

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2009-64

DATE:

From: 30 Nov 2009

to:

VESSEL:

CCGS VECTOR

PROJECT(S):

STRAIT OF GEORGIA / JUAN DE FUCA STRAIT
WATER PROPERTIES SURVEY

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

WaterProperties.ca

Captain: JOHN LEE First Officer: ELANDE
Second Officer: _____ Third Officer: THALESIA
Fishing Master: _____

Mission Participants / Agencies: _____

Scientific Personnel:

Chief Scientist:

Name	Watch	Cabin	Name	Watch	Cabin
<u>PETER CHAMBLER</u>	<u>08-16</u>	<u>1</u>	<u>PETER CHAMBLER</u>		
<u>DARON TUNE</u>	<u>00-08</u>	<u>4</u>			
<u>NILJA MEMCEK</u>	<u>16-24</u>	<u>4</u>			
<u>MELISSA NEWKIRK</u>	<u>08-16</u>	<u>2</u>			
<u>DAVE TIMOTHY</u>	<u>00-08</u>	<u>3</u>			
<u>RON LINDSAY</u>	<u>16-24</u>	<u>3</u>			

Second leg of Mission:

Chief Scientist:

Name	Watch	Cabin	Name	Watch	Cabin

Data logging computer: _____

Data acquisition program: _____

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

Primary 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: 30 x 0.5 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?

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): _____

Scott 858.2880

Local: UTC-7

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month		Year		Ship		Cruise ID									
Nov / DEC		2009		Vector		2009-64									
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							
30	SI	2223	BE	ROS		1			172	1					
		2233	BO				48 39.38	123 29.96	100	100	1-9	9	R+N	✓	
		2244	EN				48 39.35	123 30.13							
01	58	00:12	BE	CTD		2	48 43.04	123 14.44	328	325			RL+NN	✓	
		00:22	BO				48 42.97	123 14.68							
		00:25	EN				48 42.91	123 14.78					RL+NN	✓	
01	59	01:24	BE	ROS		3	48 37.81	123 14.75	222	218	10-23	14	RL+NN	✓	Problem Connector - Sea Galle
		01:29	BO				48 37.67	123 14.61							
		01:46	EN				48 37.45	123 14.45							
01	60	02:16	BE	CTD		4	48 33.89	123 12.84	295	286			RL+NN		
		02:24	BO				48 33.72	123 12.63							
		02:30	EN				48 33.57	123 12.44							
01	61	03:03	BE	CTD		5	48 29.27	123 09.61	264	261			RL+NN		
		03:10	BO				48 29.10	123 09.45							
		03:15	EN				48 29.02	123 09.32							
01	101	1128	BE	CTD		6	48 25.44	124 45.09	238				(DT) ²	✓	rosette weight on
		1135	BO				48 25.45	124 45.10		224					
		1141	EN				48 25.47	124 45.15							

Cast Type:

BOT = Bottle cast, no CTD

CTD = CTD without Rosette

ROS = Rosette plus CTD

SET = Fish Set

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 Time of Cast

Deployment Time

DE = Deployment Time

MR = Messenger Release Time

RE = Recover Mooring Time

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

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page _____ of _____

Month <u>Dec</u>		Year <u>2009</u>		Ship <u>Vector</u>		Cruise ID <u>2009-64</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							
1	102	1221	BE	ROS		7	48 29 989	124 43 993	256		24-38		(DT) ²	✓	
		1227	BO				48 30 029	124 43 983		245		15			
		1248	EN				48 30 056	124 43 898							
1	103	1325	BE	CTD		8	48 32 981	124 43 052	122				(DT) ²		
		1329	BO				48 32 957	124 43 075		113	—			✓	
		1332	EN				48 32 940	124 43 099							
1	76	1444	BE	CTD		9	48 31 349	124 30 296	95				(DT) ²	✓	
		1447	BO				48 31 340	124 30 312		86					
		1450	EN				48 31 333	124 30 450							
1	75	1518	BE	ROS		10	48 28 214	124 32 837	225				(DT) ²	✓	
		1524	BO				48 28 241	124 32 898		217	39-52	14			
		1542	EN				48 28 171	124 32 845							
1	74	1615	BE	CTD		11	48 25 127	124 35 665	186				REM	✓	
		1620	BO				48 25 190	124 35 684		174					
		1625	EN				48 25 297	124 35 838							

