

CRUISE
NUMBER

95-02

DAILY LOG
INSTITUTE OF OCEAN SCIENCES
OCEAN PHYSICS

DATE

JAN 30 - Feb 3, 1995

VESSEL

Tully

PROJECT

RIDGE / Saanich Inlet

Captain: AL Coombes First Officer: _____
Second Officer: _____ Third Officer: _____

Cruise Participants / Agencies: _____

Scientific Personnel: Party Chief: RICHARD THOMSON

Name	Watch	Cabin	Name	Watch	Cabin
<u>RICHARD THOMSON</u>					
<u>John Love</u>		<u>5</u>			
<u>Reg Bigham</u>					
<u>Bernard Munkley</u>		<u>E</u>			
<u>Brenda Weddell</u>					
<u>Brenda Burd</u>					
<u>Val MacDonald</u>					
<u>IAN PERRY</u>					
<u>GEORGE CHASE</u>					
<u>STEVE MITCHELL</u>		<u>F</u>			

Second leg of cruise: Party Chief: _____

Name	Watch	Cabin	Name	Watch	Cabin

Data logging system: Unit no.: _____

Program Name: _____ Program version: V1.35

CTD deck unit make: Gouldline model: 87108 serial no.: 59901
Computer make: DELL model: 450 DE serial no.: _____

1st CTD make: Gouldline model: WOCE CTD serial no.: _____
Temperature sensor model: _____ serial no.: _____
coefficients: slope: _____ offset: _____
Conductivity sensor model: _____ serial no.: _____
coefficients: slope: _____ offset: _____
Pressure sensor range: 0-6000 psi serial no.: _____
coefficients: FSP: _____ dB offset: _____
Transmissometer model: 25cm serial no.: 598
coefficients: slope: _____ offset: _____

Comments: WOCE Rosette

SEPT. 30/95 LOAD SHIP
Warm/windy/wet $\approx 13-14^{\circ}\text{C}$

Rosette CTD #

TRANSMITTER #

S/N # S/N 59607

A-Frame Setup: Scud Tow off 7 Tonne I (S Boxed)
MOCNESS Tow off 7 Tonne I (PORT)
Rosette (MOCNESS Block)
23 Bottle 10 l

Two 3-conductor umbilicals.

SEPT. 31/95 RAIN. Asked To leave @ 0800 PST.
Captain showed up at 0830. Agreed to "ship lines" after
coffee"! $\rightarrow$ 0945 PST.
Talked to Frank & Darryl (Diver). Changed diving to
Thursday. Possible to get pictures of Scud under tow

Scud settings: 128 x 2 m bins UTC Time

128 BINS @ 2m lengths

30 second Ensemble

Pings per ensemble: 15

$V_1 = 3.3$

$V_0 = 0.5$

VM-ADCP

128 bins @ 2m

PRT range = 2m

30 S ensemble.

Pulse length = 2m

UTC Time

Depart @ 1000 PST

DID CREEPS IN PAT Bay — Proceed to Station S4 @ 103 S. 2 new males, TRAINING.

Oxygen standardization

Blank	.003	10 ml standard	.719
	.003		.718
	.003		.719

TRANSIT TO S4

VM ADCP — Strong Scattering layer @ 80-100m
Peaks @ 100m. Base @ 120m
Depth $\approx$ 200m.

Wind from South / 20 knots.

STATION S4

S95A

UP LDC depletion @ 120m. Corresponds to ADCP layer. Major change at 100m and shallowest
ADCP ~105m up to 85m
@ 11:30 AM

- second particle layer @ ~80m. cleaned up by 70m

- File: 95020001

SL @ Surface & 85-110m.
flacc. layer @ 190-200m.

Anoxic up to 140m.

120m — boundary.

N 2	bottom $\rightarrow$ 150m	bottom - 130
3	150-130	
4	130-100	
5	100-80	
6	80-40	
7	40-0	

48° 39.275 123° 30.05 time 03:39 new file
- adjust pressure gauge - 95020002 end 92
- increase speed to 2 knots

