



FIELD REPORT
2D SEISMIC SURVEY, SORELL BASIN, PHASE 1
for
SEISMIC AUSTRALIA

Report No. 34823.36

Client Reference

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Revision No.



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GENERAL

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1 INTRODUCTION

Sections 1 and 2 in this Field Report refer to the survey planning. Section 3 onwards describes the performance, except for sections 7 and 8, which are general technical information about the vessel and its equipment.

Fugro-Geoteam AS undertook a non exclusive 2D seismic survey in the Deepwater Otway/ Sorell Basin off Tasmania and Victoria, Australia. The operators for the survey were Seismic Australia. The vessel used was the RV Geo Arctic. Specifications for the vessel are found in section 7.

The survey had 2 phases: Phase 1 was 4,082 km in 36 lines. Phase 2 was 2,067 km in 23 lines. Phase 1 was to be acquired first. Phase 2 shall not be acquired before confirmation between Seismic Australia and Fugro-Geoteam AS. A change to program was received on 11th May 2001 where 5 lines were cancelled and 2 lines were shortened. A further reduction and change to some existing lines were received on 14th May 2001. The total km for the survey was then reduced to 3409.320 km, in a single phase.

The Project Plan was the guideline for the performance of this project. Included in this manual was also the MEDEVAC and Emergency Response Plan. A separate HSE manual was been made for this project, and was forwarded to the authorities in Tasmania and Victoria.

1.1 SCOPE OF WORK

2D seismic survey acquisition:

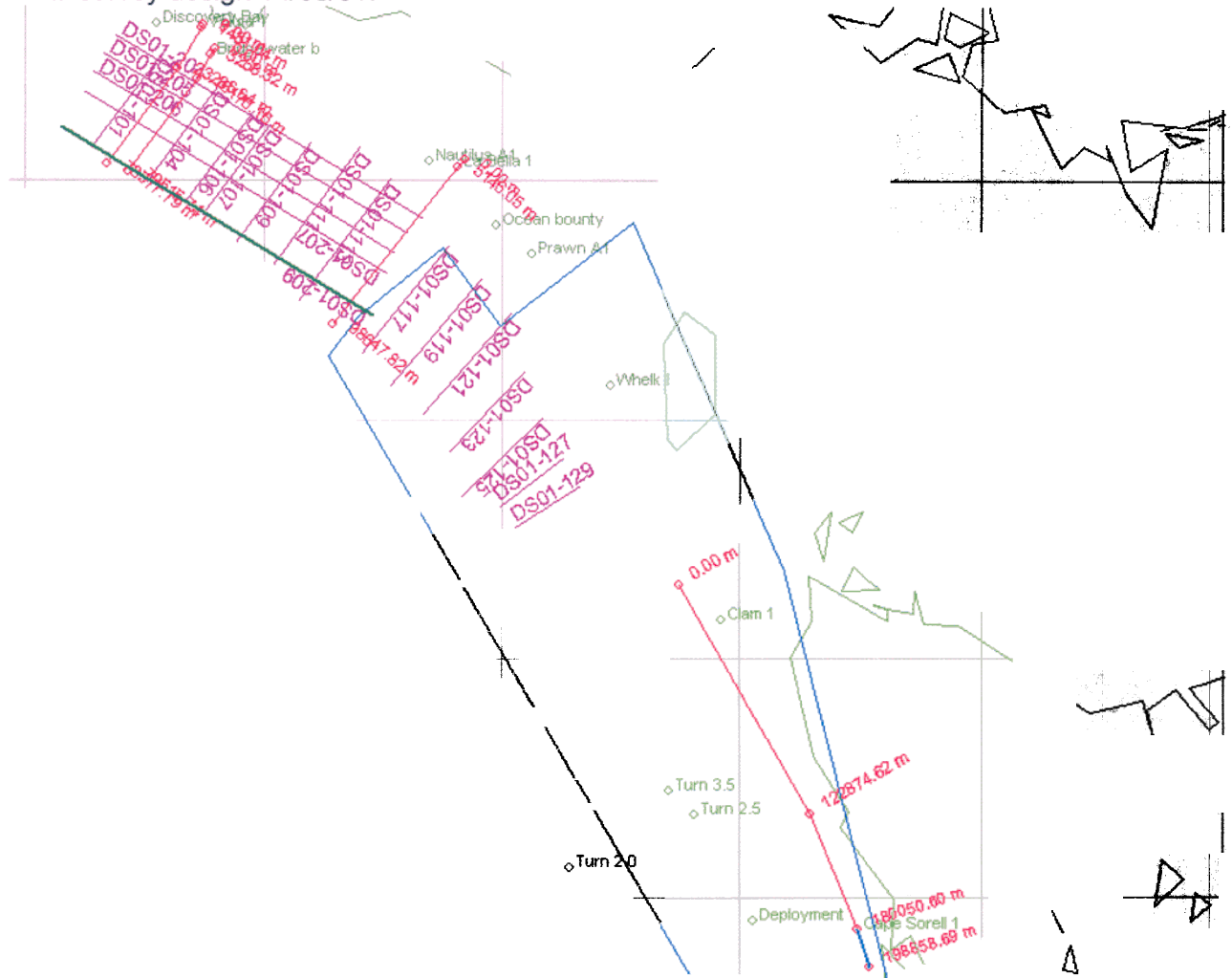
Client:	Seismic Australia.
Location:	Deep Water Ottway/Sorell, West end of Bass Strait.
Project no:	34823
Survey size:	Phase 1: 4,082 km, Phase 2: 2,067 km. Reduced to 3409.320 km on 14 th May 2001.
Vessel:	RV Geo Arctic
Water depth:	0040 - 3000m
Fixed obstructions:	None known.
Number of lines:	Phase 1: 36. Phase 2: 23.

Original survey design 20/04/01.



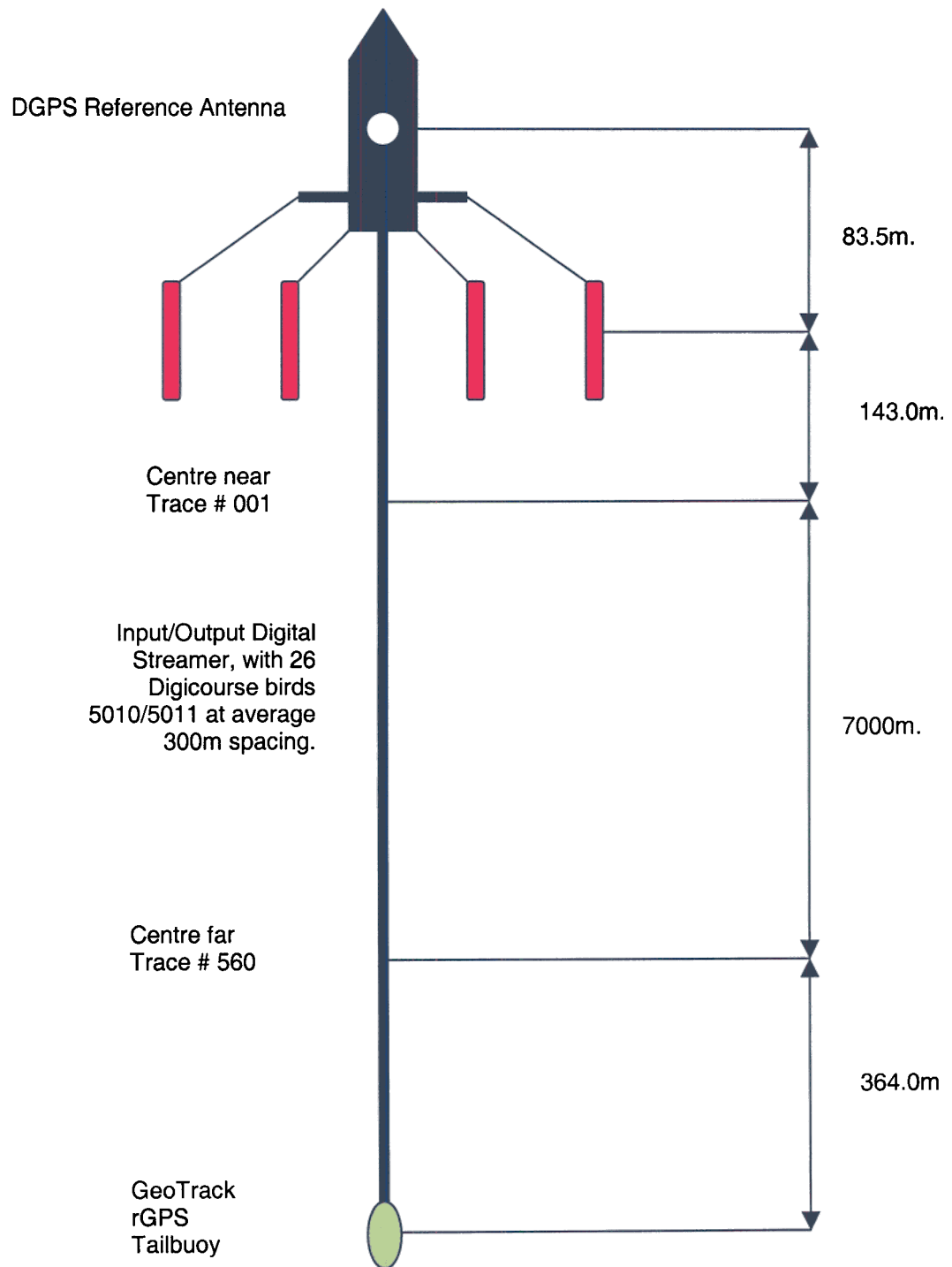


Final survey design 14/05/01.





1.3 SYSTEM LAYOUT



All Dimensions are Nominal



1.4 PLANNING AND PREPARATION – TIME SCHEDULE

Planned start up for the survey was on or around 28 April 2001. The vessel sailed for the prospect ahead of schedule on the 27th May 2001. Mobilisation took place in Hobart, Tasmania.

All of the survey area is within Australian waters. Nearest major ports are Burnie, Tasmania and Melbourne, Victoria. Fugro-Geoteam AS is planning to use Burnie for logistic port-calls during the survey. The distance to Burnie from the centre of the survey area is approximately 150 miles.

The acquisition phase of the survey should take 40 days, allowing for some delays for weather.

Demobilisation was planned in Burnie or Melbourne on or around 13 June.

The planned duration of the work required the need for a crew-change in the latter part of the survey. The crew onboard the RV Geo Arctic are working a 42 day rotation. The first planned crew change was 30 May 2001. If logistics allowed this was the plan to be by helicopter from Burnie.

In the case of an emergency port call please find instructions and guidelines in the MEDEVAC Plan specifically made for this project.

1.5 OTHER DOCUMENTATION

The following documentation is referred to directly or indirectly and must be available throughout the survey, to ensure that all information, specifications, guidelines and agreements for this project are available :

- QC Specifications (included in the Project manual)
- HSE Plan (separate document)
- MEDEVAC Plan (separate document included in the Project manual)
- Fugro-Geoteam AS' QA and HSE documentation. A master reference list for these documents is found in Appendix 1 in the Project manual.
- Health, Safety and Environmental related documents according to contract.



2 ACQUISITION PARAMETERS

Fugro-Geoteam AS ensured that the equipment in use met the manufacturers' specifications, and also met Fugro-Geoteam's quality requirement.

2.1 DEFINITIONS

Acquisition mode	Single vessel
Configuration	Single streamer, single source
Shot interval	37.5 m.
CDP spacing	6.25 m.
Coverage	93 full fold

2.2 SEISMIC PARAMETERS SUMMARY

2.2.1 Seismic recording systems

Recording type	:	I/O MSX
Recording length	:	12 seconds
Sampling rate	:	2ms
Low-cut filter	:	4Hz, 12dB/Oct
Hi-cut filter	:	206Hz , 264dB/Oct
Format	:	SEG-D Demux
Tape media	:	3590
Source type	:	Sodera G guns.
Recording mode	:	Single source

2.2.2 Seismic streamer

Streamer type	:	I/O MSX 24 bit digital
Streamer length	:	7000m
Nominal streamer depth	:	8-10 m (Option of 12m granted on 11 th May 2001)
Near offset	:	143m
No of groups	:	560
Group interval	:	12,5m
Group length	:	17,55m
No of birds	:	26

2.2.3 Energy source

Source type	G Guns
Air pressure	2000 psi
Volume	3660 cubic inch
No of subarrays	4
Source depth	6m.
Source width	27m
Source length	15m
Peak-peak	132 bar-m
P/b ratio	17.7 : 1.0



2.2.4 Gravity and magnetometer

Gravity and Magnetic data, shall be recorded by Fugro-LCT.

2.3 GEODETIC PARAMETERS

2.3.1 Survey datum.

Datum	AGD 84
Ellipsoid	Australian National Spheroid
Semi Major Axis (a)	6378160
Inverse Flattening (1/f)	298.25
Projection System	Universal Transverse Mercator (UTM)
Projection Zone	54 South
Central Meridian	141° East
Scale Factor at CM	0.9996
Latitude at Origin	0° (Equator)
False Easting	500,000
False Northing	10,000,000
Grid Units	Meters

2.3.2 World Geodetic System 84 (WGS-84)

Ellipsoid	WGS84
Semi Major Axis (a)	6378137.0m
Inverse Flattening (1/f)	298.257224

2.3.3 Datum shift WGS-84 to Local datum

X-shift	-116
Y-shift	-50.47
Z-shift	141.69
X-axis rotation	0.23
Y-axis rotation	0.39
Z-axis rotation	0.344
Scale correction	0.0983

2.4 LINE NAME CONVENTION

The line naming convention was as follows:

DS01-NNNR

Where DS01 is the Prefix, and

NNN is the line number. R is the re-shoot code. R=A for the first re-shoot, R=B for the second re-shoot, etc. Shotpoint numbering to be continuous across re-shoots.

2.5 COVERAGE

A run-out and overlap of 3675m was used to give full fold seismic coverage over the complete survey line.



2.6 POSITION SYSTEMS

Primary Vessel Positioning

System: STARFIX-Spot DGPS with Starfix reference stations.
Optus satellite delivering RTCM Type 1 and 3 differential corrections.
Recommended set-up "weighted mean".

Equipment: Trimble 4000 DS GPS Receiver
Trimble antenna
Starfix 6500 MK II demodulator
Allison Spot antenna (Corrections also received via Ashtech combined GPS/GLONASS antenna)
Pentium computer running MRDGPS software

Reference Stations Optus:

Station	ID	Lat	Long	Distance km
Melbourne	385	S 38 27 53.375	E 144 54 46.909	237
Bathurst	336	S 33 25 46.902	E 149 34 01.960	937
Pt Augusta	326	S 32 29 55.166	E 137 46 31.459	955
Brisbane	275	S 27 28 38.507	E 153 01 37.338	1672

Secondary Vessel Positioning

System: STARFIX-MN8 DGPS with Starfix reference stations.
POR Inmarsat satellite delivering RTCM Type 1 and 3 differential corrections.

Equipment: Trimble 4000 DS GPS Receiver
Trimble antenna
Saturn-B Inmarsat receiver
Pentium computer running MRDGPS software

Reference Stations Inmarsat:

Station	ID	Lat	Long	Distance km
Melbourne	385	S 38 27 53.375	E 144 54 46.909	237
Dunedin	26	S 45 52 10.214	E 170 30 39.315	2180
Auckland	22	S 36 47 33.480	E 174 45 50.207	2700



IN SEA POSITION SYSTEMS

Tailbuoy

A Tail-Buoy (TB) will be deployed in the tail of the streamer for positioning. The TB is fitted with Geo-Track - relative GPS, and radar reflector.

Relevant work book :WB.NAV.002 Tail Buoy Nav. Work Book

Relevant work instruction :WI.NAV.109 Work Instruction for
STARFIX/GEOTRACK Operators

Source Positioning

N/A

Magnetic Compasses and birds

The compasses and birds were mounted at no more than 300m intervals on the streamer. A total of 26 depth controllers/compasses were mounted on the streamer. The depth controllers / compasses were Digicourse model 5010 / 5011. Extra compass birds were be mounted in the front and tail of the streamer for redundancy.

Magnetic Declination

The value at the centre of the survey, 40 00 S, 143 00 E is calculated at 11.38 deg. This is the average value of the IGRF 2000 and WMM 2000 models.

NAVIGATION PROCESSING

This was performed onboard, using the latest version of QCPro software from ECL.

FINAL data format	UKOOA P190
Final data medium	Exabyte
Relevant Procedure	TP.304

SEISMIC RECORDING SYSTEMS

Recording type	I/O MSX
Record length	12 sec.
Sampling rate	2 ms
Lo-cut filter	4 Hz, 18 dB/Oct.
Hi-cut filter	206 Hz, 264 dB/Oct.
Format	SEG-D, Demux
Tape media	3590



2.10 SEISMIC STREAMER

Streamer type	I/O MSX 24 bit digital
No. of streamers	1
Streamer length	7000 m
Nominal streamer depth	8m to 10m $\pm$ 1 m (Option of 12m from 11 th May 2001)
Near offset (inline)	143m
No. of groups	560
Group interval	12.5 m
Group length	12.5 m
Number of depth controllers	26
Number of compasses	11 (part of depth controllers)

2.11 ENERGY SOURCE

Source type	G-guns
Air pressure	2000 psi
Volume	3660cuin.
No. of subarrays	4
Source depth	6 m $\pm$ 0.5 m
Source length	15 m (outer arrays) 11 m (inner arrays)
Source layout	27m (outer spread)
Peak-peak (4.0/18-206.0/264 I/O MSX)	132 barm
P/b ratio (4.0/18-206.0/264 I/O MSX)	17.7
Drop-out spec.	See Appendix 4

2.12 ON-BOARD PROCESSING

Onboard processing with velocity analysis shall be done on every line for QC purposes. One operator was provided and the Disco/Focus processing system was used.

2.13 GRAVITY

Gravity and Magnetometer data, was recorded by Fugro-LCT.

Gravity data was recorded from port to port. Magnetometer data was recorded on the survey lines.

2.14 VESSEL PERMANENT NAVIGATION EQUIPMENT

Survey-Gyro (Primary)	C-Plath
Ships-Gyro (secondary)	Vega. RK.
Speed Log	Krupp Atlas Do-Log 22D Doppler speed log.
Echo Sounder	Krupp Atlas Deso 25 33kHz/210 kHz. Simrad EA-500, 12KHz and 27 KHz, max depth 6000m.



3 FIELD WORK SUMMARY

3.1 MOBILISATION

The vessel arrived Hobart, Tasmania on the 17th April 2001 from its previous project. Mobilisation began after a period of vessel repairs, which were completed on the 27th April. European and Russian crew joined the vessel on the 18th April. The additional Australian maritime crew arrived onboard on the 24th and 26th April. 10 additional streamer sections were delivered on the 22nd April to replace some damaged active sections from the previous project. The Geo Arctic left Hobart for the survey area at 10:00 UTC on the 27th April.

The transit was completed at 10:30 UTC on the 28th April and the cable deployment began. Some reballasting was required for the Bass Straight water density and five active sections were replaced due to technical faults. Different streamer offsets were tried in order to achieve the nominal 100m but an offset of 143m was finally used, as shorter offsets caused difficulty in controlling the front of the streamer. After deploying the magnetometer and gun array all systems were tested together before acquisition commenced and mobilisation was declared complete at 23:36 UTC on 29th April 2001.

3.2 ACCEPTANCE TEST

After the MSX recording system had passed its monthly and daily tests, and all systems had been simultaneously tested at sea, the vessel was declared ready for production.

3.3 CALIBRATION

Instruments test : A full set of I/O MSX instrument tests were performed on site 29th April 2001 with the equipment ready to start production. All parameters were found to be within specification. Results were displayed on paper on paper printout and stored to tape cartridge.

Gyro calibration : Underwater Surveys Ltd. Pty performed calibration check on the Plath survey gyro on the 15th December while the vessel was in Cape Town dry dock.

GPS verification : . On the 31st December Underwater Surveys Ltd. Pty. performed an independed survey of the position of the GPS navigation antennas and tailbuoy tracking system. A report showing that all equipment was within specification was received on the 27th December.

Draught measurement : An echosounder bar check was completed when the vessel left the Cape Town dry dock on the 19th December .

Gravity verification : Fugro LCT Ltd. performed a gravity tie calibration with a known reference point in Hobart on the 26th April.

Sound velocity : Nominal 1500 m/s was used.



3.4 SURVEY SUMMARY AND PERFORMANCE

Week 17, 22nd-28th April :

Shipyard repair work was completed and the ship was prepared for sailing. The Geo Arctic departed Hobart at 10:00 UTC on 27th April. Streamer deployment began at 10:30 on 28th April and was completed at 10:17 on 29th April after reballasting.

Week 18, 29th-5th May :

The magnetometer and guns were deployed before all systems were tested between 14:00 and 17:00 on 29th April. Production began at 23:36 on 29th April. Soon after starting the first survey line, the vessel was informed to cease work as the Environmental permit had not been granted. Production was suspended between 03:43 on 30th April and 10:17 on 1st May. During this delay the time was used to fine tune the balance of the streamer. Production then continued on line DS01-208X followed by 206X, 146, 144X, 142X and 141X. Some lines, which ended close to the West Tasmanian coastline, could not be completed fully due to the presence of many lobster fishing boats, shallow water and lack of water. Line 141X was aborted shortly after start-up due to the presence of fishing buoys across the survey line.

Week 19, 6th May-12th May :

Lines DS01-140, 139, 138, 137 and 136 were acquired before rough seas halted production at 12:39 on 09th May. During the acquisition of DS01-139 on 07th May two software engineers departed via local fishing vessel and an additional Russian stewardess joined the vessel. Lines 139 and 138 had course deviations of 250m and 8800m to avoid fishing boats / buoys. Production recommenced at 09:10 on 10th May on line DS01-201, this was followed by the partial reruns of lines 141X and 144X. Line DS01-203 was also started.

Week 20, 13th May-19th May :

Line DS01-203 was aborted due to the presence of cetaceans. A circle was required to rejoin the line after the whales had moved on. Lines 128, 130, 131 and 132 were completed before the weather increased and production was suspended. During the bad weather the vessel headed for King Island to crew change some of the Australian maritime crew. Production recommenced on 18th May on line DS01-126. Lines DS01-123 & 120 were also acquired although swell noise degraded the quality of the data.

Week 21, 20th -26th May :

Production continued on lines DS01-117, 114, 112, 110, 108, 206XA, 207 before the 419km DS01-204X was started. Lines 117, 114 & 112 were effected by excessive swell noise. On completion of line 204X on 26th May some compressor and gun repairs necessitated extending the line turn by 5.2 hours. The weather had started to increase to force 7-8 and production was only possible for 48km on line DS01-205X before aborting due to lack of vessel speed and streamer control.

Week 22, 27th May – 3rd June :

Production recommenced on line DS01-205X at 04:00 on the 27th May. The vessel then turned for to run the 3 remaining crosslines. DS01-133, 134 & 135. At 13:55 on 28th May during production on line DS01-133 the tow leader parted leaving 7km of streamer adrift in the water. Operations to recover the streamer were postponed until first daylight the next morning. At 21:00 the work boat was launched and recovery of the streamer started at 01:15 on 29th May. All streamer was recovered by 12:00 on 29th May when the vessel began a 12 hour transit for a crew change. The vessel arrived in Burnie at 24:00 on 29th May and stayed in port for 24 hours.



On the 31st May 13 hours were spent turning the cable around and making repairs. Production began again on the 1st June through to the 3rd June when DS01-134, 135, were acquired together with re-runs on DS01-138A and 133A to complete the planned acquisition for this period. Time on this project was suspended at midnight 3rd June with half the cable recovered.

From the 4th to the 9th June Geo Arctic was occupied with another exclusive survey in the Bass Strait.

On the 10th June Geo Arctic returned to the Otway Sorell basin project arriving back on the north western end of the prospect at 05:30 utc. After an eight hour deployment of the 7km cable and gun equipment production was started on line DS01-107 running into the coast. On the 11th June line DS01-109 was shot going back offshore but due to increasing winds and swell had to be terminated 1.5km early. As the forecast did not look good for the next few days the cable and guns were recovered and the vessel went in to stand-by until the end of the 11th June.

A continuing poor weather forecast forced a decision for the project to be suspended and Geo Arctic to steam east for another exclusive survey in the Lakes Entrance area of eastern Victoria.

3.5 DATA QUALITY

The seismic data was of variable quality. Swell noise rarely seen above 3 seconds of data although a number of lines were technically out of spec. The streamer was adjusted between 8m and 12m in order to keep the noise levels to minimum. The predominant swell direction was from the SW and the SW-NE lines were affected by swell a little more than the SE-NW lines. The lines most effected by swell noise were DS01-123, 120, 117, 114, 112, 133. Where approximately 30% of traces were effected by the swell noise.

Navigation data quality was of a high standard.

3.6 POSITION PROCESSING

All navigation data was processed to final UKOOA P190 and P294 format using the latest version of ECL's QCPR0 software onboard the vessel.

