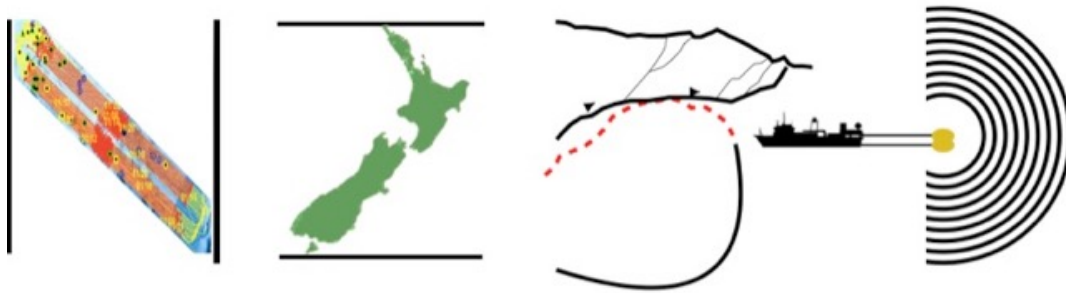


NZ3D Project Cruise Report

NEW ZEALAND 3D SURVEY



TAKING THINGS TO A HIGHER DIMENSION

Summary

As part of the NZ3D Project, we acquired a 3D seismic data volume along the Hikurangi subduction zone on the east coast of the North Island of New Zealand. This is where the Pacific plate subducts beneath the Australian plate and generates earthquakes and tsunamis from slip occurring along the subduction megathrust. The Hikurangi margin is also the site of regular slow slip earthquakes that are some of the shallowest, and thus most accessible, known to occur in any subduction zone around the world. The NZ3D project conducted a detailed 3D seismic survey for two separate goals. One goal focuses on seismic imaging to examine: 1) the megathrust and infer conditions that control the slip behavior, especially shallow slow slip events, 2) the structure of the subducting plate, especially seamounts and basement roughness that may control the amount of sediment subducted, and 3) the upper plate to infer fluid migration pathways and deformational structures that will reveal fluid migration and tectonic activity. The second goal was to record Langseth shots

fired during the cruise on 100 ocean bottom seismometers (OBS) deployed within the 3D grid prior to the cruise by Japanese scientists and technicians on board the R/V Tangaroa. In addition to these instruments there were ~300 land seismometers deployed around the Gisborne area and across the Raukumara Peninsula. The OBS and land stations were deployed to conduct a 3D full waveform inversion in order to develop a detailed 3D seismic velocity model to infer fluid content and structures within the margin.

The survey was conducted between Jan 6th and Feb. 8th, 2018. During the 34 days at sea we deployed a 4 x 6 km streamer array with each streamer containing 468 channels at 12.5 m spacing. The streamer spacing was 150 m. The source array was a 3,300 in³ array made up of two gun strings of 9 airguns each. The sources were separated by 75 m and were fired in flip-flop mode every 25 m. Record length was 9.5 seconds. We conducted 60 total passes through the survey grid (48 primary lines, two reshoots, and 10 infill lines) with 300 m sail line spacing, for a total survey size of 14 x 60 km.

The OBS were deployed in a 4 x 25 array with nominal spacing of 2 km. The instruments were randomly shifted from a regularized grid by up to a few tens of meters to produce an irregular instrument spacing. The OBS were deployed in mid-December prior to the cruise, and left until mid/late-March to record earthquakes after the NZ3D data acquisition. Land stations (~100) deployed prior to the SHIRE Project acquisition cruise on the R/V Langseth in November/December of 2017 remained in place for NZ3D, and an additional 200 stations were added around the Gisborne area prior to NZ3D acquisition. These additional instruments were provided by and deployed by teams from the UK, primarily Imperial College. The OBS instruments were provided by JAMSTEC and were deployed from the R/V Tangaroa.

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Science Objectives

Subduction zones are settings where one plate slips beneath another along a subduction megathrust fault as the subducting plate moves back into the mantle. Around the world subduction zones generate over 90% of the world's seismic energy and produce the most powerful and destructive earthquakes and tsunamis. While most subduction thrust faults along some subduction zones accumulate strain over hundreds of years and release it in a matter of seconds to minutes during great earthquakes, such as the 2011 Tohoku earthquake and tsunami and the 2004 Sumatra event, others release the accumulated strain less destructively through other fault slip mechanisms. One such recently discovered slip mechanism is slow slip rupture, where strain energy is released during slip that occurs over periods of weeks to months. What controls fault slip behavior is virtually unknown but is critical for understanding and assessing global seismic hazards.

The subduction zone along the east coast of the New Zealand North Island regularly (~ every 2-4 years) produces unusually shallow slow slip earthquakes. These earthquakes occur as shallow as 2-4 km below the sea surface, unlike other known slow slip fault systems in SW Japan or the Cascadia subduction zones, where slow slip occurs at 30+ km depth. Because of this, the earthquakes near New Zealand North Island are some of the best documented slow slip earthquakes in the world.

For this project we acquired a 3D seismic survey designed to image the New Zealand subduction zone structure and map subduction zone fault systems to determine the faulting network and its interaction with the subduction megathrust. These data will enable us to measure physical conditions along the subduction zone megathrust fault to determine what conditions are associated with slow slip behavior, how they differ from conditions associated with subduction zones that generate great earthquakes, and what controls the development of slow-slip faults instead of earthquake prone faults.

In early January 2018, we set sail on the *R/V Langseth* to acquire a 3D seismic reflection data set in a 15 x 60 km area offshore New Zealand's Hikurangi trench and forearc. We used 4-6,000-meter-long seismic streamer spaced 150 apart, each with receivers spaced at 12.5 m that would image a 300 m wide swath of the subsurface with each pass through the survey area. We used two seismic source arrays that generated a source signal alternately from one then the other, every 25 m along the track. These data will be used to construct images of the sub-seafloor structure that can be interpreted to map faults, deformation patterns, fluid migration, and properties of the sub-seafloor material such as density and porosity to infer rock types, fluid migration, and potentially identify areas of high fluid pressures within the rocks. These data would complement the International Ocean Discovery Drilling program that drilled in the 3D survey area to recover rocks that we have imaged in our 3D volume. The combined seismic images and drilling results would allow us to conduct a broad assessment of characteristics of the rocks that cause slow-slip rupture along the Hikurangi margin and allow us to understand earthquakes in subduction zone settings all over the world.

Basic Cruise Information

Marcus G. Langseth Cruise - MGL1801

Cruise Start Date: January 6th, 2018

Cruise End Date: February 8th, 2018

**Departure Port (start of cruise):
Tauranga, New Zealand**

**Seismic Source: 2 Strings of 9 guns
each, 3300 in³ shooting in flip-flop
mode; 7 m source depth**

**Seismic Streamer Active Length:
5850 m; 4 x 468 channels at 12.5 m
group spacing; 150 m streamer
spacing; 8 m streamer depth; source
to channel 1 offset is 174.7 m**

Total Days Departure to Arrival: 34

**Arrival Port (end of cruise): Napier,
New Zealand**

**Total Sail Kilometers of Source Data
5489.25 km**

Total number of shots - 143078

Total number of sequences - 62

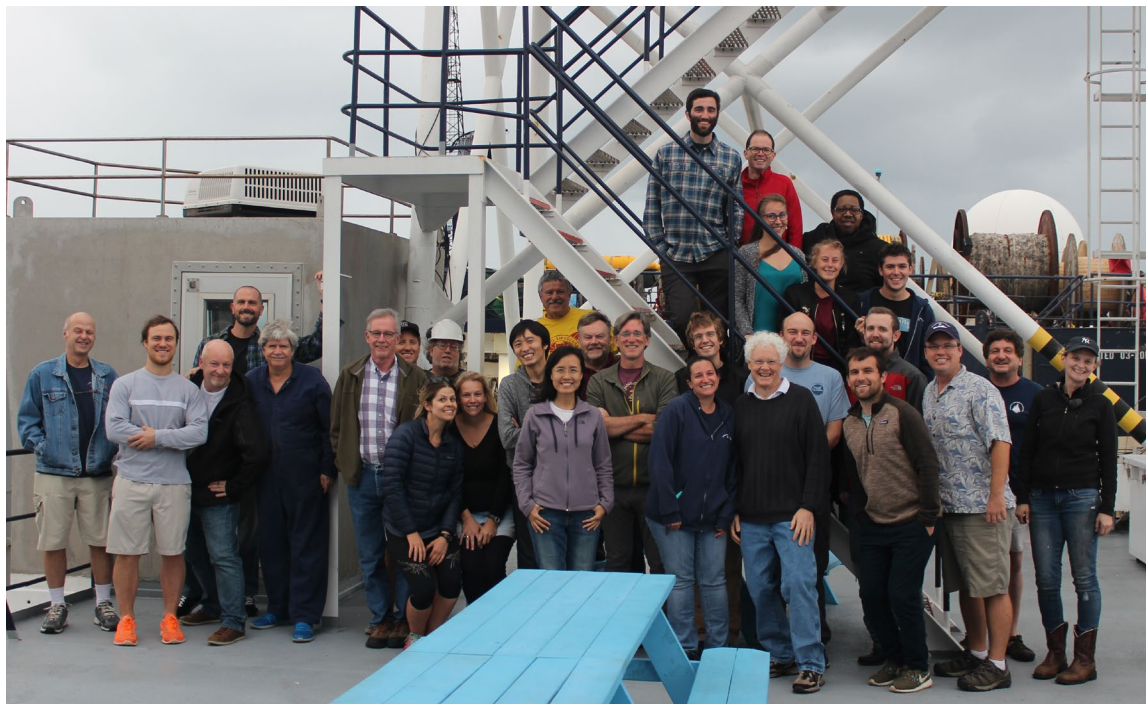
Survey area 14.7 x 60 km

Participants

1	Waldrip, John B.	Master
2	Crum, Breckenridge C.	Chief Mate
3	Sterling, Tyler W.	2nd Mate
4	Quinn, Tara J.	3rd Mate
5	Cereno, George G.	Bosun
6	Rimando, Inocencio B.	AB
7	Purves, Rodrick M.	AB
8	Morgan, James A.	AB
9	Ruetmann, Peter A.	OS
10	Tucke, Matthew S.	Chief Engr.
11	Romero, Michael A.	1st A/ Engr.
12	Nasta, Joseph R.	3nd A/ Engr.
13	Baird, Alexander	3nd A/E
14	Uribe, Guillermo F.	Oiler
15	Kononchik, Gregory R.	Oiler
16	Billings, Jack C.	Oiler
17	Hill, Michael D.	Electrician
18	Rosson, Eric J.	Steward
19	Martires, Leoncio R.	Cook
20	Fitten, Mark A.	OS Galley
21	Steinhaus, Robert J.	Science Tech
22	Martinson, David M.	Science Tech
23	Jensvold, Todd P.	Science Tech
24	Spoto, Thomas R.	Science Tech
25	Kasinger, Joshua D.	Science Tech
26	Guerin, Gilles M.	Science Tech
27	Thompson, Alan J.	Science Tech
28	Davey, Andrew C.	Science Tech

29	Addison, Dean F.	Science Tech
30	Goddard, Graham C.	Science Tech
31	Dubuque, Amanda E.	PSO
32	Davis, Sara J.	PSO
33	Stanford, Georgia Brooke	PSO
34	Cloessner, Everett M	Science Tech
35	Riddle, Mark	Science Tech
36	Lindsay, Rebecca E.	PSO
37	Johnson, Mark J.	PSO
38	Bangs, Nathan L.	Scientist
39	Han, Shuoshuo	Scientist
40	Reston, Timothy J	Scientist
41	Barker, Daniel, H	Scientist
42	Tobin, Harold J	Scientist
43	Aral, Ryuta	Scientist
44	Tilley, Hannah L.	Scientist
45	Edwards, Joel H	Scientist
46	Ball, Stephen	Scientist
47	Leah, Harold R	Scientist
48	Gray, Melissa C	Scientist

Total Persons Aboard - 48



MGL1801 participants

Instrumentation

Seismic Equipment/Parameters

Seismic Source

Source type	BOLT Air-Sound Source
Shot interval	25m in flip-flop mode (25 m between source 1 and 2 shots)
Number Sources	2
Source depth	7 m per IHA permit application
Volume	3300 in3
Air pressure	1900 +/- 100 psi
Source separation	75 m
Max timing error	+/- 2 ms

Seismic Streamer Geometry

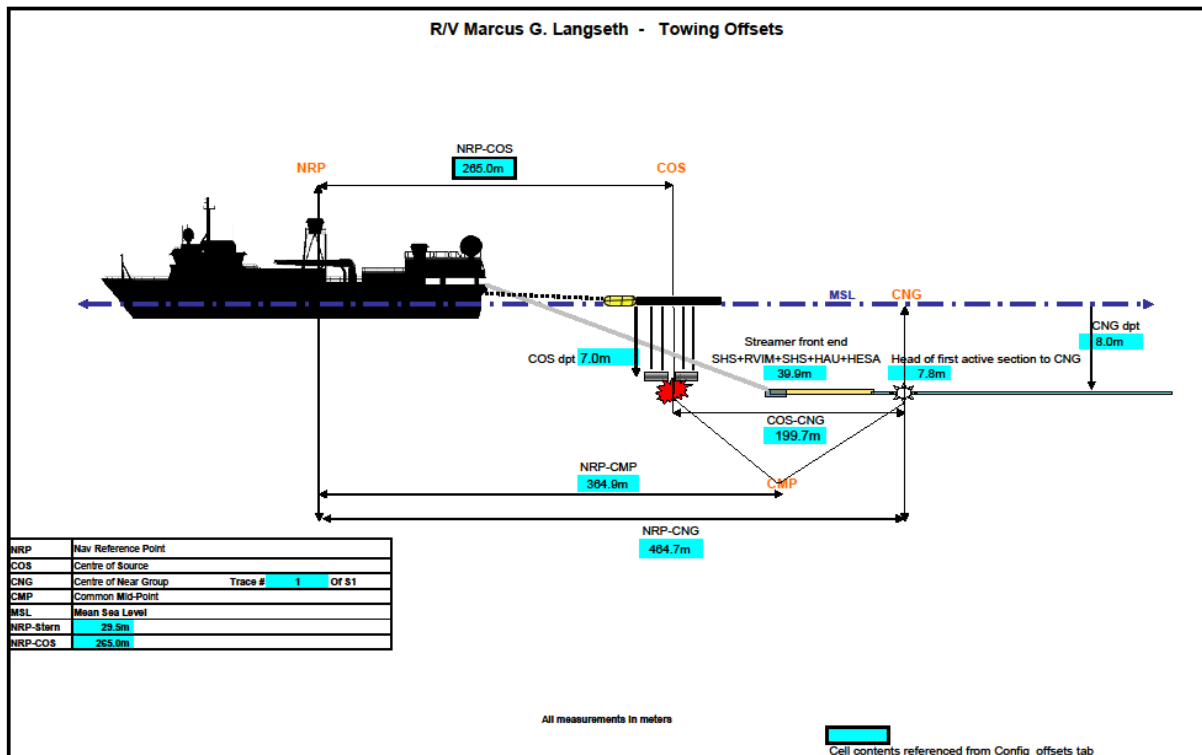


Figure 1. Schematic showing the typical towed equipment geometry. This includes streamer and airgun towing. During the acquisition there were several adjustments made to the offsets. These are noted in the text.

