

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2016-45

DATE:

From: April 27/2016 to:

VESSEL:

Vector

PROJECT(S):

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

WaterProperties.ca

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

Mission Participants / Agencies: _____

Scientific Personnel:

Chief Scientist:		Name		Watch		Cabin		Name		Watch		Cabin	
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
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Second leg of Mission:

Chief Scientist:		Name		Watch		Cabin		Name		Watch		Cabin	
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Data logging computer:

Vector Laptop

Data acquisition program:

Seasave

CTD deck unit make: SBE model: 11t serial number: 508

Primary CTD

Make: SBE model: 9+ serial number: 550

Primary temperature serial number: 4484

Primary conductivity serial number: 1766

Secondary temperature serial number: 4054

Secondary conductivity serial number: 3531

Transmissometer: Wetlabs Model: C-Star s/n: 1396DR

Fluorometer: Model Seapoint Cable gain: 3x s/n: 386S P, S or NO pump?

Oxygen sensor: SBE Model: 43 s/n: 1119 P, S or NO pump?

PAR sensor: Biospheric Model: SP200LHS s/n: 456S

Other sensors: PT, SBE 18 s/n: 0692 P, S or NO pump?

Other sensors: Attimeter s/n: 1253 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): _____

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Month				Year			Ship				Cruise ID				
APR				2016			VECTOR				2016-45				
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	1	1640	BE	ROS	—	001	49° 38.92	124° 52.82	21	18	—	—	H.M.	—	T: S:
		1641	BO				49° 38.92	124° 52.82							
		1642	EN				49° 38.91	124° 52.82							
28	1	1647	BE	GRAB		002	49° 38.91	124° 52.82	23		—	—	T.S.		SMYTH MAC
28	2	1714	BE	ROS		003	49° 38.92	124° 53.68	37		1-7	7	H.M.	—	T: 11.35:26.1
		1716	BO				49° 38.92	124° 53.68		35					
		1724	EN				49° 38.92	124° 53.71							
	2	1750	BE	NET		004	49° 38.96	124° 53.61	34	30	—	—	H.M.	—	
	2	1759	BE	GRAB		005	49° 38.96	124° 53.61	34	34	—	—	T.S.	—	
28	3	1827	BE	ROS		006	49° 37.87	124° 54.52	24		—	—	H.M.	✓	T: 11.065:26.89
		1828	BO				49° 37.88	124° 54.51		21					
		1829	EN				49° 37.88	124° 54.51							
28	3	12120	BE	GRAB		007	49° 30.493	125° 27.875	18.2				KM		

Transmissometer & Fluorometer are to be cleaned before each cast

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:

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Month <u>APR</u>				Year <u>2016</u>			Ship <u>VECTOR</u>			Cruise ID <u>2016-95</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							
26	4	2022	BE	ROS	—	008	49° 36.22	124° 50.41	24		—	—	H.M.	✓	
		2025	BO				49° 36.21	124° 50.42		22					
		2026	EN				49° 36.21	124° 50.42							
28	4	2026	BE	GRAB		009	49° 36.21	124° 50.42	239						
28	5	2051	BE	ROS		010	49° 35.86	124° 51.61	43		8-14	7	H.M.	✓	
		2052	BO				49° 35.87	124° 51.60		40					
		2100	EN				49° 35.88	124° 51.59							
		2125	BE	NET		011	49° 35.83	124° 51.51							
		2130	BE	GRAB		012	49° 35.83	124° 51.51	42	42					
28	6	2146	BE	ROS		013	49° 35.67	124° 52.53	29		—	—	H.M.	✓	
		2147	BO				49° 35.66	124° 52.54		26					
		2148	EN				49° 35.67	124° 52.54							
		2152	BE	GRAB		014	49° 35.67	124° 52.54							
28	7	2216	BE	ROS		015	49° 34.02	124° 52.32	26		—	—	H.M.	✓	
		2217	BO				49° 34.02	124° 55.32		23					
		2218	EN				49° 34.03	124° 55.32							
			BE	GRAB		016									

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Month <u>APR</u>				Year <u>2016</u>			Ship <u>VECTOR</u>				Cruise ID <u>2016-45</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							
28	8	2236	BE	ROS	US	017	49° 34.14	124° 51.51	46		15-21	7	H.M.	✓	
		2238	BO				49° 34.13	124° 51.49		42					
		2247	CM				49° 34.13	124° 51.58							
		2311	BE	NCT		018	49° 34.13	124° 51.44		42			H.M.		
		2328	BE	GRAB		019	49° 34.13	124° 51.56		46					
28	9	2344	BE	ROS	-	020	49° 34.32	124° 50.93	22		-	-	H.M.	✓	
		2351	BO				49° 34.32	124° 50.92		20					
		2352	CM				49° 34.32	124° 50.91							
28	9	2359	BE	GRAB		021	49° 34.31	124° 50.91	22				KM		
29	10	0047	BE	CTD		022	49° 32.02	124° 50.99	21				H.M.		
		0049	BO				49° 32.02	124° 51.01		17					
		0051	CM				49° 32.02	124° 51.01							
29		0051	BE	GRAB		023	49° 32.02	124° 51.01	20.3						
29	11	1418	BE	ROS	US	024	49° 32.20	124° 50.53	44		22-28	7	H.M.	✓	
		1419	BO				49° 32.20	124° 50.53							
		1426	CM				49° 32.23	124° 50.57							