3.7 SEISMIC PROCESSING

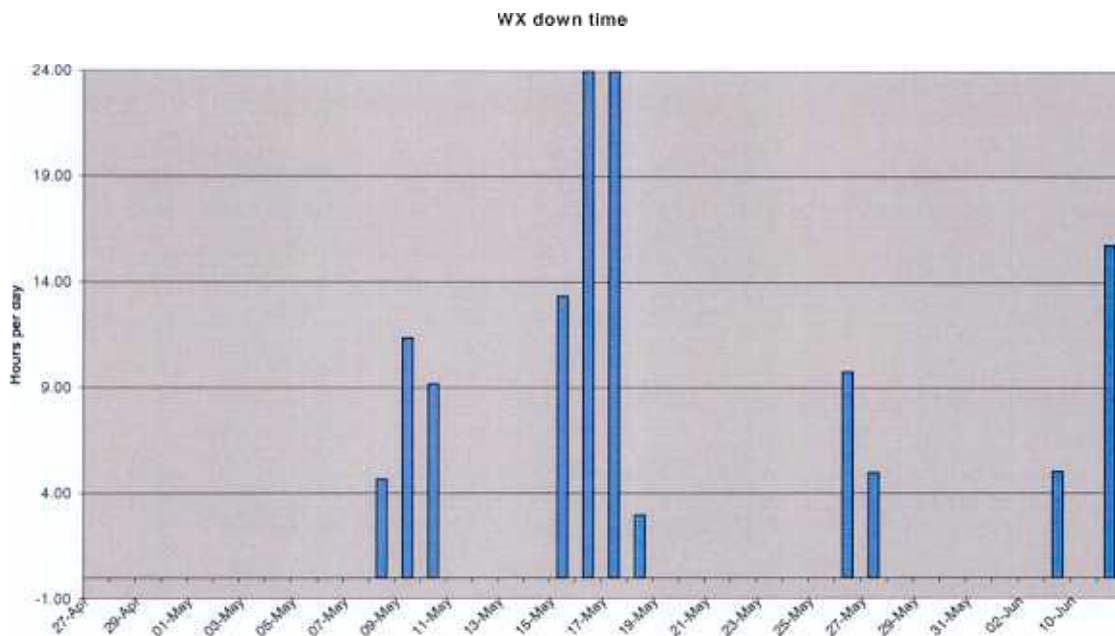
Seismic processing will be done at Robertson Research Australia

3.8 WEATHER

Weather conditions were better than expected through the survey period. 13.92 hours of production were lost on the 9th & 10th May due to rough seas. The weather blew up again on 15th May until 17th May halting production for 64 hours. A further period of bad weather on 26/27th May stopped production for approx 14 hours.

Production on the project was eventually terminated on the 11th June due to bad weather and an extended forecast of further bad weather.

The total standby on weather period comprised 13.7 of the survey period.



3.9 TIDES AND CURRENTS

Strong unpredictable tidal currents were experienced off the NW coast of Tasmania. Line DS01-136 was aborted in this area as feather angles of greater than 20° were present. After circling back to restart the line, the current had dropped to almost nothing and the feather angle was zero.

3.10 OBSTRUCTIONS AND SHALLOWS

Some lines finishing or starting close to the West side of Tasmania were not completed in full, as full run-ins or run-outs were not possible. Many areas of shallow water were marked on the latest Admiralty Charts as 'not-surveyed'. Unserved areas below 30m of water were avoided as many other shoals were marked on the charts.

3.11 SEISMIC ACTIVITY

No other seismic activity was present throughout the duration of the survey.

3.12 FISHING AND SHIPPING ACTIVITIES

Regular contact was maintained with local fishing representatives to try and minimise the disruption to both the survey progress and the fishing activities. Three distinct regions were established. Up to 15 nmiles from the shore, lobster and crayfish fishermen were present, working out of small boats. Between 15nm out to the 200m depth contour many giant crab fishing boats were present. Crab pots and their marker buoys were a common hazard in the Tasmania sectors of the survey. On two occasions during the hours of darkness the streamer was caught by suspected crab pot lines which soon became free. During the early phases of the survey many



buoys were observed across the survey lines causing one line to be aborted and two lines to have significant offtracks. In the Victorian waters squid fishing was taking place. The squid fishing boats work at night-time only and deploy a sea anchor limiting their manoeuvrability. No problems were encountered with the squid fishing fleet.

As the survey progressed, more fishing vessels became aware of us working in the area and better co-operation was established.

3.13 ENVIRONMENTAL ISSUES AND DIVING ACTIVITY

The survey took place complying with the *Environment Protection and Biodiversity Conservation Act 1999*. During the mobilisation phase the permit to work was applied for. It was granted according to some strict conditions. The survey area was divided up into 3 areas and the vessel was only permitted to work in each area between certain dates, to avoid possible interference with cetaceans. The Environment Australia *Cetacean Interaction Procedure* was strictly adhered to. No dedicated whale observer was onboard the vessel, but a double bridge crew, Russian and Australian always ensured that at least one person was looking out for whales during daylight hours. Whale watching effort logs and observation logs were completed throughout the survey period.

Whale spotting equipment was available for the observers, being a 300mm zoom lens camera, range finder binoculars, night vision binoculars and identification books.

5 separate cetacean sightings were made during the survey period, and on one occasion a line was aborted as whales passed within 3km of the vessel on a closing course.

3.14 THIRD PARTY INTERFERENCE

No third party interference occurred during the survey.

3.15 DEMOBILISATION

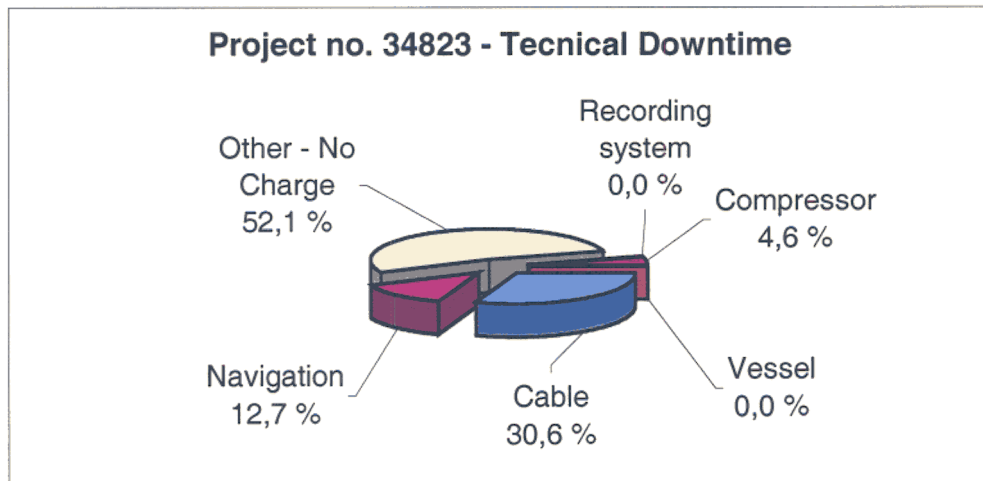
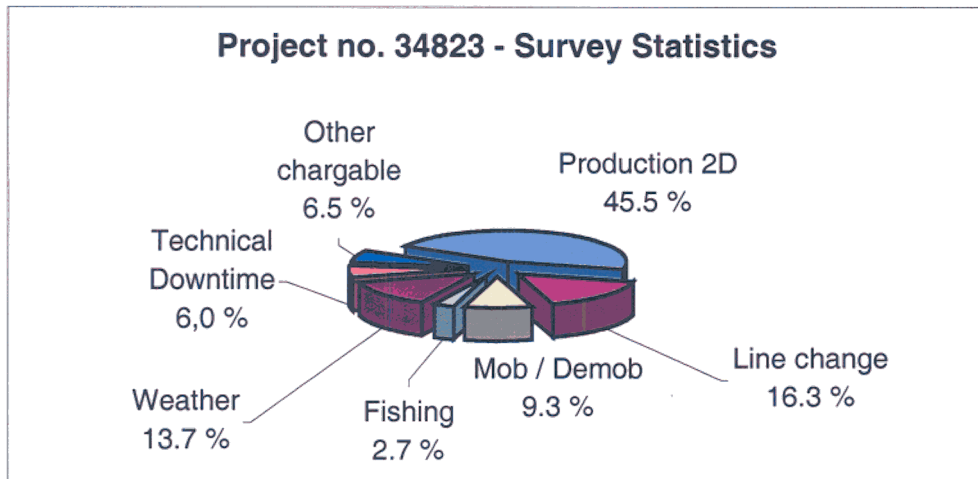
After recovering the cable on the 11th June Geo Arctic left the prospect to steam east for 24 hours to another prospect in NE Victoria off shore Lakes Entrance. The vessel worked on this site through to June 21st before steaming on further north to Port Kembla in New South Wales for a planned port call and re-supply. The data tapes recorded since the last port call, sequences 38 to 44 were shipped to Roberston Research in Perth.

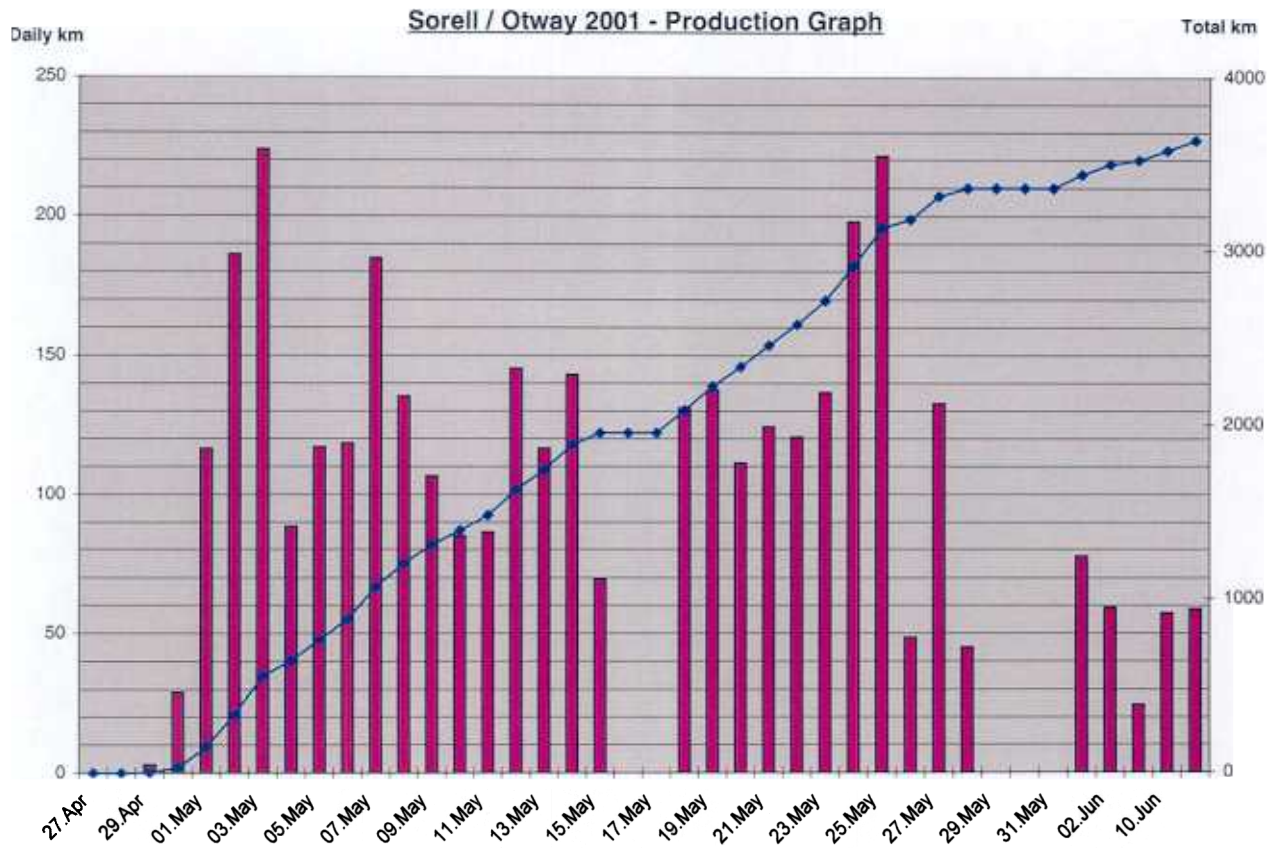
On departing from Port Kembla Geo Arctic left Australia for a transit to Japan.

Further work may be done on this project later in the year however the statistics are calculated on the project being suspended for the end of the 11th June.



3.16 SURVEY STATISTICS







4 HEALTH, SAFETY AND ENVIRONMENTAL

4.1 SAFETY OVERVIEW

Safety was given a top priority throughout the survey. Formalised feedback was supplied according to Fugro-Geoteam's Project Management Procedure (AP209). A HSE manual was written specifically for this project and was followed at all times. The HSE targets were:-

- Zero Lost time incidents
- Zero Restricted work cases
- Minimise the number of Minor Incidents
- No incidents regarding the environment
- Maintain a work environment free from work related illness
- Increase the awareness of HSE issues among the employees.
- One MOB drill at mobilisation
- One drill every week
- A MEDEVAC dry run at arrival of site
- Two toolbox meetings every week at all departments
- Unsafe auditing act shall be continuous by all crewmembers
- Near misses and unsafe acts shall be reported.

4.2 ACCIDENTS AND NEAR MISS

05th May 2001 - ARC015-01

Steward cut his finger while picking up a metal food container with a serrated edge.

11th May 2001 - ARC016-01

Door slammed onto Stewards thumb during rough seas.

16th May 2001 - ARC017-01

2nd Cook slipped in the galley in rough seas.

30th May 2001 – ARC018-01

Port hole damaged in collision with dock fender.

30th May 2001 – ARC019-01

Seis Processor had head injury in an accident while ashore.

28th May 2001 – ARC020-01

Tow leader parted on streamer leaving 7km of cable adrift in the water.

25th –30th May 2001 – ARC 021-01

Chief Steward had an infected tooth that required treatment ashore.

4.3 ENVIRONMENTAL

No environmental incidents occurred.

Cetacean observation procedures as specified by Environment Australia were strictly followed. A permit to work was issued by the Minister for the Environment and Heritage.

Due to the presence of a double maritime crew it ensured one of the bridge crew was always available for cetacean monitoring, and the conditions of the permit to work were satisfied.



5 PERSONNEL

5.1 GENERAL

Due to Australian Maritime Union rules, a full Australian crew was required to be onboard the vessel. They worked alongside the vessel's regular Russian crew sharing duties and responsibilities. The regular Russian seismic crew with Western supervisors remained unaffected. On leaving Hobart during the mobilisation phase two additional software engineers sailed with the vessel to make some improvement to the StarfixSeis navigation software. They departed via fishing boat on the 7th May and an additional Russian Stewardess joined the vessel at the same time. On 16th May five of the Australian maritime crew were transferred via workboat at the port of Grassy, King Island.

On the 30th May the western supervisors and the remaining 9 Australian maritime crew changed at Burnie, Tasmania.

5.2 CREW LIST

27th April to 7th May

Name		Rank	Nationality
1 Pidzhakov	Konstantin	Master	Russian
2 Defossez	Luc	Master	Belgian
3 Laurence	Glen	Chief Mate	Australian
4 Isaev	Nikolay A.	Chief Mate	Russian
5 Zanos	Ray	Second Mate	Australian
6 Tsygankov	Nikolay A.	Second Mate	Russian
7 Namanyuk	Sergey M.	3rd Officer	Russian
8 Ilyashevich	Fedor M.	Radio Officer	Russian
9 Holt	Michael	Boatswain	Australian
10 Matsepula	Vladimir	Boatswain	Russian
11 Hardie	Owen	A.B.	Australian
12 Zelinskiy	Vladimir	A.B.	Russian
13 Doolan	Michael	A.B.	Australian
14 Elliott	Grantley	A.B.	Australian
15 Grishenkov	Vladimir N.	A.B.	Russian
16 McLean	Colin	Chief Engineer	Australian
17 Pankratov	Robert I.	Chief Engineer	Russian
18 Karakosov	Evgeny	2nd Engineer	Russian
19 Hansen	Anthony	2nd Engineer	Australian
20 Joseph	Philip	3rd Engineer	Australian
21 Vasyutin	Oleg M.	3rd Engineer	Russian
22 Kurochkin	Alexsey	Motorman	Russian
23 Karachev	Sergey	Motorman	Russian
24 Shamarin	Victor A.	1st Elec. Eng.	Russian
25 Griffith	Peter	1st Cook	Australian
26 Coulson	Geoffrey	2nd Cook	Australian
27 Jordan	Stuart	Steward	Australian
28 Romaniv	Galina Y.	Stewardess	Russian
29 Polev	Nikolay F.	Chief Observer	Russian
30 Medvedev	Viktor S.	Chief Observer	Russian
31 Zhuravlev	Viktor N.	Observer	Russian
32 Zhuravlev	Vladimir Y.	Observer	Russian
33 Svetlichniy	Alexey P.	Chief Navigator	Russian
34 Belous	Valeriy	Navigator	Russian



Name		Rank	Nationality
35 Nikulin	Ilija B.	Chief Gun Mech.	Russian
36 Teterkin	Alexandr N.	Chief Gun Mech.	Russian
37 Egorov	Vasily V.	Gun Mech.	Russian
38 Mogilevskiy	Genadiy	Gun Mech.	Russian
39 Polozov	Nikolay I	Chief Compressor Man	Russian
40 Gusev	Anatoliy V.	Compressor Man	Russian
41 Olkhovskiy	Vladimir	Superintendent	Russian
42 Farrant	David	Party Chief	British
43 Symons	Ian	Instrument Supervisor	British
44 Taylor	Kevin	Navigation Supervisor	Australian
45 Beckett	Paul	Mechanical Supervisor	British
46 Brookes	Kathryn	Seismic Processor	British
47 Salter	Shawn	Gravity Eng.	Canadian
48 Spearritt	Mark	Chief Steward	British
49 Coombes	David	Extra Representative	British
50 Breure	Frank	Extra Representative	Dutch

7th May – 16th May

Name		Rank	Nationality
1 Pidzhakov	Konstantin	Master	Russian
2 Defossez	Luc	Master	Belgian
3 Laurence	Glen	Chief Mate	Australian
4 Isaev	Nikolay A.	Chief Mate	Russian
5 Zanos	Ray	Second Mate	Australian
6 Tsygankov	Nikolay A.	Second Mate	Russian
7 Namanyuk	Sergey M.	3rd Officer	Russian
8 Iljashevich	Fedor M.	Radio Officer	Russian
9 Holt	Michael	Boatswain	Australian
10 Matsepula	Vladimir	Boatswain	Russian
11 Grishenkov	Vladimir N.	A.B.	Russian
12 Elliott	Grantley	A.B.	Australian
13 Doolan	Michael	A.B.	Australian
14 Zelinskiy	Vladimir	A.B.	Russian
15 Hardie	Owen	A.B.	Australian
16 McLean	Colin	Chief Engineer	Australian
17 Pankratov	Robert I.	Chief Engineer	Russian
18 Hansen	Anthony	2nd Engineer	Australian
19 Karakosov	Evgeny	2nd Engineer	Russian
20 Joseph	Philip	3rd Engineer	Australian
21 Vasyutin	Oleg M.	3rd Engineer	Russian
22 Karachev	Sergey	Motorman	Russian
23 Kurochkin	Alexsey	Motorman	Russian
24 Shamarin	Victor A.	1st Elec. Eng.	Russian
25 Griffith	Peter	1st Cook	Australian
26 Coulson	Geoffrey	2nd Cook	Australian
27 Ushmaeva	Antonina	Stewardess	Russian
28 Romaniv	Galina Y.	Stewardess	Russian
29 Jordan	Stuart	Steward	Australian
30 Polev	Nikolay F.	Chief Observer	Russian



Name		Rank	Nationality
31 Medvedev	Viktor S.	Chief Observer	Russian
32 Zhuravlev	Vladimir Y.	Observer	Russian
33 Zhuravlev	Viktor N.	Observer	Russian
34 Svetlichniy	Alexey P.	Chief Navigator	Russian
35 Belous	Valeriy	Navigator	Russian
36 Nikulin	Ilija B.	Chief Gun Mech.	Russian
37 Teterkin	Alexandr N.	Chief Gun Mech.	Russian
38 Egorov	Vasily V.	Gun Mech.	Russian
39 Mogilevskiy	Genadiy	Gun Mech.	Russian
40 Polozov	Nikolay I	Chief Compressor Man	Russian
41 Gusev	Anatoliy V.	Compressor Man	Russian
42 Olkhovskiy	Vladimir	Superintendent	Russian
43 Farrant	David	Party Chief	British
44 Symons	Ian	Instrument Supervisor	British
45 Taylor	Kevin	Navigation Supervisor	Australian
46 Beckett	Paul	Mechanical Supervisor	British
47 Brookes	Kathryn	Seismic Processor	British
48 Salter	Shawn	Gravity Eng.	Canadian
49 Spearritt	Mark	Chief Steward	British

16th May – 30th May

Name		Rank	Nationality
1 Pidzhakov	Konstantin	Master	Russian
2 Defosse	Luc	Master	Belgian
3 Laurence	Glen	Chief Mate	Australian
4 Isaev	Nikolay A.	Chief Mate	Russian
5 Zanos	Ray	Second Mate	Australian
6 Tsygankov	Nikolay A.	Second Mate	Russian
7 Namanyuk	Sergey M.	3rd Officer	Russian
8 Iljashevich	Fedor M.	Radio Officer	Russian
9 Hardie	Owen	Boatswain	Australian
10 Matsepula	Vladimir	Boatswain	Russian
11 Platt	Steve	A.B.	Australian
12 Zelinskiy	Vladimir	A.B.	Russian
13 Grishenkov	Vladimir N.	A.B.	Russian
14 Doolan	Michael	A.B.	Australian
15 Elliott	Grantley	A.B.	Australian
16 Gonsalves	Claude	Chief Engineer	Australian
17 Pankratov	Robert I.	Chief Engineer	Russian
18 Karakosov	Evgeny	2nd Engineer	Russian
19 Hansen	Anthony	2nd Engineer	Australian
20 Vasyutin	Oleg M.	3rd Engineer	Russian
21 Joseph	Philip	3rd Engineer	Australian
22 Karachev	Sergey	Motorman	Russian
23 Kurochkin	Alexsey	Motorman	Russian
24 Shamarin	Victor A.	1st Elec. Eng.	Russian
25 Griffith	Peter	1st Cook	Australian
26 Jeffries	Kevin	2nd Cook	New Zealand
27 Ross	Jeffrey	Steward	Australian
28 Ushmaeva	Antonina	Stewardess	Russian



Name		Rank	Nationality
29 Romaniv	Galina Y.	Stewardess	Russian
30 Medvedev	Viktor S.	Chief Observer	Russian
31 Polev	Nikolay F.	Chief Observer	Russian
32 Zhuravlev	Vladimir Y.	Observer	Russian
33 Zhuravlev	Viktor N.	Observer	Russian
34 Svetlichniy	Alexey P.	Chief Navigator	Russian
35 Belous	Valeriy	Navigator	Russian
36 Nikulin	Ilija B.	Chief Gun Mech.	Russian
37 Teterkin	Alexandr N.	Chief Gun Mech.	Russian
38 Mogilevskiy	Genadiy	Gun Mech.	Russian
39 Egorov	Vasily V.	Gun Mech.	Russian
40 Polozov	Nikolay I	Chief Compressor Man	Russian
41 Gusev	Anatoliy V.	Compressor Man	Russian
42 Olkhovskiy	Vladimir	Superintendent	Russian
43 Farrant	David	Party Chief	British
44 Symons	Ian	Instrument Supervisor	British
45 Taylor	Kevin	Navigation Supervisor	Australian
46 Beckett	Paul	Mechanical Supervisor	British
47 Brookes	Kathryn	Seismic Processor	British
48 Salter	Shawn	Gravity Eng.	Canadian
49 Barber	Mike	Chief Steward	Australian

31st May – 3rd June

Name		Rank	Nationality
1 Pidzhakov	Konstantin	Master	Russian
2 Julier	Mike	Master	British
3 Isaev	Nikolay A.	Chief Mate	Russian
4 Dillon	Dion Joseph	Chief Mate	Australian
5 Tsygankov	Nikolay A.	Second Mate	Russian
6 Ashmore	Bob	Second Mate	Australian
7 Namanyuk	Sergey M.	3rd Officer	Russian
8 Iljashevich	Fedor M.	Radio Officer	Russian
9 Matsepula	Vladimir	Boatswain	Russian
10 Platt	Steve	Boatswain	Australian
11 Zelinskiy	Vladimir	A.B.	Russian
12 Grishenkov	Vladimir N.	A.B.	Russian
13 Moss	Colin	A.B.	New Zealand
14 Cloonet	Michael	A.B.	British
15 Gough	Michael	A.B.	Australian
16 Pankratov	Robert I.	Chief Engineer	Russian
17 Gonsalves	Claude	Chief Engineer	Australian
18 Karakosov	Evgeny	2nd Engineer	Russian
19 Sloane	Patrick	2nd Engineer	New Zealand
20 Vasyutin	Oleg M.	3rd Engineer	Russian
21 Joseph	Philip	3rd Engineer	Australian
22 Kurochkin	Alexsey	Motorman	Russian
23 Karachev	Sergey	Motorman	Russian
24 Shamarin	Victor A.	1st Elec. Eng.	Russian
25 Jeffries	Kevin	1st Cook	New Zealand



Name		Rank	Nationality
26 Baczik	Michael	2nd Cook	Australian
27 Romaniv	Galina Y.	Stewardess	Russian
28 Ushmaeva	Antonina	Stewardess	Russian
29 Ross	Jeffrey	Steward	Australian
30 Polev	Nikolay F.	Chief Observer	Russian
31 Medvedev	Viktor S.	Chief Observer	Russian
32 Zhuravlev	Vladimir Y.	Observer	Russian
33 Zhuravlev	Viktor N.	Observer	Russian
34 Svetlichniy	Alexey P.	Chief Navigator	Russian
35 Belous	Valeriy	Navigator	Russian
36 Teterkin	Alexandr N.	Chief Gun Mech.	Russian
37 Nikulin	Ilija B.	Chief Gun Mech.	Russian
38 Mogilevskiy	Genadiy	Gun Mech.	Russian
39 Egorov	Vasily V.	Gun Mech.	Russian
40 Polozov	Nikolay I	Chief Compressor Man	Russian
41 Gusev	Anatoliy V.	Compressor Man	Russian
42 Olkhovskiy	Vladimir	Superintendent	Russian
43 Carrey	John	Party Chief	British
44 Jones	Tony	Instrument Supervisor	British
45 Taylor	Kevin	Navigation Supervisor	Australian
46 Ytterland	Kare	Mechanical Supervisor	Norwegian
47 Brookes	Kathryn	Seismic Processor	British
48 Salter	Shawn	Gravity Eng.	Canadian
49 Barber	Mike	Chief Steward	Australian
50 Waldon	Rodney	Client Representative	Australian



6 DEPARTMENT REPORTS

6.1 POSITION REPORT

6.1.1 Introduction

Vessel mobilisation took place in Hobart from the 17th April 2001 – 27th April 2001. Differential corrections in the survey area were available through P.O.R satellite, which was tuned to through the inmarsat system, and Optus satellite, which was tuned to through the Spotbeam system. The vessel stopped production on the 29/5/01 and transited to Burnie for crew change. After crew change the vessel returned to the survey area and was back in production on 01/06/01 finishing the assigned survey program on the 03.06.01. After leaving the survey area to acquire another survey the Geo Arctic returned to the Otway/Sorell survey again to acquire additional lines. Two additional lines were acquired between 10.06.01 – 12.06.01, the project was then suspended.

