	55	49 24.08	124 9.31	279		181-195	15	R/BM/FL	✓	
		1558	BO				49 24.09	124 9.31		273.2					
		1615	EN				24.18	9.38							
12	1	1650	BE	CTD		56	49 20.27	124 12.01	245			✓	R/BM/FL	✓	
		1655	BO				20.25	11.97		242					
		1700	EN				20.23	11.93							
12	4	1755	BE	CTD		57	49 24.47	124 22.01	347			✓	PC/BM/FL	✓	
		1801	BO				24.45	21.98		340					
		1807	EN				24.44	21.96							
12	3	1841	BE	ROS	U.S.	58	49 26.61	124 20.22	324		196-211	16	HM/MH/ET	✓	
		1849	BO				26.64	20.17		314					
		1909	EN				26.60	20.24							
12	5	2007	BE	CTD		59	49 27.46	124 30.76	315				HM/MH/ET	✓	
		2012	BO				27.42	30.75		313					
		20:20	EN				27.32	30.80							
12	6	20:50	BE	ROS	U.S.	60	49 30.60	124 27.75	190		212-221	12	HM/MH/ET	✓	
		20:56	BO				30.57	27.67		188					
		21:11	EN				30.51	27.62							

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Month SEP				Year 2011			Ship Vector				Cruise ID 2011-10				
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							
12	7	21:46	BE	CTD		61	49° 34.39	124° 24.14	350				HM/MH/ET	✓	
		21:55	BO				34.38	24.08		546					
		22:03	EN				34.39	24.08							
12	8	22:59	BE	CTD		62	49° 39.30	124° 32.95	338				HM/MH/ET	✓	
		23:06	BO				39.31	32.88		333					
		23:13	EN				39.26	32.95							
12	9	23:58	BE	ROS	U.S.	63	49° 35.46	124° 38.26	168		225-236	12	HM/MH/ET	✓	
		00:02	BO				35.45	38.29		165					
		00:14	EN				35.43	38.38							
13	10	01:09	BE	CTD		64	49° 40.72	124° 47.27	96				HM/MH/ET	✓	
		01:12	BO				40.73	47.26		97					
		01:14	EN				40.75	47.25							
13	11	01:41	BE	CTD		65	49° 42.41	124° 43.38	302				HM/MH/ET	✓	
		01:47	BO				42.40	43.27		300					
		01:53	EN				42.45	43.19							
13	12	02:14	BE	ROS	U.S.	66	49° 43.59	124° 40.76	357		237-353	16	HM/MH/ET	✓	
		02:20	BO				43.62	40.76		352					
		02:40	EN				43.67	40.56							

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Month <u>Sept</u>				Year <u>2011</u>			Ship <u>Vector</u>				Cruise ID <u>2011-10</u>				
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							
13	13	04:14	BE	CTD		67	49°55.32	124°55.27	232				HM/MH/K	✓	
		04:19	BO				55.32	55.27		230.3					
		04:23	EN				55.32	55.26							
13	14	0455	BE	RDS	U.S.	68	49°53.02	124°59.59	36		253-267	15	HM/MH/K	✓	
		0501	BO				49°53.01	124°59.62		310					
		0519	EN				49°53.01	124°59.62							
13	15	0552	BE	CTD		69	49°57.61	125°01.61	126		-	-	HM/MH/K	✓	
		0555	BO				57.60	01.62							
		0557	EN				57.60	1.63							
13	16	0649	BE	RDS		70	49°57.77	125°8.84	154		268-278	11	HM/MH/K	✓	
		0653	BO				57.74	8.86		151					
		0703	EN				57.71	8.84							
13	21	0747	BE	CTD		71	50°1.95	125°13.62	66				PC/BA/R	✓	
		0749	BO				1.95	13.63		63					
		0750	EN				1.95	13.63							
13	17	0846	BE	CTD		72	49°58.81	125°4.30	264				PC/BA/R	✓	
		0851	BO				58.83	4.34		260					
		0855	EN				58.84	4.37							

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