Source-Receiver Offsets

Sequence 001

Source-reciever offset – 199.7m

Sequences 002-004

Source-reciever offset – 174.7m

Sequence 005-009

Source-reciever offset – 164.7m

Sequences 010-011

Source-reciever offset – 169.7m

Sequence 012-060

Source-reciever offset – 174.7m

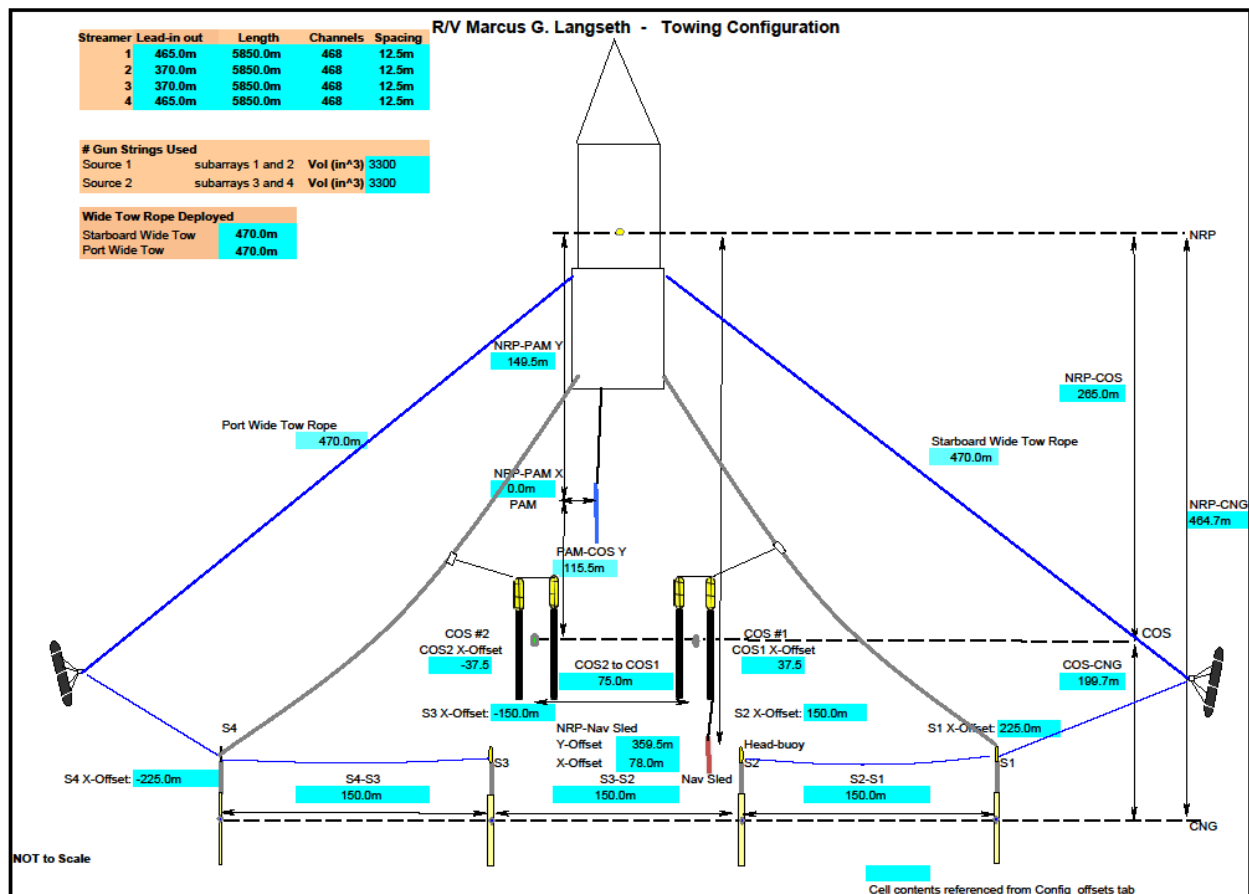


Figure 2. Schematic of streamer layout in 3D mode. Blue lines are tow ropes and separation ropes. Yellow rectangles at the bottom of the figure are streamers. Yellow rectangles connected with black rectangles represent source strings. Lengths are given in blue rectangles.

Seismic Source Geometry

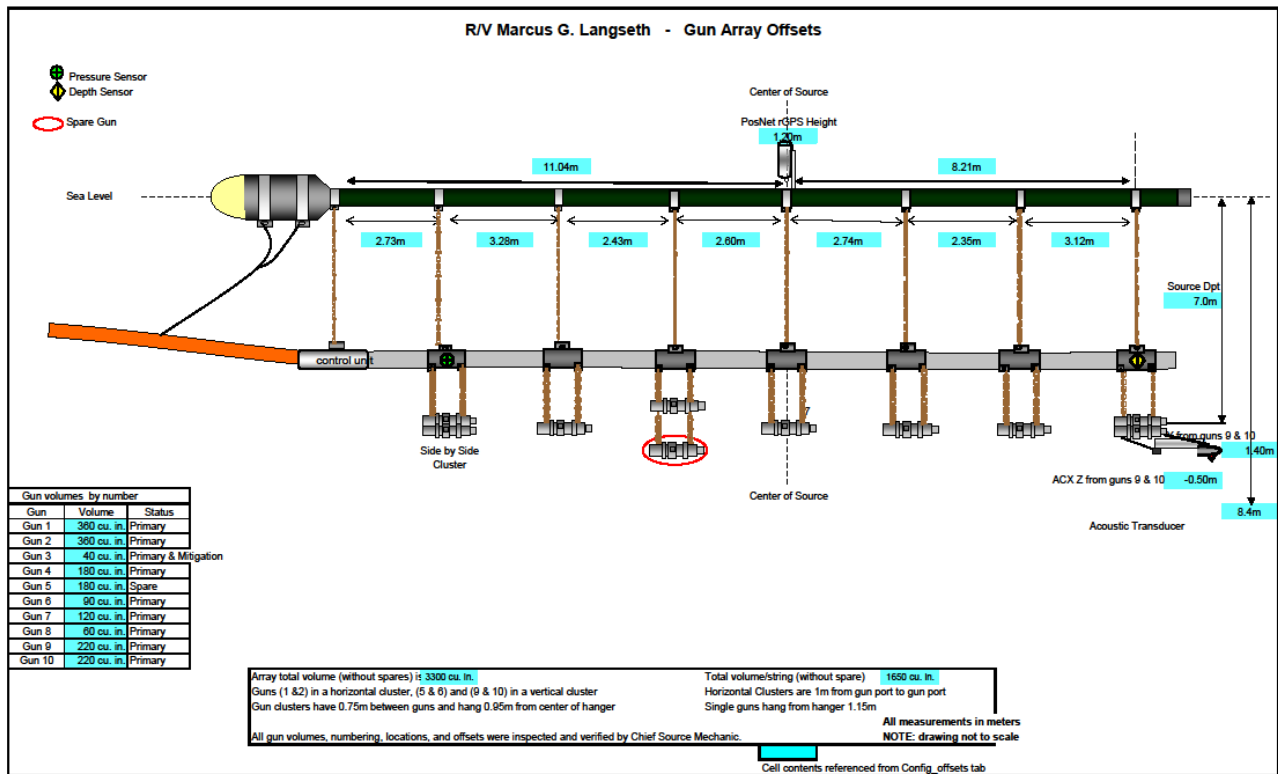


Figure 3. Schematic of source string geometry. Shown is gun configuration for one of four gun strings. Each gun string is identical to geometry shown here.

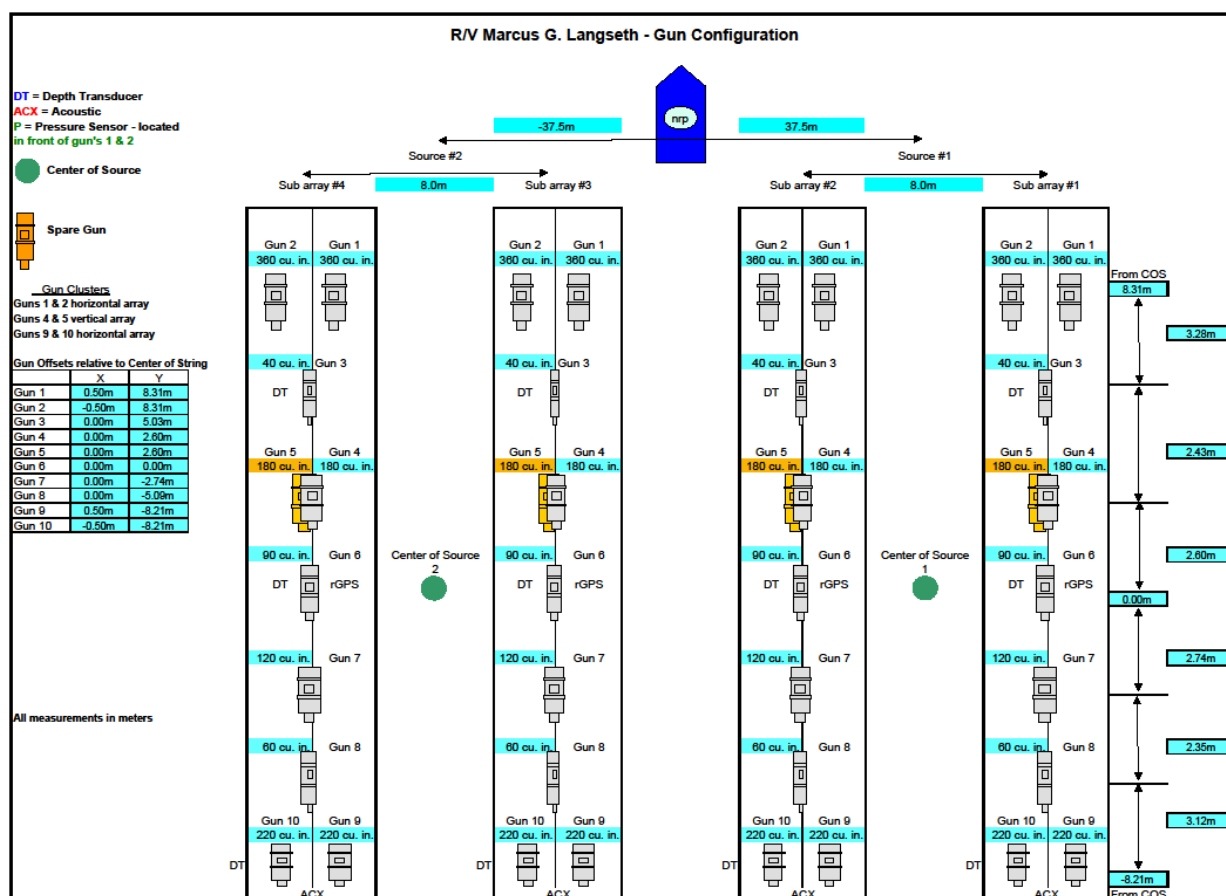


Figure 4. Schematic diagram of the gun string geometry in plan view showing all four gun strings. Each source used two of the four gun strings.

Other Instrumentation

Kongsberg EM122 multibeam echosounder: Our IHA permitted acquisition of EM122 swath bathymetry only when shooting airguns. Continuous acquisition (with a few minor gaps) began on January 6 at ~1230 UTC and ended on February 6 at ~1900 with completion of the MCS survey. Data acquired within the 3D grid were acquired using a narrow fixed beam width at 2000 m, rather than a fixed beam look angle where the beam width would vary as a function of water depth. This was intended to increase both the along and across track seafloor resolution within the 3D grid. The broader beam was not necessary given the extensive overlap (~6 times) from the 300 m sail line separation. An automated data cleaning process using mbsystems was implemented to remove noisy data points. Data were gridded with a grid spacing of 5 m.

Raw data can be downloaded from the Rolling Deck to Repository (R2R) web site (<http://www.rvdata.us/catalog/MGL1801>). Data will also be incorporated into the Global Multi-Resolution Topography (GMRT) data base, available through GeoMapApp (www.geomapp.org).

Expendable Bathythermograph (XBT): XBTs were generally acquired once every 3 days. A total of 10 XBTs were deployed including eight T5-series and two T7-series. XBT sites are given in Table 1.

Data are open access and can be downloaded from the Rolling Deck to Repository (R2R) web site (<http://www.rvdata.us/catalog/MGL1801>).

Knudsen 3260 3.5 kHz subbottom profiler: Like the EM122, Knudsen 3.5 kHz data acquisition was restricted to when seismic data were being acquired. Data were saved in keb-format (binary data files, which can be replayed using Knudsen post-cruise playback software) and converted to SEG-Y format. ASCII files containing parameter settings and navigation information were also recorded (kea-format). The Knudsen ping rate was not synced with the EM122, improving the quality of the 3.5 kHz data. Acquisition began on January 6 at ~1230 UTC and ended on February 6 at ~1900, when acquisition of MCS data was complete.

Data are open access and can be downloaded from the Rolling Deck to Repository (R2R) web site (<http://www.rvdata.us/catalog/MGL1801>).

RDI 75 kHz Acoustic Doppler Current Profiler: ADCP data were acquired throughout the cruise at the 75 kHz. Data were processed during the cruise using University of Hawaii UHDAS software. For each day of the cruise, the archive includes map views of shallow current speed, direction and sea surface temperature, and of the north-south and east-west components of the current as a function of depth versus time, latitude and longitude (i.e. 4 plots/day for 75nb and 4 for 75bb).

The raw data, plot archive, and reprocessed data are available from the Joint Archive for Shipboard ADCP data at the University of Hawaii (ilikai.soest.hawaii.edu/sadcp/) or from the R2R web site (www.rvdata.us/catalog/MGL1801).

Bell Aerospace BGM-3 gravimeter: Gravity data were acquired during the MGL1801. The gravimeter was calibrated in Tauranga, NZ prior to the cruise. An ad-hoc correction was applied to the data to display approximate gravity readings for monitoring by the watchstanders but only raw count data were saved.

The gravity data, along with calibration information, navigation, and ship acceleration data, is archived at R2R (www.rvdata.us/catalog/MGL1801). R2R staff will correct gravity data and make free-air anomaly data available to the community in a timely manner. Data will be open access as soon as they are archived.

Meteorological and seasurface temperature/salinity data: Data acquisition was running during the entire cruise. We had reasonably good weather for the whole cruise. Swell was < 3-4 m most of the time. There were occasional white caps with winds up to ~35 kts, but winds were never sustained long enough to build up a large, local swell. Most of the swell was generated from storms to the south and travelled into our survey area.

Data can be downloaded from the Rolling Deck to Repository (R2R) web site (<http://www.rvdata.us/catalog/MGL1708>).

Acquisition

Expendable Bathy Thermograph (XBT) deployments

Date	Time	Seq. #	S N	Lat deg (S)	Lat min	Long deg (E)	Long min	Probe Type	EM12 2 CBD (m) at splash point	Export Salinity Value (ppt)	SURFACE SV m/s	6.1m SV m/s	Last Good Depth m	Water Temp (C) at LGD	Sound Velocity at LGD
1/10/2018	7:19:00	1		38	54.09	178	49.31	T5	1450	35.52	1517.3	1517.3	1450	3.32	1481
1/12/2018	3:02:00	2		38	44.16	178	38.5	T5	1020	35.44	1517.8	1517.6	398	11	1494
1/13/2018	5:56:44	3		38	51.29248	178	53.8125	T5	2619	35.425	1516	1514.88	1829.9	3.2	1486.92
1/18/2018	6:48:00	4		38	43.136	178	38.388	T7	1030	35.5	1516.1	1516.1	325.7	11.5	1494.6
1/19/2018	5:49:00	5		38	51.87	178	57.46	T5	3460	35.5	1516.9	1516.9	211	13.4	1499
1/19/2018	5:53:00	6		38	52.01	178	57.75	T5	3460	35.5	1516.7	1516.7	505	9.49	1490.8
1/20/2018	1:34:00	7		38	52.49	178	59.189	T5	3500	35.53	1517.33	1517.33	653	7.65	1485.66
1/24/2018	2:34:00	8		38	42.58	178	39.586	T7	1040	35.58	1520.26	1520.26	757	7.27	1485.9
1/26/2018	4:30:00	9		38	54.82	179	6.789	T5	3535	35.54	1520.4	1520.4	1829	2.73	1484.9
1/26/2018	8:13:00	10		38	55.9	178	59.26	T5	3465	35.59	1521	1521	1830	2.6	1484.3

Table 1 Expendable Bathy Thermograph (XBT) deployments during MGL1801.

Detailed Track Maps

NZ3D Survey Track Map

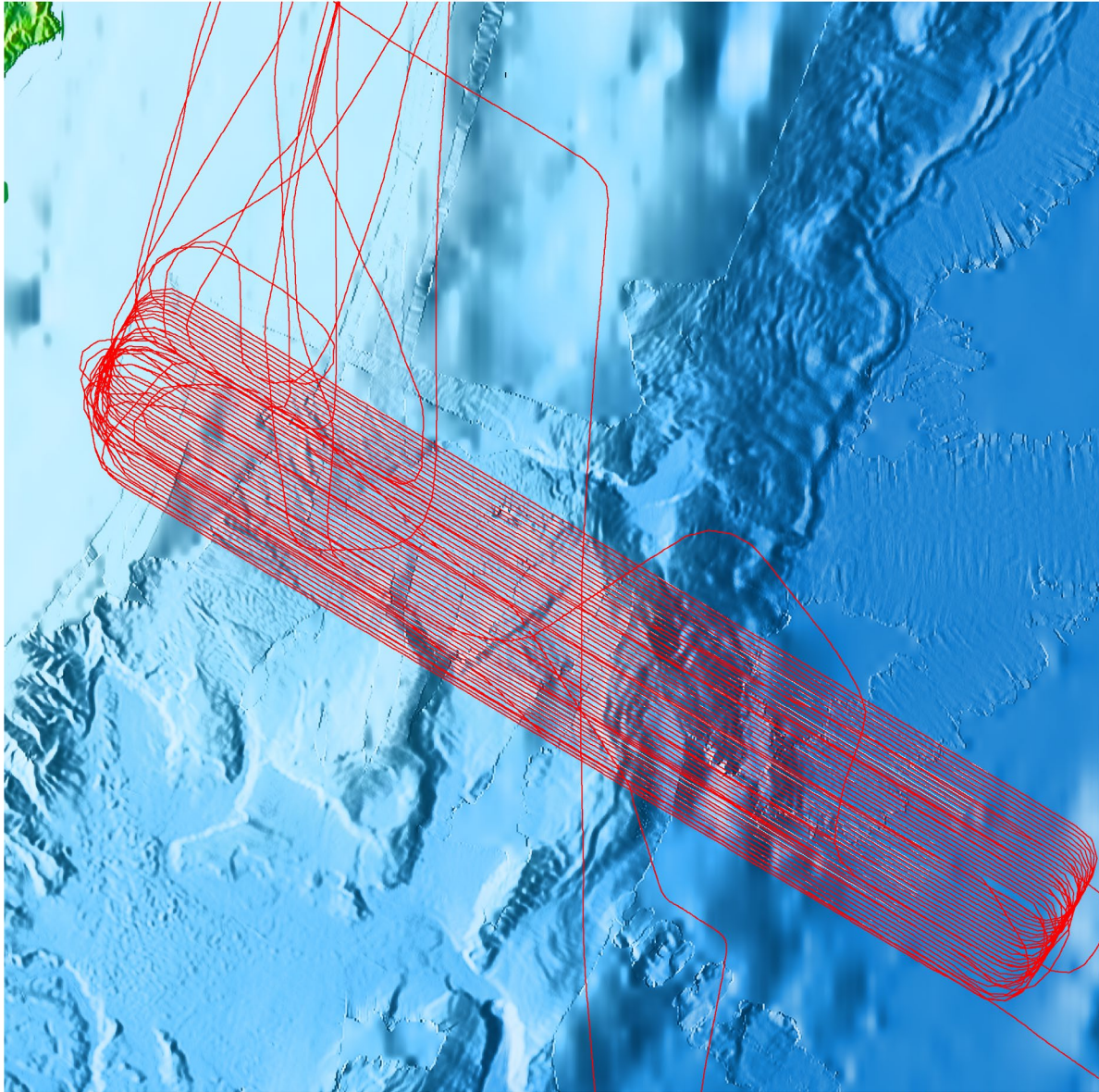


Figure 5. Track map within the 3D survey area during MGL1801. Green area in the upper left is shoreline near the Gisborne, NZ area. Turns in the southwest corner of the grid were restricted by shallow obstructions.