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
UN = Up / No stop
DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
BO = Bottom Time of Cast
EN = End Time of Cast
DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

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

Produced by the Water Properties Group, IOS

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This page is for any notes or observations

STN 75 - 0730 - Bottle #11, 20m no trip, no reason

DAILY SCIENCE LOG

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Page _____ of _____

Month				Year			Ship				Cruise ID				
DEC				2009			VECTOR				2009-64				
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							
1	73	19:14	BE	CTD		12	48° 15.048	124° 6.823	161				RMH	✓	chains off
		19:19	BO				48° 15.107	124° 6.884							
		19:24	EN				48° 15.108	124° 6.938							
1	72	20:01	BE	ROS		13	48 18 599	124 4 007	190		53-65		RMH	✓	phytes
		20:06	BO				48 18 592	124 3980		183					
		20:19	EN				48 16.600	124 3805							
1	71	20:56	BE	CTD		14	48 22 138	123 59 484	110				RMH	✓	
		20:58	BO				48 22 124	123 59 447		106					
		21:01	EN				48 22 114	123 59 435							
1	70	22:13	BE	CTD		15	48 19 207	123 43 267	150				RMH	✓	
		22:17	BO				48 19 192	123 43 246		145					
		22:20	EN				48 19 178	123 43 244							
1	69	23:05	BE	ROS		16	48 15 766	123 43 112	180		66-77		RMH	✓	AR TEMP 5°C
		23:10	BO				48 15 768	123 43 142		175					
		23:22	EN				48 15 826	123 43 090							
1	68	23:56	BE	CTD		17	48 12.244	123 43.123	139				RL+PC	✓	
		23:59	BO				48 12.221	123 43.145		134					
02		00:02	EN				48 12.187	123 43.171							

Cast Type:

USW = Sea Water Loop

Bottle Firing Method:

Time Code:

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
UN = Up / No stop
DN = Down / No stop

Time Code:
BE = Beginning Time of Cast
BO = Bottom Time of Cast
EN = End Time of Cast

DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

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

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DAILY SCIENCE LOG

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Page _____ of _____

Month <i>DEC</i>				Year <i>2009</i>			Ship <i>Vector</i>				Cruise ID <i>2009-64</i>				
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							
<i>2</i>	<i>105</i>	<i>02:17</i>	<i>BE</i>	<i>CTD</i>		<i>18</i>	<i>48 11.018</i>	<i>123 19.196</i>	<i>84</i>			<i>/</i>	<i>RL+NN</i>	<i>✓</i>	
		<i>02:19</i>	<i>BO</i>				<i>48 11.017</i>	<i>123 19.247</i>		<i>82</i>					
		<i>02:21</i>	<i>EN</i>				<i>48 11.009</i>	<i>123 19.279</i>							
<i>2</i>	<i>Adecp</i>	<i>02:53</i>	<i>BE</i>	<i>ROS</i>		<i>19</i>	<i>48 13.991</i>	<i>123 18.116</i>	<i>117</i>	<i>113</i>	<i>78-87</i>	<i>10</i>	<i>RL+NN</i>	<i>✓</i>	
		<i>02:54</i>	<i>BO</i>				<i>48 13.980</i>	<i>123 18.240</i>		<i>113</i>					
		<i>03:04</i>	<i>EN</i>				<i>48 13.962</i>	<i>123 18.661</i>							
<i>2</i>	<i>104</i>	<i>03:56</i>	<i>BE</i>	<i>CTD</i>		<i>20</i>	<i>48 19.932</i>	<i>123 18.223</i>	<i>87</i>			<i>/</i>	<i>RL+NN</i>	<i>✓</i>	
		<i>03:58</i>	<i>BO</i>				<i>48 19.897</i>	<i>123 18.337</i>		<i>82</i>					
		<i>04:00</i>	<i>EN</i>				<i>48 19.870</i>	<i>123 18.400</i>							
<i>2</i>	<i>67</i>	<i>04:28</i>	<i>BE</i>	<i>CTD</i>		<i>21</i>	<i>48 22.691</i>	<i>123 18.005</i>	<i>107</i>			<i>/</i>	<i>RL+NN</i>	<i>✓</i>	
		<i>04:31</i>	<i>BO</i>				<i>48 22.73</i>	<i>123 17.960</i>		<i>106</i>					<i>MAX D = 111m</i>
		<i>04:33</i>	<i>EN</i>				<i>48 22.657</i>	<i>123 17.902</i>							
<i>2</i>	<i>66</i>	<i>05:05</i>	<i>BE</i>	<i>CTD</i>		<i>22</i>	<i>48 19.357</i>	<i>123 14.309</i>	<i>97</i>			<i>/</i>	<i>RL+NN</i>	<i>✓</i>	
		<i>05:07</i>	<i>BO</i>				<i>48 19.346</i>	<i>123 14.354</i>		<i>95</i>					
		<i>05:09</i>	<i>EN</i>				<i>48 19.332</i>	<i>123 14.400</i>							
<i>2</i>	<i>65</i>	<i>05:49</i>	<i>BE</i>	<i>ROS</i>		<i>23</i>	<i>48 15.996</i>	<i>123 9.968</i>	<i>123</i>		<i>88-97</i>	<i>10</i>	<i>RL+NN</i>	<i>✓</i>	
		<i>05:51</i>	<i>BO</i>				<i>48 16.003</i>	<i>123 9.985</i>		<i>120</i>					
		<i>06:03</i>	<i>EN</i>				<i>48 16.051</i>	<i>123 10.079</i>							

