

DAILY LOG BOOK

MISSION
NUMBER

2006-24

DATE:

From: July 22 to: July 30, 2006

VESSEL:

CCGS J.P. Tully

PROJECT:

End. Ridge, Neptune, La Perouse
Ettingham

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

Captain: Bill Noon First Officer: Dany

Second Officer: Shane Lovelace Third Officer: _____

Mission Participants / Agencies:

Scientific Personnel:		Party Chief:	
Name	Watch	Cabin	Name
			<u>Tom Lubasz</u>

[illegible]

Second leg of Mission: Party Chief:

[illegible]

Data logging computer: FS02 "486" DELL

Data logging computer: F502 HAT DELL
Data acquisition program: seasac V5.29b

CTD deck unit make: SEAIRID model: 11plus serial number: 0425

Primary CTD

Make: SEABIRD model: 911 plus serial number: 0550

Primary temperature serial number: 2038

Primary conductivity serial number: 2754

Secondary temperature serial number: 2668

Secondary conductivity serial number: 2399

Transmissometer: ω_{ETL435} Model: ω_{ETL435}

Transmissometer: WETLABS Model: CSTAR s/n: 498 DR

Fluorometer: Model SEAPOINT Cable gain: 10X s/n: 2228 ☒ P, ☐ S or NO pump?

Oxygen sensor: SEA DO s/n: 3643 P. \$ 228 or NO pump?
 Model: SEA DO s/n: 3643 P. \$ 228 or NO pump?
 Owner's name: SEA DO s/n: 3643 P. \$ 228 or NO pump?

PAR sensor: _____ Model: _____ s/n: _____

Other sensors: Benthos Altimeter model S.M.
s/n: 1024 P S or NO numm?

Other sensors: Baros, Altimeter S/n: 1024 P, S or NO pump? NO

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: _____

model: _____ serial number: _____
Primary temperature serial number: _____

Primary conductivity serial number: _____

Secondary temperature serial number: _____

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

Secondary conductivity serial number: _____

Transmissometer: _____

Model: _____

s/n: _____

Fluorometer: Model: _____ S/N: _____
Cable gain: _____ S/N: _____

Fluorometer: Model _____ Cable gain: _____ s/n: _____
Oxygen sensor: Model: _____ s/n: _____

Oxygen sensor:	Model:	s/n:
PAR sensor:	Model:	s/n:

PAR sensor: _____ Model: _____ s/n: _____
Other sensors: _____

Other sensors: _____ s/n: _____

Other sensors: _____

Other sensors: _____ s/n: _____

Other sensors: _____

Other sensors: _____ s/n: _____

Other sensors: _____

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

Date Time PDT

- Jul. 22 0800-0900
 - joining ship at I.O.S.
 - on board Ivan Freydeky, Laura Bianucci, Doug Anderson, Dave Spear, Tom Sukasa and Lee ('Philip Tortelli student')
 - we are waiting for arrival of Philip and another from U.B.C. coming on 0700 ferry.
- 0900
 - UBC group arrive and we cast off.
 - complete UBC cast SIO3 in Saanich Inlet to 219 m.
 - Tortelli provides depths.
- 1245
 - cast + sampling complete
 - launch takes Philip, Chris + Lee ashore.
- 1300
 -
 - launch returned
 - conduct fire + boat drill
- 1330
 - app. head for Encl. Ridge app. 26-27 hr. steam from Pat Bay.
- 1500
 - app. had safety checklist + meeting talks. orientation
- Jul 23 - all day - en route Encl. Ridge
 - gale force winds and seas clear sky
 - progress slowed by adverse conditions but diminishing.
 - will arrive 0400 July 23 on site. - mooring work 0700 Jul. 24