Scope of Work	: 2D Seismic Survey
Client	: Seismic Australia
Project Number	: 34823
Project Name	: DS01
Location	: Deep water Ottway/Sorell basin Bass strait Australia

6.1.2 Navigation Systems

Navigation System	StarfixSeis suite 3.1 (Fugro Survey Pty Ltd)
Primary Navigation	Fugro Starfix Spot Differential GPS.
Demodulator	Starfix M2 Demodulator
GPS Receiver	Trimble 4000DS 9 channel, nav version 7.29
Secondary Navigation	Fugro Starfix MN8 Differential GPS
Demodulator	Starfix M2 Demodulator
GPS Receiver	Trimble 510 Survey receiver 9 channel, nav version 7.29
Tailbuoy and Source Positioning	Fugro Geotrack Tailbuoy Tracking System
Acoustics	
Binning	
Navigation processing	QCPro
Seismic Recording	Input/Output, 24 bit system
Bird Controller	Digicourse 5010/5011
Gun Controller	Hydrapulse 200X
Echosounder	Simrad EA 500 12 & 27 kHz
Speed log	
CTD Probe	
Gyro (main)	C.Plath, Navigat 2. DHI. Interfaced via Lekmkuhl
	Digital Gyro repeater with RS232 output to
	StarfixSeis
Gyro (secondary)	SG Brown 1000B



6.1.3 Survey Information

Survey Datum and Datum shift parameters

GPS Datum	: WGS 84
Ellipsoid	: WGS 84
Semi-major Axis	: 6378137
Inverse flattening	: 298.257

Survey Datum	AGS 84
Ellipsoid	Australian National Spheroid
Semi-major Axis	6378160
Inverse flattening:	298.25

Shift Parameters	
X-shift	116
Y-shift	50.47
Z-shift	-141.69
X-rotation *	-0.23
Y-rotation *	-0.39
Z-rotation *	-0.344
Scale correction	0.0983

(*Bursa Wolf sign convention)

Projection parameters

Projection	Universal Transverse Mercator (UTM)
UTM Zone	54 South
Central meridian	141°
Latitude of origin	0° (Equator)
False Easting	500000
False Northing	10000000
Scale Factor	0.9996

6.1.4 Survey Parameters

Definition

Acquisition mode	Single vessel
Configuration	Single streamer single source
Shot interval	37.5m

Source

Source type	G-guns
Air pressure	2000psi
No. of sub-arrays	4
Source depth	6m
Source width	27m
Source length	27m
Source layout	



Streamers

Streamer type	I/O MSX 24 bit digital
No. of streamers	1
Streamer active length	7000m
Streamer separation	
Streamer depth	8-10m
Near offset (inline)	143m/ 150m seq 038 onwards
No. of groups	560
Group interval / length	12.5m/17.55m
No. of depth controllers	27 (seq038-42 19) (seq 43-?? 17)
Number of compasses	14 (seq038 -42 9) (seq 43-?? 15)
Magnetic variation	11.38°

6.1.5 Survey Area

The Survey was divided into two phases Phase 1 and Phase 2. The lines generally ran in a SE – NW and SW – NE direction. The vessel acquired phase 1 of the survey, Phase2 possibly to be acquired at a later date. Discrepancies were noticed between the preplots provided by Seismic Australia and the charts, which were provided. A query was sent to Seismic Australia and the reply proved that wrong coords and information had been provided for some lines. Corrections were received from Seismic Australia and runlines and centrelines recomputed. The lines, which needed correcting, were DS01-100, DS01-139, DS01-150, DS01-205X, DS01-208X. Part of DS01-208X had already been shot before updated coords were received.

On 7/5/01 changes to the coords on Phase 2 were received lines that were changed were DS01-201, DS01-101, DS01-104 and Ds01-204.

On 8/5/01 changes to coords on line DS01-201 for Phase1 were received.

On 11/5/01 further changes to Phase 1 lines were received from Seismic Australia, were advised to shorten lines 205X and 204X to the T01-X block boundary, and to drop lines 124, 122, 118, 150, 116X.

14/05/01 Coords provided for line 204X, 205X and 207, Lines 207, 117, 123 were changed from acquisition phase 2 to acquisition phase1. Lines 100 and 105 dropped.

Please see section 1.2 Working area / Survey program for the program chart.

6.1.6 Naming convention

The line naming convention followed was

DS01-NNNR

Where DS01 is the Prefix, and

NNN is the line number. R is the reshoot code. R=A for the first reshoot, R=B for the second reshoot, etc. Shotpoint numbering was continuous across reshoots.



Vessel

The vessel datum $x=0, y=0, z=0$, is defined as the ships main mast projected down to sea level. All vessel offsets such as primary and secondary gps antennas are offset from this point

Source

Vessel operated in single source mode with the nominal offset from stern to centre of source being 49.85m.

Streamer

Single streamer with nominal head of streamer defined as 180.35m from stern, first trace 192.85m from stern.

Tailbuoy

One active seatex active tailbuoy deployed on the end of the streamer.

Digicourse Birds

27 Digicourse birds mounted on the streamer, 14 of which are compass birds. On the 28/05/01 whilst shooting seq 037 the streamer parted at the leadin. After recovery a number of digicourse birds were damaged. After redeployment on 01/06/01 the number of digicourse birds mounted on the streamer was down to 19, 9 of which were compass birds this setup was valid between seq 038 - 042. After leaving the survey area on the 03.06.01 and returning 10.06.01 streamer setup had again changed, after redeploying the number of birdson the streamer was 17, 15 of which were compass birds. This setup was from seq 043 – 044.

Gun Arrays

Four subarrays 2 each side.

6.1.7 Calibration / Validations

Underwater Surveys (Pty) Ltd, performed a Gyro calibration and position verification of the R/V Geo Arctic navigation equipment, in Cape town, South Africa, 18th and 31st December 2000. Full details of the results are contained in Underwater Surveys (Pty) Ltd, Report No. PSA202Gyro December 2000, which is summarised in **Table 1** and **Table 2** below :

Table1

Gyro Calibrations			
	Survey Gyro 1 C. Plath (°)	Ship's Gyro 2 SG Brown (°)	
True azimuth	131.68°		131.68°
Gyro reading	132.50°		132.50°
C-O	-0.82°		-0.82°

Table2

GPS and RGPS Systems verification		
DGPS	Latitude	Longitude
Calculated position	33° 54' 57.212 S	18° 27' 15.837 E
Observed position	33° 54' 57.262 S	18° 27' 15.933 E
C-O	-0.05"	-0.096"
GeoTrack	Northing	Easting
Difference	-0.41 m	-1.70 m



Sound Velocity

Using Default value of 1500 m/s

6.1.8 Position equipment performance

MRDGPS

STARFIX-Spot

Starfix Spot was used as the vessels Primary position, d/t diff stations available on Spotbeam being closer than ref stns available on MN8. The correction stations used for Spotbeam were;

Station Name	Station ID	Distance
Melbourne	385	237km
Bathurst	336	936km
Port Augusta	326	956km
Brisbane	275	1671km

Spot corrections through the Optus satellite link were lost on two occasions during the survey, on seqs 004 and 033. The outages were only for short periods of time. Apart from these small outages the Spotbeam performed well throughout the survey.

STARFIX MN8

The coverage available on the P.O.R satellite was not particularly good for this area. Ref station Melbourne was the only station within normal range for a diff station. Reference stations used were;

Station Name	Station ID	Distance
Melbourne	385	237km
Dunedin	026	2322km
Auckland	022	2779km

The MN8 system was in close agreement with Spotbeam solution and proved to be useful secondary system.

Tailbuoy tracking

Performed very well throughout the survey.

On line DS01-130 Seq021 signal from tailbouy was lost for approx 80 sps

Starfix suit software

Prior to the start of the job the Starfix software was upgraded to StarfixSuite 3.1. Further modifications were made to the software prior to the start of the job. Problems occurred on seq 005 and 006, where the Seisengine seemed to lock up and stop fixing. The cause of these two crashes was traced to one of the system engineers remotely accessing the same Seisengine files, which caused the system to crash. These two crashes can't really be attributed to problems with the software but more a finger problem on the part of one of the engineers.

On seq 021 a problem occurred with shotpoint spacing, requiring the Time subprogram on starfix 1 to be reset. Sp spacing was very erratic for approx 35 sps.

On seq 040 system stopped fixing, unsure of what caused this, the vessel had to circle on the line and the system was rebooted during the circle.



Echosounder

The water depth in the survey area varied greatly with minimum depths around 30m ranging out to 3000m and deeper. The 27 kHz transducer did not perform well in the deeper depths since it was beyond its normal operating capacity. The 12 kHz transducer however tracked quite well in the deeper water. In the shallower depths it was generally the opposite with the 27Khz tracking well and the 12kHz transducer deteriorating slightly possibly from backscatter. Both EA 500 transducers were recorded to the P294, with the 12 khz transducer generally selected as the primary. Water depths were draft corrected.

Streamer compass

Performed well throughout the survey.

Compass data was affected on lines, which were shot in marginal swell conditions. Compass data was despiked in processing but the effect of increased swell was still evident.

Rotations onto tailbouy generally indicated good agreement of 0.5° or less.

Due to a streamer accident on seq 037 streamer was reconfigured in regards to compasses.

From seq 001-037 14 compasses were mounted on the streamer, from seq 038-042 9 compasses were mounted on the streamer. From seq043 - 044 after returning to the prospect to aquire more lines 15 compasses were mounted on the streamer.

Acoustics

N/A

C-Plath, S.G Brown 1000B

Performed well throughout the survey.

6.1.9 Downtime

Positioning systems:

Nav Software: 14.5 Hrs

Operator:



INSTRUMENT REPORT

Introduction

The vessel departed from the mobilisation port of Hobart for the survey area on the 27th of April 2001 after de-mobilising following a survey in the Antarctic.
The cable was configured to 7000m and all onboard systems were tested.
Production commenced on the 29th of April.
The Streamer was lost on the 28th May, when the Armoured lead-in broke.
The Streamer was recovered and re-assembled following a partial crew change.
Production re-commenced on the 1st of June for a period of 2 days and was suspended on the 3rd of June.

Scope of work	2D Seismic survey
Client	Seismic Australia
Project number	34823
Location	Deepwater Otway/Sorell Basin

Instrument system

Main systems

Recording system	Input/Output MSX. SW ver 2.001
Streamer system	Input/Output MSX.
Bird controller	Input/Output DigiScan. SW ver 3.12
Gun controller	Hydro Pulse 200X Ver. 1.a.1 For Windows
Number of streamers	1
Length of streamers	7000m
Streamer depth	8-10 m (+/-1m)
Shot point interval	37.5 m
Near Offset	143 m

Recording system

No. of modules	35 per streamer
Waterbreak channels	4 per streamer
Auxiliary channels	16
Cable sensitivity	14.0 V/Bar
Total No. of channels	560
High cut filter	206 Hz, 264 dB/octave
Low cut filter	4 Hz, 12dB/Octave
Pre-amp gain	6 dB
Group length	17.5
Recording Length	12 seconds
Sample rate	2ms
Trace Summing	No
DC offset removal	Yes
Depth transducers	Not Recorded
Online display	OYO GS 624-2
Tape deck	IBM Magstar 3590 Microcode ver.ECD19129DOI8_1EC
Tape format	SEG D



Data Blanking at SOR	No
Data recording format	8058-IEEE
Max files per tape	650
Navigation interface	Header Serial link to StarfixSeis
User Header size	6016
User header version	8
Extended Header ver	3
Number of 5010 birds	12
Number of 5011 birds	14

6.2.3 Calibration and checks

A monthly test was performed on the recording system before the start of the project and each time the cables were recovered/deployed where possible. On all occasions the equipment was proved to perform within the contract specifications. Any deviations in the performance were noted in the observer logs. Tests were carried out periodically, when down time or long line changes permitted, to confirm that the equipment was still within specification. The Monthly tests were carried out in accordance with the manufacturers recommended performance verification tests and included the following 24 tests .

MSX Performance Specifications for these tests are given here below:

File No.	Test Mode	Error limit	Data type	Apply low cut filter	DC Offset Removal	Test type	Result
1	T13	0.00%	Special Bit Pat.	No	No	Pattern, All ones	
2	T13	0.00%	Special Bit Pat.	No	No	Pattern, 50% ones	
3	T13	0.00%	Special Bit Pat.	No	No	Pattern, All zeros	
4	T13	<0.0001%	15.625Hz, 0 dB	No	No	Pattern	
5	T2	<0.0005%	15.625Hz, 0 dB	Yes	Yes	Dynamic Range	
6	T2	<0.0020%	15.625Hz, -10 dB	Yes	Yes	Dynamic Range	
7	T2	<0.0050%	15.625Hz, -20 dB	Yes	Yes	Dynamic Range	
8	T2	<0.0160%	15.625Hz, -30 dB	Yes	Yes	Dynamic Range	
9	T2	<0.0500%	15.625Hz, -40 dB	Yes	Yes	Dynamic Range	
10	T2	<0.1600%	15.625Hz, -50 dB	Yes	Yes	Dynamic Range	
11	T2	<0.5000%	15.625Hz, -60 dB	Yes	Yes	Dynamic Range	
12	T2	<1.6000%	15.625Hz, -70 dB	Yes	Yes	Dynamic Range	
13	T2	<5.0000%	15.625Hz, -80 dB	Yes	Yes	Dynamic Range	
14	T2	<20.000%	15.625Hz, -90 dB	Yes	Yes	Dynamic Range	
15	T2	<20.000%	15.625Hz, -100 dB	Yes	Yes	Dynamic Range	
16	T5	< 2.9uV	Special Bit Pat.	Yes	Yes	Cable Noise, 50% ones	
17	T10	> 70 dB	15.625Hz, 0 dB	Yes	Yes	Cable Noise	
18	T11	> 60 dB	15.625Hz, 0 dB	Yes	Yes	Cable Noise*	
19	T12	> 60 dB	15.625Hz, 0 dB	Yes	Yes	Cable Noise*	
20	T6	7% ch-ch	Imp. 64 bit, 0.5ms	Yes	Yes	Impulse	
21	T7	7% ch-ch	Imp. 64 bit, 0.5ms	Yes	Yes	Impulse*	
22	T7	7% ch-ch	Imp. 64 bit, 0.5ms	4 Hz	Yes	Impulse*	
23	T0		Special bit Pat.	Yes	Yes	Cable noise*	
24	T4	>1560mV	Analog loopback	No	No	Cable noise, 2.048 V*	

Test mode description

T0	Normal Aquisition	T7	Analog Impulse, phones connected
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T2	Analog loopback, phones simulated	T10	CMR (Common Mode Rejection)
T4	Analog loopback, phones connected	T11	Cable crossfeed, Odd pairs driven
T5	Preamplifier terminated	T12	Cable crossfeed, Even pairs driven
T6	Analog Impulse, phones simulated	T13	Digital loopback

* indicates that the test result is dependant on Ambient Noise

Daily tests were performed on appropriate line changes with good weather, or when down time allowed and consisted of a selection of tests from the standard monthly test suite as below;

- Pattern test
- System Dynamic Range test
- Equivalent input noise test
- Impulse test
- Harmonic distortion test
- Amplifier noise and DC offset

Equipment tests, calibration and set-up took place during mobilisation. These included:

MSX 24bit recording system	Acceptance test , parameter set-up
Streamer	Polarity check, offset and balance.
Digibirds	Battery check, function test .
Gun	Depth transducers checked
	Source separation
Inventory	Inventory checked for necessary levels of stationary, cartridges and consumables

6.2.4 Instrument equipment performance

Recording

The MSX recording system performed very well during this survey accumulating no downtime. All Semi-monthly and daily QC tests (performed as often as the consistent production would allow) proved the system to be operating well with-in manufacturers specifications.

Streamer

The streamer balance proved to be a good throughout the project. The Streamer was however lost on the 28th May, when the Armoured lead-in broke. The Streamer was recovered and re-assembled following a partial crew change. Production re-commenced on the 1st of June. Comparisons of lines before and after the incident showed no discernible difference in hydro phone sensitivity.

Gun controller

The Hydrapulse 200X gun controller performed well throughout the survey. Incurring no downtime.

6.2.5 Downtime

Overall the prospect went extremely well from the instrument department point of view. Please, see section 3.16 Survey statistics for fuller statistical analysis.



6.3 SOURCE REPORT

6.3.1 Introduction

The main energy source was a single source, the array used was a Sodera G gun type with a working volume of 3660 cu. inch, with a working pressure of 2000 psi.

6.3.2 Source system

The gun array configuration consists of four sub arrays with a combination of nine or eight guns per sub array.

The source consists of 30 active Sodera G-guns plus 3 guns used as spares on the arrays. The sizes of the Sodera G-guns that are used on this vessel are: 40, 70, 100, 150, and 250 cu. inch.

See diagram for array configuration.

The sub arrays are towed from fixed booms.

The gun depths are monitored in the instrument room.

Source type	Sodera G-gun
Array volume	3660 cu.in.
Air pressure	2000
Number of sub arrays	4
Source depth	6.0 metres, +/- 1.0 meter
Source length	15 metres outer 11 metres inner
Source separation outer - outer	27 metres
Source separation inner-outer	9 metres
Back deck to centre source	49.85 metres
Shot interval	37.5 metres
Source controller	Hydrapulse 200X Minipulse
Source synchronisation	+/- 1 ms

6.3.3 Calibration and checks

All guns solenoid and timing sensor were checked before deployment.

A Click test was performed to verifying the gun positions correspond to the gun controller.

All 12 depth sensors were calibrated prior the start up of the project.

Depth rope was checked for correct source depth of 6.0 metres.

All near field Hydrophones were tap tested before deployment.

6.3.4 Source equipment performance

The Sodera G-gun performance was maintained at a high standard with constant monitoring in the instrument room. All sub arrays were recovered after every line for inspection and maintenance.

Relevant spare guns were enabled as required.

There are two gun mechanics per shift with one supervisor on call 24 hours per day.

The instrument room is constantly manned during production periods.

The performance of the Sodera G-guns during this project was very good, with only routine maintenance being under taken.

Gun controller performed well during the survey. Gun statistics were produced at the end of each line.

Near field signature were logged in the header together with gun synchronisation and depth data.



Air gun pressures were monitored in the gun shack and in the instrument room by the observers. If spare guns were used the instrument room observers logged them.

COMPRESSOR PERFORMANCE

Using, the LMF high-pressure air compressor and a combination of 1 off the 4 EK 30 compressors produced the high-pressure air supply for the array source.

The air pressure is regulated by means of a Fisher control valve; the set pressure for this contract was 2000 psi. $\pm 10.0\%$.

During production periods the compressors temperatures and pressure are logged.

The compressors in use performed well except for a problem with fuel supply to the LMF compressor, caused by a faulty valve on a tank.

BACK DECK EQUIPMENT PERFORMANCE

The gun sub arrays are deployed and recovered using a combination of hydraulic winches, which are controlled by manual operating handles.

During deployment and recovery of the gun sub arrays three people are required.

The instrument room and the bridge are able to monitor and communicate with the gun deck by means of C.C.T.V and radio system.

The deck equipment performed well through out this project.

Routine maintenance was undertaken. Winches and hydraulic power back performed well during the survey.

IN WATER EQUIPMENT PERFORMANCE

Generally all arrays towed very well during the survey. Source position was calculated using time measurements.

6.3.5 Downtime

A total of 5.217 hours were lost due to downtime. Downtime was 0,55 % of total fieldwork.



6.4 SEISMIC PROCESSING REPORT

6.4.1 Introduction

This report concerns the Deep Water Otway/Sorell Basin non-exclusive 2D seismic survey 2001 (DS01), project number 34823, for Seismic Australia and Fugro-Geoteam A/S. Approximately 3635 km of 2D seismic data was acquired along 44 lines and QC controlled to verify that the data were acceptable for further processing. The 44 lines acquired made up a total of 33 full lines, 8 of which were acquired in more than one pass. Only one of these lines was recorded as NTBP. The survey area was entirely within Australian waters. The length of the full lines varied between 37-420 km. Water depths varied between 100 and 3000 metres. Data were acquired between 29th April and 4th June 2001, and 10th to 11th June 2001.

Each line sequence was given a unique identifier and has its own Observers' Log. Failures to completely acquire a line in one attempt were related to shooting permits, fishing activities, cetacean activity, equipment failures and navigation problems. An example of line numbering is the following: DS01-NNNR, where DS01 is the project name, NNN is the line number, and R is the re-shoot code (A for the first re-shoot, B for the second, etc). Occasionally lines also have a suffix "X", in which case the naming convention is DS01-NNNXR.

The main priority of onboard processing was generation of a brute stack for every line. Brute stacks were used for quality control in identifying noise and acquisition related problems.

The seismic data were QC processed using Paradigm Geophysical "Focus/DISCO" UNIX workstation-based software. The data were read in from 3590 tapes, then reformatted from SEG-D to internal DISCO format. Noise analysis was carried out over a time window of 11.5 to 12.0 seconds (raw and filtered with a 6Hz filter applied), and the water breaks and near field auxiliary channels were inspected. Near trace profiles were generated. Velocities were picked every 2km and used to create a stacked section, which was then archived in SEG-Y format onto 3590 tapes.

6.4.2 Hardware

Computer	2 x SGI O200; 4 CPU's
Terminals	1 x SGI O2, 1 x SGI Indy
Storage	176Gb GB disks space, 2 x IBM 3590 tape drives
PC	ICS ADVENT 2 x 750MHz Pentium III / 256 Mb RAM / 89GB HD / CD / WINDOWS NT

6.4.3 Software

Software	FOCUS (version 4.3) and DISCO (version 12.3) running on SGI IRIX64 v6.5
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6.4.4 Testing

N/A

6.4.5 QC Processing

The main QC-priority was generation of a brute stack for every line, its main use being the identification of noise and acquisition related problems. It should not be used as a substitute for a final product.



RMS amplitude analysis was performed over a noise window between 11500-12000 ms. The intention of this is to give a picture of the ambient noise level as no real signal is expected at such a time. The noise files generated at both ends of each line were used to assist interpretation. In addition a real-time near trace stack for every line was produced. This is useful for identifying the amount of swell noise and ship noise in the data. Thorough shot examination was performed for the same reasons. Water breaks were viewed to check the near offset for each line, and the auxiliary channels were also examined. These are useful for identifying gun auto-fires and errors in timing.

After generation of a brute stack with a single velocity for the entire line, velocities were picked every 2 km. A velocity brute stack was then produced and archived in SEG-Y format.

The basic processing sequence was as follows:

Reformat from SEG-D to internal Disco format:

Re-sampling from 2 to 4 ms, adjacent trace summing (2 to 1) using an averaged area velocity.

View Waterbreak Channels (chset 2):

QC the water break channels to make sure the near offset remains correct and constant.

View Auxillary Channels (chsets 3-18, gun hydrophones):

View the auxiliary channels to check the gun signatures, enabling airleaks and autofires to be spotted as well as the checking of Observer's Logs for when different guns are turned on and off.