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month DEC				Year 2009			Ship Vector			Cruise ID 2009-64					
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							
2	64	06:41	BE	CTD		24	48 12.840	123 5.838	107			/	RLNN	✓	
		06:43	BO				48 12.840	123 5.831		103					
		06:45	EN				48 12.836	123 5.842							
2	63	07:26	BE	CTD		25	48 14.681	122 58.53	151			/	RLNN	✓	
		07:29	BO				48 14.722	122 58.566		146					
		07:32	EN				48 14.762	122 58.572							
2	62	0844	BE	ROS		26	48 22.784	122 02.497	148				(DT) ²	✓	
		0848	BO				48 22.778	122 02.500		139	98-108	11			
		0902	EN				48 22.805	122 02.496							
2	54	1028	BE	CTD		27	48 26.611	122 44.356	78				(DT) ²	✓	
		1031	BO				48 26.636	122 44.346		72	/	/			
		1033	EN				48 26.660	122 44.378							
2	53	1112	BE	CTD		28	48 33.242	122 44.934	59				(DT) ²		
		1114	BO				48 33.272	122 44.910		56					
		1116	EN				48 33.319	122 44.848							

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page _____ of _____

Month		Year		Ship		Cruise ID									
DEC		2009		Vector		2009-64									
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							
2	52	1150	BE	CTD		29	48 39 031	122 43 125	85				(DT) ²		
		1152	BO				48 39 145	122 43 052		80					
		1154	EN				48 39 252	122 43 016							
2	51	1300	BE	CTD		30	48 46 696	122 51 602	163				(DT) ²		
		1305	BO				48 46 702	122 51 630		157					
		1309	EN				48 46 705	122 51 658							
2	56	1411	BE	ROS		31	48 46 450	123 01 489	216		109-122		(DT) ²	✓	
		1417	BO				48 46 529	123 01 457							
		1434	EN				48 46 636	123 01 504							
2	57	1509	BE	CTD		32	48 43 900	123 08 077	185				(DT) ²		
		1513	BO				48 43 888	123 08 096		179				✓	
		1517	EN				48 43 830	123 08 126							
2	47	1645	BE	CTD		33	48 49 278	123 6.022	186				EMA	✓	
		1650	BO				48 49.292	123 5.981		182					
		1655	EN				48 49.280	123 5.888							

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Month				Year			Ship			Cruise ID					
DEC				2009			VECTOR			2009-64					
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							
2	48	17 22	BE	CTD		34	48 51.654	123 3.204	224				RMH	✓	4°C AIR TEMP
		17 27	BO				48 51.624	123 3.229		220					
		17 32	EN				48 51.590	123 3.287							
2	49	18 06	BE	CTD		35	48 55.001	122 59.593	131				RMH	✓	
		18 08	BO				48 55.008	122 59.624		127					
		18 10	EN				48 55.003	122 59.653							
2	50	18 38	BE	CTD		36	48 57.499	122 56.366	26				RMH	✓	
		18 40	BO				48 57.494	122 56.350		23					
		18 41	EN				48 57.494	122 56.351							
2	44	19 32	BE	CTD		37	48 56.762	123 5.942	120				RMH	✓	
		19 35	BO				48 56.767	123 5.971		117					
		19 38	EN				48 56.764	123 5.987							
2	45	20 04	BE	CTD		38	48 53.933	123 8.359	128				RMH	✓	
		20 07	BO				48 53.891	123 8.383		124					
		20 10	EN				48 53.866	123 8.406							