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR 1995			MONTH January			SHIP Tully			CRUISE 9502			PAGE 1 OF		
DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS
31	S4	CTD	1910	BE	001	48 3	123 29.	GP	214					Down cast
31	S4	CTD/ROS	1917	BO	002	48 37.335	123 29.88	GPS			1-15	15		Up cast
31	S5	CTD/ROS	2019	BE	003	48 39 331	123 30 178	GPS	183					Down cast
31	S5	CTD/ROS	2024	BO	004	48 39 384	123 30 191	GPS			16-28	13		
FEB 1	S1	ROS	1705	BE	005	48 30 81	123 32 48	GPS	141					Down Cast
1	S1	ROS	1710	BO	006	48 30 85	123 32 48	GPS			29-40	12		
1	S1	ROS	1728	EN	006	48 30 88	123 32 46	GPS	137					Up cast
1	S3	ROS	1820	BE	007	48 35 63	123 30 30	GPS	225					Down Cast.
1	S3	ROS	1828	BO	008	48 35 69	123 30 34	GPS	225		41-55	15		
1	S3	ROS	1828	EN	008	48 35 69	123 30 34	GPS	225					
1	S6	ROS	1948	BE	009	48 41 53	123 30.25	GPS	75					
1	S6	ROS	1951	BO	010	48 41 52	123 30 24	GPS	75		56-63	9		
1	S6	ROS	2001	EN	010	48 41 60	123 30 25	GPS	75					
1	S95B	MOC	1350	PST		48 34.10	123 30.30	GPS	225					Mocness Tow # 2

CAST TYPE -

BOT -
CTD -
MOR -bottle cast
ctd
mooringROS -
NET -
DRF -rosette
net haul
drifter

USW - sea water loop

TIME CODE -

BE -
BO -
EN -beginning time of cast
bottom time of cast
end of castDE -
MR -
RE -deployment time
messenger release
recover mooring

POSITION CODE -

RAD -
GPS -
LOR -RADAR
GLOBAL
LORAN

1400 Abandon attempts with SCUD. Data
error problem. Couldn't isolate problem.
Proceed to Pat Bay to get old CTD.
SAR still happening. 2x helicopters + 3 launches
from Tully.

1510 — arrive IOS / Tie up Ship.
John/Reg — Faulty CTD brought onboard.
Bernard gets off. Oxygen analysis complete
for stations S4, S5

(Strong wind from South)

Proceed to Sta S4 to begin ADCP line
survey S4-S8 @ 2 knots.

1550 — Replaced CTD. System now working!!

START ADCP line: S4 — S8 via S4, S5, S6, S8
2352 UTC @ S4 Jan 31/95.

Proceed @ 4 knots. along 123.4978

① 48.6280 / 123.4978 2355 UTC
48.6960 / 123.4931 045 UTC

* 12 kHz Sounder on since sailing

48.7100 / 123.4542 103 UTC
48.7150 / 123.4392 111 UTC

Weather clearing, wind down
tenders return, search called off

48.7236 / 0121 UTC → S8

Reverse track: S8 — S4 @ 4 knots.

AT 1820 PST, asked bridge to increase speed to
get station at 1845 PST

RESULTS OF Roselle Cast show Anoxic interface
at 80-100 m @ S4 & S5
Uniform from bottom to top of Anoxic layer

SQUID TOW

prepare for Tow

EASA

Feb 1/95

03:07 44 39.856

SFC.

123 30 053.

winch problem - very jerky action. 9.81%

$$\frac{4}{5} \frac{2000}{2500} \times P =$$

$$176 \frac{130}{24} = \underline{\underline{156}}$$

TOW #1

Used a 0.5 mm Screen
(note Feb 2 / MIDNIGHT)

mo 95 - coming up.

48° 39.167 123 30.104 time 3:45

ens 99 - still heading south - drifting up to 135m

- still heading south - letting SCUD drift down
(ens 109) @ 158m.

changing dynamic range on display

172 m - ens 118 - coming up net 2 48 38 885
new file 123.30.080
9502003 3:58

ens 120 - reboot - 9502004 - ens. 123
heading up for 1st sample - up to 151, back down to 175
48 38.687 123 30.074 4:06 ens 131 d=174
up slowly.

48 38.622 123 30.087 @ 4:09 ens 135

Net 3
- flying level @ 146 for 5 min
- slowly up

48.38.48 Net 4 4:
123.30.040
E# 150
04:18 UTC
Water Depth 196
SCUD Depth 130
W.A = 15°
flying steady @ 128 m for 2 min, 118 for 7 min
pitch < too high + ve

48 38 244
123 29 963
04:30
Net 5 @ 100 m down to 102.5
W. Depth = 198
ens 166
pitch = 8-13° up to 90m - fly steady for min

Thermocline : @ 125 m.