View Shotgathers:

View every 500th shot to evaluate the data quality.

Excel noiseplots:

Plot unfiltered and 6 Hz, 12 dB/Oct low-cut filtered RMS noise graphs for all traces averaged over the whole line (in microbars) using Microsoft® Excel™, from a noise window taken over 11500-12000 ms.

Scaled RMS plots:

Create plots showing the average noise for all traces for every shot in microbars (using a noise window over 11500-12000 ms) for both the raw shots and shots with a low-cut filter of 6 Hz, 12dB/oct applied.

Near Trace Plot:

A near trace plot is produced real-time.

Brute Stack plot:

Adjacent trace summation using a regional velocity field, followed by spherical divergence gain recovery using t^0 , v^2 . Normal move-out correction using a regional velocity field for every line. Normalised stacking using 93 fold, followed by a datum shift to correct for source and cable depths.



Analyse shot gathers pertinent to where noise appears on the stacked section (eg identifying cable hits).

Pick a mute above the water bottom on the brute stack.

Velocity Analysis:

Pick velocities every 2 kilometres.

Velocity Stack plot:

Adjacent trace summation using a regional velocity field, followed by spherical divergence gain recovery using t^0 , v^2 . Normal moveout correction using the picked velocities and front end muting using 20% stretch muting and a defined mute. Normalised stacking using 93 fold, followed by a datum shift to correct for source and cable depths, and muting above the water bottom.

Output QC brute stack:

Generate velocity stack in SEG-Y format.

QC envelopes were filed in sequential order and put in a box available for inspection by the Party Chief in the Processing room. Processed data were backed up on 3590 tapes when QC was finished and thereafter removed from the system.

6.4.6 Production processing

N/A

6.4.7 Conclusions

Each line sequence was given a unique identifier and has its own Observers' Log. Data were processed as acquired. Failure to completely acquire a line in one attempt was related to a combination of problems. These were due to inclement weather creating unacceptable noise levels on the data, fishing activity and entanglements, equipment failure and equipment out of specification levels. A spreadsheet with information about line numbers, sequences, and partitioning is given in the Appendix.

Data acceptability was decided by the Party Chief onboard, after consideration of all the QC products and Observers Logs and records.

6.4.8 Personnel

Point of contact/ Oslo office: Paul Keane

Onboard QC Processing Manager; p.keane@fugro.no

Processing supervisors onboard:

Kathryn Brookes (AGS)



6.4.9 Deliverables

QC data processing was undertaken to ensure that data recorded were of the highest possible quality. This was achieved by analysis of shot records from each line, producing plots of data and displays of stacked sections. In particular the following products were produced and delivered to the client at demobilisation:

- Near trace plot in paper format only
- RMS amplitude - noise plots (raw and 6 Hz, 12 dB/oct low-cut filtered)
- RMS amplitude - noise graph averaged over entire line, (raw and 6 Hz, 12 dB/oct low-cut filtered)
- QC-processing history sheet
- Brute stack in paper format only
- Velocity stacks in paper,
- Velocity stacks in SEG-Y format
- Velocities as text files.



6.5 POSITION PROCESSING REPORT

6.5.1 Introduction

Prior to the start of this Survey. A new version of StarfixSeis software was installed on the vessel. One of the major changes between the new version and the old was the UKOOA logging program. Because of the major changes two software engineers sailed with the vessel. One primarily responsible for the UKOOA logging program. Between the first seq and seq 10 there were a number of small changes made to the UKOOA logging program, some of these may be visible in differences between the P294's of these seq's. It is believed that despite changes from the first seq P294 that all of the P294's are acceptable.

The Geo Arctic shot the survey in 3 parts from 29.04.01 – 28.05.01. The vessel then had a streamer accident and needed to go to Burnie for crew-change. After leaving Burnie the vessel then acquired the remaining lines between the 01.06.01. – 03.06.01. After this time the survey was considered complete. The vessel left the Survey area to acquire another survey. After completion of the other survey time scheduling allowed the Geo Arctic to return to the Otway/Sorell survey to acquire more lines. The vessel returned to the Otway/Sorell survey area and acquired more lines between 10.06.01 – 12.06.01. at which point the project was suspended.

6.5.2 Processing method

Processing was done on QCPro software. Online P294 was imported from StarfixSeis, Some light filtering of compass, echo sounder and Gps was done on the QCPro software and a final P190 made. First line QC was carried out by Geoteam AS, some subsequent changes to the P294 header set-up were made after first line QC and later up until seq 10.

From seq 001-037 the minimum offset was defined as 143m. After the streamer accident and reconfiguring of streamer, the minimum offset had changed to 150m. From seq 038 onwards 150m was used as minimum offset.

This offset change was not initially noticed. P294's for seq 038-042 were still defined with minimum offset of 143m, however the lines were reprocessed with minimum offset of 150m to create the P190 files.

6.5.3 Data observation quality

Compass calibration

No dynamic compass cals were done. Any compass showing a noticeable bias was set passive and changed at first available opportunity.

Compass data was generally quite good. Compass data on lines that were shot in marginal swell conditions was noticeably noisier. Filtering of compass data on these lines was effective in removing spikes. Noise inherent with movement on the swell could not be removed however. Streamer shape was still adequately computed on these lines.

Streamer rotations onto tailbouy were also in good agreement, typically less than 0.5 degree.

From seq 001-037 there were 27 depth controllers 14 compasses mounted on the streamer. Whilst shooting seq 037 the streamer parted at the leadin. After streamer accident the streamer was reconfigured to 19 depth controllers with 9 compasses. This configuration was used until seq 042 when the vessel left the area to shoot another survey. Upon returning on the 10/06/01 the setup was changed again, from seq 043 onwards the number of depth controllers mounted on the streamer was 17, 15 of which were compasses.



GPS

Both differential Gps systems Spot and MN8 showed good agreement. Spotbeam was generally used as the Primary navigation system. On seqs 004 and 033 Starfix MN8 was used as primary Nav system during processing d/t loss of corrections online on the Spot system.

Tailbouy

Although not used in the streamer shape calculations, tailbouy position was used in QCpro in the process routine to compute streamer stretch. The Seatex active tailbouy performed very well throughout the survey with only one small period of dropout on seq 021.

Gyro

Two gyros were in use on the vessel the primary Gyro a C.Plath is situated in the instrument room and interfaced via a Lekmkuuhl digital gyro repeater, and an SG. Brown 1000B, which is situated on the bridge and interfaced directly into Starfix.

Both Gyro's were recorded in the P294.

Both Gyro's performed well during the survey.

Echosounder

The echo sounder in use was a Simrad EA 500 with 12 & 27kHz transducers. Both frequencies were written to the P294. Water depths were draft corrected, no tidal corrections were done.. The water depths on the Survey varied from around 30m to in excess of 3000m. Generally the 27 kHz transducer performed better in the shallower depths and the 12kHz better in the deeper depths.

Despiking and filtering of echo sounder data was done on each line. Some interpolation was occasionally required. Usually when some interpolation was required on one transducer it was quite easy since the other transducer had tracked ok through the same period. On seq 026 however for a period of 130 sps both transducers failed during the same period. Made a check of the near trace plot for the seabed during this period and could see a slight dome over this area.

The water depths had to be straight lined over the 130 sp period.

Water depths were again poor on seq 035.

Generally with the combination of two transducers the echo sounder data was quite good.



6.6 MAGNETIC AND GRAVITY REPORT

Report to be supplied by Fugro LCT – Houston.



6.7 FISHERY REPORT

No fisheries representative sailed with the Geo Arctic as a comprehensive fisheries communication channel was set up from the Geo Arctic to the shore. The Geoteam Party Chief was responsible for keeping in regular contact with the fisheries representatives. Three different groups of fishing activity were of concern.

1. Squid fishermen

Squid boats were present off Victoria generally working shallower than 300m. They deployed a sea anchor and a bright light and had very limited manoeuvrability with this deployed. They were co-operative and caused no problem at all. They were working only during dark nights.

2. Lobster fishermen

The Lobster boats were very small craft, many without VHF. They were permitted to work no more than 15 n-miles from the coastline. Pot positions were unpredictable and marked by very small buoys, not visible until a few hundred metres away. The communications channels worked and no real problems were encountered with the lobster fishermen as they worked closer to the shore when advised the Geo Arctic would be passing through.

3. Giant Crab Fishermen

These were the main problem as they deployed up to 6km of pots all in a line. Usually the boat would maintain station for a day or two before recovering the pots, but often the pots were left unattended. They were always located between 50 and 200m depths and marked by pairs of 8" Norwegian buoys. They were very difficult to spot in any sort of choppy sea. The area West of Tasmania was a real problem, but as the survey progressed more boats became used to us and the co-operation was improved. The bridge crew called any boats likely to cause problems, and called the party chief to the bridge to make any decisions about going offline or aborting. On two occasions the vessel had to make course alterations to avoid crab fishing buoys, one of these deviations was up to 8800m and part of the line subsequently had to be reshot. One line was aborted as a row of pots were observed across the survey line. Due to choppy seas the pots were not observed until it was too late to make a gentle course change. A tight turn was necessary causing entanglement of some of the seismic equipment.

Contacts were :-

Andrew Leavings – Fisheries co-ordinator. Based in Victoria.

John Hammond (Snr) – Crab fisherman from Tasmania. Working on boat EJ Fairnee. He was in contact with all the other crab boats. He tried to arrange for the other boats to be clear of where we were planning to work. He was a very useful contact and daily contact was maintained to minimise interference.

Rodney Treloggen – Lobster fishermen co-ordinator. It was necessary to contact him when planning to work closer than 15nmiles from the coastline. He would pre-warn the lobster boats where we were going.

We had 2 confirmed snags on the streamer on the nights around 8th & 9th May. Tasmanian Crab boat Yamaralla claimed to have lost four pots around this time.

Vessel Ballamara from Port Fairy, Victoria, also claimed we damaged some of her equipment causing damage and lost fishing time, but Geo Arctic was not near her pots at the time of the reported incident, and another local boat backed this up also saying that Ballamara continued fishing throughout without losing any time. This was a false claim which Crab Fishing representative, John Hammond, was aware of, and followed up.



7 VESSEL SPECIFICATION

7.1 VESSEL GENERAL:

Name	R/V Geo Arctic
Owner	Amige SE, Murmansk
Operator	Amige SE, Murmansk
Type	2D Seismic survey vessel
Port of Registration	Murmansk
Flag	Russian
Class	KM ULI A2
Class registration no.:	M-42019
Call Sign	UGXK
IMO no.	8409018
MMSI	273458600
Year Built/Rebuilt	1988 Polen / 1997 Norway
Length overall	81.85 m
Breadth	14.8 m
Draught, loaded	5.23 m
Tonnage	3225 T, 967 Net T
Cruising Speed	Max 14.5 knot, cruising 12.5 knot
Operation Range	60 days cruising, NM
Endurance seismic	60 days
Main Engine	Zgoda-Zulcer, Type 6ZL 40/48, 4200 HP,(3090 Kw)
Gearbox	Zamech MA90-10, ratio 505/222,6
Propulsion	Zamen, Controllable pitch. LN 13 NM, 4 blade Stainless steel,
Rudder	Traditionally
Steering gear	Zamech
Azimuth thruster	N/A
Bow Thruster	Brunvoll FU-45-LTC-1225, electrical, 600 HP / 441 Kw
Main engine monitoring	Polen
Electrical Power	Total power 2200 Kw Voltage: 3 x 380 (220) VAC, 50 Hz. Shaft generator, 1 x 1200 Kw Generator 2 x 500 Kw
Emergency generator:	217 PMa-39H6. 121 Kw
Clean power:	Rotation generators and several small UPS.
Fuel capacity	1000 m ³
Fuel consumption	Sailing 12.8 t, working 8.4 t, in port 2.8 t
Fresh water capacity	200 ton
Fresh water generator:	VY 125 AD. 7 ton full speed.
Fresh water generator	10 ton full speed, 1 ton in port
Sewage treatment plant	LK-30(2)
Incinerator	Yes
Black water	9,9 m ³
Grey water	N/A
Bilge water	12,0 m ³
Sludge	12,0 m ³
Waste water	3,2 m ³
Lub oil	26,2 m ³
Dirty oil	11,7 m ³



Stabilising system	N/A
Deck Machinery	
Crane	4 ton, 12.5 m max., 2.5 m min. 1 x 1 ton provisions crane front deck 1 x 1 ton folding crane, top aft deck
A-frame	N/A
Winch	2 x Streamer, 6000m aft reel, 3000m fwd reel. Spare streamer, 2 x 2000m Gravity / FF Magnetometer
Paravane	N/A
Gate valve	N/A
Hydraulic power pack:	Hydrakraft A/S. 2 x 45 Kw. 2 x 130 l/min. 220 Bar.
Accommodation	Single cabins 17 + 2 hospital Double cabins 18 Total capacity 55 persons
Galley stores:	2 x Deep freeze 16,2 and 12,2 m ³ 2 x Cool room 14,1 and 21 m ³ 1 x Dry store 28,5 m ³ 1 x Vegetable 13,5 m ³
Mess:	Seating capacity: 31 Size 42 m ²
Day room:	2 x Smoking / Non-smoking 17,2 m ² and 15,9 m ²
Exercise room	20,7 m ²
Air condition:	Tropical
Helicopter landing zone:	Superpuma 9.8 ton

7.2 VESSEL NAVIGATION AIDS

Auto Pilot	Polish (TS-75)
GPS	Furuno GP50 MK II
Radar no.: 1	1 x Kelvin Hughes; 6000, Nucleus 2, ARPA, 10 cm
Radar no.: 2	1 x Nayada-5, Russian 3cm
Gyro no.: 1	1 x Plath, Navigat II with Lehmkuhl LR40 gyro repeater.
Gyro no.: 2	1 x SG Brown Meridian
Speedlog	1 x Atlas Dolog 1 x IEL-2M (Russian)
VHF direction finder	N/A
Wind sensor	Aanderaa 3017 Speed, direction and temperature
Nav. Echo Sounder	GEL-3
Electronic chart:	N/A
Navtex	Furuno NX-500
Weather fax	None

7.3 VESSEL COMMUNICATION

GMDSS	A1, A2 and A3 Sailor VHF & HF
Satellite Fixed line:	Telenor Sealink Light. NorSat. Phone, modem and fax.
Inmarsat	Saturn B, Phone, high speed data modem; 64 KB and fax
GSM	2 x Phone,
WAN	Data modem



M/F, H/F
VHF stationary

VHF portable
UHF portable
UHF helicopter communication
Non-directional beacon
Watchkeeper
Internal communication
Telephone numbers

GSM Bridge
NMT Bridge
Inmarsat FGAS
Inmarsat Bridge
Inmarsat Client
NorSat FGAS
NorSat Bridge
NorSat Vessel
NorSat Client

Fax numbers

Inmarsat
Norsat

Skanti TRP 7201
Skanti VHF 3000
Sailor VHF RT2047D
Sailor VHF RM2042. (GMDSS)
3 x Tron VHF
3 x Headcom
Jotron TR-7510
AS Telesupply TS-20B
Sailor GMDSS A3
Stationary all rooms.

+ 47 9076 4256
+ 47 9419 8081
+ 871/873 3273 18612
+ 871/873 3273 18610
+ 871/873 3273 18611
+ 47 22134789 Tel/Fax
+ 47 22134791 Tel/Fax
N/A
N/A

+ 871/873 3273 18613
+ 47 2213 4789

7.4 VESSEL SAFETY

Safety manning level:
Covered lifeboat:

Rescue /MOB Boat
Work boat
Inflatable Life Rafts
Man overboard Liferaft
Survival Suits
Life Jackets
Life rings
Smoke hoods
Work vest
Emergency radios
Emergency beacons
Radar transponders
Fire detector system:
Fire pumps

Fire suits
Halon systems
CO2 systems
Foam systems

55 persons
Totally enclosed 8.5m, fire protected,
model JY-QFN-8.5, seats up to 65 persons
Lifeboat used for MOB
Norpower 22ft, 7m open boat
9 x 10 persons
2 x 6 person life raft
100 %
100 %
8
100 %
4 x Crewsaver
Sailor GMDSS A3
1 x McMurdo E3 EPIRB
2 x Jotron TronSart
INCO UCPP-20
1 x 100 t Electrical driven
1 x 40 t, Electrical driven
3
Engine room
Compressor room and streamer store
Streamer deck.



8 EQUIPMENT SPECIFICATION

8.1 SEISMIC RECORDING INSTRUMENT

Type	Input / Output, MSX, 24 bit system
Number of Channels	288 channels @ 3600 m (720 ch. 9000m max)
Number of waterbreaks	4 channels
Number of auxiliary	16 channels
Sample Rate	1, 2 and 4 ms
Filters	Low cut, high cut
Low Cut	Out, 2 Hz, 6dB/octave 2 Hz, 12 dB/octave 4 Hz, 12 dB/octave 6 Hz, 12 dB/octave 8 Hz, 18 dB/octave
High Cut	1 mS: 412 Hz, 264 dB/octave 2 mS: 206 Hz, 264 dB/octave 4 mS: 103 Hz, 264 dB/octave
Tape Format	SEG-D
Recording Medium	4 x IBM Magstar 3590
QC System	All QC data, QC plots - AGC or fixed gain; harmonic distortion analyses; noise analyses; spectral analysis; Oyo GS 624-2
On-line Display	
Processing	
Hardware	Silicon Graphics Origin 200 with dual MIPS 10000 64 bit processor SCSI Raid disc controller rack with 40 GB capacity (160 GB) Oyo 36" thermal plotter , I/O 8MB/sec Paradigm Disco/Focus v. 4.1
Software	Full 2D processing at acquisition speed
Capacity	2 x Magstar IBM 3590 tape drive
Tape drives	N/A
Data compression software	

8.2 STREAMER

Type	Input / Output, MSX digital
Max. length	9000 m
Max. outer separation	N/A
Available Group interval	12.5 / 25 m
Section length	99.5 m
Group pr. Section	8
Hydrophone type	Input / Output, Preseis WM1-018B
No. of Hydrophones /Group	14 hydrophones (2.5 m), tapered array, centre weighted. 29 % overlap, total group length 17.55 m
Streamer diameter	63.5 mm
Streamer sensitivity	14 V/Bar
Fault locator	Input / Output
Depth Controller / Compass	Digicourse 5010/5011
Acoustic	N/A
Cable oil clean:	2250 + 960 ltr.
Cable oil dirty:	1.920 ltr.



8.3 ENERGY SOURCE

Type	Sodera G-gun
Size of guns:	40, 70, 100, 150, and 250 cu. Inch.
Max volume:	3660 Cu inch.
Max output. 5 m depth. 0-128 Hz:	3660: 103,3 Barm
Number of Sub. Arrays	4
Configuration:	Single source
Tow width	30 m
Firing control	Hydrapulse 200X
QC	Hydrapulse
Depth transducers	4 x 2
Tow system:	Norwegian buoys
Offset	144m with 6000m streamer. 250m with 9000m streamer
Compressor	1 x LMF, 1100 SCFM 4 x EKA, each 390 SCFM
Compressor capacity	2660 SCFM
Pressure:	2000 PSI

8.4 NAVIGATION EQUIPMENT

On-line Navigation System	Starfix.Seis. (Fugro system)
Primary Navigation	MRDGPS, Optus SPOT differential corrections
GPS receiver	Trimble 4000DS 9 channels nav ver. 7.28
Secondary navigation	MRDGPS, Inmarsat MN8 differential corrections
GPS receiver:	Trimble 4000DS 9 channels nav ver. 7.28
Tail buoy tracking	Geotrack RGPS (Fugro) and radar.
Gun array tracking:	N/A
Acoustic	N/A
Laser	N/A
VRU:	Seatex MRU-6
Navigation processing	ECL QCPro
Binning	N/A
Multi beam echosounder	N/A
Echosounder	Simrad EA500
Echosounder transducer	12 / 27 khz Maximum range 6000 meter
Streamer Control	Digicourse 5011 Compass
Speed log:	Atlas Dolog, not interfaced to nav system.
CTD probe	N/A
SVP probe	N/A
Water level recorder	N/A

8.5 GRAVITY / MAGNETICS

Gravity Meter Type	L & R Model S Marine Gravity Meter. Serial No S-65 with ZLS upgrade and Unison DAS.
Magnetometer	Elsec Console