Coverage Maps

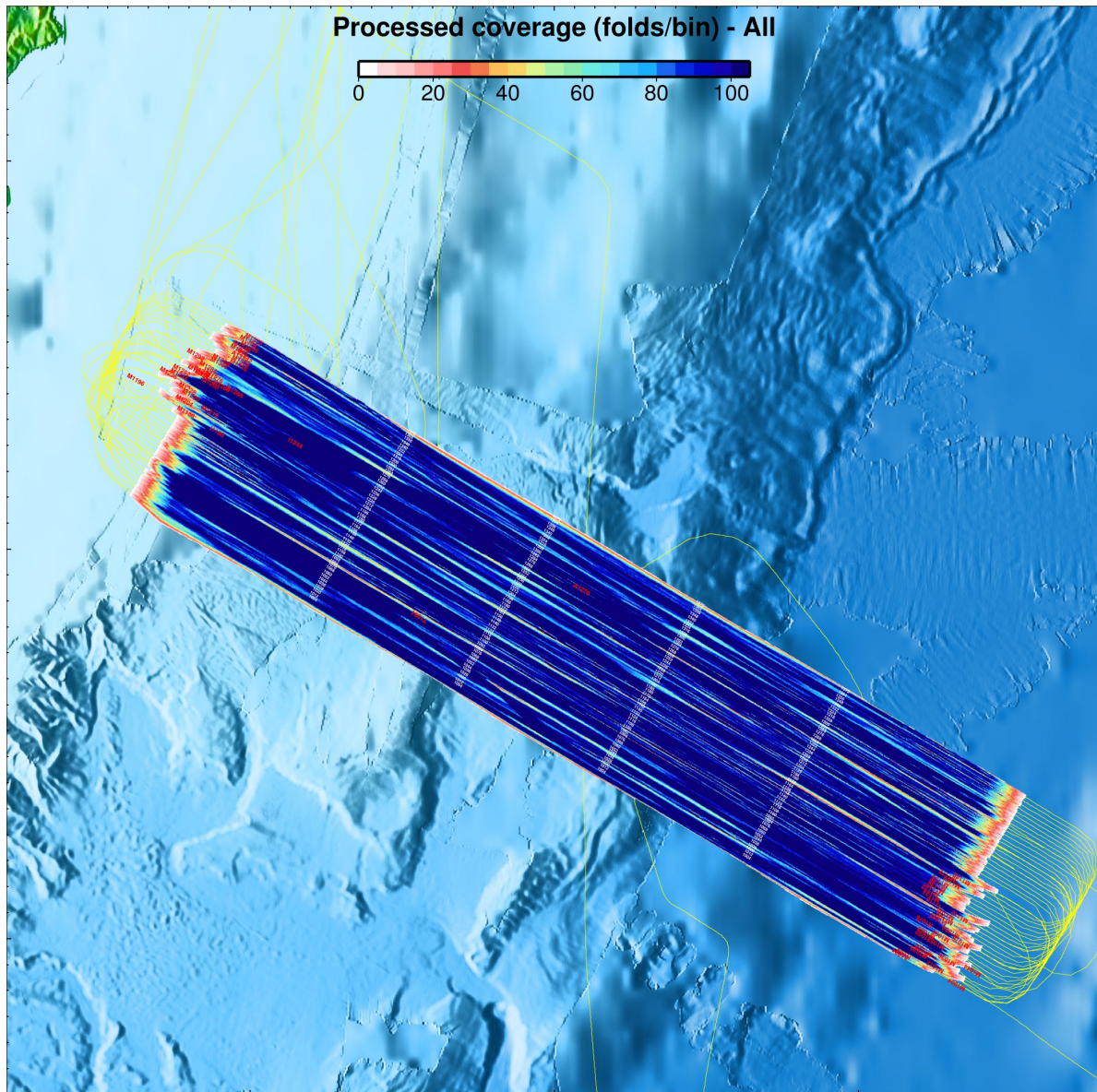


Figure 6. Bin coverage using all traces in the gathers. Bin size is 25 x 37.5 m. Note that coverage is nearly complete with no gaps between lines and few regions of low coverage.

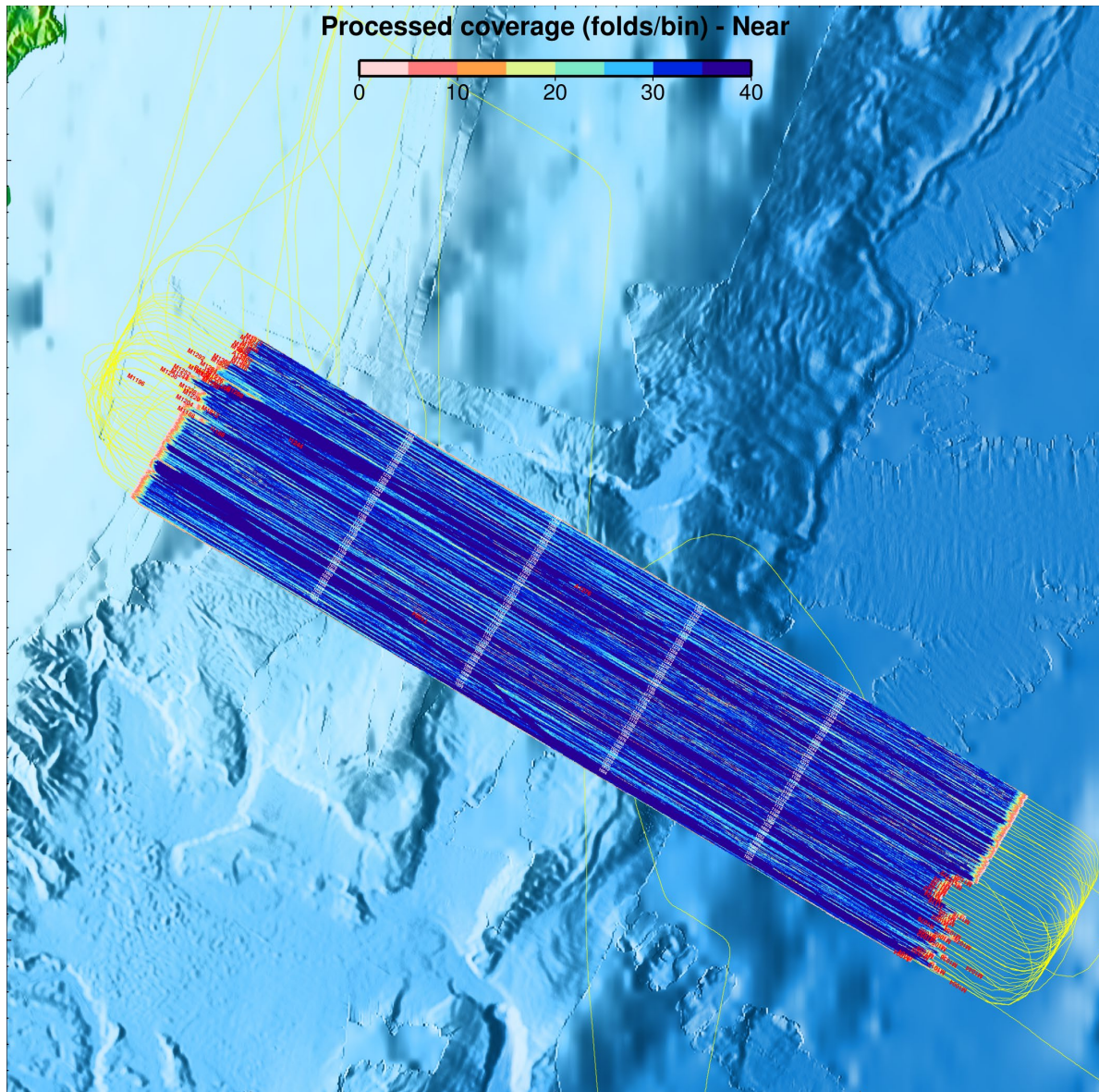


Figure 7. Bin coverage using traces in offset ranges up to ~ 2,000 m. Bin size is 25 x 37.5 m.

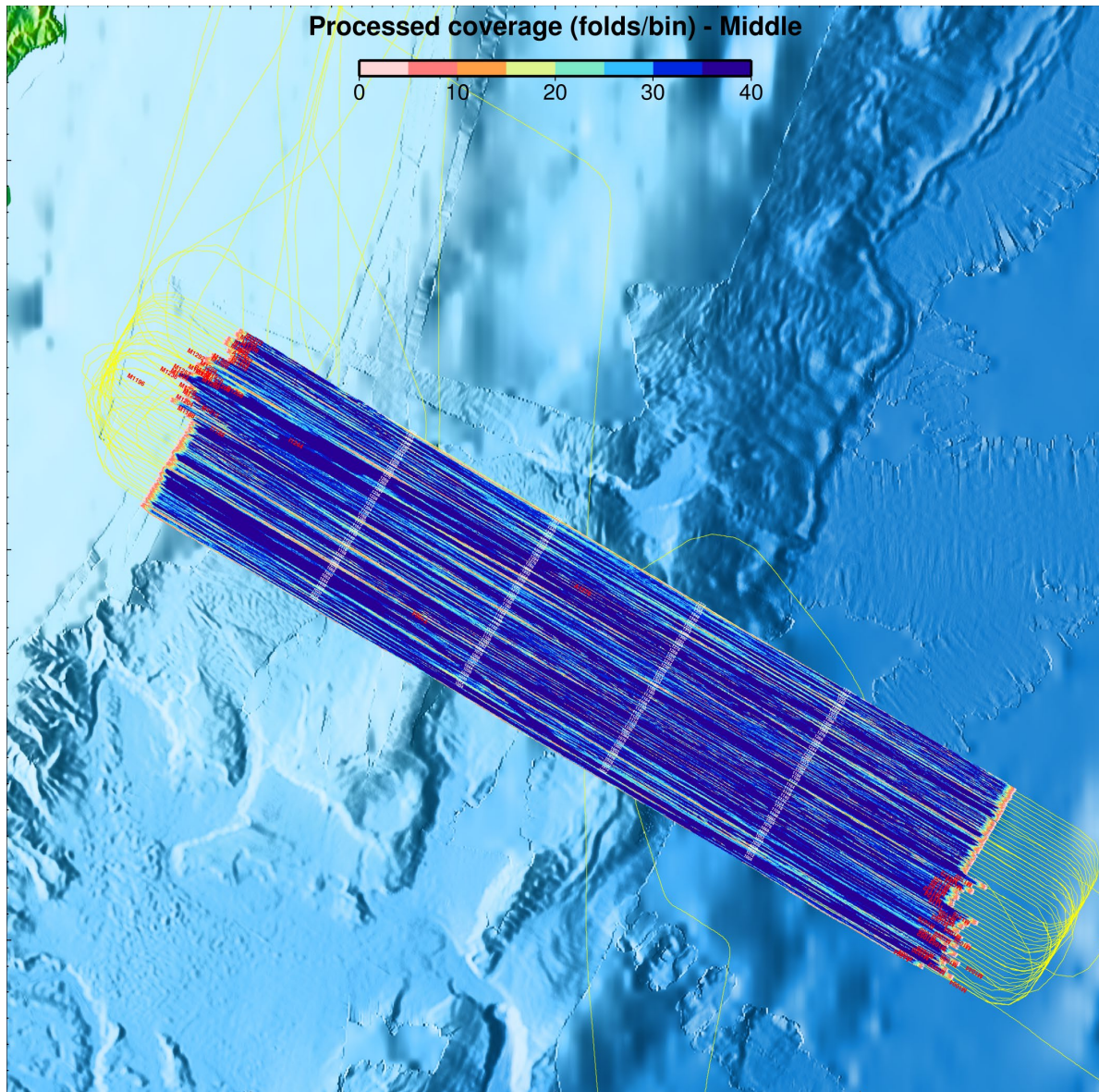


Figure 8. Bin coverage using traces in offset ranges between 2,000 m and 4,000 m. Bin size is 25 x 37.5 m.

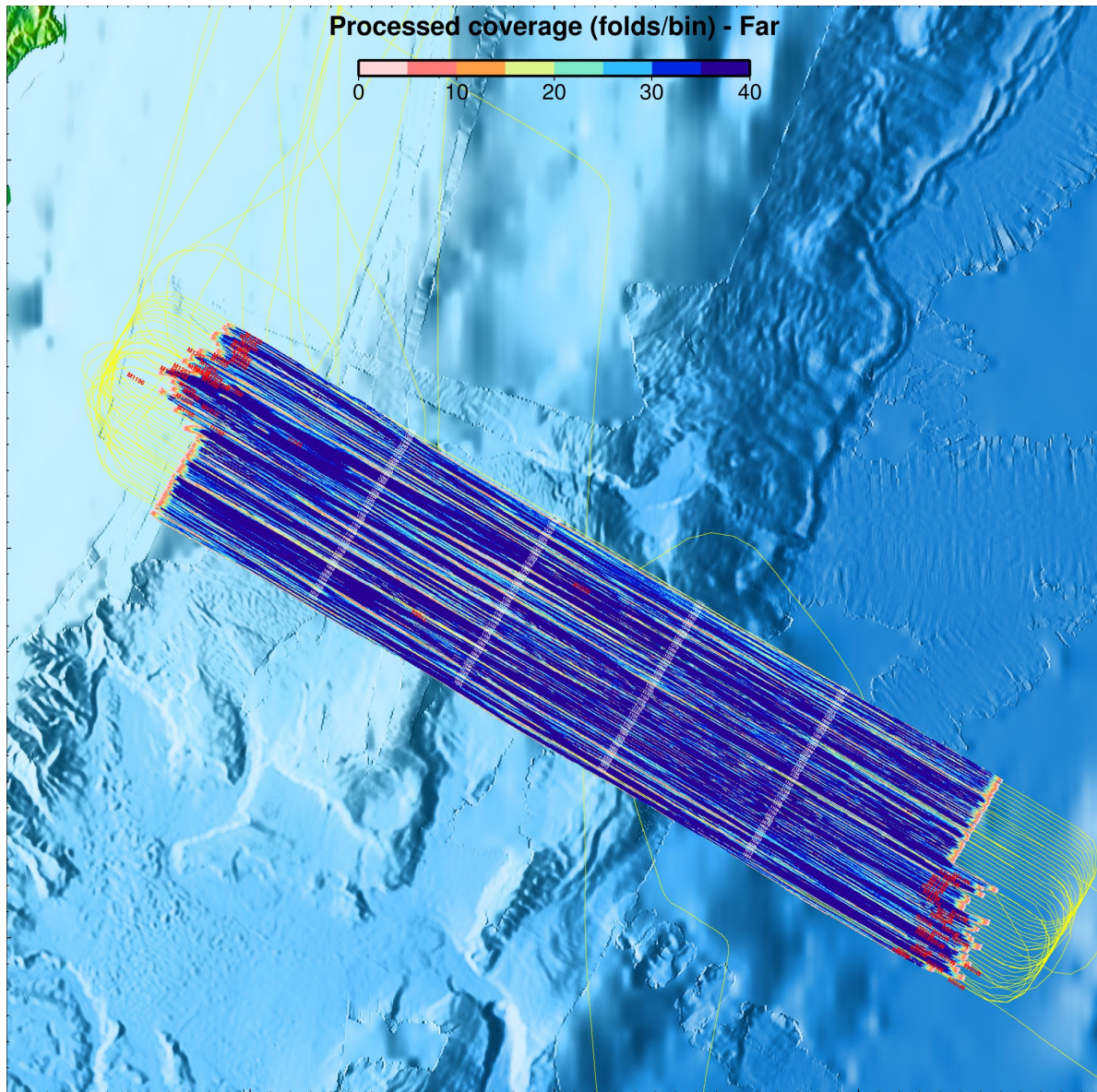


Figure 9. Bin coverage using traces in offset ranges between 4,000 m and 6,000 m. Bin size is 25 x 37.5 m. Variations in currents between passes caused some low fold coverage in the intermediate water depth areas, but overall coverage is excellent for the fare

Line Names and the 3D Grid

Lines are named as cruise number, line type, and number within the grid.