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
UN = Up / No stop
DN = Down / No stop

Notes: _____

Time Code:
BE = Beginning Time of Cast
BO = Bottom Time of Cast
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DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

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

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Month DEC				Year 2009			Ship VECTOR				Cruise ID 2009-64				
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							
2	46	20 32	BE	ROS		39	48 51.480	123 10.675	170		123 - 134		RMH	✓	
		20 36	BO				48 51.486	123 10.686		167					
		20 49	EN				48 51.481	123 10.603							
2	43	22 25	BE	CTD		40	49 0.138	123 29.994	198				RMH	✓	
		22 30	BO				49 0.104	123 30.006		190					
		22 34	EN				49 0.067	123 30.051							
2	42	23 00	BE	ROS	US	41	49 1.735	123 26.299	322		135 - 150		RMH	✓	
		23 07	BO				49 1.733	123 26.306		318					
		23 25	EN				49 1.764	123 26.298							
2	41	23 57	BE	CTD		42	49 3.252	123 22.352	246				RLR	✓	
		00:03	BO				49 3.278	123 22.254		240					
		00:08	EN				49 3.274	123 22.198							
						43									
3	37	01:33	BE	CTD		43	49 13.562	123 20.570	208				RL+NN	✓	
		01:38	BO				49 13.603	123 20.524		205					
		01:42	EN				49 13.613	123 20.465							

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:
UN = Up / Stop
UN = Up / No stop
DN = Down / No stop

Time Code:
BE = Beginning Time of Cast
BO = Bottom Time of Cast
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Transmissometer to be cleaned before each cast, do not use Ammonia products

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WaterProperties.ca
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Ocean Sciences Division, Institute of Ocean Sciences

Page _____ of _____

Month <i>DEC</i>				Year <i>2009</i>			Ship <i>VECTOR</i>			Cruise ID <i>2009-64</i>					
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							
<i>3</i>	<i>38</i>	<i>02:16</i>	<i>BE</i>	<i>CTD</i>		<i>44</i>	<i>49 12.00</i>	<i>123 25.138</i>	<i>300</i>				<i>RL+NN</i>	☒	
		<i>02:21</i>	<i>BO</i>				<i>49 11.977</i>	<i>123 25.985</i>		<i>292</i>	<i>-</i>				
		<i>02:27</i>	<i>EN</i>				<i>49 11.891</i>	<i>123 25.848</i>							
<i>3</i>	<i>39</i>	<i>03:08</i>	<i>BE</i>	<i>ROS</i>	<i>US</i>	<i>45</i>	<i>49 9.772</i>	<i>123 32.926</i>	<i>374</i>		<i>151-167</i>	<i>17</i>	<i>RL+NN</i>	☒	<i>max depth display</i>
		<i>03:16</i>	<i>BO</i>				<i>49 9.752</i>	<i>123 32.723</i>		<i>370</i>					<i>reading ± 2m error</i>
		<i>03:38</i>	<i>EN</i>				<i>49 9.370</i>	<i>123 32.146</i>							<i>@ 370 m.</i>
<i>3</i>	<i>40</i>	<i>04:21</i>	<i>BE</i>	<i>CTD</i>		<i>46</i>	<i>49 8.567</i>	<i>123 36.682</i>	<i>152</i>				<i>RL+NN</i>	☒	<i>MAX</i>
		<i>04:25</i>	<i>BO</i>				<i>49 8.543</i>	<i>123 36.602</i>		<i>160</i>					<i>Depth 168 @</i>
		<i>04:28</i>	<i>EN</i>				<i>49 8.525</i>	<i>123 36.528</i>							<i>end of cast</i>
<i>3</i>	<i>26</i>	<i>05:53</i>	<i>BE</i>	<i>CTD</i>		<i>47</i>	<i>49 14.303</i>	<i>123 50.731</i>	<i>256</i>				<i>RL+NN</i>	☒	
		<i>05:58</i>	<i>BO</i>				<i>49 14.315</i>	<i>123 50.735</i>		<i>252</i>					
		<i>06:02</i>	<i>EN</i>				<i>49 14.334</i>	<i>123 50.723</i>							
<i>3</i>	<i>27</i>	<i>06:41</i>	<i>BE</i>	<i>ROS</i>		<i>48</i>	<i>49 19.068</i>	<i>123 47.936</i>	<i>342</i>		<i>168-183</i>	<i>16</i>	<i>RL+NN</i>		
		<i>06:47</i>	<i>BO</i>				<i>49 19.100</i>	<i>123 47.854</i>		<i>337</i>					
		<i>07:07</i>	<i>EN</i>				<i>49 19.076</i>	<i>123 47.420</i>							