SL @ 80-100m depth @ 8:30 PM

48 38.275 4:39:45 ens 183 Net 6
123 29.901
depth 178 m
up to 62 m - fly for 8 min crashed

48 37.918
123 30.025
4:52
ens 199 depth = 40m Net 7
fly at 20m for min

5:02 48 37.656 SFC z = -3.1 E# 215
123 30.045

MOENESS TOW
MOCOIN

2300 —
PST

Jan 31/95

Repeat SCMD Tow line with same sampling
depth range & area.

Still wavy, wet.

LAST NET 0050-0100 PST

Feb 4/95

Squally Reach - transmitter lowered at 35m & 90m
- 12 KHz - scattering layers ~ 95-110m & 180m
just above bottom
- ADCP again.

FEB 01

Proceed to STN S1.
Rosette + N/A. @ S1, S2, S3.

Sounding line using 184 kHz sounder with 40 dB gain
Colour Print.

48 38.286 @ 19:19 UTC
123 30.020

STN S3

48 38.819 @ 19:22 UTC
123 30.029

O2: Transition
between 80-120 m
≈ 100 m.

48 39.748 @ 19:27 UTC
123 30.063

48 40.401 @ 19:31
123 30.104

END LINE
@ STN 6. Nutrients +
Ammonia

Rosette Stn. S6. 1135 PST,

Transmissometer 80% 15 - 25 m.

Proceed to Brentwood Bay 1200 PST to
off-load day-crew & pick up Val Macdonald.

Pick up Val Macdonald 1320 PST

Proceed to start of Tow Line #2

START 48° 34.10' 123° 30.30' Tow #2 S95B
Toward STN S3.

Turned on Sounder Printout — Brentwood Bay
to start of tow line — #2 Tow Line.

Mocnes - 1:48 local time - in water Feb 1/95

Water depth 230 m.

Sounder on until start of cast. S95B NARRINGO

Change Tow Point on Scrip @ 1400
Move from 5 to 6 from the front. Presently
tilted too much up. This should make it
tow more nose-down.

Restart Sounder during tow at 48° 34.703

123 30.188
@ 2005 UTC

S95 B MOCNESS — Depth

bottom (205) → 150

150 - 130

130 - 100

100 - 80

80 - 40

40 - 0

Feb 1 SCUD - springs on trigger ~~broken~~ need replacing - but enough tension -

3PM - we may have had premature triggers

changed to S95 D 1, 3 & 4 are particularly loose Tony Rick lighting SCUD "Raw" internally recorded data will be S95 B

23:21

48 34

48 33.971

95020006

123 30

123 30.284

Water Depth 228

Trying to fix much. Still chattering.

START
MOCNESS

48 34.170

123 30.443

0m

MOCNESS

Net #1

48 34.662

123 30.204

TRIG.

Net #2

48 34.932

123 30.182

Net #3

48 35.109

123 30.185

Net #4

48 35.406

123 30.122

Net #5

48 35.847

123 30.047

To 200m

- 130m

To 130m

- 100m

To 100m - 80m

80 - 40

40 - 0m

END

48.36.322

123 29.985

Double Mark on Echogram when SCUD went in water

Downcast

@ 100m

48 34.423

123 30.290m

@ 23:34 UTC

Water
Depth

229m

Note feature in Echogram

Wire angle: 27.6° (George!)

@ 130m

48 34.573

123 30.299

23:37

water depth 225m

Time UTC	Position	Probe (m)	Wire Angle
2339	48 34.678 123 30.241	165 m	450
2343	48 34.905 123 30.255 Water depth 223 m	224	EN#65 File Name 95020006
2346	48 35.034 123 30.230	200 m	RAIN starting. Darker. Animals may be starting to migrate
2349	48 35.137 123 30.211	173 m	EN. 73
FORGOT TO TRIGGER NET !! OPEN NET 2			(Bottom - 150)
2352 UTC	48 35.308 123 30.195	200 m	NET 2 95020007
2356	48 35.475 123 30.174	180	EN. #84
2358	48 35.594 123 30.181	168	NET 2 EN #87
0001	48 35.680 123 30.144	162	EN.
0003.5 Feb 2/95	48 35.837 123 30.109	150	EN#95 NET 3 [150-130 m]
0007	48 35.944 123 30.032	140	EN#100
0014	48 36.291 123 29.947	130 m	NET 4 130-90
0021	48 36.583 123 29.902	105	EN #121
0029	48 36.984 123 29.857	90 m	NET 5 90-70 m
Main Scattering layer about 20 m shallower than MOCNESS			
0031	- Sank to about 95 m before we corrected it start back up.		