9 DRAWINGS

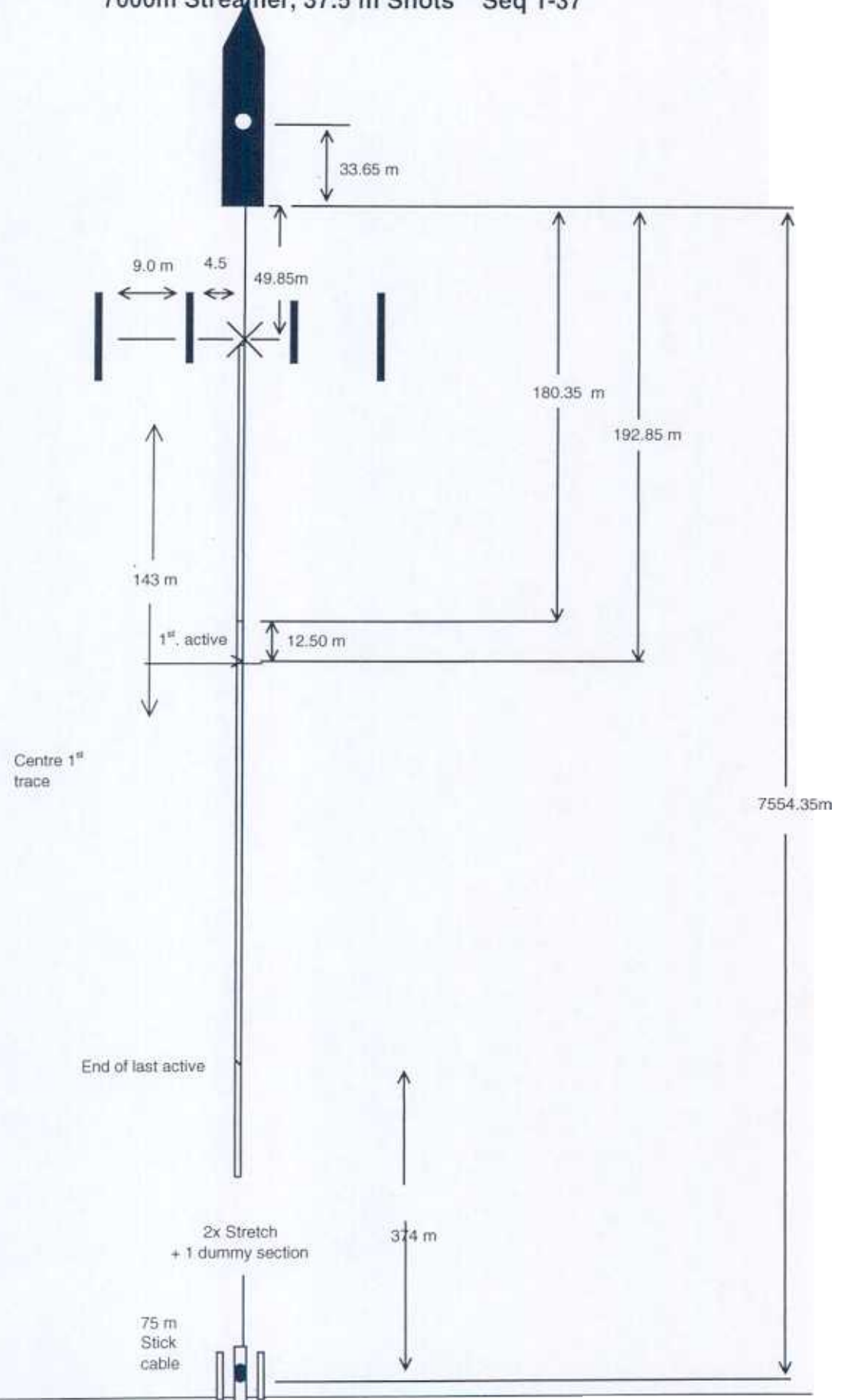
9.1 INWATER OFFSETS



Project: 34823

**Inwater Offset for Ottway/Sorell
7000m Streamer, 37.5 m Shots Seq 1-37**

M.V. Geo Arctic



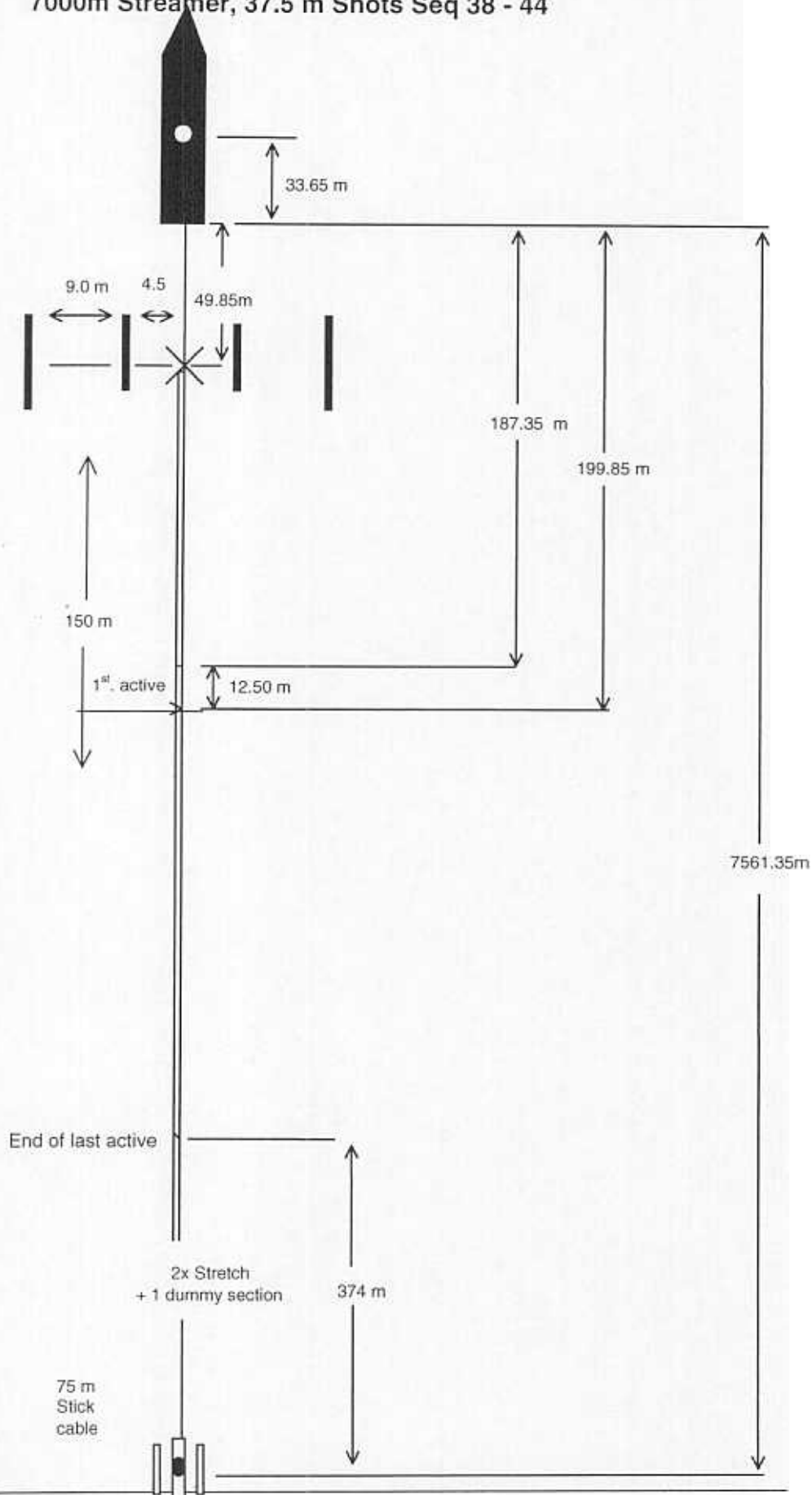


Project: 34823

Inwater Offset for Ottway/Sorell
7000m Streamer, 37.5 m Shots Seq 38 - 44

M.V. Geo Arctic

Centre 1st
trace

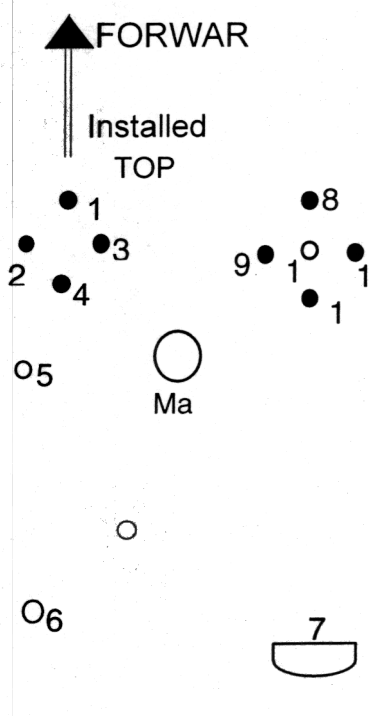




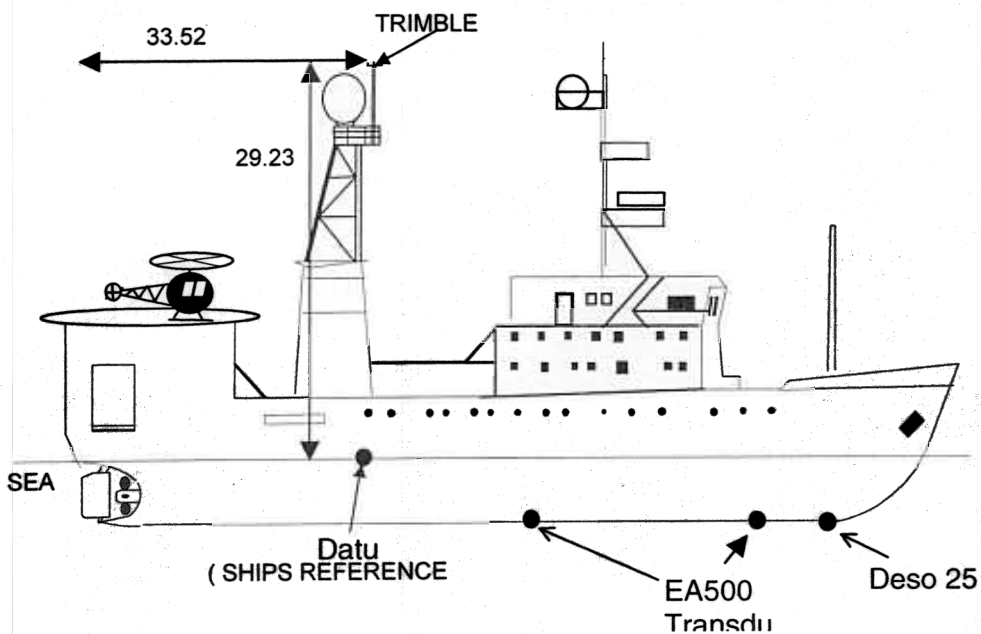
9.2 VESSEL OFFSET

R/V Geo Arctic. (updated 27 April)

ANTENNA

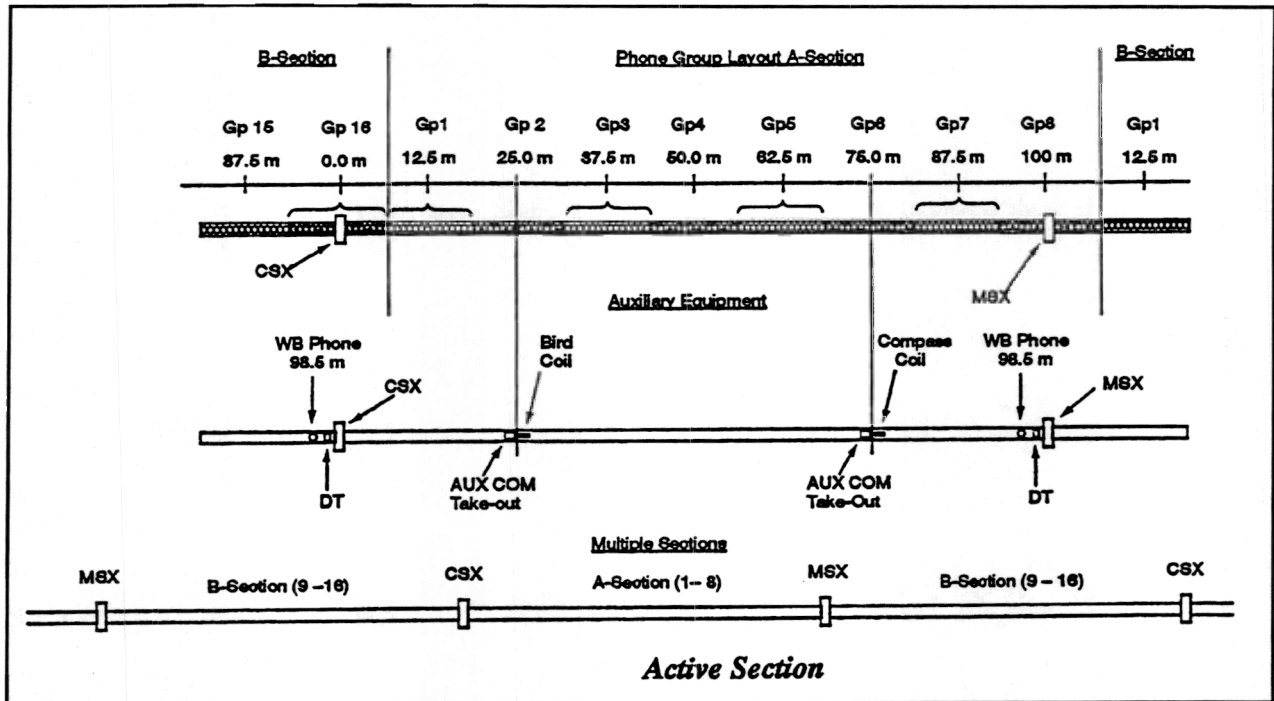


	X	Y	Z
	0.0	0.0	0.0
Mid. stern	0.0	-	0.0
EA500 27 kHz	-	18.53	-
EA500 12 kHz	-0.64	31.61	-4.98
Deso 25 transducer	0.01	35.73	-4.99
Survey Gyro	-2.4	9.60	1.0
1 Primary	-1.51	1.07	29.23
2 Secondary	-1.86	0.72	29.23
3 Spare Trimble	-1.16	0.72	29.23
4 Glonass	-1.51	0.37	29.23
5			
6 Seatrack Wipe			
7 Seatrack Panel			
8	1.51	1.07	29.23
9 Spotbeam	1.16	0.72	29.23
1	1.86	0.72	29.23
1	1.51	0.37	29.23
1	1.51	0.72	n/a





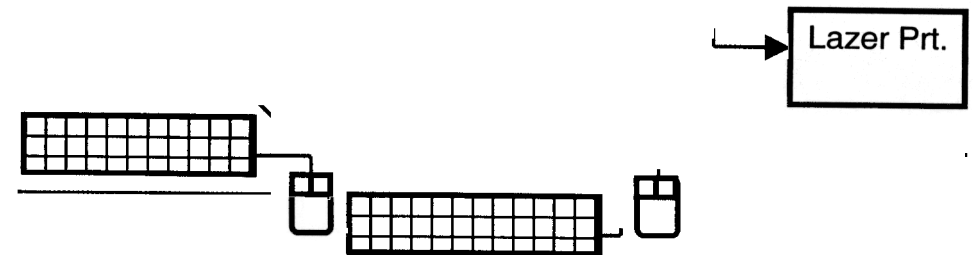
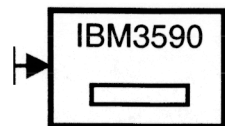
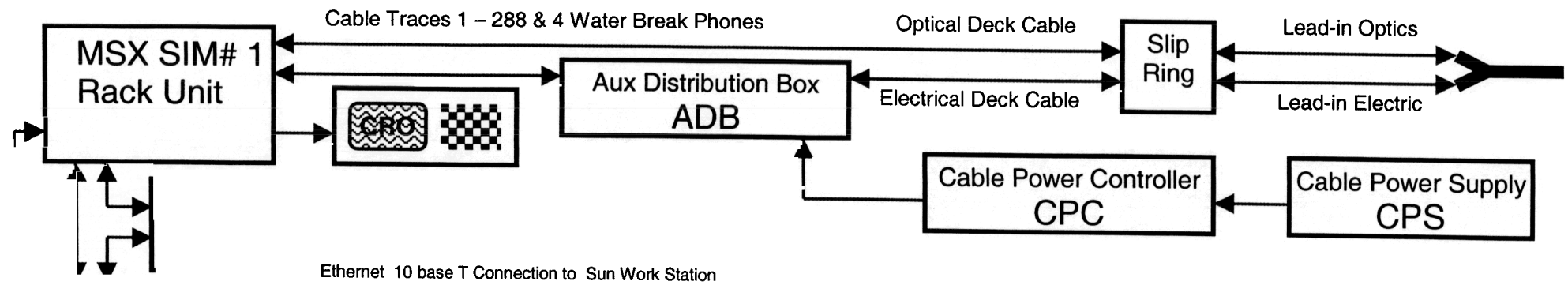
9.3 HYDROPHONE GROUP CONFIGURATION





9.4 INSTRUMENTATION LAYOUT

Fig 1. MSX System Overview

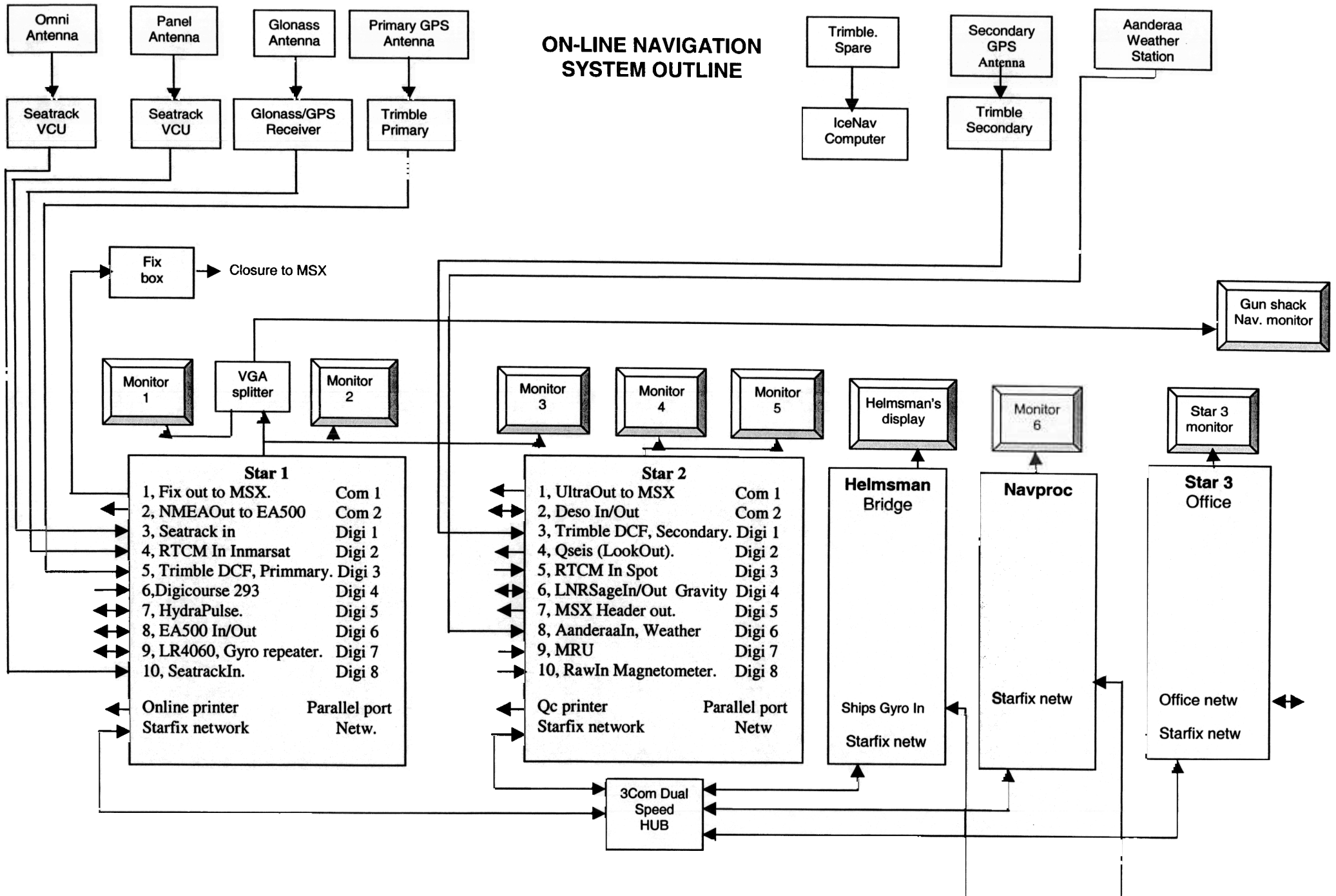


External Interfaces.



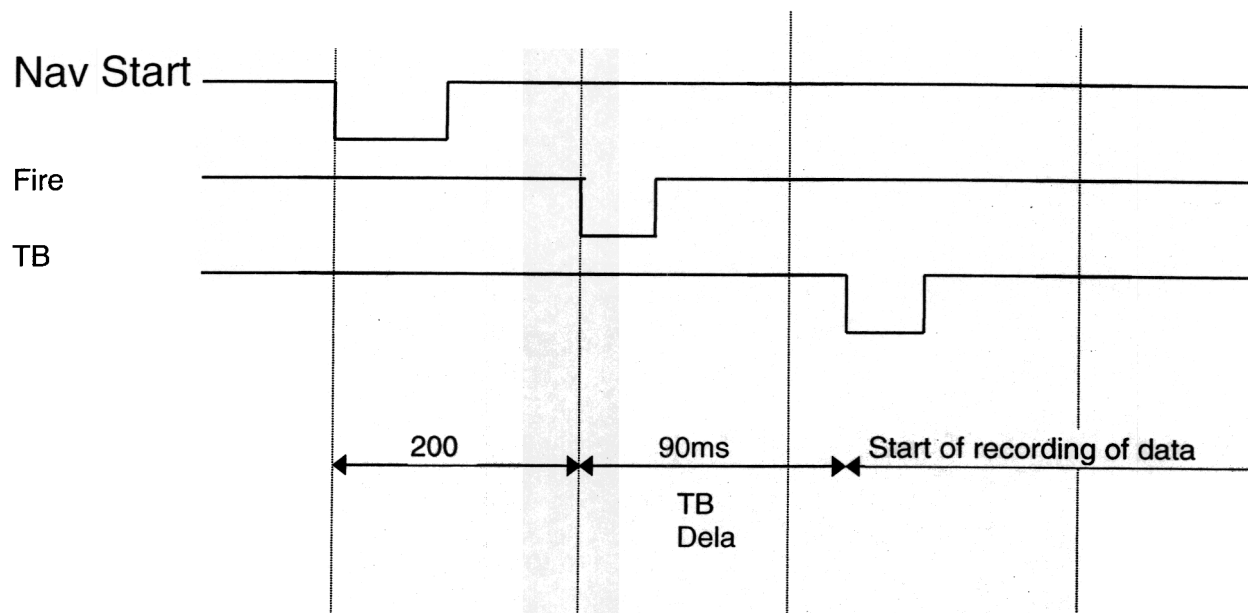
9.5 NAVIGATION LAYOUT

ON-LINE NAVIGATION SYSTEM OUTLINE



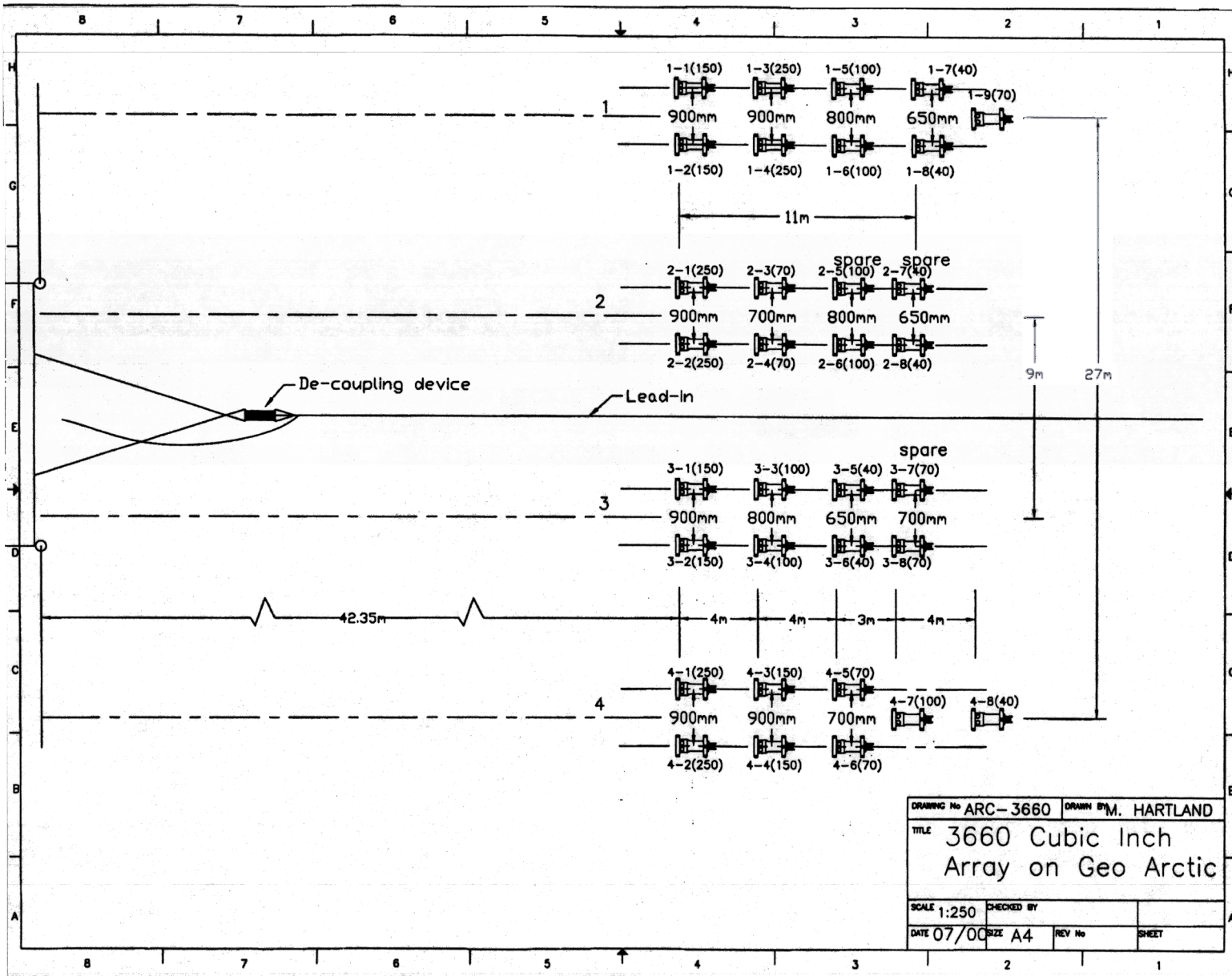


9.6 SYSTEM TIMING



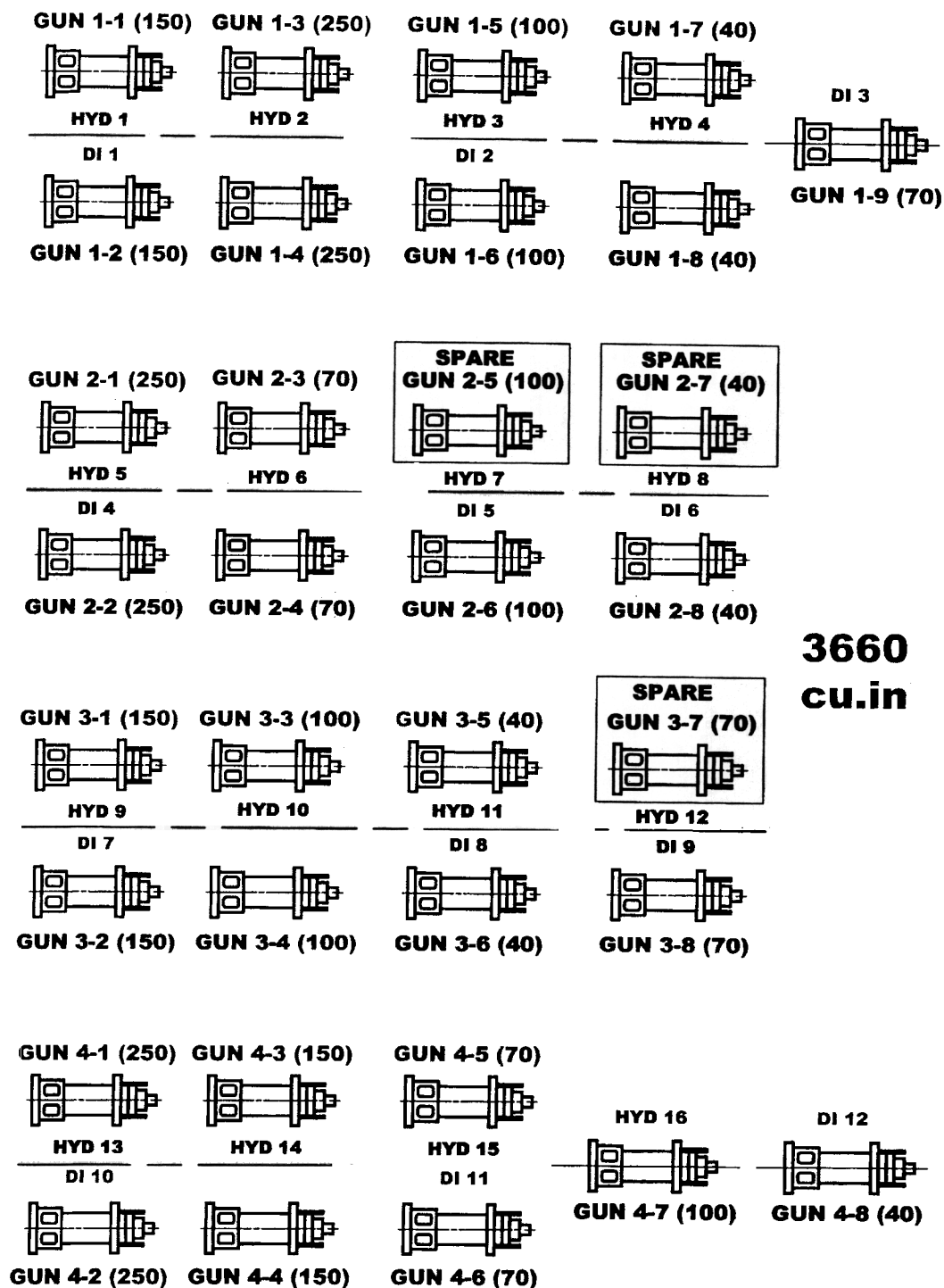


9.7 SOURCE LAYOUT





STARBOARD



**3660
cu.in**

PORT SIDE



A P P E N D I C E S

GENERAL

- 1. DAILY LOGS**
- 2. LINE SUMMARY**
- 3. LINE QC**
- 4. ENERGY SOURCE DROP OUT SPECIFICATION**
- 5. ORIGINAL DATA ACQUISITION PROGRAM**
- 6. WEATHER REPORTS**
- 7. SAFETY ACCIDENTS / NEAR MISS REPORTS**