Example: MGL1801M1004

Cruise Number:	MGL1801
Acquisition Type (Main) -	-----M (and sometimes A, B, I, R, T)
Line Number:	-----1004

Acquisition Type

A – reshoot #2
B – reshoot #3
I – Infill
R – reshoot #1
T – reshoot

Note that sequence 20 is labeled as MGL1801M1268A, with the A at the end to indicate a reshoot. This is the only line with this convention.

Lines were acquired using a 25 m x 37.5 m grid. The grid origin is utm 679919, 5676560 at the intersection of inline 1 and crossline 200, and azimuth is 121.9/301.9. The numeric ordering of the lines start at the southeast corner of the grid and increase to the northwest. The lowest numbered sail line is line 1004, and the highest is 1372. The spacing between sail lines is 8 grid lines. Sequence numbers indicate the shooting order. Note that some of the infill lines are labeled with a single line number, but target infill on multiple lines.

Acquisition Summary Table

sheet Completed By: A. Thompson
Log sheet Completion: ##### JDAY:

more columns that are not applicable to your program
* If preferred, use decimal degrees with five or six
* (NS (+/-) (E/W) (+/-)

Line #	Seq #	Start of line		End of line		Date	Time (UTC)	Lat*		Lon*		Start	End		Sample Rate	Sample Length	# Channels
		Date	Time (UTC)	Lat*	Lon*			Lat*	Lon*	shot #	file #		shot #	file #			
MGL1801M1196	001	2018-01-09	18:23	-38 38.73665	178 25.19142	2018-01-10	02:32	-38 57.73993	179 06.10558	179 06.10558	3636	1	879 2758	1-6	2	9.5	4 x 468
MGL1801M1200	002	2018-01-10	04:42	-39 00.27380	179 02.62675	2018-01-10	12:19	-38 42.36420	178 24.20793	178 24.20793	936	2759	3524 5347	7-11	2	9.5	4 x 468
MGL1801M1204	003	2018-01-10	14:21	-38 38.73665	178 25.19142	2018-01-10	21:52	-38 57.58853	179 06.23985	179 06.23985	3491	5351	879 7963	12-16	2	9.5	4 x 468
MGL1801M1028	004	2018-01-11	00:05	-39 00.21030	179 03.08022	2018-01-11	07:46	-38 42.20338	178 24.29152	178 24.29152	924	7964	3525 10565	17-21	2	9.5	4 x 468
MGL1801M1212	005	2018-01-11	10:02	-38 39.93883	178 28.69330	2018-01-11	17:25	-38 57.45772	179 06.35863	179 06.35863	3415	10566	878 13103	22-26	2	9.5	4 x 468
MGL1801M1036	006	2018-01-11	19:31	-39 00.55647	179 04.20888	2018-01-12	03:15	-38 42.06575	178 24.39835	178 24.39835	855	13104	3525 15774	27-31	2	9.5	4 x 468
MGL1801M1220	007	2018-01-12	05:13	-38 39.34142	178 27.84272	2018-01-12	12:46	-38 57.33245	179 06.45505	179 06.45505	3480	15775	878 18377	22-36	2	9.5	4 x 468
MGL1801M1044	008	2018-01-12	14:41	-38 00.98505	178 05.32670	2018-01-12	22:50	-38 41.94070	178 24.51370	178 24.51370	776	18378	3524 21126	37-42	2	9.5	4 x 468
MGL1801M1228	009	2018-01-13	00:58	-38 39.05372	178 27.62192	2018-01-13	08:34	-38 57.18323	179 06.56587	179 06.56587	3502	21127	878 23751	43-47	2	9.5	4 x 468
MGL1801M1052	010	2018-01-13	10:46	-38 59.99893	179 03.43398	2018-01-13	18:21	-38 41.81913	178 24.60723	178 24.60723	909	23752	3524 26367	48-52	2	9.5	4 x 468
MGL1801M1236	011	2018-01-13	20:07	-38 38.50268	178 26.85708	2018-01-14	04:03	-38 57.05655	179 06.66113	179 06.66113	3561	26368	879 29050	53-57	2	9.5	4 x 468
MGL1801M1052	012	2018-01-14	06:40	-38 59.65580	179 02.96218	2018-01-14	14:17	-38 41.67158	178 24.72695	178 24.72695	942	29051	3524 31633	58-62	2	9.5	4 x 468
MGL1801M1244	013	2018-01-14	16:05	-38 38.46387	178 27.14050	2018-01-14	23:59	-38 56.90253	179 06.75053	179 06.75053	3548	31634	879 34303	63-67	2	9.5	4 x 468
MGL1801M1060	014	2018-01-15	02:20	-38 59.51352	179 03.05035	2018-01-15	10:00	-38 41.55240	178 24.81982	178 24.81982	943	34304	3524 36885	68-72	2	9.5	4 x 468
MGL1801M1252	015	2018-01-15	11:49	-38 38.30730	178 27.26020	2018-01-15	19:39	-38 56.75333	179 06.88130	179 06.88130	3548	36886	878 39556	73-77	2	9.5	4 x 468
MGL1801M1068	016	2018-01-15	22:18	-38 59.65310	179 03.74920	2018-01-16	06:09	-38 41.43972	178 24.85555	178 24.85555	903	39557	3525 42179	78-82	2	9.5	4 x 468
MGL1801M1260	017	2018-01-16	08:13	-38 38.80700	178 28.66680	2018-01-16	15:47	-38 56.62647	179 06.96055	179 06.96055	3459	42180	879 44760	83-87	2	9.5	4 x 468
MGL1801M1076	018	2018-01-16	17:52	-38 59.86722	179 04.65328	2018-01-17	01:49	-38 41.33282	179 24.98707	179 24.98707	850	44761	3524 47435	88-92	2	9.5	4 x 468
MGL1801M1268	019	2018-01-17	04:02	-38 38.49342	178 28.38380	2018-01-17	04:26	-38 39.42837	178 30.38168	178 30.38168	3485	47436	3349 47572	93	2	9.5	4 x 468
MGL1801M1268A	020	2018-01-18	04:53	-38 38.43992	178 28.24417	2018-01-18	12:25	-38 56.50365	179 07.05338	179 07.05338	3494	47573	879 50188	94-98	2	9.5	4 x 468
MGL1801M1084	021	2018-01-18	14:35	-38 59.49558	179 04.22972	2018-01-18	22:10	-38 41.25287	178 25.04887	178 25.04887	885	50189	3524 52828	99-103	2	9.5	4 x 468
MGL1801M1276	022	2018-01-19	00:22	-38 38.58567	178 28.95560	2018-01-19	07:44	-38 56.34262	179 07.17325	179 07.17325	3453	52829	879 55403	104-108	2	9.5	4 x 468
MGL1801M1092	023	2018-01-19	10:03	-38 58.99650	179 03.58260	2018-01-19	17:38	-38 41.14188	178 25.11382	178 25.11382	936	55404	3525 57993	109-113	2	9.5	4 x 468
MGL1801M1284	024	2018-01-19	19:43	-38 38.18192	178 28.60188	2018-01-20	03:08	-38 56.24635	179 07.24605	179 07.24605	3486	57994	879 60581	114-118	2	9.5	4 x 468
MGL1801M1100	025	2018-01-20	05:26	-38 58.95860	179 03.85240	2018-01-20	13:06	-38 40.99863	178 25.24337	178 25.24337	924	60582	3524 63182	119-123	2	9.5	4 x 468
MGL1801M1292	026	2018-01-20	15:03	-38 37.73845	178 28.03683	2018-01-20	22:45	-38 56.09028	179 07.38415	179 07.38415	3532	63183	879 65836	124-128	2	9.5	4 x 468
MGL1801M1108	027	2018-01-21	02:08	-38 58.83778	179 03.96362	2018-01-21	09:49	-38 40.86892	178 25.34263	178 25.34263	923	65837	3524 68438	129-133	2	9.5	4 x 468
MGL1801M1300	028	2018-01-21	12:06	-38 38.08072	178 29.15567	2018-01-21	19:26	-38 55.96512	179 07.45890	179 07.45890	3463	68439	879 71023	134-138	2	9.5	4 x 468
MGL1801M1116	029	2018-01-21	21:54	-38 58.93008	179 04.47107	2018-01-22	05:43	-38 40.72833	178 25.43032	178 25.43032	886	71024	3525 73663	139-143	2	9.5	4 x 468
MGL1801M1308	030	2018-01-22	07:58	-38 37.95360	178 29.27872	2018-01-22	15:21	-38 55.84622	179 07.56757	179 07.56757	3462	73664	879 76247	144-148	2	9.5	4 x 468
MGL1801M1012	031	2018-01-22	18:30	-39 00.86827	179 03.49200	2018-01-23	02:12	-38 42.05893	178 24.08893	178 24.08893	871	76248	3525 78902	149-153	2	9.5	4 x 468
MGL1801M1188	032	2018-01-23	04:19	-38 39.94377	178 27.51532	2018-01-23	11:47	-38 57.89777	179 06.01987	179 06.01987	3474	78903	879 81498	154-158	2	9.5	4 x 468
MGL1801M1004	033	2018-01-23	13:46	-39 01.50910	179 04.43537	2018-01-23	21:57	-39 42.64120	179 23.98447	179 23.98447	799	81499	3524 84224	159-163	2	9.5	4 x 468
MGL1801M1316	034	2018-01-24	00:45	-38 38.10398	178 30.02787	2018-01-24	08:05	-38 56.64200	179 07.71328	179 07.71328	3419	84225	879 86765	164-168	2	9.5	4 x 468
MGL1801M1124	035	2018-01-24	10:41	-38 58.09945	179 03.19558	2018-01-24	18:17	-38 40.54495	178 25.57000	178 25.57000	989	86776	3525 89302	169-173	2	9.5	4 x 468
MGL1801M1324	036	2018-01-24	20:43	-38 38.00385	176 30.22710	2018-01-25	04:02	-38 55.08130	179 07.82400	179 07.82400	3413	89303	879 91837	174-178	2	9.5	4 x 468
MGL1801M1132	037	2018-01-25	06:39	-38 57.94677	179 03.27023	2018-01-25	14:13	-38 40.42890	178 25.65952	178 25.65952	991	91838	3525 94372	179-183	2	9.5	4 x 468
MGL1801M1332	038	2018-01-25	16:40	-38 57.94677	179 03.27023	2018-01-25	16:42	-38 40.42890	178 25.65952	178 25.65952	3411	94373	3397 94387	184	2	9.5	4 x 468
MGL1801A1332	039	2018-01-25	20:55	-38 37.78557	178 30.17185	2018-01-26	04:46	-38 55.35312	179 07.92078	179 07.92078	3423	94388	879 96932	185-189	2	9.5	4 x 468
MGL1801M1140	040	2018-01-26	07:25	-38 57.83975	179 03.45060	2018-01-26	14:57	-38 40.10068	178 25.74890	178 25.74890	986	96933	3525 99472	190-194	2	9.5	4 x 468
MGL1801M1340	041	2018-01-26	17:22	-38 37.34573	178 30.07407	2018-01-27	00:56	-38 55.25566	179 08.01745	179 08.01745	3437	99473	879 102031	195-199	2	9.5	4 x 468
MGL1801M1148	042	2018-01-27	03:50	-38 57.67707	179 03.51567	2018-01-27	11:20	-38 40.19368	178 25.85670	178 25.85670	989	102032	3524 104567	200-204	2	9.5	4 x 468
MGL1801M1348	043	2018-01-27	13:48	-38 37.41863	178 30.19117	2018-01-27	21:15	-38 55.09412	179 08.13760	179 08.13760	3437	104568	879 107126	205-209	2	9.5	4 x 468
MGL1801M1156	044	2018-01-27	23:56	-38 57.57225	179 03.69072	2018-01-28	07:30	-38 40.01403	178 25.99748	178 25.99748	984	107127	3524 109667	210-214	2	9.5	4 x 468
MGL1801M1356	045	2018-01-28	09:59	-38 37.44212	178 30.65400	2018-01-28	17:22	-38 54.95180	179 08.24375	179 08.24375							

MGL1801M1364	047	2018-01-29	06:05	-38	37.22452	178	30.61875	2018-01-29	13:20	-38	54.80642	179	08.35367	3423	114768	879	117312	225-229	2	9.5	4 x 468
MGL1801M1172	048	2018-01-29	15:57	-38	57.36798	179	04.10915	2018-01-30	00:24	-38	39.71405	178	26.20553	971	117313	3525	119867	230-234	2	9.5	4 x 468
MGL1801M1372	049	2018-01-30	02:53	-38	37.12488	178	30.77557	2018-01-30	10:08	-38	54.66918	179	08.43682	3418	119868	879	122407	235-239	2	9.5	4 x 468
MGL1801M1180	050	2018-01-30	12:46	-38	57.49595	179	04.77608	2018-01-30	21:10	-38	39.57153	178	26.31567	933	122408	3525	125000	240-244	2	9.5	4 x 468
MGL1801R1268	051	2018-01-30	23:38	-38	38.94372	178	29.30538	2018-01-31	01:01	-38	42.29132	178	36.57613	3422	125001	2932	125491	245	2	9.5	4 x 468
MGL1801T1084	052	2018-02-02	18:57	-38	47.20130	178	37.77688	2018-02-02	19:21	-38	46.27745	178	35.78688	2666	125510	2799	125643	246	2	9.5	4 x 468
MGL1801I1276	053	2018-02-03	14:34	-38	38.41803	178	28.67155	2018-02-03	18:11	-38	46.34142	178	46.02768	3473	125644	2309	12549	247-249	2	9.5	4 x 468
MGL1801A1276	054	2018-02-03	18:25	-38	46.79653	178	47.00733	2018-02-03	23:08	-38	55.72473	179	07.64132	2243	126809	879	128173	250-252	2	9.5	4 x 468
MGL1801R1076	055	2018-02-04	01:57	-38	59.08255	179	02.87360	2018-02-04	09:24	-38	41.37308	178	24.95472	968	128174	3524	130688	253-257	2	9.5	4 x 468
MGL1801B1268	056	2018-02-04	10:45	-38	39.15232	178	29.92987	2018-02-04	18:34	-38	56.53012	179	07.03342	3383	128174	879	133193	258-262	2	9.5	4 x 468
MGL1801I1116	057	2018-02-04	20:54	-38	58.37893	179	03.42650	2018-02-05	04:16	-38	40.67282	178	25.47285	967	133194	3525	135750	263-267	2	9.5	4 x 468
MGL1801I1244	058	2018-02-05	06:11	-38	41.07797	178	32.75897	2018-02-05	12:52	-38	56.87473	179	06.77255	3169	135751	879	138019	268-272	2	9.5	4 x 468
MGL1801I1004	059	2018-02-05	15:33	-39	00.37503	179	01.99328	2018-02-05	22:55	-38	41.52697	178	24.83837	963	138020	3524	140577	273-277	2	9.5	4 x 468
MGL1801I1188	060	2018-02-06	00:42	-38	40.63588	178	28.89638	2018-02-06	08:18	-38	57.87160	179	06.03945	3379	140578	879	143078	278-282	2	9.5	4 x 468
MGL1801A1004	061	2018-02-06	10:42	-39	00.37836	179	01.77192	2018-02-06	18:02	-38	42.73344	178	23.91450	974	143079	3524	145629	283-287	2	9.5	4 x 468
MGL1801B1276	062	2018-02-06	19:56	-38	38.34126	178	28.38156	2018-02-06	20:50	-38	40.29006	178	32.83926	3491	145630	3195	145924	288	2	9.5	4 x 468

Cruise Narrative

Note all times are local time (UTM +13)

Jan. 4- Jan. 5

The science party arrived in Tauranga despite heavy rain and high winds. All joined the Langseth except Shuoshuo Han who was delayed by the weather.

Jan 6.