Time UTC	Position	Probe Depth	
0033	48 37.104 123 29.774	80 m	Net 5 CONT'D Water Depth 217m
0039	48 37.379 123 29.758	70 m Water = 214m	NET 6 (70-40) ENST 149 m
0040	48 37.402 123 29.776	66 m	NET 6
0050	48 37.786 123 29.759 Coming up slowly	40 m	EN # 164 File 95020008 NET 7 (40-0m)
0050	48 37.907 123 29.756	17 m	197 m
0103	48 38.348 123 29.763	SEC	E # 187

S95E SQUID Evening Tow Specially Ketch S3-South

TIME UTC	POSITION	EN #	DEPTH	PROB DEPTH	WIRE OUT/°	COMMENTS
0317	48° 35.440 123° 30.130					SQUID IN - commence tow south - 12 kHz sounder on - Double mark on 12k sounder - Depth @ Surface shows - 3.0 metres wire down 15°
0321	48° 35.2 123° 30.2	30	225	100		Obviously we're in complete darkness - bottom pinger destroying 12 kHz sounder read out at this wire angle
0327	48° 35.152 123° 30.218	41	224	210	150 265	
0331	48° 35.077 123 30.235	45	223	202		Trip Net 2 10m off bottom crash + restart → 95020010 file double mark on 12 kHz at Net one extra mark which is a mistake
0334	48° 35.958 123° 30.184				240/30	
<u>Net Strategy</u> Bottom - 160 N2 160 - 140 N3 140 - 120 N4 120 - 80 N5 80 - 40 N6 40 - 0 N7						
0342	48° 34.717 123° 30.183	62		158		Net 3 tripped
0348	48° 34.510 123° 30.257	72			223/40	
0354	Blue left 12 kHz plotter, replaced cartridge					
0355	48° 34.269 123° 30.299	81	220	140		Trip Net 4 Tow-yo-yo

TIME	POSITION	BN#	DEPTH	WIRE OUT/φ	COMMENTS
Feb 2/05					There are some weird ones going around Ship doing turn
0407	48° 33' 8.43 123° 30' 33.2	99	120		NET 5 Trapped (120-80 m)
0413		161	40		GPS not collected in computer
0417	48° 33' 57.8 123° 30' 7.83	"partial crash"			Computer completely crashes at 0418 and immediately restarted
0418	48° 33' 8.63 123° 30' 8.07	117	102		95020011 file# Computer restarted
0425	48° 33' 45.9 123° 30' 9.90	126	79		NET 6 Trapped 80-40 m
0430	48° 33' 40.9 123° 31' 23.5		57		
0436	48° 33' 33.1 123° 31' 46.1	143	39		NET 7 trapped 40-0 m
0448	48° 33' 29.6 123° 31' 9.34	?	φ		

CONV OT MOCNESS Tow along same line
END 2230 PST.

CONV OT E-W line along LINE 5
ADCP Time Series off 305
DURING NIGHT

Proceed to Port Bay offload BB/Visitors
Brennon & Val Macdonald to go ashore.

Summary Feb 1/

- ① SWS S1, S2, S3, S6
- ② MOCNESS Tow off Brentwood S-North
- ③ SCUD Tow off " S-North (up tow)] DAY
- ④ MOCNESS Tow off Brentwood North-S] NIGHT
- ⑤ SCUD Tow off Brentwood North-S
- ⑥ X-SECTION ADCP Line S5

FEB 02 195

ARRIVE POS/Pat Bay 0800 PST
BB + vol Macdonald of

0815 PST Proceed to Station S3 to begin South-North MOCNESS Tows

0855 Arrive S3 at start of Tow line

NET DEPTHS MOCNESS

0-50

50-90

90-120

120 - bottom

bottom - Surface

SQUID

25-50

50-90

90-120

120-150

150 - Bottom

Bottom - Surface

Proposed
Tow depths

ADCP LINE S3-S1 return.