POSITION

- 8. NAVIGATION PROFILES LOG**
- 9. NAVIGATION PRODUCTION LOG**
- 10. NAVIGATION PROCESSING LOG**

SEISMIC PROCESSING:

- 11. QC STATUS LOG**



GENERAL

1. DAILY LOGS

Time Zone: UTC + 10 hours

27 April 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
10:00	23:59	Yes	14.00	Mob / Demob	Transit from Hobart to survey area

28 April 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	10:30	Yes	10.50	Mob / Demob	Transit to survey area
10:30	23:59	Yes	13.50	Mob / Demob	Deployment and reconfiguration of streamer

29 April 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	09:20	Yes	9.33	Mob / Demob	Deployment and reconfiguration of streamer
09:20	10:17	Yes	0.95	Mob / Demob	Balancing front of streamer
10:17	12:16	Yes	1.98	Mob / Demob	Deploy and test magnetometer
12:16	14:00	Yes	1.73	Mob / Demob	Deployment and testing of guns
14:00	17:00	Yes	3.00	Mob / Demob	Testing of all systems
17:00	21:00	Yes	4.00	Mob / Demob	Adjustments to streamer offset
21:00	23:36	Yes	2.60	Mob / Demob	Heading for line DS01-208X and soft start
23:36	23:59	Yes	0.40	Production	Line DS01-208X sp 101-179

30 April 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	03:43	Yes	3.72	Production	Line DS01-208X sp 179-948
03:43	05:00	Yes	1.28	Other -	Suspend production to await permits
05:00	23:59	Yes	19.00	Other -	Fine tuning of streamer balance while awaiting

01 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	03:45	Yes	3.75	Other -	Fine tuning of streamer balance while awaiting
03:45	10:17	Yes	6.53	Other -	Head for line and deploy guns, permits granted
10:17	10:46	Yes	0.48	Production	Line DS01-208XA sp 857-948, overlap with
10:46	23:59	Yes	13.23	Production	Line DS01-208XA sp 949-3956

02 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	15:10	Yes	15.17	Production	Line DS01-208XA sp 3956-7622
15:10	18:37	Yes	3.45	Line change	Turn for line DS01-206X
18:37	23:59	Yes	5.38	Production	Line DS01-206X sp 688-1984

03 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	23:59	Yes	24.00	Production	Line DS01-206X sp 1984-7947


04 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	01:31	Yes	1.52	Production	Line DS01-206X sp 7947 - 8324
01:31	07:08	Yes	5.62	Line change	Turn for line DS01-146. Gun maintenance on turn
07:08	11:23	Yes	4.25	Production	Line DS01-146 sp 101 - 1100. Term. Due fishing
11:23	14:09	Yes	2.77	Line change	Turn for line DS01-144X.
14:09	14:45	Yes	0.60	Production	Line DS01-144X sp 101 - 248
14:45	16:40	Yes	1.92	Production	1700m course deviation avoiding stationary
16:40	18:20	Yes	1.67	Production	Line DS01-144X sp 700 - 1080
18:20	23:59	No	5.67	Navigation	Nav software crash - gun maintenance on circle

05 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	00:05	No	0.08	Navigation	Run-in to restart DS01-144X
00:05	02:43	Yes	2.63	Production	Line DS01-144XA sp 983 - 1576
02:43	06:00	No	3.28	Navigation	Nav software crash - Time of restart estimation
06:00	08:11	Yes	2.18	Line change	Streamer noise marginal, head for DS01-142X
08:11	17:14	Yes	9.05	Production	Line DS01-142X sp 101 - 2146
17:14	20:10	Yes	2.93	Line change	Turn for line DS01-141X
20:10	22:47	Yes	2.62	Production	Line DS01-141X sp 101 - 679. Abtd due to fishing
22:47	23:59	Yes	1.22	Fishing	Head for line DS01-140

06 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	06:27	Yes	6.45	Fishing	Head for line DS01-140 - Untangle mag & streamer
06:27	17:05	Yes	10.63	Production	Line DS01-140 sp 101 - 2542
17:05	21:10	Yes	4.08	Line change	Turn for line DS01-139 - Gun maintenance on
21:10	23:59	Yes	2.83	Production	Line DS01-139 sp 101 - 812

07 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	09:13	Yes	9.22	Production	Line DS01-139 sp 812 - 2977
09:13	12:31	Yes	3.30	Line change	Turn for line DS01-138 - Gun maintenance on
12:31	23:59	Yes	11.48	Production	Line DS01-138 sp 101 - 2863

08 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	01:07	Yes	1.12	Production	Line DS01-138 sp 2863 - 3132
01:07	03:36	Yes	2.48	Line change	Turn for line DS01-137
03:36	16:03	Yes	12.45	Production	Line DS01-137 sp 101 - 3143
16:03	18:27	Yes	2.40	Line change	Turn for line DS01-136
18:27	18:50	Yes	0.38	Weather	Line DS01-136 sp 101 - 194 - Abtd feather >20°
18:50	23:06	Yes	4.27	Weather	Circle back for DS01-136 - Tidal flow decreasing
23:06	23:59	Yes	0.90	Production	Line DS01-136A sp 101 - 304

09 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	12:39	Yes	12.65	Production	Line DS01-136A sp 304 - 3143
12:39	13:40	Yes	1.02	Weather	Recover port side guns due to weather
13:40	18:35	Yes	4.92	Weather	Wait on weather, try new line directions
18:35	19:15	Yes	0.67	Weather	Recover stbd side guns due to weather
19:15	23:59	Yes	4.75	Weather	Wait on weather

**10 May 2001**

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	07:30	Yes	7.50	Weather	Heading for line DS01-201 to run across swell
07:30	09:10	Yes	1.67	Weather	Deployment of guns and soft start
09:10	18:50	Yes	9.67	Production	Line DS01-201 sp 101 - 2363
18:50	23:59	Yes	5.17	Line change	Head for line DS01-141XA

11 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	00:39	Yes	0.65	Line change	Soft start for line DS01-141XA
00:39	08:06	Yes	7.45	Production	Line DS01-141XA sp 582 - 2317
08:06	17:31	Yes	9.42	Line change	Head for line DS01-144XB - Gun maintenance on
17:31	20:37	Yes	3.10	Production	Line DS01-144XB sp 1479 - 2242
20:37	23:59	Yes	3.38	Line change	Extended turn for line DS01-203 - Guns recovered

12 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	07:59	Yes	7.98	Line change	Extended turn for line DS01-203
07:59	23:59	Yes	16.02	Production	Line DS01-203 sp 101 - 3973

13 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	00:16	Yes	0.27	Production	Line DS01-203 sp 3973 - 4035 - Abtd due to
00:16	05:34	Yes	5.30	Other -	Circle back to rejoin line - Gun maintenance on
05:34	09:25	Yes	3.85	Production	Line DS01-203A sp 3938 - 4883
09:25	12:15	Yes	2.83	Line change	Head for line DS01-128
12:15	21:06	Yes	8.85	Production	Line DS01-128 sp 101 - 2199
21:06	23:59	Yes	2.90	Line change	Head for line DS01-130 - Gun maintenance on

14 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	02:08	Yes	2.13	Line change	Head for line DS01-130
02:08	10:21	Yes	8.22	Production	Line DS01-130 sp 101- 2035
10:21	14:44	Yes	4.38	Line change	Head for line DS01-131 - Gun maintenance on
14:44	22:33	Yes	7.82	Production	Line DS01-131 sp 101 - 1981
22:33	23:59	Yes	1.45	Line change	Head for line DS01-132

15 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	01:27	Yes	1.45	Line change	Head for line DS01-132
01:27	09:46	Yes	8.32	Production	Line DS01-132 sp 101 - 1946
09:46	10:40	Yes	0.90	Line change	Begin line turn for DS01-133
10:40	11:35	Yes	0.92	Weather	Recover guns due to rough seas.
11:35	20:10	Yes	8.58	Weather	Recover streamer for crew transfer during bad
20:10	23:59	Yes	3.83	Weather	Head for Little Grassy, King Island for crew


16 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	02:10	Yes	2.17	Weather	Head for Grassy, King Island for part crew
02:10	02:35	Yes	0.42	Weather	Crew change operation off Grassy, King Island
02:35	03:00	Yes	0.42	Weather	Head back to location
03:00	15:00	Yes	12.00	Weather	Deployment of streamer
15:00	23:59	Yes	9.00	Weather	Standby on weather near location.

17 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	13:00	Yes	13.00	Weather	Wait on weather - streamer deployed
13:00	22:40	Yes	9.67	Weather	Head for line DS01-126
22:40	23:40	Yes	1.00	Weather	Deploying guns
23:40	23:59	Yes	0.33	Weather	Head for line DS01-126

18 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	02:57	Yes	2.95	Weather	Run-in to line DS01-126
02:57	15:36	Yes	12.65	Production	Line DS01-126 sp 101 - 3152
15:36	21:58	Yes	6.37	Line change	Head for line DS01-123 - Gun maintenance on
21:58	23:59	Yes	2.03	Production	Line DS01-123 sp 101 - 540

19 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	05:04	Yes	5.07	Production	Line DS01-123 sp 540 - 1581
05:04	10:48	Yes	5.73	Line change	Turn for line DS01-120
10:48	23:29	Yes	12.68	Production	Line DS01-120 sp 101 - 2724
23:29	23:59	Yes	0.52	Line change	Turn for line DS01-117

20 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	06:01	Yes	6.02	Line change	Turn for line DS01-117 - Gun maintenance on
06:01	14:07	Yes	8.10	Production	Line DS01-117 sp 101 - 1929
14:07	18:40	Yes	4.55	Line change	Turn for line DS01-114 - Gun maintenance on
18:40	23:59	Yes	5.33	Production	Line DS01-114 sp 101 - 1234

21 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	05:38	Yes	5.63	Production	Line DS01-114 sp 1234 - 2431
05:38	10:18	Yes	4.67	Line change	Turn for line DS01-112
10:18	19:00	Yes	8.70	Production	Line DS01-112 sp 101 - 2034
19:00	23:12	Yes	4.20	Line change	Turn for line DS01-110
23:12	23:59	Yes	0.80	Production	Line DS01-110 sp 101 - 281

22 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	06:52	Yes	6.87	Production	Line DS01-110 sp 281 - 1961
06:52	11:01	Yes	4.15	Line change	Head for line DS01-108 - Gun maintenance on
11:01	17:28	Yes	6.45	Production	Line DS01-108 sp 101 - 1634
17:28	23:59	Yes	6.53	Line change	Extd turn for Line DS01-206XA - All guns onboard



23 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	04:03	Yes	4.05	Line change	Head for line DS01-206XA - Streamer & gun
04:03	06:36	Yes	2.55	Production	Line DS01-206XA sp 101 - 785
06:36	10:20	Yes	3.73	Line change	Turn for line DS01-207
10:20	22:28	Yes	12.13	Production	Line DS01-207 sp 101 - 3060
22:28	23:59	Yes	1.53	Line change	Turn for line DS01-204X

24 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	02:07	Yes	2.12	Line change	Head for line DS01-204X
02:07	23:59	Yes	21.88	Production	Line DS01-204X sp 101 - 5380

25 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	23:24	Yes	23.40	Production	Line DS01-204X sp 5380 - 11284
23:24	23:59	Yes	0.60	Line change	Head for line - DS01-205X - Gun work on turn

26 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	01:54	Yes	1.90	Line change	Head for line DS01-205X
01:54	07:07	No	5.22	Compressor	Repairs to Caterpillar engine supplying
07:07	14:15	Yes	7.13	Production	Line DS01-205X sp 101 - 1392. Abtd due weather
14:15	21:15	Yes	7.00	Weather	Circle and attempt line again but noise 110mbars
21:15	23:59	Yes	2.75	Weather	Circle back to attempt line again

27 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	04:34	Yes	4.57	Weather	Head back to retry DS01-205XA
04:34	04:59	Yes	0.42	Weather	Line DS01-205XA sp 1295 - 1393 (Overlap)
04:59	21:26	Yes	16.45	Production	Line DS01-205XA sp 1393 - 4926
21:26	23:59	Yes	2.57	Line change	Head for line DS01-133 - Gun maintenance on

28 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	08:14	Yes	8.23	Line change	Head for line DS01-133 - Gun maintenance on
08:14	13:55	Yes	5.68	Production	Line DS01-133 sp 101 - 1296
13:55	14:50	No	0.92	Cable	Tow leader snapped - recover guns and
14:50	17:00	No	2.17	Cable	Vessel heading back towards tailbuoy.
17:00	21:00	No	4.00	Cable	Standby at tailbuoy for daylight
21:00	22:39	No	1.65	Cable	Workboat launched and assessing recovery
22:39	23:30	No	0.85	Cable	Workboat following retriever units along cable
23:30	23:59	No	0.50	Cable	Workboat heads back to tailbuoy for reverse strmr

29 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	00:30	No	0.50	Cable	Arctic has line on tailbuoy.
00:30	01:15	No	0.75	Cable	Workboat recovered, tailbuoy stowed.
01:15	06:00	No	4.75	Cable	Half of streamer covered. Winch brake jamming
06:00	06:30	No	0.50	Cable	Repairs to winch brake.
06:30	12:00	No	5.50	Cable	Recover remainder of streamer
12:00	23:59	No	12.00	Other - No	Head to Burnie for Crew change. Alongside at



30 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	14:00	No	14.00	Other - No	Alongside Burnie, partial crew change and
14:00	23:59	No	10.00	Other - No	Steaming to sheltered waters for cable work.

31 May 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	02:35	No	2.58	Other - No	Steaming to sheltered water
02:35	03:48	No	1.22	Cable	Start to Deploy first 4km of reverse wound cable.
03:48	06:30	No	2.70	Cable	Workboat in sea assisting turn around of cable.
06:30	10:00	No	3.50	Cable	Wind cable back onboard the correctly.
10:00	12:00	No	2.00	Cable	Transfer all of forward winch to after winch.
12:00	15:30	No	3.50	Cable	Redeploy all of cable and rewind under tension.
15:30	19:00	No	3.50	Other - No	Full speed to deployment area.
19:00	23:59	No	5.00	Other - No	Deploying 7km cable.

01 June 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	06:00	No	6.00	Other - No	Complete cable deployment and adjustments
06:00	08:40	No	2.67	Other - No	Turn back and deploy all guns and Mag..
08:40	12:28	No	3.80	Other - No	Turn again and run in to line 134
12:28	20:07	Yes	7.65	Production	DS01-134 sp 101-1927 Completed.
20:07	22:57	Yes	2.83	Line change	
22:57	23:59	Yes	1.05	Production	DS01-135 sp 101-343 continues.
23:59	23:59	Yes	0.00	Production	Midnight sp 343

02 June 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	06:28	Yes	6.47	Production	DS01-135 sp 343-1922 Complete
06:28	09:13	Yes	2.75	Line change	Nominal line change
09:13	12:13	Yes	3.00	Fishing	Extended line change to reshoot line
12:13	14:55	Yes	2.70	Fishing	DS01-138A 1279-1826 re-run due to fishing
14:55	20:23	No	5.47	Navigation	Navigation system lock up. Vessel circles.
20:23	23:38	Yes	3.25	Fishing	DS01 138B 1827-2588 re-run due to fishing
23:38	23:59	Yes	0.37	Fishing	Line change back to line 133A

03 June 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	07:18	Yes	7.30	Fishing	Line change after fishing induced re-shoot.
07:18	12:20	Yes	5.03	Weather	DS01-133A sp 101-1272 weather induced re
12:20	15:12	Yes	2.87	Production	DS01-133A sp 1272 1919 Completed.
15:12	16:25	Yes	1.22	Mob / Demob	Recover all guns and magnetometer..
16:25	17:20	Yes	0.92	Mob / Demob	Turn into seas / current.
17:20	23:59	Yes	6.67	Mob / Demob	Recovering 7km cable.
23:59	23:59	Yes	0.00	Mob / Demob	** Project Suspended ***



10 June 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	05:30	Yes	5.50	Mob / Demob	Steaming west from Bass Strait to resume
05:30	12:55	Yes	7.42	Mob / Demob	Deploy 7km cable and magnetometer
12:55	14:30	Yes	1.58	Mob / Demob	Deploy guns.
14:30	14:52	Yes	0.37	Mob / Demob	Soft start on approach to line.
14:52	21:31	Yes	6.65	Production	DS01-107 sp 101-1630 completed.
21:31	22:00	Yes	0.48	Line change	Testing MSX system
22:00	23:59	Yes	2.00	Line change	

11 June 2001

<u>Start</u>	<u>End</u>	<u>Charge</u>	<u>Hrs</u>	<u>Activity</u>	<u>Details</u>
00:00	01:55	Yes	1.92	Line change	
01:55	08:15	Yes	6.33	Production	DS01-109 sp101-1665 Terminated.
08:15	08:25	Yes	0.17	Weather	DS01-109 sp 1665-1705 Cable out of control
08:25	11:00	Yes	2.58	Weather	
11:00	12:00	Yes	1.00	Weather	Recover guns into wind.
12:00	14:10	Yes	2.17	Weather	Swell building, cable towed deep.
14:10	20:00	Yes	5.83	Weather	Recover cable.
20:00	23:59	Yes	4.00	Weather	Standby
** Project Suspended ***					



2. LINE SUMMARY

Date	Seq.	Line	Dir	Type	FSP	FCSP	LCSP	LSP	Charge	No Charge	Status
29/04/01	1	DS01- 208X	327	2D	101	101	179	179	2.9250	0.0000	Midnight SP
30/04/01	1	DS01- 208X	327	2D	179	179	948	948	28.8375	0.0000	Interrupted
01/05/01	2	DS01- 208XA	328	2D	857	857	3956	3956	116.2125	0.0000	Midnight SP
02/05/01	2	DS01- 208XA	328	2D	3956	3956	7622	7622	137.4750	0.0000	Not Complete
02/05/01	3	DS01- 206X	149	2D	688	688	1984	1984	48.6000	0.0000	Midnight SP
03/05/01	3	DS01- 206X	149	2D	1984	1984	7947	7947	223.6125	0.0000	Midnight SP
04/05/01	3	DS01- 206X	149	2D	7947	7947	8324	8324	14.1375	0.0000	Not Complete
04/05/01	4	DS01- 146	58	2D	101	101	1100	1100	37.4625	0.0000	Early Term.
04/05/01	5	DS01- 144X	242	2D	101	101	1080	1080	36.7125	0.0000	Not Complete
05/05/01	6	DS01- 144XA	242	2D	983	1081	1576	1576	18.5625	3.6750	Not Complete
05/05/01	7	DS01- 142X	66	2D	101	101	2146	2146	76.6875	0.0000	COMPLETED
05/05/01	8	DS01- 141X	241	2D	101	101	679	679	21.6750	0.0000	Aborted
06/05/01	9	DS01- 140	238	2D	101	101	2542	2542	91.5375	0.0000	COMPLETED
06/05/01	10	DS01- 139	58	2D	101	101	812	812	26.6625	0.0000	Midnight SP
07/05/01	10	DS01- 139	58	2D	812	812	2977	2977	81.1875	0.0000	COMPLETED
07/05/01	11	DS01- 138	237	2D	101	101	2863	2863	103.5750	0.0000	Midnight SP
08/05/01	11	DS01- 138	237	2D	2863	2863	3132	3132	10.0875	0.0000	COMPLETED
08/05/01	12	DS01- 137	58	2D	101	101	3143	3143	114.0750	0.0000	COMPLETED
08/05/01	13	DS01- 136	237	2D	101	101	194	194	3.4875	0.0000	NTBP
08/05/01	14	DS01- 136A	237	2D	101	101	304	304	7.6125	0.0000	Midnight SP
09/05/01	14	DS01- 136A	237	2D	304	304	3143	3143	106.4625	0.0000	COMPLETED
10/05/01	15	DS01- 201	149	2D	101	101	2363	2363	84.8250	0.0000	COMPLETED
11/05/01	16	DS01- 141XA	241	2D	680	680	2317	2317	61.3875	0.0000	COMPLETED
11/05/01	17	DS01- 144XB	242	2D	1479	1577	2242	2242	24.9375	3.6750	COMPLETED
12/05/01	18	DS01- 203	327	2D	101	101	3973	3973	145.2000	0.0000	Midnight SP
13/05/01	18	DS01- 203	327	2D	3973	3973	4035	4035	2.3250	0.0000	Aborted
13/05/01	19	DS01- 203A	327	2D	3938	3938	4883	4883	35.4375	0.0000	COMPLETED
13/05/01	20	DS01- 128	233	2D	101	101	2199	2199	78.6750	0.0000	COMPLETED
14/05/01	21	DS01- 130	59	2D	101	101	2035	2035	72.5250	0.0000	COMPLETED
14/05/01	22	DS01- 131	238	2D	101	101	1981	1981	70.5000	0.0000	COMPLETED
15/05/01	23	DS01- 132	59	2D	101	101	1946	1946	69.1875	0.0000	COMPLETED
18/05/01	24	DS01- 126	46	2D	101	101	3152	3152	114.4125	0.0000	COMPLETED
18/05/01	25	DS01- 123	222	2D	101	101	540	540	16.4625	0.0000	Midnight SP
19/05/01	25	DS01- 123	222	2D	540	540	1581	1581	39.0375	0.0000	COMPLETED
19/05/01	26	DS01- 120	40	2D	101	101	2724	2724	98.3625	0.0000	COMPLETED
20/05/01	27	DS01- 117	218	2D	101	101	1929	1929	68.5500	0.0000	COMPLETED
20/05/01	28	DS01- 114	37	2D	101	101	1234	1234	42.4875	0.0000	Midnight SP
21/05/01	28	DS01- 114	37	2D	1234	1234	2431	2431	44.8875	0.0000	COMPLETED
21/05/01	29	DS01- 112	216	2D	101	101	2034	2034	72.4875	0.0000	COMPLETED
21/05/01	30	DS01- 110	36	2D	101	101	281	281	6.7500	0.0000	Midnight SP
22/05/01	30	DS01- 110	36	2D	281	281	1961	1961	63.0000	0.0000	COMPLETED
22/05/01	31	DS01- 108	216	2D	101	101	1634	1634	57.4875	0.0000	COMPLETED
23/05/01	32	DS01- 206XA	149	2D	101	101	785	785	25.6500	0.0000	COMPLETED
23/05/01	33	DS01- 207	300	2D	101	101	3060	3060	110.9625	0.0000	COMPLETED
24/05/01	34	DS01- 204X	121	2D	101	101	5380	5380	197.9625	0.0000	Midnight SP
25/05/01	34	DS01- 204X	121	2D	5380	5380	11284	11284	221.4000	0.0000	COMPLETED
26/05/01	35	DS01- 205X	328	2D	101	101	1392	1392	48.4125	0.0000	Aborted
27/05/01	36	DS01- 205XA	328	2D	1295	1393	4926	4926	132.4875	3.6750	COMPLETED
28/05/01	37	DS01- 133	59	2D	101	101	1296	1296	44.8125	0.0000	Aborted
01/06/01	38	DS01- 134	238	2D	101	101	1927	1927	68.4750	0.0000	COMPLETED
01/06/01	39	DS01- 135	58	2D	101	101	343	343	9.0750	0.0000	Midnight SP



<u>Date</u>	<u>Seq.</u>	<u>Line</u>	<u>Dir</u>	<u>Type</u>	<u>FSP</u>	<u>FCSP</u>	<u>LCSP</u>	<u>LSP</u>	<u>Charge</u>	<u>No</u> <u>Charge</u>	<u>Status</u>
02/06/01	39	DS01- 135	58	2D	343	343	1922	1922	59.2125	0.0000	COMPLETED
02/06/01	40	DS01- 138A	238	2D	1181	0	0	1826	0.0000	24.1875	Aborted
02/06/01	41	DS01- 138B	238	2D	1826	0	0	2588	0.0000	28.5750	COMPLETED
03/06/01	42	DS01- 133A	58	2D	101	1272	1919	1919	24.2625	43.9125	COMPLETED
10/06/01	43	DS01- 107	37	2D	101	101	1630	1630	57.3375	0.0000	COMPLETED
11/06/01	44	DS01- 109	216	2D	101	101	1665	1705	58.6500	1.5000	Early Term.
Total Production =									<u>3635.213</u>	<u>109.200</u> km	