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month July					Year 2006			Ship TOLLY				Cruise ID 2006-24			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
22	STO3	1706	ROS	BE	1	48 35 57	123 30 .02	224						UBC cast in saanich inlet	
		1710		BO		48 35 57	123 30 .03		216	1-24	24		✓	O2 sensor OFF	
		1732		EN		48 35 52	123 30 08								
25	LOOP1	0330	LOOP			47 57 74	129 07 55	2349				DA		LOOP SAL ONLY	
25	MV1	1441		BE	2	47 57 .01	129 05 .98	2105							
		1511		BO		47 57 .01	129 06 .02		2100	25-47	23	DA	-	-0.005 salinity diff sec-pri	
		1559		EN		47 56 99	129 05 97								
25	AO1	1749		BE	3	48 01 51	128 43 97	2555	-						
		1828		BO		48 01 53	128 43 99		2565	-	Ø	DA		pressure dependent salinity diff.	
		1852		EN		48 01 50	128 43 96								
26	LOOP2	0230				48 17 12	127 28 02	2626	-			DA		SAL ONLY	
27	LOOP3	0200				48 47 50	125 17 73		-	-	1			L 3	
27	EFF16	0230		BE	4	48 47 66	125 15 99	112							
		0240		BO		48 47 66	125 15 98			48 254	7	DA	✓		
		0254		EN		48 47 84	125 15 99								
27	EFF15	0337		BE	5	48 51 40	125 15 05	95							
		0340		BO		48 51 39	125 15 05		90	-	-	DA	-		
		0342		EN		48 51 39	125 15 05								

Cast type: USW = sea water loop • bottle firing method:
 BOT = bottle cast, no CTD • US = up / stop
 CTD = CTD without Rosette MOR = mooring • UN = up / no stop
 ROS = Rosette plus CTD NET = net haul • DN = down / no stop
 DRF = drifter

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

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

22 March 2002
 Daily_log_book.doc

Date	Time PDT	Additional comments	
July 24	0700	- at End Ridge mooring sites	- calmer conditions still some swell and white caps.
			- wind down - morning haze - turning to fog.
	0730	- above N3 for recovery	
		- ranges after wake up, spurious signals 2180, 2168, 2165, 2164. on 16U	
		- wake up. 17U. - always short ranges - but we are moving to a position to release.	
	0750	{ - setting up on deck. - first mooring. - 17U finally woke up with good response 2202, 2203 once we stopped. - 16U same 2202 m.	
		- asked to extend ram but it does not work - stuck in up position	
	0805	- fog patchy app. 1.7 cable from site N3	
		- talking to 16U sent B533 = 2175 m, 2170, 2166.	
		we are moving closer	
	0809	- sent B534 release 16U immediate range 2061.	
		rec'd + executed.	
	0810	- range 1986 R+E, 1939 R no E, { subsequent ranges all too long 4000, 5000,	
	0815	- range 1493 R+E	no Execute.
	0816	- range 1372 R+E	
	0817	- range 1246 R+E	
	18	- 1159 R+E } fairly accurate rise rate check.	0829 - on surface 45m distance.
	19	- 1043 R+E	- VHF worked
	20	- 929 R+E	- Strobe worked.
	23	- 590 R+E	- 3733 Argos not working.
		$\frac{1159 - 590}{5 \text{ min}} = 113 \text{ m/min rise rate.}$	

Date Time PDT

July 24 -0835

- approaching mooring but held up by non-functioning A-frame.

- VLE problems emerging - no DP, no A-frame, no ram.

- no gyro to Ivan's positioning system.

- A-frame had worked but something went wrong today

- ram stuck in up position

- no DP - ?

- no gyro to Ivan } dynamic positioning } gyro giving wrong string.
good for ADCP but not
for other things

- we can see the string but
can't use as is.

- Ivan got his nav. info by
other means

app 0935

- all on board + cleaned

- RCM rotor good no fouling

- recovered 2 egg masses on mooring line

- pickled + labelled one

- froze and labelled the other.