Shuoshuo arrived in Tauranga and joined the Langseth. We began the day with a safety meeting at 8 AM. Despite our plans to leave at 1000 we waited for last minute spare parts to arrive and we were loaded by 1300. We left the dock at 1330 and steamed out to 12 nm offshore to begin some streamer work.

We deployed the streamer 4 for trim work starting at 1830.

Jan 7

We continued with streamer work. We retrieved Streamer 4 at 0330 and cable trim work began on Streamer 3.

We recovered steamer 3 1330 and we began steaming around the Raukumoro peninsula to the 3D site.

Jan 8

We arrive near the 3D survey area and began streamer deployment at 0015 in an location to the north of survey. Streamer 4 was deployed first, followed by Streamer 1, 3 and 2. Streamer deployment went well, but slower than expected. Streamer 3 had a bad stic cable at the tail buoy. This is one that failed during MGL1708 and was repaired. The repair failed. Consequently the GPS on Streamer 3 did not work; however, this did not impact the streamer navigation. All networks came up and ran well. There were 3 acoustic networks at the tail, and two in each of the middle and head. Streamer 3 was deployed missing a stretch section because of an earlier failure and no spare.

Jan 9

Streamer deployments finish ~ 1:00 AM. Gun deployment began. Additional time was needed to rig up the guns. One of the streamer separation ropes broke and needed to be replaced. This work was finished ~ 3:00 AM. We then headed for the prospect to start the first line. However, there was a problem with firing in flip-flop mode. Spectra was not handling it correctly and was only able to fire one of the sources. As we headed down the first line, we continued to troubleshoot the flip-flop firing issue.

Jan 10

Gun firing problem was found ~ 1:30 AM. The main issue was that Spectra was not sending the gun string firing mask to tell one set of guns not to fire during the flip-flop firing. This was fixed by rebuilding some of the Spectra parameter files. This occurred after several

systems have been replaced since the last 3D acquisition. This could not have been tested at the dock and could only be tested by firing.

We began acquiring our first line at ~ 7:30 AM. There was an issue with the shot numbers for fids 3-1109 not set at the right value. This was corrected at fid 1110 and new SEG-D files (Tapes 1-3) were written with the corrected shot numbers.

Jan 11

Data acquisition was going very smoothly. The weather remained calm and all systems were working well. Some adjustments to the separation ropes were needed in order to even the spacing between guns and streamers slightly. There was slightly lower coverage in the center.

Jan 12

Smooth acquisition. We started our seminar series. Nathan presented an overview of the NZ3D project.

Jan 13

Data acquisition went very smoothly.

Jan 14

Jan 15

We noticed a static shift in the gravimeter of ~ 400 mgals, too large to be real. This will have to be examined once we have a gravity tie in port. Harry and Melissa gave presentations on the land station deployments and the FWI work conducted by Melissa.

Jan 16

Winds picked up and waves grew to 2-3 m. The data were a bit noisier than previously in the cruise. The swell was fairly small, but it was very choppy.

Jan 17

The weather picked up with 40 kt winds and choppy seas. This created more noise on the records. Operations broke off during Line 1268 and we pulled in the guns and headed into the seas to wait out the weather. While we waited, we did gun work and we swapped out the PAM cable with a spare.

Jan 18

The weather improved and the guns went back in the water at 0400. As the guns went out, the air line for string 4 jumped the reel and got caught under the flange of the winch. It was too badly damaged to use and had to be changed. Tail buoy 2 GPS failed leaving working GPS only on 1 and 4. The acoustic network was still working well and provided adequate positioning. Ryuta gave a presentation on Ryuku subduction system and Shuoshuo presented results from the Oregon margin.

Jan 19

The weather remained rough, which caused the data to still be a bit noisy. The weather calmed down throughout the day.

Jan 20

The weather was clam and the acquisition went smoothly.

Jan 21

The acquisition went smoothly. Joel and Tim give seminar presentations on Costa Rica frontal plate-boundary thrust and Galicia rifted margin 3D.

Jan 22

Data acquisition continues smoothly. Gun String 1 had problems with the communication lines.

Jan 23

Because of such good weather and no protected species shutdowns, we expected to finish shooting the current 14 x 60 km grid on ~ Jan 31st. We discovered that because of minimal current and good weather, the necessary reshoots to infill will be minimal. Consequently we wanted to add additional lines during the time that we expected to have following completion of the 14 x 60 km grid; however it appeared that we would not be able to extend the grid because the permit restricted total line km that we were allowed to shoot. We would reach that limit during the small amount of infill that we needed to shoot.

Jan 24

Harold gave Nankai drilling summary in seminar. The weather was particularly calm and Robert took the work boat out to check on gear and replace tailbuoy strobe lights. There were lots of great pictures taken from the work boat.

Jan 25

Gun string 3 had multiple issues regarding communications cables. The guns were retrieved and we aborted Line M1332 just after starting. We turned and looped around, which took about 3 hours and gave us enough time for gun repairs. Chafing through the main communication line caused one problem and other solenoid cables were found to be faulty. Weather remained calm.

Jan 26

Weather remained calm with some swell. Data quality was good.

Jan 27

We picked up some fishing gear that could not be seen in time to avoid. Robert went out in the work boat and picked it off from the guns. All of the fishing gear on the streamers could

not be removed, but it did not seem interfere with the data quality. Dan gave a lecture on the Kaikura earthquake.

Jan 28

Operations went smoothly.

Jan 29

Jan 30

The acquisition went very smoothly. Stephen gave a presentation on photogrammetry of an outcrop in Spain and Harry gave one on active faults in central Italy. We also field questions from Franklin and Marshall that Stephen received about slow slip and our project.

Jan 31

We completed the coverage linking the two survey swaths by making a pass up through the center on line 1180, which stitched the two halves together. We returned to start a reshoot of line 1268 and the weather pick up as Cyclone Fehi passed across the S. Island. The winds kick up to 40+ kts and the ship could not hold the line. We broke off the line at ~ 2:00 PM and headed for the coast to find the calmest possible waters to wait it out.

Feb 1

The weather remained rough and we stayed close to shore. Streamer 4 began to act up with flaky electronic issues. Dave discovered a solution that required keeping the power to the tailbuoy off as much as possible and turned the power on only to recharge batteries. This was expected to be an adequate workaround for the remaining of the cruise.

Feb. 2

This was a busy day. The weather began to settle down and we headed back south to the prospect to begin doing the reshoot of line 1268. At ~ 1:30, as we approached the start of the line and we hit fishing gear. We picked up a lobster pot on Streamer 3. The lobster pot gets snagged on Bird 5. This required pulling in the guns and bringing in Streamer 3 to Bird 5 to remove the fishing gear. This was finished ~ 6 PM. Once the gear was back in the water we head back to the prospect. We steamed onto the south end of 1268 so that we could make a turn to start acquiring data on Line 1078 after the turn. As we turned to come on to the line, Streamer 3 died at the first module and could not be fixed in time to begin the line. We continued down the line trying to fix it with no luck. We decided to bring in the beginning of Streamer 3 to change the module. After bringing in gun Strings 3 and 4 we decide it is too rough to maintain the course and head with the seas to the north. With the heavy weather we decided to bring in both Strings 1 and 2 so that we don't have to pick them up if it gets worse. Once they were in we began to move the port paravane in to release Streamer 3 in preparation for bringing Streamer 3 in. Once it was ready to bring in we discovered that the streamers were working again. We then decided to head back to the prospect and began testing everything by shooting a reshoot line, Line 1084.

Feb. 3

The weather picked up again and we had to abandon the acquisition. We headed for shallow water to wait out the weather. Winds were 30+ kts.

Feb. 4

The weather began to calm down. When it got to ~ 20 kts we began to shoot a reshoot line on a 220 heading. However, the noise was still pretty bad due to the large swell. The swell did not die down until the late afternoon. Consequently we shot with streamers at 9 m to help suppress the noise on the records .

Feb. 5

We began Line 1268 for a 5th try at completing this line. This time the weather was not too bad and we were able to move the streamer back to 8 m. Acquisition looked promising for acquisition of a few lines in the time remaining until we had to head to port.

Feb. 6

Streamer 4 was frequently becoming flaky by “unbuilding” itself. It would unbuild itself by shutting down successive modules within the streamer. Some shots were lost during the time needed to correct the problem and rebuild the streamer. The rebuild succeeded each time without failure during the rebuild.

Feb. 7

At ~ 9 AM, as we finished line A1004 along the outside of the grid, we turned to begin the last of the infill lines. At this point the tailbuoy lost GPS and there was a problem with communication with the birds on Streamer 1. The GPS is critical for locating the network and streamer navigation. GPS is required on Streamers 1 and 4 in order to obtain a solution for streamer navigation. The GPS 2 and 3 had already quit. In order to fix the GPS on Streamer 1, we would have to retrieve the streamer completely. There was not enough time left in the cruise to fix this problem and we end acquisition. After we retrieved the streamer we discovered that the covering at the head of the streamer, where it is attached to the tow ropes, had cracked and instead of distributing the stress along the cable, it was focusing it on the cracked area. This caused the wires inside to fail. As we brought in the streamers we found a large amount of fishing gear attached to the birds. Fortunately we did not have much noise problem due to this gear. The rest of the day was spent bringing the gear.

Feb. 8

We continued to bring in the gear. We had some streamer winch issues with hydraulics, but all gear was retrieved by noon and we headed for port. We reached port by ~ 7:00 PM.

Feb. 9-10

We pack up our computer equipment and prepare to leave the Langseth. The science party departs.

Seismic Acquisition Examples

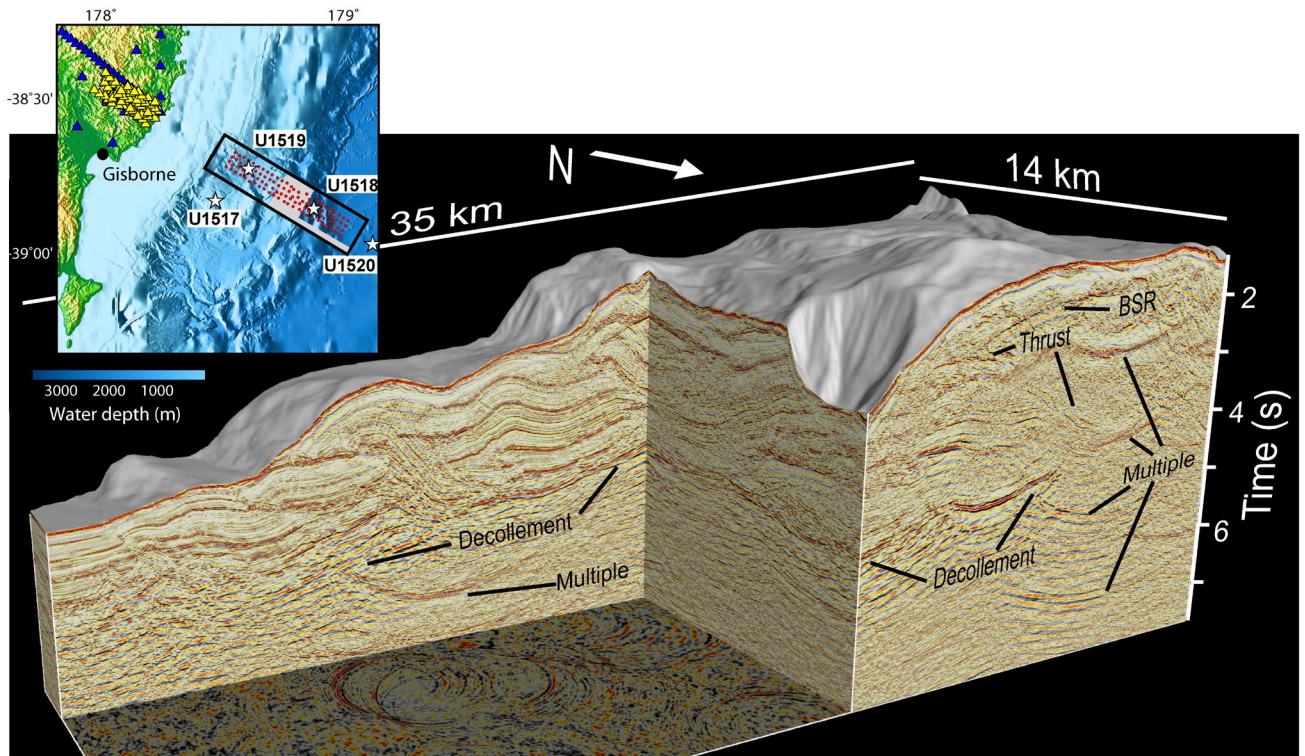


Figure 10. Frontal region of the NZ3D seismic data volume. Preliminary post-stack 3D time migration conducted during MGL1801. Gray shading shows multibeam bathymetry overlying the seismic image. Inset: Bathymetric map of the northern Hikurangi margin. The 3D seismic volume covers a 14 x 60 km area offshore Gisborne, NZ (black rectangle). Gray shading shows outline within the 3D area of the seafloor depicted in the data cube. Red dots are locations of 100 OBS deployed to record Langseth shots during NZ3D. White stars are IODP Expedition 372 and 375 drilling locations. Blue triangles show locations of onshore seismometers deployed for the SHIRE project and left in place to record Langseth shots during NZ3D. Yellow triangles are onshore seismometer locations for instruments deployed for NZ3D.

Data Handling

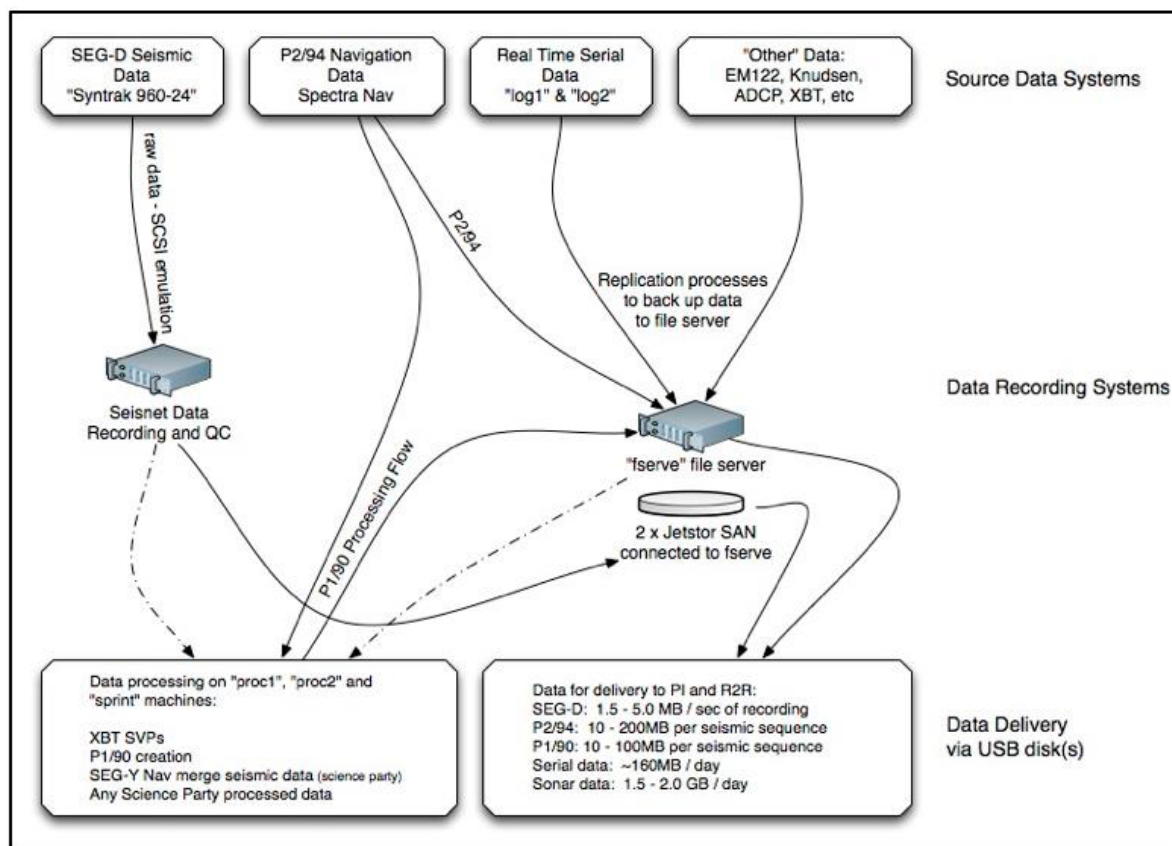


Figure 11. Schematic of the shipboard data acquisition and integration system.

All raw MCS data will be archived at the LDEO Academic Seismic Portal (ASP) along with this report and all additional metadata on the navigation, streamer and gun array. Stacked and migrated sections will be archived with the UTIG ASP (<http://www-udc.ig.utexas.edu/sdc/>).

Protected Species Observing and Passive Acoustic Monitoring: Procedures and Observations

The following figure shows the procedure for assessing and determining mitigation for protected species.