3. LINE QC

GEOTEAM 		NAVIGATION QC LOG																		
CLIENT:	Seismic Australia					VESSEL:	RV Geo Arctic							NAV. SYSTEM 1:			Starfix Spot			
PROJECT:	2D survey					AREA:	Deep water Ottway/Sorell, Bass Strait Australia							NAV. SYSTEM 2:			Starfix MN8			
NAV PROG.:	Starfix Suite 3.1					PROJECT NO.:	34823							REF. STATS:			385,336,326,275,026,195,022			
Line Number	Sequence	Cross Course				Shot Point Interval				Satellites	PDOP				Fthr<°		Speed	Comments		
DS01		Min	Max	Mean	SD	Min	Max	Mean	SD	Mean	Max	Mean	SD	Min	Max	Mean				
208X	001	-9.88	9.27	-1.58	3.38	37.34	37.72	37.5	0.03	6.6	4.6	2.5	0.5	-12.4	3.9	4.2	Incomplete line stopped d/t no permits			
208XA	002	-27.75	8.35	-0.62	2.68	36.45	38.57	37.5	0.03	7.2	6.0	2.4	0.6	-9.6	8.1	4.75	Line stopped early d/t permit border			
206X	003	-20.10	15.04	0.30	2.62	37.39	37.61	37.5	0.01	7.2	6.0	2.4	0.6	-6.0	8.7	5.01	Incomplete d/t permit border			
146	004	-5.91	8.40	-0.51	2.33	37.16	37.79	37.5	0.03	6.1	6.0	2.9	0.9	-4.3	1.5	4.74	Complete stopped early d/t coastline			
144X	005	-8.53	1750	412	577	37.37	37.68	37.5	0.03	8.7	4.7	2.0	0.4	-15.3	12.4	4.82	Incomplete started late d/t coastline, stopped early d/t StarfixSeis crash			
144XA	006	-9.79	4.03	-0.53	2.27	37.22	37.74	37.5	0.03	6.8	3.3	2.5	0.5	-3.8	-	4.56	Incomplete d/t StarfixSeis crash			
142X	007	-6.61	6.99	0.06	2.57	35.09	40.46	37.5	0.57	7.4	6.0	2.4	0.8	-2.7	6.5	4.58	Complete stopped early d/t coastline			
141X	008	-9.0	7.17	0.43	2.10	37.32	37.59	37.5	0.03	6.7	3.6	2.6	0.4	-21.7	2.8	4.47	Incomplete			
140X	009	-10.42	13.95	-0.17	2.75	37.32	37.65	37.5	0.03	7.2	6.0	2.5	0.7	-10.9	6.5	4.65	Complete			
139	010	-263.8	34.21	-4.90	30.9	37.34	37.70	37.5	0.03	7.1	6.0	2.3	0.6	-5.5	10.4	4.84	Complete, deviation offline d/t fishing sp 1817-1912			
138	011	-8800	11.01	-2013	3003	37.35	37.60	37.5	0.02	7.8	3.7	2.3	0.5	-30.8	31.9	5.03	Complete deviation offline d/t fishing sp 1279-2490			
137	012	-17.67	30.63	-0.02	4.52	37.19	37.79	37.5	0.04	7.0	6.0	2.4	0.7	-4.4	9.9	4.94	Complete			
136	013																Scratched d/t feather			
136A	014	-19.58	32.83	0.10	5.64	37.10	38.05	37.5	0.07	6.6	6.0	2.5	0.7	-4.1	8.3	4.56	Complete			
201	015	-16.15	15.04	1.18	4.10	37.28	37.67	37.5	0.04	7.8	4.5	2.2	0.5	-3.0	7.0	4.73	Complete			
141XA	016	-39.3	11.98	-0.83	4.55	37.26	37.69	37.5	0.04	6.7	5.9	2.5	0.7	-11.3	1.6	4.72	Complete			
144XB	017	-8.28	4.96	-1.62	2.25	37.30	37.68	37.5	0.04	8.4	3.6	2.3	0.5	-1.7	12.7	4.98	Complete			
203	018	-15.52	16.65	-0.80	3.74	37.38	37.62	37.5	0.02	7.5	6.0	2.3	0.6	-6.3	4.7	4.90	Incomplete line aborted d/t whales			
203A	019	-11.16	10.20	-1.76	3.12	37.35	37.62	37.5	0.02	6.0	5.9	2.9	0.9	-4.6	4.9	4.97	Complete			
128	020	-8.41	9.28	-0.50	2.75	37.34	37.65	37.5	0.02	8.4	3.5	2.1	0.4	-11.5	5.3	4.81	Complete			
130	021	-13.32	7.69	-0.82	3.32	7.12	68.68	37.5	2.43	6.5	5.9	2.6	0.7	-1.2	7.1	4.77	Complete, sp spacing bad sp 265-301			
131	022	-8.20	12.02	0.68	2.65	37.34	37.65	37.5	0.03	8.1	3.5	2.2	0.5	-11.2	0.5	4.88	Complete			
132	023	-14.90	13.67	-0.40	3.65	36.92	38.33	37.5	0.09	6.8	5.9	2.5	0.8	-1.5	11.2	4.49	Complete			
126	024	-15.00	11.55	-0.74	3.26	37.28	37.68	37.5	0.04	7.2	5.9	1.5	0.7	-3.4	13.1	4.89	Complete			
123	025	-14.43	23.58	-0.05	4.49	37.20	37.80	37.5	0.07	6.9	5.6	2.3	0.6	-4.5	6.6	4.15	Complete			
120	025	-12.77	14.68	-0.32	3.42	37.18	37.80	37.5	0.05	7.9	5.6	2.2	0.5	-6.5	9.1	4.19	Complete			
117	026	-14.01	11.92	0.09	3.93	37.10	37.94	37.5	0.07	6.9	5.9	2.5	0.7	-11.2	4.4	4.57	Complete			

GEOTEAM



NAVIGATION QC LOG



CLIENT:	Seismic Australia	VESSEL:	RV Geo Arctic	NAV. SYSTEM 1:	Starfix Spot
PROJECT:	2D survey	AREA:	Deep water Ottway/Sorell, Bass Strait Australia	NAV. SYSTEM 2:	Starfix MN8
NAV PROG.:	Starfix Suite 3.1	PROJECT NO.:	34823	REF. STATS:	385,336,326,275,026,195,022

Line Number	Sequence	Cross Course				Shot Point Interval				Satellites	PDOP				Fthr<°		Speed	Comments
DS01		Min	Max	Mean	SD	Min	Max	Mean	SD	Mean	Max	Mean	SD	Min	Max	Mean		
114	028	-13.36	32.47	-0.29	3.40	37.17	37.84	37.50	0.06	7.4	4.6	2.3	0.5	-5.8	9.1	4.31	Complete	
112	029	-12.72	55.98	0.68	6.00	37.22	37.84	37.50	0.05	8.4	5.4	2.3	0.7	-15.3	4.5	4.50	Complete	
110	030	-7.17	15.75	-0.04	2.60	37.27	37.72	37.50	0.04	7.3	3.2	2.2	0.4	-1.3	9.0	4.91	Complete	
108	031	-8.00	9.02	0.27	2.72	37.28	37.68	37.50	0.03	8.4	4.4	2.1	0.4	-8.3	3.0	4.81	Complete	
206XA	032	-7.42	10.04	-0.08	2.57	37.39	37.58	37.50	0.02	6.4	4.3	2.3	0.4	-1.4	7.8	5.41	Complete	
207	033	-29.82	20.62	0.32	5.11	37.10	37.84	37.50	0.04	7.9	5.2	2.2	0.5	-10.7	3.6	4.94	Complete	
204X	034	-10.75	24.19	0.88	3.22	34.59	40.31	37.50	0.05	7.4	5.9	2.4	0.6	-12.8	13.5	5.00	Complete	
205X	035	-22.15	15.23	-0.88	6.06	37.11	37.96	37.50	0.11	7.1	5.8	2.4	0.6	-3.0	7.0	3.68	Incomplete aborted d/t guns	
205XA	036	-14.89	16.40	-0.12	4.31	37.24	37.75	37.50	0.05	7.3	5.8	2.5	1.6	-5.6	5.2	4.36	Complete	
133	037	-9.06	10.65	0.21	3.19	37.06	37.95	37.50	0.08	7.3	4.4	2.3	0.6	0.1	9.6	4.26	Incomplete d/t streamer parting	
134	038	-22.22	12.80	-0.93	4.68	37.26	37.70	37.50	0.04	8.4	3.5	2.1	0.4	-12.4	0.4	4.84	Complete	
135	039	-24.25	31.70	-0.28	6.71	37.18	37.82	37.50	0.07	7.3	5.2	2.3	0.6	-1.8	12.0	4.92	Complete	
138A	040	-23.35	30.30	-0.13	8.90	37.16	38.06	37.50	0.07	8.8	3.2	1.9	0.3	-3.8	3.5	4.86	Complete	
138B	041	-10.08	-	-	-	37.32	37.69	37.50	0.04	6.8	3.5	2.5	0.5	-10.9	-	4.76	Complete	
133A	042	-10.85	21.82	-0.9	3.32	37.18	37.82	37.50	0.05	7.6	4.3	2.3	0.6	0.0	5.4	4.67	Complete	
107	043	-13.99	11.72	0.34	3.81	37.29	37.68	37.50	0.04	7.6	3.7	2.4	0.5	-5.0	4.9	4.66	Complete	
109	044	-19.58	23.38	0.03	5.16	37.30	37.68	37.50	0.04	6.5	5.8	2.7	0.8	-8.0	2.9	5.00	Stopped early d/t weather considered complete	

<u>r/v Geo Arctic</u>		
Seq.	Line I.D.	Comments
	DS01-	
1	208X	Line interrupted due to lack of environmental permits.
2	208XA	Line terminated as edge of EA permit zone.
3	206X	Line started at edge of EA permit zone A. Hence FSP 688.
4	146	Line terminated 2.2km from EOL due to avoid fishing vessels.
5	144X	Line started 8km late due to shallows and coastal traffic. Line terminated due to Navigation crash.
6	144XA	Line terminated due to navigation crash. Did not continue due to high streamer noise.
7	142X	Line terminated early due to shallows.
8	141X	Due to shallows line started with short run-in. SOL F< -19.6, SP 142 F<-10. Aborted due to fishing buoys across line.
9	140	
10	139	
11	138	Offline up to 8km due to fishing activity sp 1279-2490
12	137	
13	136	Aborted due to strong tide causing big feather angles
14	136A	High wind and seas at EOL. Very marginal data.
15	201	Line shortened from origianl program co-ordinates
16	141XA	Picked up line where previously aborted for fishing buoys.
17	144XB	Picked up line where previously aborted due to nav crash. Marginal data due to swell.
18	203	Aborted due to presence of whales.
19	203A	
20	128	
21	130	Shot interval erratic 265 - 301 due to Starfix.Seis timing fault.
22	131	
23	132	Digicourse fault - no bird data SP 352 to 387
24	126	Marginal due to swell
25	123	Swell noise
26	120	Swell noise



4. ENERGY SOURCE DROP OUT SPECIFICATION

The following applies after the appropriate spare guns have been used:-

All one gun drop outs are acceptable

All two gun drop outs are acceptable except when 250 cu. Inch guns are dropped in different clusters.

No more than 2 guns may be dropped.

Source volume may not be reduced by more than 15%

- Depth of array to be maintained within +/- 0.5m, of specified depth.



5. ORIGINAL DATA ACQUISITION PROGRAM

DS01 Phase1 Line Coordinates

linename	deg	min	sec		deg	min	sec	
DS01-100	38	23	6.2 S		141	5	43.7 E	
DS01-100	38	24	42.9 S		141	4	21.1 E	
DS01-100	38	29	56 S		140	59	53 E	
DS01-100	38	54	59.9 S		140	35	47.1 E	
DS01-105	38	44	4.9 S		141	29	25.4 E	
DS01-105	39	7	42.2 S		141	6	54 E	
DS01-108	38	52	33.6 S		141	47	11.5 E	
DS01-108	39	15	56.3 S		141	25	0.6 E	
DS01-110	38	55	0.5 S		142	2	3.5 E	
DS01-110	39	23	46 S		141	34	52.2 E	
DS01-112	38	59	59.2 S		142	14	33 E	
DS01-112	39	29	59 S		141	46	17.1 E	
DS01-114	38	58	23.6 S		142	33	9.1 E	
DS01-114	38	58	41 S		142	32	46 E	
DS01-114	39	34	57.2 S		141	58	53.8 E	
DS01-116X	39	43	40.2 S		142	7	0.7 E	
DS01-116X	39	15	41.5 S		142	35	10.9 E	
DS01-118	39	23	40 S		142	44	58.9 E	
DS01-118	39	52	27.3 S		142	14	50.5 E	
DS01-120	39	19	50.1 S		143	8	23.3 E	
DS01-120	39	21	23.4 S		143	6	41.9 E	
DS01-120	39	58	56.3 S		142	25	42.1 E	
DS01-122	39	44	56.1 S		143	0	56.4 E	
DS01-122	40	6	36.2 S		142	36	33.8 E	
DS01-124	39	57	3.8 S		143	10	1.6 E	
DS01-124	40	16	27.7 S		142	44	58.9 E	
DS01-126	39	52	48 S		143	34	54.4 E	
DS01-126	39	53	57.8 S		143	33	20.9 E	
DS01-126	40	34	26.1 S		142	38	51.7 E	
DS01-128	40	15	41.9 S		143	21	54.6 E	
DS01-128	40	39	48.1 S		142	39	15.6 E	
DS01-130	40	18	55.5 S		143	35	0.1 E	
DS01-130	40	38	15.7 S		142	53	24.6 E	
DS01-131	40	23	59.9 S		143	37	25.5 E	
DS01-131	40	42	52.7 S		142	57	5.9 E	
DS01-132	40	28	57.8 S		143	40	21.5 E	
DS01-132	40	47	29.6 S		143	0	47.7 E	
DS01-133	40	33	50.2 S		143	43	29.6 E	
DS01-133	40	52	6.3 S		143	4	30 E	
DS01-134	40	38	20.2 S		143	47	25.3 E	
DS01-134	40	56	42.9 S		143	8	12.9 E	
DS01-135	40	42	59 S		143	51	2.5 E	
DS01-135	41	1	19.4 S		143	11	56.3 E	
DS01-136	40	34	25 S		144	22	19.6 E	
DS01-136	41	5	55.7 S		143	15	40.2 E	
DS01-137	40	38	58.9 S		144	26	6.8 E	
DS01-137	41	10	31.9 S		143	19	24.6 E	
DS01-138	40	43	32.9 S		144	29	41.9 E	
DS01-138	40	51	52.4 S		144	12	55.1 E	
DS01-138	41	14	58.6 S		143	23	9.5 E	
DS01-139	40	56	25.6 S		144	16	42.1 E	
DS01-139	41	19	34.6 S		143	26	54.7 E	
DS01-140	40	56	31.2 S		144	30	1.6 E	
DS01-140	41	21	30 S		143	36	37.6 E	



DS01-141X	41	25	2.2	S	143	40	0.5	E
DS01-141X	41	4	26.1	S	144	29	52	E
DS01-142X	41	30	15.5	S	143	45	3.5	E
DS01-142X	41	12	54.2	S	144	36	20.1	E
DS01-144X	41	39	52.8	S	143	51	12.7	E
DS01-144X	41	20	54.2	S	144	40	7.3	E
DS01-146	41	28	38.2	S	144	43	3.1	E
DS01-146	41	40	2.1	S	144	18	43.8	E
DS01-150	42	5	27.7	S	145	11	34.7	E
DS01-150	42	18	0	S	144	25	11.7	E
DS01-201	40	40	39.2	S	144	3	58.1	E
DS01-201	40	51	52.4	S	144	12	55.1	E
DS01-201	41	29	33.5	S	144	43	41.9	E
DS01-203	40	19	59.7	S	143	30	24	E
DS01-203	41	40	4.1	S	144	37	35.4	E
DS01-204X	39	12	2.3	S	142	28	53.8	E
DS01-204X	41	40	6.7	S	144	29	42.7	E
DS01-204X	42	15	20.7	S	144	47	58.3	E
DS01-205X	39	21	30.4	S	142	28	34.4	E
DS01-205X	41	39	49.2	S	144	21	17	E
DS01-206X	39	20	32.3	S	142	19	4.9	E
DS01-206X	41	40	18.5	S	144	13	1.6	E
DS01-208X	39	31	35.7	S	142	15	51.5	E
DS01-208X	41	40	4.5	S	144	3	18.7	E



DS01_Phase2 Line Coordinates

linename	deg	min	sec		deg	min	sec	
DS01-101	38	32	12	S	141	6	19.3	E
DS01-101	38	56	21.7	S	140	43	8.5	E
DS01-102	38	25	6	S	141	19	17.2	E
DS01-102	38	25	46.7	S	141	18	47.5	E
DS01-102	38	36	0.4	S	141	11	17.8	E
DS01-102	38	59	55.4	S	140	48	22.6	E
DS01-103	38	30	52.4	S	141	22	51.8	E
DS01-103	38	32	25	S	141	21	47	E
DS01-103	38	38	32	S	141	17	29.6	E
DS01-103	39	2	3	S	140	54	59.9	E
DS01-104	38	40	33.5	S	141	24	10	E
DS01-104	39	4	59.7	S	141	0	50	E
DS01-106	38	46	41.8	S	141	35	32.5	E
DS01-106	39	10			141	13	5.8	E
DS01-107	38	49	59.1	S	141	41	1.7	E
DS01-107	39	13	16.1	S	141	18	53.9	E
DS01-109	38	54	38.4	S	141	53	49.3	E
DS01-109	39	19	46.5	S	141	30	0.7	E
DS01-111	38	55	41	S	142	10	0	E
DS01-111	39	25	20.7	S	141	42	1.9	E
DS01-113	39	3	15	S	142	20	4.5	E
DS01-113	39	34	58.8	S	141	50	12.2	E
DS01-115	38	58	3.6	S	142	43	56	E
DS01-115	39	0	14.2	S	142	41	42.9	E
DS01-115	39	40	5.5	S	142	1	52.7	E
DS01-117	39	20	3.2	S	142	39	13.2	E
DS01-117	39	47	30	S	142	11	4.4	E
	39	28	8.1	S	142	50	4.8	E
DS01-119	39	55	41.9	S	142	20	49.5	E
DS01-121	39	36	32.6	S	143	0	3.2	E
DS01-121	40	2	31.1	S	142	31	41.1	E
DS01-123	39	51	15.6	S	143	4	55.7	E
DS01-123	40	12	2.7	S	142	40	33	E
DS01-125	40	2	51.5	S	143	11	21.3	E
DS01-125	40	23	4.6	S	142	44	58.9	E
DS01-127	40	25	11.4	S	142	58	1.9	E
DS01-127	40	12	25.8	S	143	18	39.3	E
DS01-129	40	30	13.4	S	143	3	8.9	E
DS01-129	40	19	26.3	S	143	24	14.2	E
DS01-202	40	43	41.8	S	143	58	12.3	E
DS01-202	41	40	1.1	S	144	44	43.7	E
DS01-202	42	8	9.6	S	145	1	45.9	E
DS01-202	42	17	39.8	S	145	6	35.8	E
DS01-204	38	27	37.6	S	140	51	21.5	E
DS01-204	39	13	16	S	142	30	48	E
DS01-205	38	32	15.5	S	140	47	48.5	E
DS01-205	39	17	17.5	S	142	26	15	E
DS01-206	38	36	53.3	S	140	44	15	E
DS01-206	39	22	8.2	S	142	22	3.5	E
DS01-207	39	26	59.3	S	142	19	10.2	E
DS01-207	38	41	31	S	140	40	41.1	E
DS01-209	39	37	31.2	S	142	14	44.1	E
DS01-209	38	50	46	S	140	33	31.8	E



6. WEATHER REPORTS

Date	Time	WIND		SEA State Code	PRESSURE mBar
		Speed - m/s	Direction - Degs		
27-Apr-01	06:00				1019
	12:00				1019
	18:00	9	135	4	1019
	24:00	9	287	4	1019
28-Apr-01	06:00	4	305	4	1025
	12:00	1	0	3	1026
	18:00	4	110	3	1027
	24:00	4	180	3	1027
29-Apr-01	06:00	2	135	1	1029
	12:00	3	90	1	1030
	18:00	5	131	1	1030
	24:00	5	110	2	1030
30-Apr-01	06:00	7	54	2	1028
	12:00	7	90	3	1028
	18:00	8	90	4	1027
	24:00	5	90	4	1027
01-May-01	06:00	7	135	2	1025
	12:00	7	135	2	1025
	18:00	7	112	2	1024
	24:00	5	135	2	1024
02-May-01	06:00	4	135	2	1022
	12:00	4	90	2	1022
	18:00	7	90	2	1020
	24:00	5	90	2	1020
03-May-01	06:00	5	90	2	1019
	12:00	5	0	2	1018
	18:00	7	23	2	1018
	24:00	7	45	3	1018
04-May-01	06:00	8	0	3	1018
	12:00	7	0	2	1018
	18:00	3	270	1	1018
	24:00	1	Var	1	1018
05-May-01	06:00	3	180	2	1021
	12:00	7	180	2	1023
	18:00	3	135	1	1023
	24:00	1	135	1	1023
06-May-01	06:00	11	215	3	1025
	12:00	7	180	3	1025
	18:00	5	135	1	1026
	24:00	6	135	2	1026
07-May-01	06:00	5	120	1	1025
	12:00	7	90	2	1024
	18:00	5	70	2	1022
	24:00	12	90	3	1022
08-May-01	06:00	11	45	5	1017
	12:00	10	90	4	1017
	18:00	4	292	1	1017
	24:00	1	Var	1	1017
09-May-01	06:00	12	200	4	1020
	12:00	12	215	4	1021
	18:00	12	110	5	1022
	24:00	15	180	5	1022



Date	Time	WIND		SEA State Code	PRESSURE mBar
		Speed - m/s	Direction - Degs		
10-May-01	06:00	8	135	4	1020
	12:00	5	0	2	1019
	18:00	7	90	3	1017
	24:00	10	90	3	1017
11-May-01	06:00	7	45	3	1014
	12:00	7	0	3	1013
	18:00	7	270	3	1013
	24:00	3	290	3	1013
12-May-01	06:00	3	315	3	1014
	12:00	7	290	3	1015
	18:00	5	45	2	1016
	24:00	7	335	2	1016
13-May-01	06:00	5	0	2	1017
	12:00	6	22	2	1018
	18:00	7	45	3	1018
	24:00	7	45	3	1018
14-May-01	06:00	8	45	4	1017
	12:00	15	45	5	1017
	18:00	9	45	5	1014
	24:00	12	45	5	1014
15-May-01	06:00	14	45	6	1004
	12:00	13	22	6	1003
	18:00	19	22	7	994
	24:00	19	338	6	994
16-May-01	06:00	12	215	5	999
	12:00	12	215	5	1004
	18:00	19	180	8	998
	24:00	18	180	7	998
17-May-01	06:00	17	202	7	1018
	12:00	13	157	6	1021
	18:00	6	180	5	1023
	24:00	5	247	4	1023
18-May-01	06:00	7	215	3	1025
	12:00	6	270	4	1026
	18:00	7	270	2	1025
	24:00	9	215	3	1025
19-May-01	06:00	11	225	5	1025
	12:00	9	315	4	1026
	18:00	8	315	4	1024
	24:00	7	225	4	1024
20-May-01	06:00	11	225	5	1023
	12:00	9	180	4	1023
	18:00	5	45	3	1023
	24:00	5	315	3	1023
21-May-01	06:00	7	135	2	1023
	12:00	9	162	2	1024
	18:00	7	180	4	1025
	24:00	6	135	3	1025
22-May-01	06:00	5	135	2	1023
	12:00	9	135	3	1023
	18:00	7	202	2	1020
	24:00	3	180	3	1020
23-May-01	06:00	7	202	3	1017
	12:00	15	270	5	1016
	18:00	13	225	5	1015
	24:00	10	225	5	1015



Date	Time	WIND		SEA State Code	PRESSURE mBar
		Speed - m/s	Direction - Degs		
24-May-01	06:00	6	135	4	1015
	12:00	3	225	4	1015
	18:00	4	225	3	1014
	24:00	3	225	3	1014
25-May-01	06:00	1	Var	2	1012
	12:00	4	45	3	1011
	18:00	6	90	2	1009
	24:00	12	90	4	1009
26-May-01	06:00	19	315	7	1004
	12:00	19	315	7	1003
	18:00	16	22	6	1000
	24:00	17	335	7	1000
27-May-01	06:00	7	315	4	1005
	12:00	9	270	4	1007
	18:00	7	225	4	1011
	24:00	11	225	4	1011
28-May-01	06:00	6	225	4	1017
	12:00	7	45	4	1020
	18:00	3	67	2	1021
	24:00	7	0	3	1021
29-May-01	06:00	7	225	2	1022
	12:00	9	225	3	1023
	18:00	7	180	3	1023
	24:00	9	180	3	1023
30-May-01	06:00	0	0	0	
	12:00	0		0	0
	18:00	0		0	0
	24:00	0		0	0
31-May-01	06:00	6	200	3	1027
	12:00	6	10	2	1027
	18:00	6	210	4	1026
	24:00	8	VAR	3	1026
01-Jun-01	06:00	7	45	2	1024
	12:00	10	60	5	1022
	18:00	9	45	3	1019
	24:00	12	350	6	1019
02-Jun-01	06:00	13	340	5	1019
	12:00	12	0	6	1020
	18:00	7	225	5	1021
	24:00	7	220	4	1021
03-Jun-01	06:00	3	340	3	1026
	12:00	3	0	2	1026
	18:00	3	Var	2	1026
	24:00	4	90	2	1026
10-Jun-01	06:00	7	45	5	1021
	12:00	7	0	5	1021
	18:00	9	0	5	1020
	24:00	9	330	5	1020
11-Jun-01	06:00	9	350	5	1019
	12:00	15	350	7	1014
	18:00	10	310	5	1015
	24:00	8	330	5	1015



7. SAFETY ACCIDENTS / NEAR MISS REPORTS

Incidents:

There have been seven reported incidents during May. For details please see the reports.