START S Chogram / Sampling line

VM-ADCP

1722 UTC → @ 5 knots

S3 — End of inlet

Double MARKS 2X

UTC 1716 @ 48° 34.605 123 30.16 | 224 m water
Lead = 198° TR

1760	48 34.295 123 30.331	230 m	Very dense zooplankton layer in Squall's Reach area. So dense that ADCP thought it is seeing bottom. Currents only to 100m. 100-125 m range.
1723	48 33.976 123 30.446	228	
1726	48 33.753 123 30.607	229	Scattering layer diminished at little but strong again
1728	48 33.620 123 30.713	224 m	Turning corner at Squall's Reach
1732	48 33.455 123 30.893	217	Still very strong. 100-125 m
1736	48 33.333 123 31.492	218	Still very strong.
1739	48 33.206 123 31.925	214	Just previous to this, there was a very strong increase in scattering.

Sounding Line Cont'd / Feb 02/95

TIME UTC	GPS	Depth Water	Comments
1741	48 33.070 123 32.439	216 216 m	Very intense layer. 100-125. New one coming in view at 150 m
1746	48 32.858 123 32.752	150 Isolated peak Near Repulse Rock!!	very steep slope; turning corner. Lower layer disappears Is.
1754	48 32.273 123 32.793	210 m	
1759	48 31.759 123 32.567	191 m	Double mark on 12 kHz
1806	48 31.077 123 32.309	160	END Sounding Line (triple mark on Sounder)

Raymond & Dwyer do 1059
Dwyer to photograph MOCNESS

INTERNAL wave on track line near ship to north

Tried to get visual on MOCNESS. went from south
past Raymond at 1-2 knots

Dwyer couldn't see the fish.
Called it off. Need to do MOCNESS first
Then Rosette.

MOCNESS Tow MOC04D

Net 1: 1216	48 34.404	123 30.383	0-50m
Net 2 1225	48 34.559	123 30.303	50-90
Net 3 1225	48 34.692	123 30.1345	90-120
Net 4 1230	48 34.931	123 30.270	120-200

CANCELLED Dwyer / 1230 Friday

Tow SCID

895f

START 48 34.444

Sampling on the way down -

In the water: 22:12

end 27

48° 34.33

123° 30.27

pitch +2 to +3°

- some tow-going involved

Suggested nets:

Net 1 0-25
2 25-50
3 50-90
4 90-120
5 120-150
6 150-bottom (200m)
7 200-surface

Net 2:

22:25

48 34.795

123 30.205

end. 46

depth = 25m

New file 95020014 GPS is back.
going down slowly

2230	48 34.984 123 30.171	48 m. Probe	Coming up. Went to 53 m up to 25m.
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Net 3 22:38	48 35.239 123 30.154	50 m.	going down slowly.
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file: 95020015

System crashed

Jan Perry. Appears to be lots of animals in Scattering layer.

Net 4	48 35.779 123 30.068	end 83	depth = 89.3m.
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22:50

System crashed again

File 95020016, GPS didn't start =

end 86

95020017

System seems to crash on every net trigger.

Should be Scattering layer

Down slowly. Pitch 6.5° Heed 24.7°

2255	48 35.994 123 30.041	105 m
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- Scattering layer thin here & patchy
Pitch on up-tows ~ 12-14° + ve

Net 5 ?	48 36.305 123 29.96	120m end 105	going down slowly. pitch ~ 6.9°
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Net 6 23:11	48 36.593 123 29.962	end 116 150, up to 147m	- SL almost gone. down to bottom. - now SL starting to appear at ~ 90m - very strong
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transmission depletion @ 135m

- strong trans. signal at 190m

- going down to 205m

Net 7 @ 206m 4837.086
23:23 12329.874

Converging up.
ans 13/3

File 95020018 for upcast

* very murky thin surface layer
of freshwater

pitch 18-19° due
on medium wind speed

23:51

4838.688 N
12329.865

etc

MOCOS N Seavly Beach 1945 PST
Feb 02/05

Towing from 48 32.918 123 32.865 To NE (CGT)
along Seavly Beach, DOWN SAMPLING OF NETS
1848 at Surface. Clear/coder.

Net Depths. MOCNESS

Net 0 - 0 to 40
Net 1 - 40 to 90
Net 2 - 90 - 120
Net 3 - 120 - 160
Net 4 - 160 - Bottom
Net 5 - up to surface

Net 0 Scrapped
Net 1 0 to 53
Net 2 53 to 93
Net 3 93 to 121 m
Net 4 121 to 190 m
Net 5 190 to surface

Brought to surface

Net 4 END 48 33.273 123 31.629
@ 0323 UTC Feb 3 / water depth = 209 m.