Note that there were no airgun shutdowns due to protected species while shooting within the 3D volume. There were detections that did not require shutdowns because they were not required for those species, or the sightings were outside of the exclusion zone. The only shutdowns were while shooting to OBS and land stations during turns.

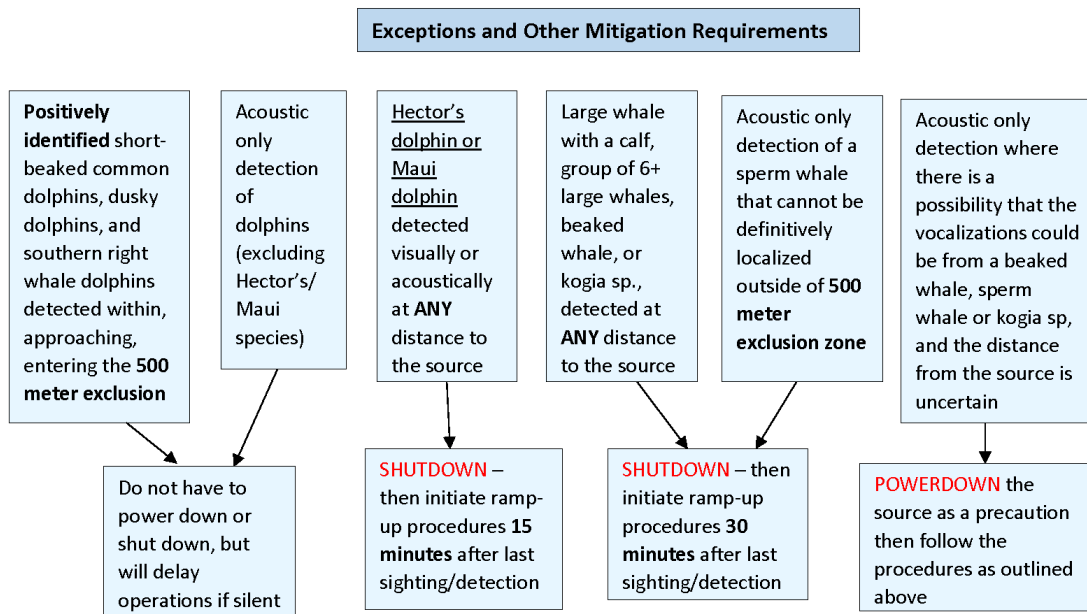
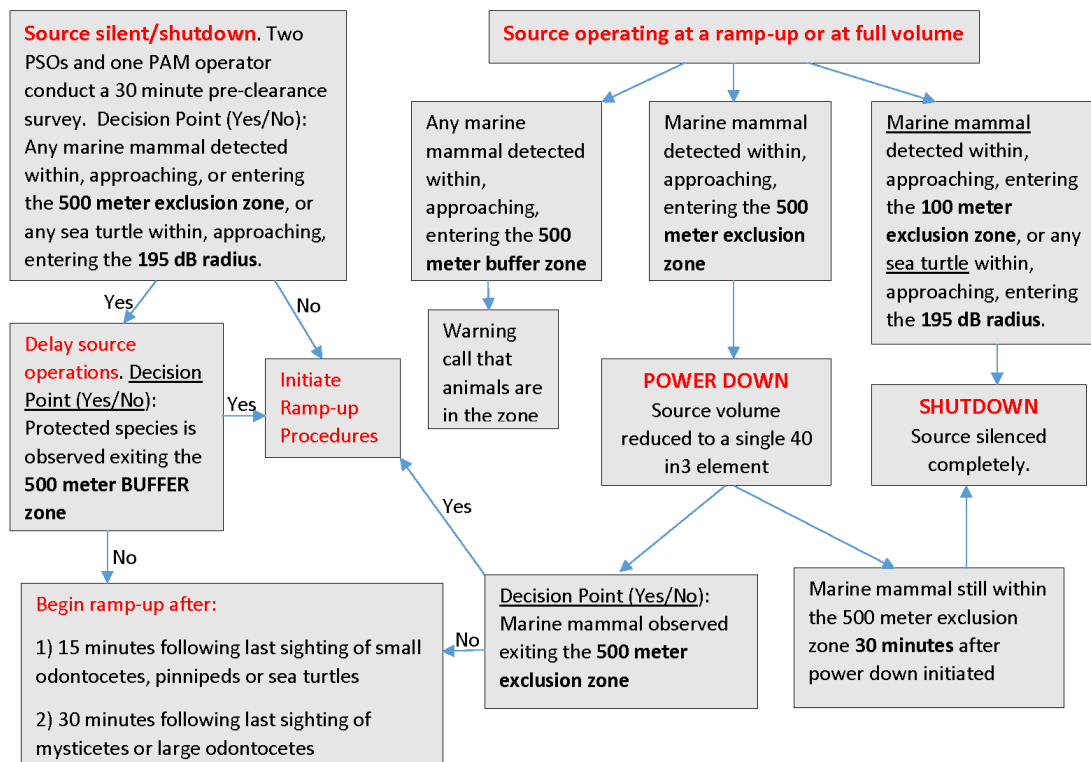


Figure 12. Mitigation flow chart.

MGL1801 - North Island 3D Survey, New Zealand

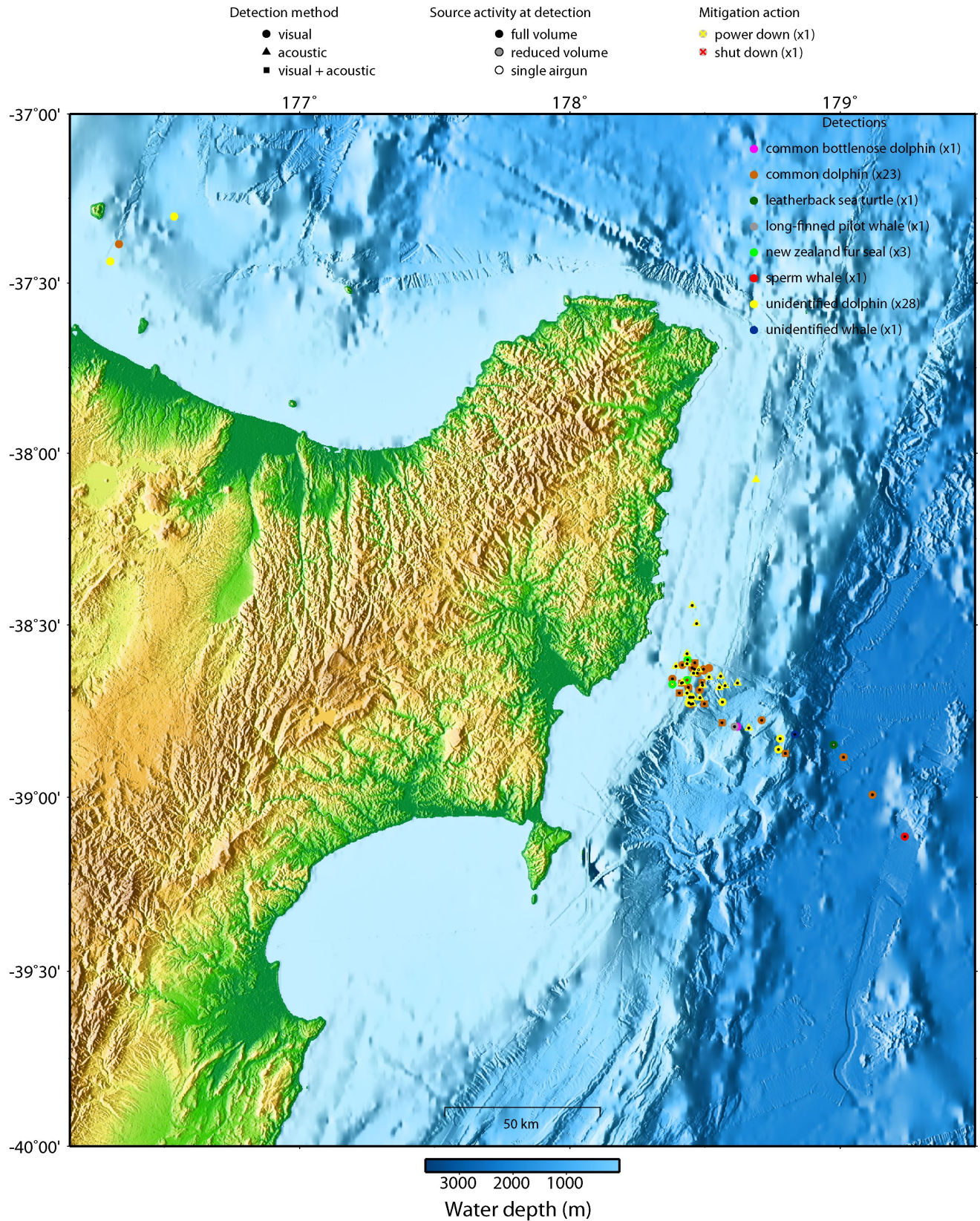


Figure 13. Bathymetric map showing the locations of protected species detections.

MGL1801 protected species observations

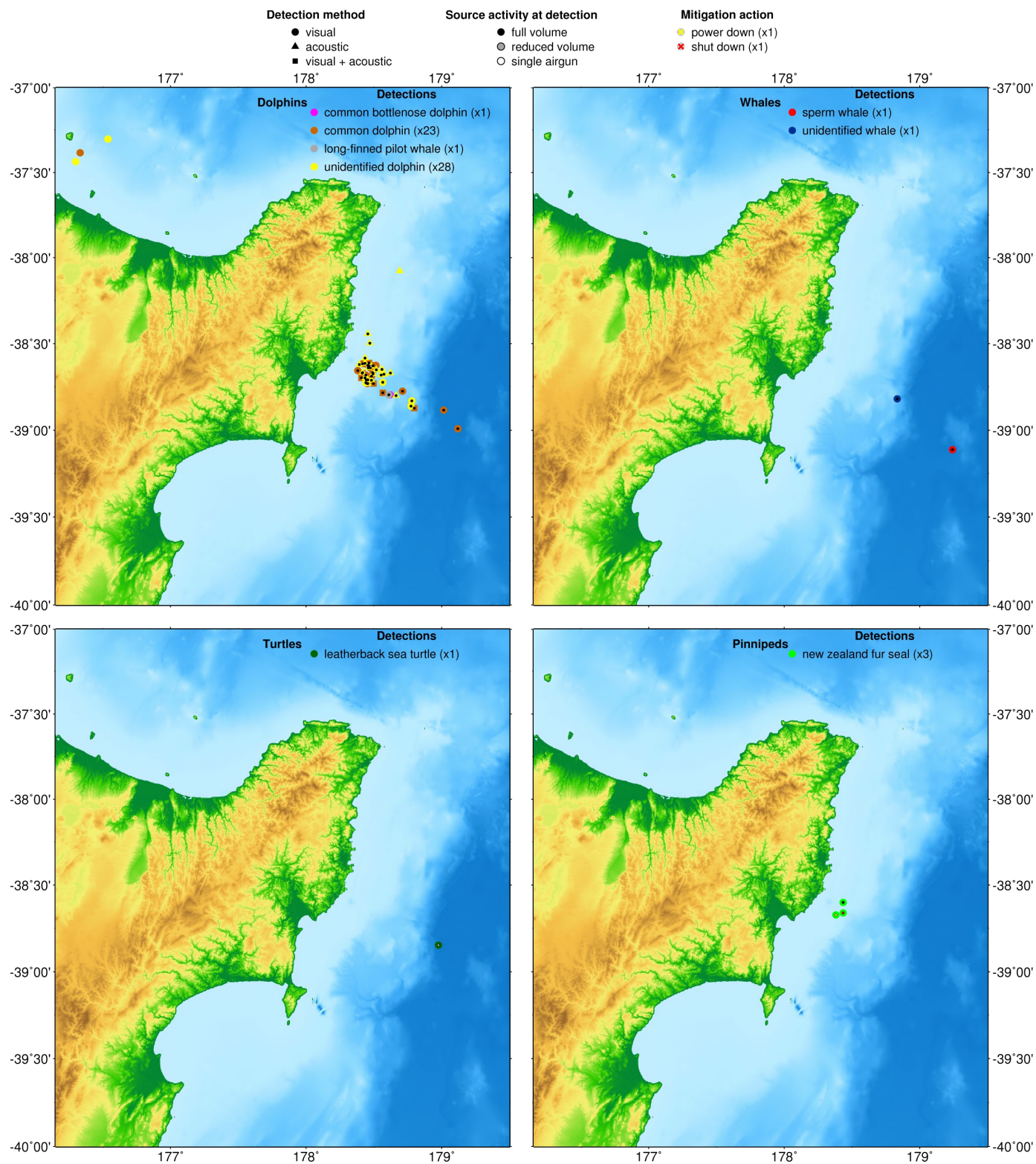


Figure 14. Bathymetric map showing the locations of protected species detections for specific species.

Appendices

Appendix A

Tape Summary

Count	Line	FFID	Shot	Lat	Lon	Year	Month	Day	Hour	Min
Sec	Water	Depth								

TAPE: MGL1801/TAPE0001

1	MGL1801M1196	000003	003636							
549	MGL1801M1196	000549	003088	-38.707913	178.555138	2018	01	09	20	04
02.613800	700.3									

Number of shots on MGL1801/TAPE0001: 549

TAPE: MGL1801/TAPE0002

1	MGL1801M1196	000550	003087	-38.708030	178.555386	2018	01	09	20	04
13.074800	703.2									
549	MGL1801M1196	001098	002539	-38.771283	178.690713	2018	01	09	21	44
19.188800	1009.1									

Number of shots on MGL1801/TAPE0002: 549

TAPE: MGL1801/TAPE0003

1	MGL1801M1196	001099	002538	-38.771396	178.690959	2018	01	09	21	44
29.695800	1010.5									
549	MGL1801M1196	001647	001990	-38.834574	178.826465	2018	01	09	23	17
23.766800	1482.2									

Number of shots on MGL1801/TAPE0003: 549

TAPE: MGL1801/TAPE0004

1	MGL1801M1196	001648	001989	-38.834694	178.826709	2018	01	09	23	17
34.079800	1483.8									
549	MGL1801M1196	002196	001441	-38.897650	178.962484	2018	01	10	00	51
57.950800	3454.1									

Number of shots on MGL1801/TAPE0004: 549

TAPE: MGL1801/TAPE0005

1	MGL1801M1196	002197	001440	-38.897761	178.962736	2018	01	10	00	52
08.432800	3448.7									
549	MGL1801M1196	002745	000892	-38.960768	179.098588	2018	01	10	02	30
04.551800	3518.9									

Number of shots on MGL1801/TAPE0005: 549

TAPE: MGL1801/TAPE0006

1	MGL1801M1196	002746	000891	-38.960884	179.098840	2018	01	10	02	30
15.037800	3518.2									
13	MGL1801M1196	002758	000879	-38.962332	179.101760	2018	01	10	02	32
20.695800	3523.4									

Number of shots on MGL1801/TAPE0006: 13

TAPE: MGL1801/TAPE0007
1 MGL1801M1020 002759 000936 -39.004563 179.043779 2018 01 10 04 42
49.780800 3494.6
549 MGL1801M1020 003307 001484 -38.941424 178.907948 2018 01 10 06 21
01.862800 2372.1
Number of shots on MGL1801/TAPE0007: 549

TAPE: MGL1801/TAPE0008
1 MGL1801M1020 003308 001485 -38.941310 178.907698 2018 01 10 06 21
12.292800 2368.8
549 MGL1801M1020 003856 002033 -38.878269 178.771875 2018 01 10 07 57
24.064800 1336.5
Number of shots on MGL1801/TAPE0008: 549

TAPE: MGL1801/TAPE0009
1 MGL1801M1020 003857 002034 -38.878155 178.771626 2018 01 10 07 57
34.902800 1335.2
549 MGL1801M1020 004405 002582 -38.814911 178.636087 2018 01 10 09 37
11.803800 509.9
Number of shots on MGL1801/TAPE0009: 549

TAPE: MGL1801/TAPE0010
1 MGL1801M1020 004406 002583 -38.814797 178.635841 2018 01 10 09 37
21.988800 504.5
549 MGL1801M1020 004954 003131 -38.751518 178.500441 2018 01 10 11 12
02.040800 620.1
Number of shots on MGL1801/TAPE0010: 549

TAPE: MGL1801/TAPE0011
1 MGL1801M1020 004955 003132 -38.751400 178.500196 2018 01 10 11 12
12.626800 628.1
393 MGL1801M1020 005347 003524 -38.706070 178.403466 2018 01 10 12 19
17.109800 98.1
Number of shots on MGL1801/TAPE0011: 393

TAPE: MGL1801/TAPE0012
1 MGL1801M1204 005348 003524 -38.655284 178.451040 2018 01 10 14 16
02.000000 112.9
549 MGL1801M1204 005896 002946 -38.722028 178.592260 2018 01 10 15 56
14.771800 977.0
Number of shots on MGL1801/TAPE0012: 549