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Month <u>APR</u>				Year <u>2016</u>			Ship <u>VECTOR</u>				Cruise ID <u>2016-45</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							
29	11	1446	BE	NET		025	49° 32.17	124° 50.50	42	38	—	—	H.M.		SCORE
		1454	BE	GRAB		026	49° 32.17	124° 50.51	42	42					
29	12	1459	BE	ROS		027	49° 32.40	124° 50.12	34		—	—	H.M.	✓	
		1500	BO				49° 32.4	124° 50.11		32					
		1502	EN				49° 32.39	124° 50.10							
		1505	BE	GRAB		028	49° 32.39	124° 50.10	38.3						
29	13	1530	BE	ROS		029	49° 31.34	124° 48.47	47		—	—	H.M.	✓	
		1532	BO				49° 31.34	124° 48.47		43					
		1534	EN				49° 31.33	124° 48.46							
		1535	BE	GRAB		030	49° 31.33	124° 48.46		47					
29	14	1550	BE	ROS	US	031	49° 31.08	124° 48.76	47		29-35	7			
		1551	BO				49° 31.08	124° 48.77		43					
		1606	EN				49° 31.10	124° 48.77							
		1616	BE	NET		032	49° 31.10	124° 48.71		43					
		1618	BE	GRAB		033	49° 31.10	124° 48.70		47					

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Month <u>APRIL</u>				Year <u>2016</u>			Ship <u>VECTOR</u>				Cruise ID <u>2016-45</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							
29	15	1655	BC	ROS		034	49° 30.66	124° 48.93	30		—	—	H.M.	✓	
		1656	BO				49° 30.66	124° 48.93		27					
		1657	EM				49° 30.66	124° 48.94							
		1700	BC	GRAB		035	49° 30.63	124° 48.99		29					
29	16	1731	BC	ROS		036	49° 29.24	124° 45.77	49		—	—	H.M.	✓	
		1732	BO				49° 29.23	124° 45.78		46					
		1734	EM				49° 29.22	124° 45.79							
		1736	BC	GRAB		037	49° 29.22	124° 45.83		52			K/M		
29	18	1751	BC	ROS		038	49° 28.95	124° 46.49	30		—	—	H.M.	✓	
		1752	BO				49° 28.95	124° 46.50		27					
		1753	EM				49° 28.95	124° 46.51							
		1755	BC	GRAB		039	49° 28.96	124° 46.55		27					
29	19	1820	BC	ROS		040	49° 28.12	124° 45.20			—	—	H.M.	✓	
		1822	BO				49° 28.11	124° 45.19							
		1824	EM				49° 28.10	124° 45.19							
		1827	BC	GRAB		041	49° 28.10	124° 45.19							

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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							
29	20	1919	BC	ROS	V.S.	042	49° 28.31	124° 44.76	40		36-42	7			
		1920	BO				49° 28.31	124° 44.76		35					
		1927	CM				49° 28.32	124° 44.78							
		1945	BC	NET		043	49° 28.34	124° 44.80							
		1953	BC	GRAB		044	49° 28.34	124° 44.80		39					
29	21	2019	BC	ROS		045	49° 28.61	124° 45.21	94						
		2021	BO				49° 28.61	124° 45.22		90					
		2024	CM				49° 28.61	124° 45.23							
		2025	BC	GRAB		046	49° 28.61	124° 45.24		94					
29	22	2057	BC	ROS		047	49° 28.26	124° 41.69	43		43-49				
		2058	BO				49° 28.26	124° 41.68		40					
		2106	CM				49° 28.26	124° 41.69							
		2125	BE	NET		048	49° 28.27	124° 41.69							
		2127	BE	GRAB		049	49° 28.27	124° 41.68		43					

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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							
29	27	2205	BC	ROS		050	49° 26.38	124° 38.09	53		—	—	H.M.	✓	
		2206	BO				49° 26.38	124° 38.10		50					
		2208	EN				49° 26.38	124° 38.11							
		2209	BC	GRAB		051	49° 26.38	124° 38.12		52.					
30	17	1411	BC	ROS	US	052	49° 28.97	124° 46.15	53		50-56	7	H.M.	✓	
		1413	BO				49° 28.97	124° 46.16		50					
		1420	EN				49° 28.96	124° 46.14							
		1442	BC	NET		053	49° 28.95	124° 46.16		50					
		1444	BC	GRAB		054	49° 28.95	124° 46.16		52					
30	23	1552	BC	ROS	V.S	055	49° 27.75	124° 39.92	54		57-63	7	H.M.	✓	
		1554	BO				49° 27.74	124° 39.90		55					
		1601	EN				49° 27.74	124° 39.86							
		1620	BC	NET		056	49° 27.77	124° 39.92							
		1622	BC	GRAB		057	49° 27.77	124° 39.93		56					