- I may have wrecked the shaft on 16U by repeatedly releasing
it as compared to ranging on it

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month July					Year 2006			Ship TULLY				Cruise ID 2006-24		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
27	EFF14	0408	ROS	BE	6	48 53 99	125 13 03	107			Ø			
		0411		BO		48 53 99	125 13 04		100	—	DA/DS	→	✓	Add +1 db offset
		0413		EN		48 54 01	125 13 04							to pressure → NO. see note
27	EFF13	1440	ROS	BE	7	48 56 47	125 10 77	102						
		1443		BO		48 56 46	125 10 76			55-61	7	DA/DS LC	✓	
		1453		EN		48 56 45	125 10 79							
27	EFF12	1516	ROS	BE	8	48 58 00	125 10 47	92						
		1518		BO		48 57 99	125 10 47		85	62-68	7	DA/DS LC	✓	
		1526		EN		48 58 00	125 10 48							
27	EFF11	1546	ROS	BE	9	48 59 120	125 11 086	90						
		1549		BO					83	69-74	6	DA/DS LC		Touched bottom
		1555		EN		48°59.114	125° 11.068							
27	EFF10	1613	ROS	BE	10	48°59.863	125° 11.240	91						
		1618		BO		48°59.869	125° 11.230		88	75-81	7			
		1625		EN		48°59.872	125° 11.212							
27	EFF09	1636	ROS	BE	11	49° 0 128	125° 10.847	55						
		1639		BO		49° 0.124	125° 10.859		50	82-86	5			
		1643		EN		49° 0.106	125° 10.861							

Cast type:

BOT = bottle cast, no CTD
 CTD = CTD without Rosette
 ROS = Rosette plus CTD

USW = sea water loop

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• bottle firing method:

• US = up / stop
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* Surface pressure: 0.3 pressure readout at surface on cast 6 is correct.
The vessel was not submerged at the surface on this cast.

Date Time PDT

Additional comments

July 24 0950

- at 1/2 for recovery.

- wake up 18U

- sent B537 no response again. 2342 again 2327

- again 2330 R+E directly over

- moving of for release wake up 47 as well got R+E but incorrect range

- without ram extended it is too noisy to range underway. lots of wrong numbers

- range on B537 18U

all R+E

1003

- stopped at release position

- sent B537 18U = 2251 m R+E sent 9612 to 47 = 3234 R+E

sent B537 18U = 2241 R+E drifting 2276 m R+E 2236 R+E

- trying 47 for steadier signal

- sent 9612 2265 R+E 2240 m R+E

1011

- decide to release 18U sent B537 range = 2243 m

NB RCM rotor

- sent B538 range 2245 m R+E range 2297

free no

* B537 switch to range command range 2274 R+E

problem.

"

1977 R+E

1020

"

1462 R+E

1022

"

1223 R+E

1024

- 9612 range on 47 = 0748 NFG

repeat " = 1063 R+E 1009 R+E 949 R+E

1026

B537 18U = 0756 m R+E 0759 m R+E

1028

B538

1046 PDT

- sighted on surface

off position? why

- check "Russ. corrected" positions.

(release code 18U) = 708 m R+E 662 m R+E

B537 18U range = 590 m R+E

1030

lost contact all bad numbers

1123

all on board

VHF not turned on

XF not turned on

Argos no signal

We could have

lost this one

Date Time PDT

July 24	1125	- moving to N2 for recovery		
		- break for lunch		
	1208	- on station N2		
		- sent B529 to 14U	no good range	again got 2269 R+E
		- "	range 2213 R+E	
		- sent B531 to 15U	range = no good	again = no good range 2213 R+E
		repeated	range = 2230 R+E	
		- sent B529 to 14U	= 2209 R+E	again 2211 R+E OK to move off for release
		- sighted White side Dolphins		
	1225	- on position to release		
		- sent B529 to 14U	range 2251 R+E	again 2251 R+
	1226	- sent B530 release to 14U	R+E 2251 range	
		- " B529	range bad	
	1228	- "	= 2041 R+E	
	1232	= B530	range = 1722 R+E	
	1233	= B530	range = 1600 R+E	
		B529	range = 1517 "	
	1234	- B529	range = 1428 "	
	1235	- "	" 1325 "	
	1236	- "	" 828 not good	
	missed 1237	- "	" 1130 R+E	
	1239	- "	933 "	
	1241	- "	720 "	

$$\frac{1428}{706/7} = 101 \text{ mi/min}$$

1126 PDT

- all on deck
securing + washing
- found two tube worm/
filter feeder orgs.
on mooring
- light good, Argos good
- antenna corroded off VHF

