

WCB acoustic survey cruise report *JR 121*

Peter Enderlein & Ryan Saunders

General:

This acoustic survey was run in the normal west to east direction. We started at the southwest end at W 1.1 S and worked eastwards. All transects were covered fully, but specially W 2.1 had to be run with reduced ship speed due to heavy weather. Overall the weather varied with bad weather in the beginning improving during day 3 and 4. We had no problems with either the EK60, the CTD or the XBTs. The Oceanlogger PC crashed between transect W 3.2 and W 4.1. ITS and ETS replaced the PC with a spare one and got it up and running again during W 4.2. After finishing the WCB the EK60 workstation 2 hard drive failed completely, just after burning the compressed .ek6 files and backing them up on the U drive. So no compressed data from this trip were lost, but all the old stuff on the PC. Echoview and Echolog were reinstalled and tested after leaving KEP. Due to a heavy depression coming through which held us in KEP for 5 days, there was no time to run the long EA635 transect on the way back.

EK60/ER60 operations:

- The EK60 was run with the same setting as during JR 116
- Parallel to the EK60 raw data Ecolog ek6 data were saved. Again the .raw data were picked up from the EK60 Workstation 2 and then processed and stored locally. Together with the Ecoview live viewing these settings worked fine, but no processing was done on the Workstation 2, which could reduce the performance of the machine.
- The SSU was working fine, we had no problems with the synchronisation of the ER 60 together with the new ER 600.
- SUMMARY: The ER60 was working absolutely fine, with NO computer problems, NO problems with the SSU, the parallel running of the Ecolog software and the ER600.

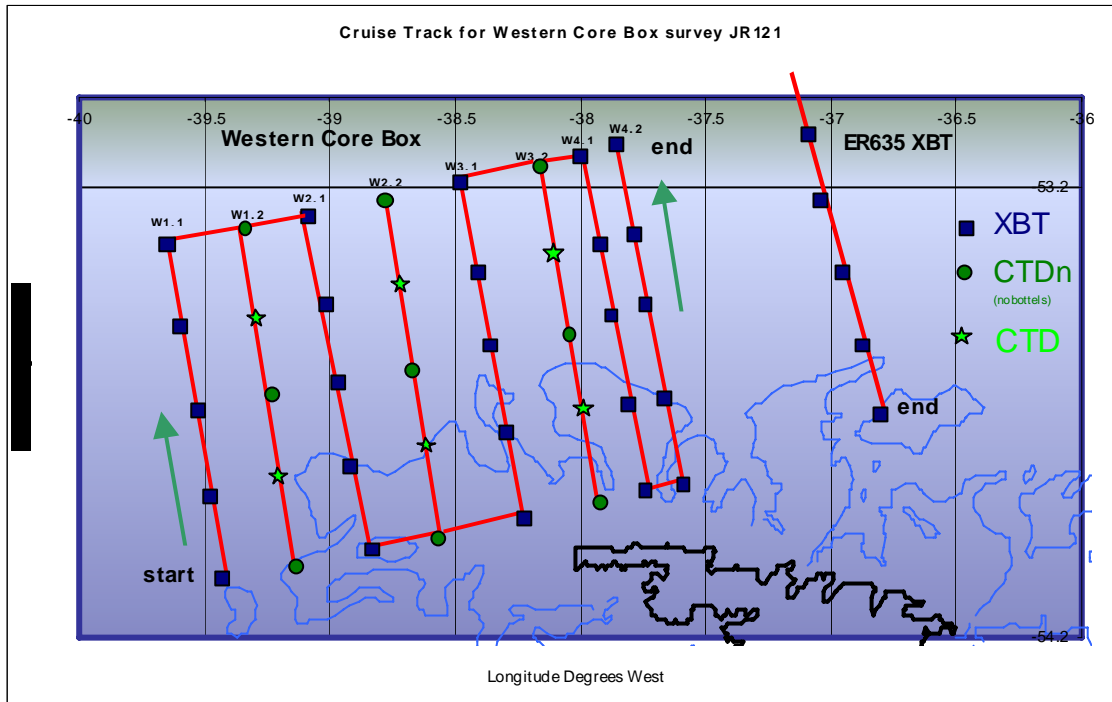
XBT operations:

- During the survey the XBT system worked very well and we had only 3 or 4 failures, mainly due to birds breaking the thin copper wire.