Net 0 failed. Had to restart, lost Net 0.
to trigger.

on deck @ 7:30 PM local time

5956 - Feb 2 PM. - going straight down
- nets - same as Jan's @ 0.3 m/s

48 32.830 4:02 end 22
123 32.912 95020021

Net 1 - Steve - 0-30m Tow you to location
of Jan's 15T net - mostly 10-20m depth

Net 2 - 48 33.092 04:15 on 41 depth = 0 m
123 32.387

Leading down to 53m @ 0.3 m/s

Ship speed 2.6-3 knots, Reel speed slowed down
to 2 knots

48 33.165 @ 0418 UTC
123 32.130

NET 3 48 33.184 @ 0419.50 Trigger on the fly)
123 32.076 EN # 48 @ 53 m

Time	Location	Probe	
Net 3 continued			
NET 4 0422	48 33.254 123 31.964	92 m	On the Fly! E# 52
0424	48 33.280 123 31.944	125 m	Lost GPS a few minutes ago
NET 5 0424 34	48 33.282 123 31.922	129	E# 55 TRIGGERED Net 5
0426	48 33.287 123 31.865	164	E# 57
0427.5	48 33.302 123 31.792	187	
NET 6 0428	48 33.305 123 31.740	193	Triggered bottom Net 6
Roving bet. 180-200m.		Cash	95020022
Net 7 0432	48 33.337 123 31.572	190	E# 67
Heading to surface			- pitch ~17° @ 0.2 m/s up.
0451	48 33.622 123 30.703	E 96	Computer crash. File 95020023
0459	48 33.892 123 30.452		SLC

ADCP Line to north of Line S4
Start around 2200 PST. End on next day (Feb 03) at 0730.

Net 7 volume

$$V = 20'' \times 14'' \times 12'' \times \frac{1}{4} \text{ Biomass}$$
$$= 840 \text{ in}^3$$

$$= 0.013765 \text{ m}^3$$

Net 1

$$V = \pi r^2 h = \pi \times (5'')^2 6''$$
$$= 1471 \text{ in}^3$$

$$= 0.0077 \text{ m}^3$$

FEB 03/95 Overcast / cool

S95H SCUD

START @ S3. Steam toward NORTH

Last sample: Better because of ① More animals?
② Faster horizontal tow ③ Vertical sampling

TIME	Position	Ridge depth (m)	Comments
			Net depths
			0-20m 0-50 50-80 80-120 120-160 160-210 210-∞
	* note depth a surface -3.0		
1625	48 35.421 123 30.144	E# 29 -3.0	In the water start tow Tow up from zero to 0-20m
1632	48 35.574 123 30.091	E# 40 -1.4 m	Net 2 trapped computer crash file # 25
1641	48 35.985 123 30.052	53.6m E# 54 m	Net 3
	Ship speed a steady 2.5 KN		
1646	48 36.202 123 30.026	E# 61 78.8 m	Net 4 trapped computer crash file # 26
1652	48 36.465 123 29.974	E# 71 119	Net 5 trapped computer crash file # 27
	Overcast and very calm Ship speed up to 3.3		
1659	48 36.767 123 29.941	158 E# 83	Net 6 trapped computer crash file # 28
	no GPS on acquisition		
1705	48° 37.075 123 29.887	E 90	
1706	48° 37.145 123° 29.875	E 92	

UTC	POSITION	DEPTH	
1708	48 37.195 123 29.971	E#94 205m	Net 7 mowash proceed up
1717	48 37.624 123 29.913	E 109 135	
1722	48 37.823 123 29.910	E 114 111	
1724	48 37.911 123 29.940	E 118 91m	
1730	48 38.160 123 29.975	E 126 50m	
1734	48° 38.346 123° 29.016	E 132 19	
1739	48 38.623 123 29.954	E 135	Surface

1931 VM-ADCP Shut-off. 118MB dumped to
Bernoulli box
59 Pingdata files

1931

Proceed to Pat Bay reconfigure divers for rosette
filming

Pat Bay @ 1130 PST to pick up CSI
inspector. Anchor in 20m water for
divers

Divers in water Pat Bay 30m depth. Ship
anchored - lowered and triggered
Rosette for filming 1130-1300.

57

3 Divers WOLF publicity

Alongside Pat Bay: 1345 PST