<u>Date</u>	<u>Time</u>	<u>PDT</u>
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Time	Notes	Range	Depth	Speed
July 24	1344 - on station for recovery			
	- sent B539 to 19U - no response - again 2169 R+E			
	- sent D000 to XT6000 - woke up and ranged 3 subsequent ranges			
	2145, 2145, 2145.			
	- sent B539 - bad responses 2145 R+E			
	- sent D000 - 2144 m, 2145, 2146 moving to release position			
	- lost contact while moving. - all short responses			
	- 2179 to XT6000 as we come to stop. 2184, 2188			
1359	- stopped XT6000 = 2193 m. 2196 m			
	- sent B539 - received 6927			
	- XT6000 - gives 2198 m			
1411	- contact with XT6000 is good			
	- contact with release through range command not so good but we have no choice			
	- sent B540 to 19U received + executed but bad range			
	XT6000 gives 2116, 2035			
1415	- 1931, 1897, 1882, 1868, 1852, 1840	1780	120	50
1428	- 812 m 778, 767, 755, 696, 673, 637 tracking	1175	46	110
1437	- at 546 m losing contact = on surface well	1158.5		
	- one more hit at 489 m	48		

DAILY LOG

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Month					Year			Ship				Cruise ID		
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						Latitude	Longitude							
27	EFF08	1706	Ros		12	49°0.635	125°10.289	85						
		1708				49°0.654	125°10.257		80	87-93	7			
		1715				49°0.659	125°10.250							
27	EFF07	1736	Ros		13	49°01.301	125°9.395	121						
		1739				49°01.337	125°9.362		115	94-100	7			
		1747				49°01.349	125°9.337							
27	EFF06	1757	Ros		14	49°01.811	125°9.137	154		101-109	9			
		1801				49°01.826	125°09.130		150					
		1811				49°01.870	125°09.102							
27	EFF05	1824	Ros		15	49°2.519	125°9.181	202						
		1829							195	110-120	11			Non standard depths
		1840				49°2.489	125°9.150							Bottom 2 smelly for sure
27	EFF01	1952	Ros		16	49°5.508	125°11.620	38						
		1956							33	121-124				4.2 m off bottom
		2000				49°5.513	125°11.633							
27	EFF02	2018	Ros	BE	17	49°5.012	125°10.330	71		125-130	6			
				BO		49°5.018	125°10.320		65					
		2028		EN		49°5.017	125°10.314							

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Date Time PDT.

Additional comments

Jul. 24 1530 - mooring work done set up for air-gun survey

- several delays - including - power to compressor issues (+2 hrs)
- 2-3 dolphin sightings each requiring putting of operation for $\frac{1}{2}$ hr.

- 1902
- started air gun survey at Waypoint #1 going backwards
 - estimated completion just into dark at 2130 - 2200
 - operation is to stop when visibility lost and completed next day.

Date Time PDT

July 25

0700

- on station for CTD at Main Vent field
- air-gun survey completed last night.
- completed MVI CTD and OAI CTD

1200

- heading for mooring A1 for morning July 26
- demobbing ADCP moorings and instruments from ER05 deployments
- serviced (external only) AR 191 for use on NCBF1 mooring until Oct. 2006. - could be left to Spring? optional.