TAPE: MGL1801/TAPE0013
1 MGL1801M1204 005897 002945 -38.722144 178.592506 2018 01 10 15 56
24.683800 975.8
549 MGL1801M1204 006445 002397 -38.785067 178.728120 2018 01 10 17 31
11.663800 923.9
Number of shots on MGL1801/TAPE0013: 549

TAPE: MGL1801/TAPE0014
1 MGL1801M1204 006446 002396 -38.785181 178.728367 2018 01 10 17 31
22.151800 920.8
549 MGL1801M1204 006994 001848 -38.848760 178.863584 2018 01 10 19 05
54.922800 2011.5
Number of shots on MGL1801/TAPE0014: 549

TAPE: MGL1801/TAPE0015
1 MGL1801M1204 006995 001847 -38.848886 178.863826 2018 01 10 19 06
04.910800 2020.1
549 MGL1801M1204 007543 001299 -38.911697 178.999740 2018 01 10 20 40
40.339800 3485.3
Number of shots on MGL1801/TAPE0015: 549

TAPE: MGL1801/TAPE0016
1 MGL1801M1204 007544 001298 -38.911812 178.999987 2018 01 10 20 40
50.872800 3487.9
420 MGL1801M1204 007963 000879 -38.959809 179.103998 2018 01 10 21 52
56.581800 3449.2
Number of shots on MGL1801/TAPE0016: 420

TAPE: MGL1801/TAPE0017
1 MGL1801M1028 007964 000924 -39.003505 179.048280 2018 01 11 00 05
49.961800 3500.3
549 MGL1801M1028 008512 001472 -38.940622 178.912225 2018 01 11 01 39
27.276800 2457.7
Number of shots on MGL1801/TAPE0017: 549

TAPE: MGL1801/TAPE0018
1 MGL1801M1028 008513 001473 -38.940504 178.911976 2018 01 11 01 39
37.687800 2452.8
549 MGL1801M1028 009061 002021 -38.877570 178.776088 2018 01 11 03 14
13.238800 1343.6
Number of shots on MGL1801/TAPE0018: 549

TAPE: MGL1801/TAPE0019
1 MGL1801M1028 009062 002022 -38.877458 178.775839 2018 01 11 03 14
23.229800 1344.0
549 MGL1801M1028 009610 002570 -38.814019 178.640474 2018 01 11 04 51
57.197800 632.5
Number of shots on MGL1801/TAPE0019: 549

TAPE: MGL1801/TAPE0020
1 MGL1801M1028 009611 002571 -38.813902 178.640227 2018 01 11 04 52
08.652800 631.6
549 MGL1801M1028 010159 003119 -38.750360 178.505039 2018 01 11 06 31
26.313800 639.7
Number of shots on MGL1801/TAPE0020: 549

TAPE: MGL1801/TAPE0021

1 MGL1801M1028 010160 003120 -38.750246 178.504785 2018 01 11 06 31
36.750800 641.9
406 MGL1801M1028 010565 003525 -38.703390 178.404859 2018 01 11 07 46
28.365800 94.5
Number of shots on MGL1801/TAPE0021: 406

TAPE: MGL1801/TAPE0022
1 MGL1801M1212 010566 003415 -38.665647 178.478222 2018 01 11 10 02
44.965800 270.9
549 MGL1801M1212 011114 002867 -38.729123 178.613312 2018 01 11 11 38
59.538800 999.2
Number of shots on MGL1801/TAPE0022: 549

TAPE: MGL1801/TAPE0023
1 MGL1801M1212 011115 002866 -38.729239 178.613556 2018 01 11 11 39
10.280800 997.8
549 MGL1801M1212 011663 002318 -38.792390 178.749004 2018 01 11 13 14
12.643800 1112.6
Number of shots on MGL1801/TAPE0023: 549

TAPE: MGL1801/TAPE0024
1 MGL1801M1212 011664 002317 -38.792506 178.749249 2018 01 11 13 14
23.056800 1109.6
549 MGL1801M1212 012212 001769 -38.855431 178.884960 2018 01 11 14 49
13.329800 2387.4
Number of shots on MGL1801/TAPE0024: 549

TAPE: MGL1801/TAPE0025
1 MGL1801M1212 012213 001768 -38.855549 178.885210 2018 01 11 14 49
23.701800 2463.2
549 MGL1801M1212 012761 001220 -38.918427 179.021091 2018 01 11 16 24
50.906800 3498.3
Number of shots on MGL1801/TAPE0025: 549

TAPE: MGL1801/TAPE0026
1 MGL1801M1212 012762 001219 -38.918542 179.021339 2018 01 11 16 25
01.486800 3500.6
342 MGL1801M1212 013103 000878 -38.957629 179.105974 2018 01 11 17 25
33.441800 3522.2
Number of shots on MGL1801/TAPE0026: 342

TAPE: MGL1801/TAPE0027
1 MGL1801M1036 013104 000855 -39.009274 179.067016 2018 01 11 19 31
30.064800 3500.0
549 MGL1801M1036 013652 001403 -38.945902 178.931375 2018 01 11 21 05
19.537800 2955.9
Number of shots on MGL1801/TAPE0027: 549

TAPE: MGL1801/TAPE0028

1 MGL1801M1036 013653 001404 -38.945774 178.931133 2018 01 11 21 05
29.928800 2952.9
549 MGL1801M1036 014201 001952 -38.883183 178.794974 2018 01 11 22 38
49.166800 1287.4
Number of shots on MGL1801/TAPE0028: 549

TAPE: MGL1801/TAPE0029
1 MGL1801M1036 014202 001953 -38.883065 178.794728 2018 01 11 22 38
59.284800 1291.9
549 MGL1801M1036 014750 002501 -38.819922 178.659119 2018 01 12 00 15
41.795800 931.7
Number of shots on MGL1801/TAPE0029: 549

TAPE: MGL1801/TAPE0030
1 MGL1801M1036 014751 002502 -38.819801 178.658873 2018 01 12 00 15
51.830800 931.9
549 MGL1801M1036 015299 003050 -38.756146 178.523749 2018 01 12 01 49
37.975800 792.2
Number of shots on MGL1801/TAPE0030: 549

TAPE: MGL1801/TAPE0031
1 MGL1801M1036 015300 003051 -38.756035 178.523508 2018 01 12 01 49
48.404800 785.8
475 MGL1801M1036 015774 003525 -38.701096 178.406639 2018 01 12 03 15
43.838800 94.7
Number of shots on MGL1801/TAPE0031: 475

TAPE: MGL1801/TAPE0032
1 MGL1801M1220 015775 003480 -38.655690 178.464045 2018 01 12 05 13
37.221800 129.4
549 MGL1801M1220 016323 002932 -38.719561 178.598835 2018 01 12 06 49
16.765800 987.0
Number of shots on MGL1801/TAPE0032: 549

TAPE: MGL1801/TAPE0033
1 MGL1801M1220 016324 002931 -38.719674 178.599081 2018 01 12 06 49
27.166800 986.4
549 MGL1801M1220 016872 002383 -38.782561 178.734712 2018 01 12 08 22
46.949800 925.1
Number of shots on MGL1801/TAPE0033: 549

TAPE: MGL1801/TAPE0034
1 MGL1801M1220 016873 002382 -38.782675 178.734963 2018 01 12 08 22
57.191800 926.6
549 MGL1801M1220 017421 001834 -38.845975 178.870380 2018 01 12 09 56
14.615800 2117.3
Number of shots on MGL1801/TAPE0034: 549

TAPE: MGL1801/TAPE0035

1 MGL1801M1220 017422 001833 -38.846096 178.870618 2018 01 12 09 56
24.743800 2072.2
549 MGL1801M1220 017970 001285 -38.908717 179.006708 2018 01 12 11 33
09.843800 3496.1
Number of shots on MGL1801/TAPE0035: 549

TAPE: MGL1801/TAPE0036
1 MGL1801M1220 017971 001284 -38.908831 179.006957 2018 01 12 11 33
20.028800 3495.4
407 MGL1801M1220 018377 000878 -38.955541 179.107584 2018 01 12 12 46
43.597800 3522.3
Number of shots on MGL1801/TAPE0036: 407

TAPE: MGL1801/TAPE0037
1 MGL1801M1044 018378 000776 -39.016204 179.088282 2018 01 12 14 42
03.522800 3506.2
549 MGL1801M1044 018926 001324 -38.952578 178.952797 2018 01 12 16 17
26.985800 3195.1
Number of shots on MGL1801/TAPE0037: 549

TAPE: MGL1801/TAPE0038
1 MGL1801M1044 018927 001325 -38.952461 178.952549 2018 01 12 16 17
37.921800 3196.8
549 MGL1801M1044 019475 001873 -38.889703 178.816472 2018 01 12 17 54
19.704800 1452.6
Number of shots on MGL1801/TAPE0038: 549

TAPE: MGL1801/TAPE0039
1 MGL1801M1044 019476 001874 -38.889594 178.816219 2018 01 12 17 54
30.049800 1440.2
549 MGL1801M1044 020024 002422 -38.827098 178.680099 2018 01 12 19 29
06.196800 872.1
Number of shots on MGL1801/TAPE0039: 549

TAPE: MGL1801/TAPE0040
1 MGL1801M1044 020025 002423 -38.826979 178.679852 2018 01 12 19 29
17.043800 865.4
549 MGL1801M1044 020573 002971 -38.762836 178.545115 2018 01 12 21 09
05.281800 874.8
Number of shots on MGL1801/TAPE0040: 549

TAPE: MGL1801/TAPE0041
1 MGL1801M1044 020574 002972 -38.762720 178.544871 2018 01 12 21 09
16.463800 874.1
549 MGL1801M1044 021122 003520 -38.699312 178.409673 2018 01 12 22 49
24.369800 94.1
Number of shots on MGL1801/TAPE0041: 549

TAPE: MGL1801/TAPE0042

1 MGL1801M1044 021123 003521 -38.699240 178.409397 2018 01 12 22 49
35.128800 94.4
4 MGL1801M1044 021126 003524 -38.699012 178.408562 2018 01 12 22 50
07.236800 94.1
Number of shots on MGL1801/TAPE0042: 4

TAPE: MGL1801/TAPE0043

1 MGL1801M1228 021127 003502 -38.650895 178.460365 2018 01 13 00 58
21.224800 121.7
549 MGL1801M1228 021675 002954 -38.714513 178.595316 2018 01 13 02 32
33.338800 975.8
Number of shots on MGL1801/TAPE0043: 549

TAPE: MGL1801/TAPE0044

1 MGL1801M1228 021676 002953 -38.714630 178.595560 2018 01 13 02 32
43.707800 976.3
549 MGL1801M1228 022224 002405 -38.777427 178.731249 2018 01 13 04 06
46.890800 974.3
Number of shots on MGL1801/TAPE0044: 549

TAPE: MGL1801/TAPE0045

1 MGL1801M1228 022225 002404 -38.777539 178.731499 2018 01 13 04 06
57.040800 971.6
549 MGL1801M1228 022773 001856 -38.840743 178.866980 2018 01 13 05 40
24.184800 2042.2
Number of shots on MGL1801/TAPE0045: 549

TAPE: MGL1801/TAPE0046

1 MGL1801M1228 022774 001855 -38.840868 178.867223 2018 01 13 05 40
34.987800 2047.0
549 MGL1801M1228 023322 001307 -38.904173 179.002760 2018 01 13 07 17
03.142800 3499.9
Number of shots on MGL1801/TAPE0046: 549

TAPE: MGL1801/TAPE0047

1 MGL1801M1228 023323 001306 -38.904288 179.003008 2018 01 13 07 17
13.714800 3496.6
429 MGL1801M1228 023751 000878 -38.953054 179.109431 2018 01 13 08 34
19.267800 3523.4
Number of shots on MGL1801/TAPE0047: 429

TAPE: MGL1801/TAPE0048

1 MGL1801M1052 023752 000909 -38.998316 179.057233 2018 01 13 10 47
19.344800 3501.1
549 MGL1801M1052 024300 001457 -38.935144 178.921436 2018 01 13 12 20
17.883800 2614.8
Number of shots on MGL1801/TAPE0048: 549

TAPE: MGL1801/TAPE0049

1 MGL1801M1052 024301 001458 -38.935031 178.921189 2018 01 13 12 20
28.191800 2600.6
549 MGL1801M1052 024849 002006 -38.872584 178.784943 2018 01 13 13 55
48.446800 1373.3
Number of shots on MGL1801/TAPE0049: 549

TAPE: MGL1801/TAPE0050
1 MGL1801M1052 024850 002007 -38.872468 178.784693 2018 01 13 13 55
58.821800 1369.3
549 MGL1801M1052 025398 002555 -38.809762 178.648759 2018 01 13 15 31
44.693800 1078.7
Number of shots on MGL1801/TAPE0050: 549

TAPE: MGL1801/TAPE0051
1 MGL1801M1052 025399 002556 -38.809639 178.648519 2018 01 13 15 31
55.559800 1078.3
549 MGL1801M1052 025947 003104 -38.745536 178.513770 2018 01 13 17 08
29.102800 744.9
Number of shots on MGL1801/TAPE0051: 549

TAPE: MGL1801/TAPE0052
1 MGL1801M1052 025948 003105 -38.745414 178.513521 2018 01 13 17 08
39.547800 740.5
420 MGL1801M1052 026367 003524 -38.696982 178.410121 2018 01 13 18 21
00.394800 95.1
Number of shots on MGL1801/TAPE0052: 420

TAPE: MGL1801/TAPE0053
1 MGL1801M1236 026368 003561 -38.641835 178.447861 2018 01 13 20 07
17.289800 102.0
549 MGL1801M1236 026916 003013 -38.704907 178.583223 2018 01 13 21 42
03.390800 816.8
Number of shots on MGL1801/TAPE0053: 549

TAPE: MGL1801/TAPE0054
1 MGL1801M1236 026917 003012 -38.705019 178.583471 2018 01 13 21 42
13.748800 813.2
549 MGL1801M1236 027465 002464 -38.768336 178.718740 2018 01 13 23 16
50.330800 1007.6
Number of shots on MGL1801/TAPE0054: 549

TAPE: MGL1801/TAPE0055
1 MGL1801M1236 027466 002463 -38.768455 178.718985 2018 01 13 23 17
00.522800 1008.0
549 MGL1801M1236 028014 001915 -38.831920 178.854264 2018 01 14 00 54
02.181800 1837.6
Number of shots on MGL1801/TAPE0055: 549

TAPE: MGL1801/TAPE0056

1 MGL1801M1236 028015 001914 -38.832042 178.854509 2018 01 14 00 54
13.083800 1841.5
549 MGL1801M1236 028563 001366 -38.895067 178.990218 2018 01 14 02 32
10.984800 3487.8
Number of shots on MGL1801/TAPE0056: 549

TAPE: MGL1801/TAPE0057
1 MGL1801M1236 028564 001365 -38.895182 178.990466 2018 01 14 02 32
22.308800 3488.3
487 MGL1801M1236 029050 000879 -38.950942 179.111025 2018 01 14 04 03
55.884800 3527.3
Number of shots on MGL1801/TAPE0057: 487

TAPE: MGL1801/TAPE0058
1 MGL1801I1052 029051 000942 -38.994263 179.049370 2018 01 14 06 40
53.613800 3499.6
549 MGL1801I1052 029599 001490 -38.929932 178.914443 2018 01 14 08 16
04.137800 2412.9
Number of shots on MGL1801/TAPE0058: 549

TAPE: MGL1801/TAPE0059
1 MGL1801I1052 029600 001491 -38.929815 178.914196 2018 01 14 08 16
14.663800 2409.1
549 MGL1801I1052 030148 002039 -38.867191 178.778101 2018 01 14 09 53
01.075800 1329.8
Number of shots on MGL1801/TAPE0059: 549

TAPE: MGL1801/TAPE0060
1 MGL1801I1052 030149 002040 -38.867076 178.777857 2018 01 14 09 53
11.903800 1328.7
549 MGL1801I1052 030697 002588 -38.804255 178.642007 2018 01 14 11 33
16.980800 997.2
Number of shots on MGL1801/TAPE0060: 549

TAPE: MGL1801/TAPE0061
1 MGL1801I1052 030698 002589 -38.804143 178.641760 2018 01 14 11 33
27.732800 992.2
549 MGL1801I1052 031246 003137 -38.740627 178.506568 2018 01 14 13 09
52.541800 770.4
Number of shots on MGL1801/TAPE0061: 549

TAPE: MGL1801/TAPE0062
1 MGL1801I1052 031247 003138 -38.740502 178.506323 2018 01 14 13 10
03.157800 768.2
387 MGL1801I1052 031633 003524 -38.694526 178.412116 2018 01 14 14 17
30.889800 91.7
Number of shots on MGL1801/TAPE0062: 387

TAPE: MGL1801/TAPE0063

1 MGL1801M1244 031634 003548 -38.641064 178.452342 2018 01 14 16 05
35.529800 110.2
549 MGL1801M1244 032182 003000 -38.704200 178.587644 2018 01 14 17 45
26.928800 832.7
Number of shots on MGL1801/TAPE0063: 549