CTD operations:

- During the survey the CTD system and the Cable monitoring system (CLAM) worked fine, we had no problems at all. The collected water was analysed by Alex Tate

cruise track for WCB survey JR 121:



ER 60 settings on JR 121

Ping Mode	Ext Trig
Ping Interval	2 sec
Salinity	33
Temperature	2
Sound Velocity	1457 m/s
Transceiver-1 Menu/Mode	Active
Transceiver-1 Menu/Transducer Type	ES38
Transceiver-1 Menu/Transducer Depth	0.00 m
Transceiver-1 Menu/Absorption Coef.	10.03
Transceiver-1 Menu/Pulse Length	1.024ms
Transceiver-1 Menu/sample interval	256µs
Transceiver-1 Menu/Bandwidth	2425Hz
Transceiver-1 Menu/Max. Power	2000 W
Transceiver-1 Menu/2-Way Beam Angle	-20.70 dB
Transceiver-1 Menu/Sv Transd. Gain	24.14 dB
Transceiver-1 Menu/Sa correction	-0.58 dB
Transceiver-1 Menu/Angle Sens.Along	22.00
Transceiver-1 Menu/Angle Sens.Athw.	22.00
Transceiver-1 Menu/3 dB Beamw.Along	7.11°
Transceiver-1 Menu/3 dB Beamw.Athw.	7.08°
Transceiver-1 Menu/Alongship Offset	-0.05°

Transceiver-1 Menu/Athw.ship Offset	0.02°
Transceiver-1 Menu/Frequency	38 kHz
Transceiver-2 Menu/Mode	Active
Transceiver-2 Menu/Transducer Type	ES120-7
Transceiver-2 Menu/Transducer Depth	0.00 m
Transceiver-2 Menu/Absorption Coef.	26.92
Transceiver-2 Menu/Pulse Length	1.024ms
<i>Transceiver-2 Menu/sample interval</i>	256µs
Transceiver-2 Menu/Bandwidth	3026 Hz
Transceiver-2 Menu/Max. Power	500 W
Transceiver-2 Menu/2-Way Beam Angle	-20.70 dB
Transceiver-2 Menu/Sv Transd. Gain	20.23
<i>Transceiver-2 Menu/Sa correction</i>	-0.45
Transceiver-2 Menu/Angle Sens.Along	21.00
Transceiver-2 Menu/Angle Sens.Athw.	21.00
Transceiver-2 Menu/3 dB Beamw.Along	7.89°
Transceiver-2 Menu/3 dB Beamw.Athw.	7.98°
Transceiver-2 Menu/Alongship Offset	0.05°
Transceiver-2 Menu/Athw.ship Offset	-0.23°
Transceiver-2 Menu/Frequency	120 kHz
Transceiver-3 Menu/Mode	Active
Transceiver-3 Menu/Transducer Type	ES200-7
Transceiver-3 Menu/Transducer Depth	0.00 m
Transceiver-3 Menu/Absorption Coef.	40.10
Transceiver-3 Menu/Pulse Length	1.024ms
<i>Transceiver-3 Menu/sample interval</i>	256µs
Transceiver-3 Menu/Bandwidth	3088 Hz
Transceiver-3 Menu/Max. Power	300 W
Transceiver-3 Menu/2-Way Beam Angle	-19.60 dB
Transceiver-3 Menu/Sv Transd. Gain	22.68 dB
<i>Transceiver-2 Menu/Sa correction</i>	-0.32 dB
Transceiver-3 Menu/Angle Sens.Along	23.00
Transceiver-3 Menu/Angle Sens.Athw.	23.00
Transceiver-3 Menu/3 dB Beamw.Along	7.18°
Transceiver-3 Menu/3 dB Beamw.Athw.	6.17°
Transceiver-3 Menu/Alongship Offset	-0.13°
Transceiver-3 Menu/Athw.ship Offset	-0.02°
Transceiver-3 Menu/Frequency	200 kHz

Transect log for JR 121:

Time	Latitude	Longitude	Transect	Comment
30/03/2005 08:59	-54.0516	-39.3929 W	1.1 south	start of transect W 1.1 south to north
30/03/2005 09:00	-54.0447	-39.3951 W	1.1	XBT deployed
30/03/2005 10:10	-53.8621	-39.4503 W	1.1	XBT deployed
30/03/2005 11:10	-53.701	-39.498 W	1.1	XBT deployed
30/03/2005 12:18	-53.5242	-39.5505 W	1.1	XBT deployed
30/03/2005 13:27	-53.3412	-39.6053 W	1.1	XBT deployed
30/03/2005 13:28	-53.3412	-39.6053 W	1.1 north	end of transect
30/03/2005 15:02	-53.3159	-39.3049 W	1.2 north	start of transect W 1.2 north to south
30/03/2005 19:21	-54.0235	-39.0901 W	1.2 south	end of transect W 1.2
31/03/2005 09:03	-53.2874	-39.038 W	2.1 north	start of transect W 2.1 north to south
31/03/2005 09:03	-53.2884	-39.0378 W	2.1	XBT deployed
31/03/2005 09:40	-53.3651	-39.0133 W	2.1	have to slow down to 8 kn
31/03/2005 10:30	-53.4684	-38.9824 W	2.1	XBT deployed
31/03/2005 10:32	-53.4724	-38.9812 W	2.1	have to further slow down to 7 kn
31/03/2005 10:55	-53.5141	-38.9683 W	2.1	back to 8 kn
31/03/2005 11:03	-53.5306	-38.963 W	2.1	Ship speed 7 knots
31/03/2005 11:39	-53.5958	-38.9431 W	2.1	speed varies between 6-7 kn
31/03/2005 12:03	-53.6399	-38.9297 W	2.1	XBT deployed
31/03/2005 12:18	-53.6661	-38.9212 W	2.1	speed down to 4-6 kn
31/03/2005 13:40	-53.847	-38.8646 W	2.1	speed back to 6-7 kn
31/03/2005 13:43	-53.82	-38.872 W	2.1	XBT deployed
31/03/2005 15:16	-53.9947	-38.8187 W	2.1	XBT deployed
31/03/2005 15:16	-53.9947	-38.8187 W	2.1 south	end of transect W 2.1 south
31/03/2005 16:38	-53.9617	-38.5258 W	2.2 south	start of transect W 2.2 south to north
31/03/2005 20:43	-53.2897	-38.7416 W	2.2	transect done with 8-10 kn
31/03/2005 20:57	-53.2536	-38.7513 W	2.2 north	end of transect W 2.2
01/04/2005 09:01	-53.9269	-38.2204 W	3.1 south	start of transect W 3.1 south to north
01/04/2005 09:01	-53.9268	-38.2204 W	3.1	XBT deployed
01/04/2005 09:51	-53.9268	-38.2204 W	3.1	some interference on 38 kHz & 120 kHz
01/04/2005 09:53	-53.7864	-38.2665 W	3.1	boat speed 8-10 kn due to fog
01/04/2005 10:08	-53.5714	-38.3353 W	3.1	XBT deployed
01/04/2005 11:14	-53.5733	-38.3347 W	3.1	XBT deployed
01/04/2005 12:22	-53.3934	-38.394 W	3.1	XBT deployed
01/04/2005 13:31	-53.2216	-38.4487 W	3.1	XBT deployed
01/04/2005 13:31	-53.2205	-38.4493 W	3.1 north	end of transect W 3.1
01/04/2005 14:54	-53.1855	-38.1392 W	3.2 north	start of transect W 3.2
01/04/2005 19:10	-53.8922	-37.9068 W	3.2 south	end of transect W 3.2
02/04/2005 08:30	-53.5176	-37.8464 before W	4.1	Oceanlogger not working due to broken Powersupply
02/04/2005 09:00	-53.1637	-37.964 W	4.1 north	start of transect W 4.1 north to south
02/04/2005 09:00	-53.1651	-37.9634 W	4.1	XBT deployed
02/04/2005 10:03	-53.3225	-37.9116 W	4.1	speed 8-10 kn due to weather
02/04/2005 10:10	-53.339	-37.9051 W	4.1	XBT deployed
02/04/2005 10:57	-53.4665	-37.8638 W	4.1	ship speed down to 7-8 kn
02/04/2005 11:18	-53.5169	-37.8468 W	4.1	XBT deployed
02/04/2005 12:27	-53.6956	-37.7857 W	4.1	XBT deployed
02/04/2005 13:27	-53.8687	-37.7289 W	4.1	XBT deployed
02/04/2005 13:27	-53.8697	-37.7285 W	4.1 south	end of transect W 4.1