Date Time PDT

July 26 0730 - on station AI-PP for recovery
 - very noisy - app. 1 m sec.
 0750 - ranging on station - no response to XPD - no pinger
 0757 - 2050, 2045 two consecutive ranges but no move app 3 1/2 cable
 0803 - moving 2 km due north south of #1 position (59)
 0817 - position 2 - very noisy, de-clutched drifting.
 - several hits at 1200 several at 700
 - no pinger
 0820 - started - 3552 3530 3430 3302 3110 3212 3203 3074
 -ish received 3065 3045 3009
 - moved to inter section of 2 km + 3 km diameters, app 2.5 km to SW
 of original position
 0855 - very noisy - asked to declutch.
 - had couple of hits around 700 but also many random
 0900 after declutch. - had 1859, 1848, 1825, 1814, 1770, 1760, 1686, 1675, 1636, 1607
 drifting SE 1546, 1526, 1511, 1510, 1497, 1478, 1467, 1456, 1430, 1414
 1397, 1375, 1354, 1323, 1302, 1266, 1239, 1225, 1217, 1199
 1168, 1169, 1137, 1138, 1114, 1082, 1069, 1055, 1043, 1032, 1017
 1002, 990, 979, 967, 955, 944, 932, 939, 916, 912 *pinger heard*
 907, 865, 863, 844, 842, 824, 803, 794, 785, 789, 770, 773, 773, 750
 500.22m depth. 751, 737, 731, 724, 735, 715, 713, 717, 715, 719, 711, 708, 697, 704.
 702, 703, 692, 701, 703, 704, 711, 705 at minimum range we were app. 490m distant.

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27	EFF03	2047	ROS	BE	18	49° 42.52	125° 9.406	122						
		2051		BO		49° 4.244	125° 9.395		116	131-138	8			bottom 2 bottles H ₂ S
		2101		EN		49° 4.218	125° 9.366							large turbidity layer at
27	EFF04	2117	ROS	BE	19	49° 3.090	125° 8.616	85		139-144	6			oxycline ~ 90 m
		2125		EN		49° 3.096	125° 8.600							Shallowed abruptly
	CW1	2203				49° 5.652	125° 11.261			145	0			BT Ingham
	CW2	2222				49° 2.619	125° 09.826			146	0			Soil Samples
	CW3	2241				49° 02.619	125° 09.826			147	0			
28	LOOP4	0315				48° 47.70	125° 15.25				1	DA		SAL ONLY
28	LOOP5	2000				48° 40.77	125° 16.13				1	DA		" "
28	BH1	2320	CTD	BE	20	48° 29.932'	124° 44.910'	258		1-4	1			
		2326		BO		48° 29.917	124° 44.822'		250					
		2329		EN		48° 29.898	124° 44.776							
29	JFF4	0058	ROS	BE	21	48° 26.49	124° 29.91	233			1			
		0102		BO		48° 26.50	124° 29.89		224		0	DA	✓	
		0105		EN		48° 26.50	124° 29.87							
29	JFE3.5	0222	ROS	BE	22	48° 22.187	124° 14.921	184						
		0227		BO		48° 22.133	124° 14.941		180		0	DA	✓	
		0230		EN		48° 22.121	124° 14.933							

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bottle firing method:
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22 March 2002
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Date Time PDT

Additional comments

July 26	0950	- another drift over mooring to pin point position. - ranges 497, 720 - still coming to stop + have to shut sounder off. - 705, 684, 695, 684, 673, still settling down, 646, 623, 557, 597, 595 577, 578, 576, 576, 576, 576, 577, 580, 580, 582, 582, 581
	1017	- depth 510-511 - then sounder off. - range 595 then we manoeuvred → white noise - 586, 585, 579, 574, 572, 568, 553, 545, 552, 541, 532, 541, 551
	1026	- mooring location well defined drifting off to release. - 578, 576, 580, 631, 633 1 1/2 cable away, 657
	1031	- range 695 - sent ABCF - no response again - no response. - sent ABDH - positive response again - positive response. - range 686, 690 - we are drifting yet range got smaller = rising
	1037	- sighted on surface. Position = 48° 30.511' 126° 11.518' *
	1135	- all on board. lost RCM 4 7337 + vane destroyed RCM 4 6506 + damaged - vane broken + robot gone ADCP 2281 - external battery dislodged but still connected and loose within frame. "C"-clamp on external battery pack sheared off, battery flooded. Release 312 - opened but did not reply. Release 345 - worked well - both activated so we lost drop - linkage.