- 05th May 2001 – ARC 15-01 Steward cut his finger while picking up a metal food container with a serrated edge.
- 11th May 2001 – ARC 16-01 Door slammed onto Stewards thumb during rough seas.
- 16th May 2001 – ARC 17-01 2nd Cook slipped in the galley in rough seas.
- 30th May 2001 – ARC 18-01 While coming alongside in Burnie part of the dock fender damaged a port hole.
- 30th May 2001 – ARC 19-01 Processor suffered head injury in trip accident while ashore.
- 28th May 2001 – ARC 20-01 Tow leader parted on streamer leaving 7km of cable adrift in the sea.

HSE Follow-up

- | | |
|-------------------------|--|
| ARC 15-01, 16-01, 17-01 | Personal injury cases received local treatment, case closed. |
| ARC 18-01 | Repair to vessels porthole to be completed at next docking. Burnie Harbour authority will request compensation for damage to their dock. |
| ARC 19-01 | Personal injury, still under observation but no treatment required. |
| ARC 20-01 | Full extent of damages still being assessed. |
| ARC 21-01 | Dental treatment case. Treatment received at port call. Case closed. |



POSITION

8. NAVIGATION PROFILES LOG



Seq. #	Line Name DS01	Start of Line		End of Line		Chargeable Distance Km
		Easting	Northing	Easting	Northing	
001	208X	754346.2	5382564.36	737936.51	5409772.27	31.762
002	208XA	739771.70	5406586.95	608693.03	5623966.11	250.237
003	206X	624720.68	5625413.00	769698.15	5378438.91	286.35
004	146	775749.40	5381849.93	808331.88	5400386.93	37.462
005	144X	798787.05	5412228.61	765531.28	5396626.19	36.712
006	144XA	765500.02	5396604.44	748687.86	5388717.34	18.562
007	142X	729600.05	5401588.31	800701.39	5430440.71	76.688
008	141X	792491.43	5446432.85	774484.87	5437390.98	20.138
009	140	794679.40	5461760.35	715163.87	5416336.06	91.537
010	139	704916.05	5422111.92	798407.68	5475962.26	107.85
011	138	795174.96	5485788.52	696705.53	5428947.10	113.662
012	137	694897.20	5439141.42	793665.73	5496296.52	114.075
013	136	Scratched	d/t feather			
014	136A	785447.01	5503090.38	686678.43	5445943.34	114.075
015	201	759139.38	5492498.81	800767.79	5418536.26	84.825
016	141XA	774454.66	5437367.22	719574.08	5409812.48	61.388
017	144XB	756803.28	5392529.19	734221.40	5381928.42	24.938
018	203	801913.60	5380729.38	727166.50	5507993.40	147.525
019	203A	729012.09	5504858.00	711056.22	5535416.47	31.762
020	128	701128.80	5540501.78	636836.49	5495161.54	78.675
021	130	659835.92	5499732.00	722723.80	5535864.29	72.525
022	131	722663.66	5524527.39	661642.18	5489211.26	70.700
023	132	669852.46	5482421.12	729739.94	5517080.93	69.188
024	126	639463.60	5507222.50	723512.18	5584852.19	114.413
025	123	678114.82	5586321.02	640092.10	5545898.17	55.500
026	120	621957.29	5573215.61	686878.36	5647096.85	98.363
027	117	642520.94	5644815.45	599070.59	5591814.40	68.550
028	114	584298.92	5618098.14	637183.29	5687538.83	87.375
029	112	607595.29	5682496.93	564116.65	5624524.35	72.488
030	110	591875.32	5694872.63	550042.19	5639089.23	69.750
031	108	568230.11	5696671.92	533749.86	5650698.97	57.488
032	206XA	613578.32	5644391.43	624703.69	5625446.50	21.975
033	207	627944.36	5623619.07	533101.16	5681149.75	110.963
034	204X	536310.86	5697279.80	792834.24	5377923.26	419.363
035	205X	779306.73	5382109.67	755058.88	5424038.39	48.413
036	205XA	755042.47	5424072.35	688705.91	5538785.48	132.488
037	133	674861.26	5473765.52	712874.42	5495755.28	43.913
038	134	735965.25	5497562.13	676689.71	5463262.66	68.475
039	135	684882.73	5456448.81	743994.84	5490661.22	68.288
040	138A	757092.70	5463359.34	739253.24	5453218.99	20.512
041	138B	739242.43	5453189.23	717634.22	5440879.14	24.862
042	133A	712876.54	5495751.73	733878.03	5507911.21	24.262
043	107	527185.59	5658623.13	561575.06	5704476.05	57.338
044	109	577773.26	5692739.73	542602.55	5645831.23	58.650



9. NAVIGATION PRODUCTION LOG

GEOTEAM



NAVIGATION PRODUCTION LOG

34823 DS01- 2DSeismic Survey



SEQ	DATE	LINE NAME	FILE NAME	DIR deg.	TIME UTC		FSP	LSP	FCSP	LCSP	Prod Km	REMARKS
					START	END						
001	29.04.01	DS01-208X	PC119_45.RAW	326.9	23:26	03:43	101	948	101	948	31.762	Incomplete, line stopped d/t no permits
002	1.02.01	DS01-208XA	PC121_01.RAW	328.1	10:17	15:10+1	851	7622	949	7622	250.237	Incomplete stopped early d/t border permit
003	2.05.01	DS01-206X	PC122_01.RAW	148.7	18:37	01:31+1	688	8324	688	8324	286.35	Incomplete d/t border permit
004	4.05.01	DS01-146	PC124_03.RAW	58.2	07:08	11:23	101	1100	101	1100	37.462	Complete stopped early d/t coastline
005	4.05.01	DS01-144X	PC124_04.RAW	242.4	14:09	18:20	101	1080	101	1080	36.712	Incomplete started late d/t coastline, stopped early d/t StarfixSeis crash
006	5.05.01	DS01-144XA	PC125_01.RAW	242.4	00:05	02:43	983	1576	1081	1576	18.562	Incomplete d/t StarfixSeis crash
007	5.05.01	DS01-142X	PC125_06.RAW	66.1	08:11	17:14	101	2146	101	2146	76.687	Complete, line stopped early d/t coastline
008	5.05.01	DS01-141X	PC125_08.RAW	241.0	20:10	22:47	101	679	142	679	20.138	Incomplete
009	6.05.01	DS01-140	PC126_02.RAW	238.0	06:27	17:15	101	2542	101	2542	91.537	Complete
010	6.05.01	DS01-139	PC126_03.RAW	58.4	21:10	09:13	101	2977	101	2977	107.85	Complete, deviation offline d/t fishing sp 1817-1912 max off 263m
011	7.05.01	DS01-138	PC127_01.RAW	236.7	12:31	01:10	101	3132	101	3132	113.662	Complete, deviation offline d/t fishing sp 1279-2490 max off 8800m
012	8.05.01	DS01-137	PC128_01.RAW	58.4	03:36	16:03	101	3143	101	3143	114.075	Complete
013	8.05.01	DS01-136										Scratched d/t feather
014	8.05.01	DS01-136A	PC128_03.RAW	237.4	23:06	12:39	101	3143	101	3143	114.075	Complete
015	10.05.01	DS01-201	PC130_01.RAW	148.8	09:10	18:50	101	2363	101	2363	84.825	Complete
016	11.05.01	DS01-141XA	PC131_01.RAW	241.0	00:39	08:06	582	2317	680	2317	61.388	Complete
017	11.05.01	DS01-144XB	PC131_02.RAW	242.4	17:31	20:37	1479	2242	1577	2242	24.938	Complete
018	12.05.01	DS01-203	PC132_01.RAW	327.2	07:59	00:16	101	4035	101	4035	147.525	Incomplete, line aborted d/t whales
019	13.05.01	DS01-203A	PC133_01.RAW	327.2	05:34	09:25	3938	4883	4036	4883	31.762	Complete
020	13.05.01	DS01-128	PC133_02.RAW	233.3	12:15	21:06	101	2199	101	2199	78.675	Complete

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NAVIGATION PRODUCTION LOG

34823 DS01- 2DSeismic Survey



SEQ	DATE	LINE NAME	FILE NAME	DIR	TIME UTC		FSP	LSP	FCSP	LCSP	Prod Km	REMARKS
					START	END						
021	14.05.01	DS01-130	PC134_01.RAW	58.9	02:08	10:21	101	2035	101	2035	72.525	Complete, sp spacing problem sp265-301
022	14.05.01	DS01-131	PC134_02.RAW	238.2	14:44	22:33	101	1981	101	1981	70.500	Complete
023	15.05.01	DS01-132	PC135_01.RAW	58.6	01:27	09:46	101	1946	101	1946	69.188	Complete
024	18.05.01	ds01-126	pc138_01.RAW	46.2	02:57	15:36	101	3152	101	3152	114.413	Complete
025	18.05.01	DS01-123	PC138_02.RAW	221.9	21:58	05:04	101	1581	101	1581	55.500	Complete
026	19.05.01	DS01-120	PC139_01.RAW	40.4	10:48	23:29	101	2724	101	2724	98.363	Complete
027	20.05.01	DS01-117	PC140_01.RAW	218.3	06:01	14:07	101	1929	101	1929	68.550	Complete
028	20.05.01	DS01-114	PC140_02.RAW	36.8	18:40	05:38	101	2431	101	2431	87.375	Complete
029	21.05.01	DS01-112	PC141_01.RAW	216.0	10:19	19:00	101	2034	101	2034	72.488	Complete
030	21.05.01	DS01-110	PC141_02.RAW	36.5	23:12	06:52	101	1961	101	1961	69.750	Complete
031	22.05.01	DS01-108	PC142_01.RAW	216.4	11:01	17:28	101	1634	101	1634	57.488	Complete
032	23.05.01	DS01-206XA	PC143_01.RAW	148.7	04:03	06:36	101	785	101	687	21.975	Complete
033	23.05.01	DS01-207	PC143_02.RAW	300.3	10:20	22:28	101	3060	101	3060	110.963	Complete
034	24.05.01	DS01-204X	PC144_01.RAW	120.9	02:07	23:24 +1	101	11284	101	11284	419.363	Complete
035	26.05.01	DS01-205X	PC146_03.RAW	327.8	07:07	14:15	101	1392	101	1392	48.413	Incomplete aborted d/t guns
036	27.05.01	DS01-205XA	PC147_01.RAW	327.8	04:34	21:26	1295	4926	1393	4926	132.488	Complete
037	28.05.01	DS01-133	PC148_01.RAW	58.6	08:14	13:55	101	1296	101	1272	43.913	Incomplete, streamer parted
038	01.06.01	DS01-134	PC152_01.RAW	238.1	12:28	20:07	101	1927	101	1927	68.475	Complete
039	01.06.01	DS01-135	PC152_02.RAW	58.5	22:57	06:28	101	1922	101	1922	68.288	Complete
040	02.06.01	DS01-138A	PC153_01.RAW	238.2	12:13	14:55	1181	1826	1279	1826	20.512	Incomplete, stopped early d/t StarfixSeiscrash

GEOTEAM**NAVIGATION PRODUCTION LOG**

34823 DS01- 2DSeismic Survey



SEQ	DATE	LINE NAME	FILE NAME	DIR	TIME UTC		FSP	LSP	FCSP	LCSP	Prod Km	REMARKS
					START	END						
041	02.06.01	DS01-138B	PC153_03.RAW	238.2	19:57	23:38	1729	2588	1827	2490	24.862	Complete
042	3.06.01	DS01-133A	PC154_01.RAW	58.6	07:18	15:12	101	1919	1272	1919	24.262	Complete,
043	10.06.01	DS01-107	PC161_01.RAW	36.7	14:52	21:31	101	1630	101	1630	57.338	Complete
044	11.06.01	DS01-109	PC162_02.RAW	216.3	01:55	08:25	101	1705	101	1665	58.650	Complete



10. NAVIGATION PROCESSING LOG

Client: Seismic Australia

Job#: 34823

Area: Deep water Ottway/Sorell basin

Line Name	Seq #	P190 file name Sp range	P294 file Sp range	Status/Comments
DS01-208X	001	ds01-208x.p1 Sp 101-948	DS01-208X.294 SP101-948	OK. Front compasse a little noisy.
DS01-208XA	002	[ds01-208xa].p1 Sp851-7622	[DS01- 208XA].001.294 SP851-7622	OK
DS01-206X	003	ds01-206x.p1 Sp688-8324	DS01-206X.294 Sp688-8324	OK
DS01-146	004	ds01-146.p1 Sp 101-1100	DS01-146.294 Sp 101-1100	OK. Secondary Nav system used during processing, d/t loss of spot corrs online.
DS01-144X	005	ds01-144x.p1 Sp101-1080	DS01-144X.294 Sp101-1080	OK Compass 4 & 7 spiking
DS01-144XA	006	ds01-144xa.p1 Sp 983-1576	DS01- 144XA.294 Sp 983-1576	OK
DS01-142X	007	ds01-142x.p1 Sp101-2146	DS01-142X.294 Sp101-2146	OK. Single spike in all compasses around sp 907 interpolated through in filtering
DS01-141X	008	ds01-141x.p1 Sp101-679	DS01-141X.294 Sp101-679	OK. Compass #7 set passive in processing
DS01-140	009	ds01-140.p1 Sp101-2542	Ds01-140.294 Sp 101-2542	OK Compass #7 set passive in processing
DS01-139	010	ds01-139.p1 Sp101-2977	DS01-139.294 Sp101-2978	OK , Vessel moved offline around sp 1817 for fishing gear, dist off 240m
DS01-138	011	ds01-138.p1 Sp101-3132	DS01-138.294 Sp101-3132	OK sp 1279-2490 offline d/t fishing max off 8800m
DS01-137	012	ds01-137.p1 Sp101-3143	DS01-137.294 Sp101-3143	OK
DS01-136	013			Scratched
DS01-136A	014	ds01-136a.p1 Sp 101-3143	DS01-136A.294 Sp101-3143	OK Compass 7 set passive, compass and e/s data noisy.
DS01-201	015	ds01-201.p1 Sp101-2363	DS01-141.294	OK
DS01-141XA	016	ds01-141xa.p1 Sp582-2317	DS01- 141XA.294 Sp582-2317	OK compass 7 set passive in processing
DS01-144XB	017	ds01-144xb.p1 Sp1479-2242	DS01- 144XB.294 Sp1479-2242	OK compass 7 set passive in processing
DS01-203	018	ds01-203.p1 Sp101-4035	DS01-203.294 Sp101-4035	O.K.
DS01-203A	019	ds01-203a.p1 Sp3938-4883	DS01-203A.294 Sp3938-4883	O.K.



Line Name	Seq #	P190 file name Sp range	P294 file Sp range	Status/Comments
DS01-128	020	ds01-128.p1 Sp101-2199	DS01-128.294 Sp101-2199	O.K compass 7 set passive in processing. E/S data poor sp 1442-1468, depths interpolated
DS01-130	021	ds01-130.p1 Sp101-2035	DS01-130.294 SP101-2035	O.K. Sp spacing bad Sp's 265-301. No TB position for sps 1419-1502
DS01-131	022	ds01-131.p1 Sp101-1981	DS01-131.294 Sp101-1981	O.K.
DS01-132	023	ds01-132.p1 SP101-1946	Ds01-132.294 Sp101-1946	O.K. Compass data frozen sp352-387. E/S data bad sp 1372-1461, depths interpolated.
DS01-126	024	ds01-126.p1 Sp101-3152	Ds01-126.294 Sp101-3152	O.K
DS01-123	025	ds01-123.p1 Sp101-1581	Ds01-123.294 Sp101-1581	O.K
DS01-120	026	ds01-120.p1 Sp101-2724	Ds01-120.294 Sp101-2724	O.K. E/S bad sps 598-729
DS01-117	027	ds01-117.p1 Sp101-1929	Ds01-117.294 Sp101-1929	OK Compasses noisy compass #7 set passive
DS01-114	028	ds01-114.p1 Sp101-2431	Ds01-114.294 Sp101-2431	OK Compass data missing sps 106-118, data interpolated.
DS01-112	029	ds01-112.p1 Sp101-2034	Ds01-112.294 Sp101-2034	OK
DS01-108	031	ds01-108p1 Sp101-1634	Ds01-108.294 Sp101-1634	OK
DS01-206XA	032	ds01-206xa.p1 Sp101-785	DS01- 206XA.294 Sp101-785	OK
DS01-207	033	ds01-207.p1 Sp101-3060	Ds01-207.294 Sp101-3060	OK. Starfix MN8 used as primary navigation d/t Spot dropout online
DS01-204X	034	ds01-204x.p1 Sp101-11284	DS01-204X.294 Sp101-11284	OK Compass data interpolated sps 2527- 2586
DS01-205X	035	ds01-205x.p1 Sp101-1392	DS01-205X.294 Sp101-1392	OK Compasses noisy, compass 10 set passive. E/S data poor.
DS01-205XA	036	ds01-205xa.p1 Sp1295-4926	DS01- 205XA.294 Sp1295-4926	OK
DS01-133	037	ds01-133.p1 Sp101-1272	Ds01-133.294 Sp101-1272	OK.
DS01-134	038	ds01-134.p1 Sp101-1927	Ds01-134.294 Sp101-1927	OK 9 compasses mounted on the streamer after reconfiguring after streamer accident. Min offset 150m
DS01-135	039	ds01-135.p1 Sp101-1922	Ds01-135.294 Sp101-1922	OK
DS01-138A	040	ds01-138a.p1 Sp1181-1826	Ds01-138A.294 Sp1181-1826	OK line aborted d/t nav system crash
DS01-138B	041	ds01-138b.p1 Sp1729-2588	Ds01-138B.294 Sp1729-2588	OK
DS01-133A	042	ds01-133.a.p1 Sp101-1919	Ds01-133A.294 Sp101-1919	OK
DS01-107	043	ds01-107.p1 Sp101-1630	Ds01-107.294 Sp101-1630	OK
DS01-109	044	ds01-109.p1 Sp101-1705	Ds01-109.294 Sp101-1705	OK line stopped early LGSP 1665 d/t weather. Considered complete. Compasses noisy.



PROCESSING

11. QC STATUS LOG



QC STATUS LOG



Client : Seismic Australia

Project : 2D Non-exclusive

Project #: 34822

Date Commenced : 27.04.2001

Area: Sorrell/Otway Basin

Date Completed : 04.06.2001

Group Interval : 12.5m

Group Number : 561

Cable Length : 7000m

Cable Depth : 8-12m.

SP Interval: 37.5m

Array : 3660 cu. in.

Seq.	Date	Phase & Area	Line ID, DS01-	DIR	FSP	FCSP	LCSP	LSP	Charg'ble km	Status	Comments
1	29-Apr	1, A	208X	327	101	101	948	948	31.7625	Interrupted	Line interrupted due to lack of environmental permits.
2	01-May	1, A	208XA	328	857	857	7622	7622	253.6875	Incomplete	Line terminated as edge of EA permit zone.
3	02-May	1, A	208X	149	688	688	8324	8324	286.3500	Incomplete	Line started at edge of EA permit zone A. Hence FSP 688.
4	04-May	1, A	146	58	101	101	1100	1100	37.4625	Completed	Line terminated 2.2km from EOL due to avoid fishing vessels.
5	04-May	1, A	144X	242	101	101	1080	1080	36.7125	Incomplete	Line started 8km late due to shallows and coastal traffic. Line terminated due to Navigation crash.
6	05-May	1, A	144XA	242	983	1081	1576	1576	18.5625	Incomplete	Line terminated due to navigation crash. Did not continue due to high streamer noise.
7	05-May	1, A	142X	66	101	101	2146	2146	76.6875	Completed	Line terminated early due to shallows.
8	05-May	1, A	141X	241	101	101	679	679	21.6750	Incomplete	Due to shallows line started with short run-in. SOL F<-19.6, SP 142 F<-10. Aborted due to fishing buoys across line.
9	06-May	1, A	140	238	101	101	2542	2542	91.5375	Completed	
10	06-May	1, A	139	58.4	101	101	2977	2977	107.8500	Completed	
11	07-May	1, A	138	237	101	101	3132	3132	113.6625	Completed	Offline up to 8km due to fishing activity sp 1279-2490
12	8-May	1, A	137	58	101	101	3143	3143	114.0750	Completed	
13	8-May	1, A	136	237	101	101	194	194	3.4875	NTBP	
14	8-May	1, A	136A	237	101	101	3143	3143	114.0750	Completed	Aborted due to strong tide causing big feather angles
15	10-May	1, A	201	149	101	101	2363	2363	84.8250	Completed	High wind and seas at EOL. Very marginal data.
16	11-May	1, A	141XA	241	582	680	2317	2317	61.3875	Completed	Line shortened from original program co-ordinates
17	11-May	1, A	144XB	242	1479	1577	2242	2242	24.9375	Completed	Picked up line where previously aborted for fishing buoys
18	12-May	1, A	203	327	101	101	4035	4035	147.5250	Incomplete	Picked up line where previously aborted due to nav crash. Marginal data due to swell.
19	13-May	1, A	203A	327	3938	3938	4883	4883	35.4375	Completed	Aborted due to presence of whales.
20	13-May	1, A	128	233	101	101	2199	2199	78.6750	Completed	
21	14-May	1, A	130	59	101	101	2035	2035	72.5250	Completed	
22	14-May	1, A	131	238	101	101	1981	1981	70.5000	Completed	Shot interval erratic 265 - 301 due to Starfix. Seis timing fault.
23	15-May	1, A	132	59	101	101	1946	1946	69.1875	Completed	
24	18-May	1, A	126	46	101	101	3152	3152	114.4125	Completed	Digicourse fault - no bird data SP 352 to 387
25	18-May	1, A	123	222	101	101	1581	1581	55.5000	Completed	Marginal due to swell
26	19-May	1, A&B	120	40	101	101	2724	2724	98.3625	Completed	Swell noise
27	20-May	1, A&B	117	218	101	101	1929	1929	68.5500	Completed	Swell noise
28	20-May	1, C	114	37	101	101	2431	2431	87.3750	Completed	Swell noise
29	21-May	1, C	112	216	101	101	2034	2034	72.4875	Completed	Swell noise
30	21-May	1, C	110	36	101	101	1961	1961	69.7500	Completed	
31	22-May	1, C	108	216	101	101	1634	1634	57.4875	Completed	
32	23-May	1, A&C	206XA	149	101	101	785	785	25.6500	Completed	Small section of 206X not previously shot due to permit zones
33	23-May	1, C	207	300	101	101	3060	3060	110.9625	Completed	
34	24-May	1, A&C	204X	121	101	101	11284	11284	419.3625	Completed	
35	26-May	1, A	205X	328	101	101	1392	1392	48.4125	Incomplete	Aborted due to weather, swell noise increased along line.
36	27-May	1, A	205XA	328	1295	1393	4926	4926	132.4875	Completed	

Seq.	Date	Phase & Area	Line I.D. DS01-	DIR	FSP	FCSP	LCSP	LSP	Charg'ble km	Status	Comments
37	28-May 2001	1, A	133	59	101	101	1296	1296	44.8125	Incomplete	Aborted as low leader snapped
38	1-Jun	1, A	134	238	101	101	1927	1927	68.4750	Completed	Sp 218-231 missed due to MSX crash
39	1-Jun	1, A	135	58	101	101	1922	1922	68.2875	Completed	
40	2-Jun	1, A	138A	238	1181	0	0	1826	0.0000	Aborted	Stopped due to a navigation crash
41	2-Jun	1, A	138B	238	1729			2588	0.0000	Completed	
42	3-Jun	1, A	133A	58	101	1272	1919	1919	24.2625	Completed	Marginal due to swell during the first half
43	10-Jun	1, C	107	36	101	101	1630	1630	57.3375	Completed	
44	11-Jun	1, C	109	216	101	101	1665	1705	58.6500	Completed	Noisy but acceptable up to sp 1665 then tail of cable went to the surface and line terminated 1.5km from planned end, considered complete.
									3635.2125		