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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	29	1702	BE	ROS	V.S	058	49° 24.70	124° 34.89	59		64-70	7	H.M	✓	
		1704	BO				49° 24.70	124° 34.87		55					
		1711	EN				49° 24.68	124° 34.86							
		1727	BE	NET		059	49° 24.71	124° 34.72		55					
		1732	BE	GRAB		060	49° 24.71	124° 34.73		66					
30	40	1927	BE	ROS	V.S	061	49° 27.08	124° 28.34	343		71-83	13	H.M	✓	
		1934	BO				49° 27.06	124° 28.35		336					
		1958	EN				49° 27.08	124° 28.35							
		2037	BE	NET		062	49° 27.08	124° 28.35							
		2045	BE	GRAB		063	49° 27.09	124° 28.36		343					
3	39	2154	BE	ROS	V.S	064	49° 30.51	124° 29.61	174		84-91	8	H.M	✓	
		2159	BO				49° 30.52	124° 29.62		170					
		2209	EN				49° 30.53	124° 29.58							
		2239	BE	NET		065	49° 30.56	124° 29.59							
		2240	BE	GRAB		066	49° 30.56	124° 29.59		174					

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							Latitude	Longitude							
30	38	2331	BE	ROS	V.S.	067	49° 34 19	124° 34 83	178		92-99	8	H.M.	✓	
		2336	BO				49° 34 19	124° 34 83		172					
		2347	CM				49° 34 19	124° 34 84							
		0049	BE	NET		068	49° 34.22	124° 34.86							
		0051	BE	GRAB		069	49° 34.22	124° 34.86							
1	33	1406	BC	ROS	V.S.	070	49° 30.55	124° 42 80	59		100-106	7	H.M.	✓	
		1407	BO				49° 30.56	124° 42.80		55					
		1415	CM				49° 30.57	124° 42.79							
		1434	BC	MC		071	49° 30.55	124° 42.81							
		1447	BC	GRAB		072	49° 30.56	124° 42.82		59					
1	32	1737	BE	ROS	V.S.	073	49° 33.51	124° 44.44	47		107-113	7	H.M.	✓	
		1739	BO				49° 33.51	124° 44.44		44					
		1745	CM				49° 33.51	124° 44.46							
		1800	BE	NET		074	49° 33.51	124° 44.43		42					
		1801	BE	GRAB		075	49° 33.51	124° 44.43		47					

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:

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Transmissometer & Fluorometer are to be cleaned before each cast

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DAILY SCIENCE LOG

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Month MAY				Year 2016			Ship VECTOR				Cruise ID 2016-45				
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	31	1906	BE	POS	V.S.	076	49° 37.45	124° 46.78	47		114-120	7	H.M.	✓	
		1908	BO				49° 37.45	124° 46.78		44					
		1915	EN				49° 37.46	124° 46.84							
		1934	BE	NET		077	49° 37.45	124° 46.78		44					
		1936	BE	GRAB		078	49° 37.45	124° 46.78		47					
1	26	2030	BE	POS	—	079	49° 38.09	124° 49.86	51		—	—	H.M.	✓	
		2031	BO				49° 38.09	124° 49.87		47					
		2033	EN				49° 38.09	124° 49.87							
		2043	BE	NET		080	49° 38.07	124° 49.87		47					
		2045	BE	GRAB		081	49° 38.07	124° 49.87		50					
1	25	2108	BE	POS	—	082	49° 38.96	124° 50.74	53		—	—	H.M.	✓	
		2109	BO				49° 38.95	124° 50.73		49					
		2111	EN				49° 38.95	124° 50.72							
		2118	BE	NET		083	49° 38.96	124° 50.71		49					
		2121	BE	GRAB		084	49° 38.96	124° 50.71		54					

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Month <u>MAY</u>				Year <u>2016</u>			Ship <u>VECTOR</u>				Cruise ID <u>2016-45</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	24	2153	BC	ROS	U.S.	085	49° 39. 81	124° 51. 10	54		121-127	7	H.M.	✓	
		2154	BO				49° 39. 81	124° 51. 17		50					
		2202	EN				49° 39. 91	124° 51. 17							
		2215	BC	NET		086	49° 39. 91	124° 51. 12		49					
		2222	BC	GRAB		087	49° 39. 81	124° 51. 11		55					
2	34	1413	BC	ROS	U.S.	088	49° 27. 31	124° 35. 11	178		128-136	9	H.M.	✓	
		1417	BO				49° 27. 31	124° 35. 11		172					
		1429	EN				49° 27. 32	124° 35. 10							
		1450	BC	NET		089	49° 27. 32	124° 35. 15		170					
		1457	BC	GRAB		090	49° 27. 33	124° 35. 15		177					
2	35	1723	BC	ROS	U.S.	091	49° 41. 84	124° 47. 45	125		137-144	8	H.M.	✓	
		1726	BO				49° 41. 84	124° 47. 43		120					
		1735	EN				49° 41. 83	124° 47. 42							
		1752	BC	NET		092	49° 41. 82	124° 47. 50		120					
		1759	BC	GRAB		093	49° 41. 81	124° 47. 55		122					

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