Date Time PDT

July 26 1503 - deployed mooring NCBF1 - A in 500 m water
at: $48^{\circ}30.429'$ $126^{\circ}11.680'$ lab
: $48^{\circ}30.4296'$ $126^{\circ}11.6992'$ bridge
- launched in 505 m expecting mooring to fall back
into 500 m. - ship moving shallower to deeper.

- heading for CTD's in Barkley Sound

- completed CTDs + O₂ at EF16, EF15, EF14
and called it a day at app 2100 hrs.

Date Time PDT

July 27 0730 - on station EF 13 to continue Effingham stations

0730-1430 - EF 13 - EFI stations CTD's

1445 - dispatch Dave + Laura in 733 RH/B to complete soil sampling for Cindy Wright in the area of stations 1, 3 and 5.

- heading for coring and grabbing stations

1600 - small boat returns soil sampling done.
- head for coring

Date Time PDT.

Additional comments

48° 48.1332 125° 14.5874
48° 48.144 125° 14.5919
48° 48.1423 125° 14.6037

July 27 1730-1830

ASN 0

45.7 m

- grab OK - hard sand - app 1 L sample
- 1st core 3 wts - fails run down from surface.
- 2nd core 3 wts - fails run down from 25 m depth
- 3rd core 4 wts - fails run down from surface.

1830-1900

ASN 8

55 m

48 48.1332 125 14.6102

- grab OK - hard sand - small sample 48 47.7149
- 2 cores with 4 wts run down from surface all fail 125 15.1705

ASN 1

90 m

1900-1930

- grab OK

- hard sand

- small sample

- ~~grab~~ had sheared retaining bolts on inside spring

48° 47.1124' 125° 16.9051'

48° 47.1177' 125° 16.9104'

- core good app. 1 m penetration - drained after settled.

1930-2000

ASN 12

88 m

- grab OK - small sample
- core OK app. 1 m penetration - drained after settled.

48° 46.8993 125° 17.5076'

stopped. further sampling and repaired grab by drilling old bolts out and tapping in 1/4" replacements.

July 28

0730 - 0835

102 44

- 101 -

 $48^{\circ} 46.298' \quad 125^{\circ} 24.185'$

$48^{\circ}46.227'$ $125^{\circ}24.200'$

0835 - 0935

-	ASN3	129 m
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- grab required 2 bags fine mud

 $48^{\circ}45.271'$ $125^{\circ} 30.848'$

→ core OK 4 wts

- Consolidated mud = $48^{\circ} 45' 30''$

125°	30.872
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0940

-	ASN 4	168 m	-	167 m
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- grab required 2 bags fine mud

 $48^{\circ} 43.640'$ $125^{\circ} 40.665'$

-	Core OK	✓	4 wts	-	✓	mud
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 $48^{\circ}43.618'$ $125^{\circ} 40.677'$

1030 gpp.

- long stream to ASN 7.

1130-1230

-	ASN 7	54m
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- grab 1 1/2 bag gravel + shell

 $48^{\circ} 44.650$ $125^{\circ}15'840''$

- core failed + 2nd core failed

48° 44.694'

125°	15,945'
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1230-1330

- ASN 6 110,5 m

- grab	1 1/2	bag	fine mud	48	42.7037'	125	15.5334'
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-1	core good	fine mud.	48° 42.7100	125° 15.5012
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Date Time PDT

Additional comments

Date	Time	PDT	Additional comments
Jul. 28	1330 -	- ASN 5	114 m
	1400	- grab	48° 37.5929' 125° 16.3267' - small sample fine mud.
		- core	48° 37.5595' 125° 16.3243' - good core
	1400	- head for	Juan de Fuca CTDs and back to I.O.S.

July 29 0730 - on station KB3 in Saanich Inlet
- ie, the deepest spot in the main basin for calibration cast for "Glider".

0900 - tie up + off load.

app. 1300 - clear of ship.