02/04/2005 14:00	-53.848	-37.5958 W	4.2 south	start of transect W 4.2 south to north
02/04/2005 14:00	-53.8478	-37.5959 W	4.2	XBT deployed
02/04/2005 15:02	-53.6737	-37.6549 W	4.2	XBT deployed
02/04/2005 16:04	-53.51	-37.711 W	4.2	XBT deployed
02/04/2005 17:13	-53.3224	-37.7719 W	4.2	XBT deployed
02/04/2005 18:18	-53.1474	-37.8316 W	4.2	XBT deployed
02/04/2005 18:18	-53.1469	-37.8317 W	4.2 north	end of transect W 4.2

Event Log

Time	Lat	Lon	Comment
3/30/2005 8:59	-54.0529	-39.3925	Ship passes waypoint 1 at start of core box transect. Course 350T. Speed 10 knots.
3/30/2005 9:01	-54.0473	-39.3942	XBT deployed
3/30/2005 10:04	-53.8783	-39.4433	XBT deployed
3/30/2005 11:10	-53.7015	-39.4976	XBT deployed
3/30/2005 12:18	-53.5247	-39.5501	XBT deployed
3/30/2005 13:24	-53.3486	-39.6021	XBT deployed. End of first transect line.
3/30/2005 19:21	-54.0245	-39.0898	Ship passes through waypoint 7 at end of transect.
3/30/2005 19:50	-54.0235	-39.0895	Ship on station for CTD
3/30/2005 20:03	-54.0236	-39.0896	CTD deployed. Depth 214 metres.
3/30/2005 20:24	-54.0235	-39.0894	CTD recovered.
3/30/2005 21:53	-53.8463	-39.1458	Ship on station for CTD
3/30/2005 22:01	-53.8464	-39.1458	CTD deployed. Water depth 293 metres.
3/30/2005 22:21	-53.8463	-39.1459	CTD recovered.
3/30/2005 23:48	-53.6684	-39.1977	Ship on station for CTD
3/30/2005 23:56	-53.6684	-39.1977	CTD deployed depth 1719m
3/31/2005 0:42	-53.6684	-39.1976	CTD recovered - moving off station
3/31/2005 2:19	-53.4956	-39.2496	Ship on station for CTD
3/31/2005 2:26	-53.4955	-39.2495	CTD deployed depth 3156m
3/31/2005 3:15	-53.4956	-39.2496	CTD recovered - moving off station
3/31/2005 4:39	-53.3155	-39.3065	Ship on station for CTD
3/31/2005 4:48	-53.3155	-39.3065	CTD deployed depth 3985m
3/31/2005 5:27	-53.3154	-39.3065	CTD recovered - moving off station - End of transect.
3/31/2005 9:04	-53.2883	-39.0379	Commence transect at waypoint 12. Course 170T. Speed reduced for XBT.
3/31/2005 9:08	-53.2943	-39.0359	XBT deployed. Increasing speed.
3/31/2005 10:30	-53.4685	-38.982	XBT deployed.
3/31/2005 12:02	-53.6387	-38.9302	XBT deployed
3/31/2005 13:44	-53.8222	-38.8713	XBT deployed.
3/31/2005 15:14	-53.9906	-38.8197	XBT deployed. End of transect line.
3/31/2005 18:57	-53.2551	-38.7508	End of transect. Ship passes through waypoint 18 and commences turn on to station.
3/31/2005 21:14	-53.2537	-38.7499	Ship on station.
3/31/2005 21:19	-53.2538	-38.75	CTD deployed. Water depth 3795 metres.
3/31/2005 21:40	-53.2539	-38.75	CTD at 1000 metres recovering.
3/31/2005 22:19	-53.2628	-38.7557	CTD recovered
3/31/2005 23:59	-53.4321	-38.6928	Ship on station for CTD
04/01/2005 00:04	-53.432	-38.6927	CTD deployed depth 3491m
04/01/2005 00:23	-53.4319	-38.6929	CTD at 1000 metres recovering.
04/01/2005 00:53	-53.4321	-38.6928	CTD recovered - moving off station