Cast Type:

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Bottle Firing Method:

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24 25 21 4 3

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Page _____ of _____

Month <u>DEC</u>				Year <u>2009</u>			Ship <u>Vector</u>				Cruise ID <u>2009-64</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							
3	28	07:47	BE	CTD		49	49 24.104	123 45.323	130				RLINN		
		07:51	BO				49 24.109	123 45.355		126					
		07:54	EN				49 24.372	123 45.372							
3	24	0926	BE	CTD		50	49 30 316	124 05 984	422						
		0934	BO				49 30 379	124 05 990		416				✓	pressure offset data
		0944	EN				49 30 431	124 05 909							
3	25	1010	BE	CTD		51	49 27 726	124 07 493	288					✓	
		1016	BO				49 27 788	124 07 442		286					
		1021	EN				49 27 794	124 07 382							
3	2	1052	BE	ROS		52	49 24 114	124 09 317	276		184-198	15		✓	
		1059	BO				49 24 160	124 09 313		272					
		1115	EN				49 24 350	124 09 343							
3	1	1151	BE	CTD		53	49 20 369	124 12 095	251					✓	
		1157	BO				49 20 359	124 12 110							
		1201	EN				49 20 354	124 12 146							

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Dec 3

0925 - replaced O-rings + clean spigots on bottles 118321

0944 UTC

Dec 3 2009 - Stn 24 event 50, 2 end of cast to 416m, pumps turned off, rosette brought thru surface water slow while logging for pressure offset

Dec 3

1145 UTC

- Bottle 10 spigot dups - replaced O-rings

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Ocean Sciences Division, Institute of Ocean Sciences

Page _____ of _____

Month <u>DEC</u>				Year <u>2009</u>			Ship <u>Vector</u>			Cruise ID <u>2009-64</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							
3	4	1255	BE	CTD		54	49 24 485	124 22 094	344				(DT) ²	✓	
		1302	BO				49 24 499	124 22 103		341					
		1307	EN				49 24 498	124 22 103							
3	3	1329	BE	ROS		55	49 26 609	124 20 196	325					✓	
		1336	BO				49 26 664	124 20 207		318	199-214	16	(DT) ²		
		1357	EN				49 26 820	124 20 383							
3	6	1523	BE	ROS		56	49 30 626	124 27 768	195		215-229	15	(DT) ²	✓	
		1529	BO				49 30 667	124 27 762							
		1546	EN				49 30 706	124 27 762							
3	5	1442	BE	CTD		57	49 27 400	124 30 655	319				(DT) ²	✓	STN 5 done prior to
		1450	BO				49 27 409	124 30 61		314					STN 6 : event #15
		1455	EN				49 27 439	124 30 601							out of order
3	7	1616	BE	CTD		58	49 34.396	124 24.144	353				FEH	✓	
		1624	BO				49 34.405	124 24.179		350					
		1629	EN				49 34.414	124 24.179							

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Dec 3
1430UTC - STN 5 done prior to STN 6, wrong order in log. STN 6 Labels done already
event #s are out of order

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Page _____ of _____

Month DEC				Year 2009			Ship VECTOR				Cruise ID 2009-64				
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							
3	8	17:18	BE	CTD		59	49 39.271	124 32.929	338				RMH	✓	4°C AIR TEMP
		17:26	BO				49 39.301	124 32.969		334					
		17:31	EN				49 39.325	124 32.966							
3	9	18:07	BE	ROS		60	49 35.502	124 38.226	168		230-241		RMH	✓	
		18:12	BO				49 35.498	124 38.240		164					
		18:24	EN				49 35.527	124 38.210							
3	10	19:15	BE	CTD		61	49 40.702	124 47.252	97				RMH	✓	
		19:18	BO				49 40.714	124 47.244		93					
		19:19	EN				49 40.716	124 47.234							
3	11	19:43	BE	CTD		62	49 42.404	124 43.409	302				RMH	✓	
		19:49	BO				49 42.437	124 43.343		297					
		19:54	EN				49 42.442	124 43.345							
3	12	20:13	BE	ROS		63	49 43.552	124 40.798	355		242-258			✓	
		20:23	BO				49 43.601	124 40.742		350					
		20:43	EN				49 43.583	124 40.514							