04/01/2005 02:14	-53.6095	-38.6383	Ship on station for CTD
04/01/2005 02:20	-53.6094	-38.6382	CTD deployed depth 2795m
04/01/2005 02:39	-53.6094	-38.6382	CTD at 1000 metres recovering.
04/01/2005 03:02	-53.6095	-38.6382	CTD recovered - moving off station
04/01/2005 04:12	-53.7889	-38.5826	Ship on station for CTD
04/01/2005 04:19	-53.7889	-38.5824	CTD deployed depth 196m
04/01/2005 04:25	-53.789	-38.5825	CTD at 184 metres recovering.
04/01/2005 04:36	-53.7889	-38.5825	CTD recovered - moving off station
04/01/2005 05:50	-53.9624	-38.5253	Ship on station for CTD - End of Transect
04/01/2005 05:56	-53.9624	-38.5251	CTD deployed depth 150m
04/01/2005 06:01	-53.9623	-38.5251	CTD at 139 metres recovering.
04/01/2005 06:06	-53.9623	-38.5252	CTD recovered.
04/01/2005 09:01	-53.9268	-38.2203	Commence transect. Waypoint 23. Course 349T. Speed 10 knots. XBT deployed.
04/01/2005 10:07	-53.7488	-38.2787	XBT deployed.
04/01/2005 11:20	-53.5633	-38.3378	XBT deployed
04/01/2005 12:27	-53.3884	-38.395	XBT deployed
04/01/2005 13:37	-53.2106	-38.4534	XBT deployed. End of transect line.
04/01/2005 14:54	-53.186	-38.1386	Commence transect at waypoint 33. Course 170T.
04/01/2005 19:10	-53.8917	-37.907	End of transect. Ship passes through waypoint 29. Coming on to station.
04/01/2005 19:25	-53.8903	-37.906	On station.
04/01/2005 19:28	-53.8903	-37.906	CTD deployed . Water depth 142 metres.
04/01/2005 19:43	-53.8903	-37.9061	CTD recovered.
04/01/2005 21:10	-53.7139	-37.9654	On station for CTD. Water depth 131 metres.
04/01/2005 21:13	-53.7139	-37.9654	CTD deployed.
04/01/2005 21:29	-53.7139	-37.9653	CTD recovered.
04/01/2005 22:49	-53.5388	-38.0235	On station for CTD. Water depth 1722 metres.
04/01/2005 22:52	-53.5388	-38.0234	CTD deployed.
04/01/2005 23:14	-53.5387	-38.0234	CTD at 1000 metres recovering.
04/01/2005 23:34	-53.5387	-38.0236	CTD recovered - moving off station
04/02/2005 00:37	-53.3605	-38.0837	Ship on station for CTD
04/02/2005 00:44	-53.3604	-38.0836	CTD deployed.
04/02/2005 01:03	-53.3605	-38.0837	CTD at 1000 metres recovering.
04/02/2005 01:35	-53.3604	-38.0838	CTD recovered
04/02/2005 02:37	-53.1849	-38.1406	Ship on station for CTD - End of Transect
04/02/2005 02:52	-53.1849	-38.1406	CTD deployed
04/02/2005 03:31	-53.1846	-38.1395	CTD recovered - moving off station
04/02/2005 09:01	-53.1653	-37.9634	Commence transect 4.1 at waypoint 34. XBT deployed at 7 knots. Course 168T.
04/02/2005 10:14	-53.351	-37.9009	XBT completed.
04/02/2005 11:21	-53.5218	-37.8444	XBT deployed
04/02/2005 12:26	-53.6939	-37.7863	XBT deployed.
04/02/2005 13:27	-53.869	-37.7288	XBT deployed. End of transect line.
04/02/2005 14:00	-53.8497	-37.5948	Commence transect at waypoint 39 Course 349T. Deployed XBT.
04/02/2005 15:02	-53.6739	-37.6547	XBT deployed.
04/02/2005 15:03	-53.6719	-37.6554	XBT completed.
04/02/2005 16:12	-53.4869	-37.7179	XBT completed.
04/02/2005 17:11	-53.3254	-37.7711	XBT deployed.
04/02/2005 18:17	-53.1491	-37.8309	XBT deployed. End of transect line.
04/03/2005 09:44	-53.5254	-37.8363	On location for CTD. Deep mooring. 1297 metres depth.

04/03/2005 09:47	-53.5254	-37.8362	CTD deployed. 200 metres.
04/03/2005 10:15	-53.5244	-37.8424	On location over mooring for acoustics.
04/03/2005 11:04	-53.5253	-37.8366	Ship on station. to ping mooring
04/03/2005 11:07	-53.5253	-37.8366	ship pinging mooring
04/03/2005 11:30	-53.5254	-37.8367	hydrophone onboard
04/03/2005 11:42	-53.5249	-37.8393	hydrophone deployed
04/03/2005 11:48	-53.5249	-37.8392	hydrophone onboard
04/03/2005 12:26	-53.5158	-37.851	moorings sighted
04/03/2005 12:31	-53.5125	-37.8458	making approach to pick up the moorings
04/03/2005 12:36	-53.5114	-37.8514	Moorings graped
04/03/2005 12:40	-53.5114	-37.8533	Trimsin bouy recovered
04/03/2005 12:57	-53.5111	-37.8554	300m of line recovered
04/03/2005 13:05	-53.511	-37.8562	600m line recovered
04/03/2005 13:12	-53.5106	-37.8577	Accoustic release onboard
04/03/2005 13:13	-53.5105	-37.8578	Main bouy recovered
04/03/2005 13:28	-53.514	-37.8626	ship moving off
04/03/2005 15:01	-53.7987	-37.9308	ship on D.P. in shallow mooring stand off position.
04/03/2005 15:11	-53.7987	-37.9306	CTD deployed depth 210m
04/03/2005 15:17	-53.7987	-37.9307	CTD at 200 metres recovering.
04/03/2005 15:23	-53.7986	-37.9307	CTD recovered - moving off station
04/03/2005 15:39	-53.7984	-37.9355	V/L on station at shallow mooring site for Acoustinc listening.
04/03/2005 16:11	-53.7984	-37.9356	V/L complete acoustics
04/03/2005 16:21	-53.7984	-37.9329	V/L in position for hydrophone deployment.
04/03/2005 16:22	-53.7984	-37.9329	hydrophone deployed
04/03/2005 16:26	-53.7984	-37.9328	Moorings sighted
04/03/2005 16:45	-53.794	-37.9338	Buoy tail hooked
04/03/2005 16:55	-53.7942	-37.9351	Trimsin bouy recovered
04/03/2005 17:01	-53.7945	-37.9358	Accoustic release onboard
04/03/2005 17:04	-53.7946	-37.9359	Main bouy recovered
04/03/2005 17:51	-53.7729	-38.0707	v/l on site for ARP W1 Buoy release
04/03/2005 17:52	-53.7729	-38.0707	Commence deploying ARP W1 Buoy
04/03/2005 17:54	-53.7731	-38.071	Sonar Buoy released
04/03/2005 19:16	-53.7469	-37.8233	Acoustic buoy released.
04/04/2005 09:27	-53.7945	-37.932	On station ready for shallow mooring deployment.
04/04/2005 10:06	-53.7959	-37.9334	Commence deployment.
04/04/2005 10:07	-53.796	-37.9336	Buoy deployed.
04/04/2005 10:16	-53.797	-37.9346	Mooring ready for release.
04/04/2005 10:26	-53.7987	-37.9359	Mooring released.
04/04/2005 11:31	-53.7965	-37.94	ship on mooring deployment transit
04/04/2005 11:34	-53.7967	-37.9403	main bouy away
04/04/2005 11:34	-53.7966	-37.9402	commenced mooring operations
04/04/2005 11:41	-53.7973	-37.9413	Moorings streaming astern
04/04/2005 11:51	-53.7986	-37.9438	mooring released stern clear
04/04/2005 13:41	-54.033	-38.0652	ship on D.P. in Whale bouy mooring position.
04/04/2005 13:46	-54.033	-38.0661	ship on mooring deployment transit
04/04/2005 13:48	-54.0332	-38.0663	Buoy released.
04/06/2005 08:59	-54.2106	-36.4424	Whale buoy released at entrance to Cumberland Bay.