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DAILY SCIENCE LOG

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Page _____ of _____

Month				Year				Ship				Cruise ID				Page		of	
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											
3	13	22:20	BE	CTD		64	49 55.231	124 55.177	233				REM	✓					
		22:24	BO				49 55.230	124 55.171		228									
		22:29	EN				49 55.216	124 55.142											
3	14	22:56	BE	ROS		65	49 53.015	124 59.555	317		259-274		REM	✓					
		23:02	BO				49 53.030	124 59.590		313									
		23:21	EN				49 52.957	124 59.611											
4	15	00:00	BE	CTD		66	49 51.583	125 01.572	127				R+NN	✓					
		03:34	BO				49 51.574	125 01.547		122									
		06:11	EN				49 51.566	125 1.517											
4	21	01:37	BE	CTD		67	50 1.976	125 13.483	88				RLINN	✓					
		01:39	BO				50 1.987	125 13.477		83									
		01:41	EN				50 2.014	125 13.469											
4	16	02:37	BE	ROS	US	68	49 57.440	125 9.062	129		275-285	11	RLINN	✓	N				
		02:40	BO				49 57.505	125 9.178		119									
		02:50	EN				49 57.496	125 9.540											

Cast Type:

ROS = Bottle cast, no CTD

USW = Sea Water Loop

USW

Bottle Firing Method:

Time Code:

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Month		Year		Ship		Cruise ID									
DEC		2009		Vector		2009-64									
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							
4	17	03:29	BE	CTD		69	49 58.807	125 4.310	266		—		RLINN	✓	
		03:34	BO				49 58.806	125 4.273		260					
		03:38	EN				49 58.805	125 4.256							
4	18	04:07	BE	CTD		70	49 59.161	124 58.907	147		—		RLINN	✓	
		04:10	BO				49 59.125	124 58.866		144					
		04:13	EN				49 59.107	124 58.836							
4	19	05:05	BE	CTD		71	50 1.206	124 53.042	266		—		RLINN		
		05:11	BO				50 1.176	124 53.095		257					
		05:15	EN				50 1.175	124 53.124							
4	No Chan	16:54	BE	CTD		72	50 22.207	125 21.088	210				RLH	✓	
		16:59	BO				50 22.190	125 21.085		205					
		17:03	EN				50 22.166	125 21.064							
4	FRED ARM	17:43	BE	CTD		73	50 27.146	125 17.123	311				RLH	✓	
		17:50	BO				50 27.146	125 17.190		307					
		17:56	EN				50 27.149	125 17.225							

Last Type:

USW = Sea Water Loop

Bottle Firing Method:

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This page is for any notes or observations

boat away 0810 local - Darren + Mike to service weather stations

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Month <u>DEC</u>				Year <u>2009</u>			Ship <u>VECTOR</u>			Cruise ID <u>2009-64</u>					Page _____ of _____	
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								
4	PHIL ARM	18:24	BE	CTD		74	50 28.994	125 22.118	96				RLH	✓		
		18:28	BO				50 28.978	125 22.073		93						
		18:30	EN				50 28.950	125 22.064								
4	121	20:13	BE	CTD		75	50 22.636	125 35.404	260				RLH	✓		
		20:19	BO				50 22.742	125 35.431		255						
		20:24	EN				50 22.806	125 35.472								
5	20	02:20	BE	CTD		76	49 47.272	124 32.407	303				RL+NW	✓	carboy of saltwater for testing 280m 30.999psi	
		02:29	BO				49 47.321	124 32.513		309						
		02:36	EN				49 47.374	124 32.632								
5	22	4:08	BE	CTD		77	49 40.224	124 16.316	353				RL+DT	✓		
		4:14	BO				49 40.253	124 16.384		349						
		4:21	EN				49 40.297	124 16.453								

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13430 local - small boat qrs complete