TAPE: MGL1801/TAPE0064
1 MGL1801M1244 032183 002999 -38.704312 178.587899 2018 01 14 17 45
37.748800 833.7
549 MGL1801M1244 032731 002451 -38.767636 178.723165 2018 01 14 19 21
35.488800 1006.4
Number of shots on MGL1801/TAPE0064: 549

TAPE: MGL1801/TAPE0065
1 MGL1801M1244 032732 002450 -38.767744 178.723416 2018 01 14 19 21
45.802800 1006.2
549 MGL1801M1244 033280 001902 -38.830794 178.858996 2018 01 14 20 56
57.311800 1966.4
Number of shots on MGL1801/TAPE0065: 549

TAPE: MGL1801/TAPE0066
1 MGL1801M1244 033281 001901 -38.830906 178.859247 2018 01 14 20 57
08.027800 1963.7
549 MGL1801M1244 033829 001353 -38.894080 178.994862 2018 01 14 22 34
59.944800 3493.9
Number of shots on MGL1801/TAPE0066: 549

TAPE: MGL1801/TAPE0067
1 MGL1801M1244 033830 001352 -38.894191 178.995114 2018 01 14 22 35
10.194800 3494.6
474 MGL1801M1244 034303 000879 -38.948375 179.112509 2018 01 14 23 59
04.417800 3528.3
Number of shots on MGL1801/TAPE0067: 474

TAPE: MGL1801/TAPE0068
1 MGL1801M1060 034304 000943 -38.991892 179.050839 2018 01 15 02 20
11.169800 3500.9
549 MGL1801M1060 034852 001491 -38.927248 178.916161 2018 01 15 03 54
33.294800 2481.6
Number of shots on MGL1801/TAPE0068: 549

TAPE: MGL1801/TAPE0069
1 MGL1801M1060 034853 001492 -38.927135 178.915914 2018 01 15 03 54
44.127800 2475.5
549 MGL1801M1060 035401 002040 -38.864833 178.779574 2018 01 15 05 32
16.053800 1332.9
Number of shots on MGL1801/TAPE0069: 549

TAPE: MGL1801/TAPE0070

1 MGL1801M1060 035402 002041 -38.864724 178.779321 2018 01 15 05 32
27.179800 1334.2
549 MGL1801M1060 035950 002589 -38.801982 178.643428 2018 01 15 07 14
36.533800 1078.4
Number of shots on MGL1801/TAPE0070: 549

TAPE: MGL1801/TAPE0071
1 MGL1801M1060 035951 002590 -38.801862 178.643183 2018 01 15 07 14
47.931800 1076.9
549 MGL1801M1060 036499 003138 -38.738124 178.508174 2018 01 15 08 54
16.489800 777.2
Number of shots on MGL1801/TAPE0071: 549

TAPE: MGL1801/TAPE0072
1 MGL1801M1060 036500 003139 -38.738005 178.507930 2018 01 15 08 54
26.986800 778.8
386 MGL1801M1060 036885 003524 -38.692540 178.413664 2018 01 15 10 00
06.665800 92.6
Number of shots on MGL1801/TAPE0072: 386

TAPE: MGL1801/TAPE0073
1 MGL1801M1252 036886 003548 -38.638455 178.454337 2018 01 15 11 49
03.075800 105.7
549 MGL1801M1252 037434 003000 -38.701870 178.589422 2018 01 15 13 23
33.843800 818.3
Number of shots on MGL1801/TAPE0073: 549

TAPE: MGL1801/TAPE0074
1 MGL1801M1252 037435 002999 -38.701983 178.589670 2018 01 15 13 23
44.549800 820.6
549 MGL1801M1252 037983 002451 -38.765302 178.724943 2018 01 15 14 59
39.776800 1006.7
Number of shots on MGL1801/TAPE0074: 549

TAPE: MGL1801/TAPE0075
1 MGL1801M1252 037984 002450 -38.765427 178.725183 2018 01 15 14 59
50.366800 1006.8
549 MGL1801M1252 038532 001902 -38.828373 178.860845 2018 01 15 16 39
06.327800 1981.9
Number of shots on MGL1801/TAPE0075: 549

TAPE: MGL1801/TAPE0076
1 MGL1801M1252 038533 001901 -38.828486 178.861092 2018 01 15 16 39
16.991800 1985.3
549 MGL1801M1252 039081 001353 -38.891521 178.996799 2018 01 15 18 15
34.722800 3496.2
Number of shots on MGL1801/TAPE0076: 549

TAPE: MGL1801/TAPE0077

1 MGL1801M1252 039082 001352 -38.891637 178.997045 2018 01 15 18 15
45.099800 3500.9
475 MGL1801M1252 039556 000878 -38.945922 179.114688 2018 01 15 19 39
19.927800 3526.5
Number of shots on MGL1801/TAPE0077: 475

TAPE: MGL1801/TAPE0078

1 MGL1801M1068 039557 000903 -38.994218 179.062487 2018 01 15 22 18
14.431800 3506.7
549 MGL1801M1068 040105 001451 -38.930282 178.927257 2018 01 15 23 55
36.220800 2791.1
Number of shots on MGL1801/TAPE0078: 549

TAPE: MGL1801/TAPE0079

1 MGL1801M1068 040106 001452 -38.930162 178.927015 2018 01 15 23 55
46.619800 2776.3
549 MGL1801M1068 040654 002000 -38.866855 178.791443 2018 01 16 01 28
21.577800 1243.5
Number of shots on MGL1801/TAPE0079: 549

TAPE: MGL1801/TAPE0080

1 MGL1801M1068 040655 002001 -38.866751 178.791184 2018 01 16 01 28
32.286800 1241.4
549 MGL1801M1068 041203 002549 -38.804170 178.655172 2018 01 16 03 11
24.394800 1084.5
Number of shots on MGL1801/TAPE0080: 549

TAPE: MGL1801/TAPE0081

1 MGL1801M1068 041204 002550 -38.804045 178.654931 2018 01 16 03 11
35.676800 1087.4
549 MGL1801M1068 041752 003098 -38.740486 178.519772 2018 01 16 04 53
19.251800 820.8
Number of shots on MGL1801/TAPE0081: 549

TAPE: MGL1801/TAPE0082

1 MGL1801M1068 041753 003099 -38.740370 178.519525 2018 01 16 04 53
29.868800 819.4
427 MGL1801M1068 042179 003525 -38.690662 178.414759 2018 01 16 06 09
25.649800 92.3
Number of shots on MGL1801/TAPE0082: 427

TAPE: MGL1801/TAPE0083

1 MGL1801M1260 042180 003459 -38.646783 178.477780 2018 01 16 08 13
20.799800 138.6
549 MGL1801M1260 042728 002911 -38.709935 178.613066 2018 01 16 09 48
47.978800 999.4
Number of shots on MGL1801/TAPE0083: 549

TAPE: MGL1801/TAPE0084

1 MGL1801M1260 042729 002910 -38.710047 178.613316 2018 01 16 09 48
58.141800 999.3
549 MGL1801M1260 043277 002362 -38.773196 178.748754 2018 01 16 11 24
16.169800 954.8
Number of shots on MGL1801/TAPE0084: 549

TAPE: MGL1801/TAPE0085

1 MGL1801M1260 043278 002361 -38.773320 178.748993 2018 01 16 11 24
27.148800 953.6
549 MGL1801M1260 043826 001813 -38.836389 178.884559 2018 01 16 13 01
07.320800 2239.3
Number of shots on MGL1801/TAPE0085: 549

TAPE: MGL1801/TAPE0086

1 MGL1801M1260 043827 001812 -38.836495 178.884819 2018 01 16 13 01
17.500800 2243.2
549 MGL1801M1260 044375 001264 -38.899444 179.020623 2018 01 16 14 39
51.294800 3507.3
Number of shots on MGL1801/TAPE0086: 549

TAPE: MGL1801/TAPE0087

1 MGL1801M1260 044376 001263 -38.899558 179.020871 2018 01 16 14 40
01.746800 3508.9
385 MGL1801M1260 044760 000879 -38.943775 179.116009 2018 01 16 15 47
33.508800 3523.4
Number of shots on MGL1801/TAPE0087: 385

TAPE: MGL1801/TAPE0088

1 MGL1801M1076 044761 000850 -38.997787 179.077555 2018 01 16 17 52
11.642800 3505.9
549 MGL1801M1076 045309 001398 -38.934882 178.941531 2018 01 16 19 27
31.031800 3190.9
Number of shots on MGL1801/TAPE0088: 549

TAPE: MGL1801/TAPE0089

1 MGL1801M1076 045310 001399 -38.934761 178.941287 2018 01 16 19 27
41.737800 3196.8
549 MGL1801M1076 045858 001947 -38.870818 178.806185 2018 01 16 21 03
55.263800 1433.8
Number of shots on MGL1801/TAPE0089: 549

TAPE: MGL1801/TAPE0090

1 MGL1801M1076 045859 001948 -38.870713 178.805931 2018 01 16 21 04
06.313800 1437.0
549 MGL1801M1076 046407 002496 -38.808285 178.669798 2018 01 16 22 42
50.569800 1079.8
Number of shots on MGL1801/TAPE0090: 549

TAPE: MGL1801/TAPE0091

1 MGL1801M1076 046408 002497 -38.808162 178.669565 2018 01 16 22 43
01.612800 1080.4
549 MGL1801M1076 046956 003045 -38.744623 178.534382 2018 01 17 00 22
05.343800 815.4
Number of shots on MGL1801/TAPE0091: 549

TAPE: MGL1801/TAPE0092
1 MGL1801M1076 046957 003046 -38.744499 178.534145 2018 01 17 00 22
16.031800 818.1
479 MGL1801M1076 047435 003524 -38.688880 178.416451 2018 01 17 01 49
31.354800 91.4
Number of shots on MGL1801/TAPE0092: 479

TAPE: MGL1801/TAPE0093
1 MGL1801M1268 047436 003485 -38.641557 178.473063 2018 01 17 04 02
57.388800 131.0
137 MGL1801M1268 047572 003349 -38.657274 178.506604 2018 01 17 04 26
29.506800 208.7
Number of shots on MGL1801/TAPE0093: 137

TAPE: MGL1801/TAPE0094
1 MGL1801M1268A 047573 003494 -38.640665 178.470736 2018 01 18 04 53
00.489800 129.7
549 MGL1801M1268A 048121 002946 -38.703562 178.606241 2018 01 18 06 27
47.903800 918.8
Number of shots on MGL1801/TAPE0094: 549

TAPE: MGL1801/TAPE0095
1 MGL1801M1268A 048122 002945 -38.703668 178.606492 2018 01 18 06 27
58.547800 917.4
549 MGL1801M1268A 048670 002397 -38.766850 178.741872 2018 01 18 08 02
56.585800 972.8
Number of shots on MGL1801/TAPE0095: 549

TAPE: MGL1801/TAPE0096
1 MGL1801M1268A 048671 002396 -38.766964 178.742120 2018 01 18 08 03
07.071800 970.3
549 MGL1801M1268A 049219 001848 -38.830309 178.877473 2018 01 18 09 37
12.518800 2203.6
Number of shots on MGL1801/TAPE0096: 549

TAPE: MGL1801/TAPE0097
1 MGL1801M1268A 049220 001847 -38.830429 178.877714 2018 01 18 09 37
23.030800 2229.1
549 MGL1801M1268A 049768 001299 -38.893901 179.013105 2018 01 18 11 11
10.817800 3501.1
Number of shots on MGL1801/TAPE0097: 549

TAPE: MGL1801/TAPE0098

1 MGL1801M1268A 049769 001298 -38.894017 179.013347 2018 01 18 11 11
20.912800 3503.6
420 MGL1801M1268A 050188 000879 -38.941727 179.117556 2018 01 18 12 25
25.437800 3526.2
Number of shots on MGL1801/TAPE0098: 420

TAPE: MGL1801/TAPE0099
1 MGL1801M1084 050189 000885 -38.991593 179.070495 2018 01 18 14 35
50.833800 3506.0
549 MGL1801M1084 050737 001433 -38.929030 178.934240 2018 01 18 16 09
55.698800 3066.1
Number of shots on MGL1801/TAPE0099: 549

TAPE: MGL1801/TAPE0100
1 MGL1801M1084 050738 001434 -38.928912 178.933991 2018 01 18 16 10
06.574800 3069.4
549 MGL1801M1084 051286 001982 -38.865525 178.798478 2018 01 18 17 45
06.608800 1285.2
Number of shots on MGL1801/TAPE0100: 549

TAPE: MGL1801/TAPE0101
1 MGL1801M1084 051287 001983 -38.865415 178.798230 2018 01 18 17 45
16.889800 1279.6
549 MGL1801M1084 051835 002531 -38.802245 178.662668 2018 01 18 19 18
36.931800 1081.4
Number of shots on MGL1801/TAPE0101: 549

TAPE: MGL1801/TAPE0102
1 MGL1801M1084 051836 002532 -38.802125 178.662425 2018 01 18 19 18
47.133800 1081.3
549 MGL1801M1084 052384 003080 -38.738880 178.527040 2018 01 18 20 53
14.970800 788.9
Number of shots on MGL1801/TAPE0102: 549

TAPE: MGL1801/TAPE0103
1 MGL1801M1084 052385 003081 -38.738762 178.526791 2018 01 18 20 53
25.478800 789.2
444 MGL1801M1084 052828 003524 -38.687548 178.417481 2018 01 18 22 10
28.468800 99.2
Number of shots on MGL1801/TAPE0103: 444

TAPE: MGL1801/TAPE0104
1 MGL1801M1276 052829 003453 -38.643109 178.482593 2018 01 19 00 22
35.371800 137.4
549 MGL1801M1276 053377 002905 -38.705925 178.618148 2018 01 19 01 54
31.031800 995.4
Number of shots on MGL1801/TAPE0104: 549

TAPE: MGL1801/TAPE0105

1 MGL1801M1276 053378 002904 -38.706035 178.618399 2018 01 19 01 54
41.325800 997.2
549 MGL1801M1276 053926 002356 -38.769280 178.753727 2018 01 19 03 27
58.289800 945.8
Number of shots on MGL1801/TAPE0105: 549

TAPE: MGL1801/TAPE0106

1 MGL1801M1276 053927 002355 -38.769385 178.753980 2018 01 19 03 28
08.723800 946.6
549 MGL1801M1276 054475 001807 -38.832494 178.889518 2018 01 19 05 04
06.305800 2443.9
Number of shots on MGL1801/TAPE0106: 549

TAPE: MGL1801/TAPE0107

1 MGL1801M1276 054476 001806 -38.832617 178.889757 2018 01 19 05 04
16.929800 2449.5
549 MGL1801M1276 055024 001258 -38.895997 179.025219 2018 01 19 06 39
40.878800 3510.7
Number of shots on MGL1801/TAPE0107: 549

TAPE: MGL1801/TAPE0108

1 MGL1801M1276 055025 001257 -38.896107 179.025474 2018 01 19 06 39
51.172800 3506.5
379 MGL1801M1276 055403 000879 -38.939043 179.119554 2018 01 19 07 44
17.957800 3530.3
Number of shots on MGL1801/TAPE0108: 379

TAPE: MGL1801/TAPE0109

1 MGL1801M1092 055404 000936 -38.983275 179.059710 2018 01 19 10 03
32.179800 3506.3
549 MGL1801M1092 055952 001484 -38.920638 178.923492 2018 01 19 11 44
00.117800 2769.8
Number of shots on MGL1801/TAPE0109: 549

TAPE: MGL1801/TAPE0110

1 MGL1801M1092 055953 001485 -38.920518 178.923248 2018 01 19 11 44
11.172800 2765.7
549 MGL1801M1092 056501 002033 -38.857329 178.787603 2018 01 19 13 21
27.921800 1188.2
Number of shots on MGL1801/TAPE0110: 549

TAPE: MGL1801/TAPE0111

1 MGL1801M1092 056502 002034 -38.857213 178.787357 2018 01 19 13 21
38.115800 1193.3
549 MGL1801M1092 057050 002582 -38.794604 178.651390 2018 01 19 14 54
46.658800 1080.5
Number of shots on MGL1801/TAPE0111: 549

TAPE: MGL1801/TAPE0112

1 MGL1801M1092 057051 002583 -38.794486 178.651142 2018 01 19 14 54
56.807800 1081.6
549 MGL1801M1092 057599 003131 -38.731335 178.515695 2018 01 19 16 29
19.866800 756.6
Number of shots on MGL1801/TAPE0112: 549

TAPE: MGL1801/TAPE0113
1 MGL1801M1092 057600 003132 -38.731223 178.515447 2018 01 19 16 29
30.378800 750.3
394 MGL1801M1092 057993 003525 -38.685698 178.418564 2018 01 19 17 38
35.142800 102.8
Number of shots on MGL1801/TAPE0113: 394

TAPE: MGL1801/TAPE0114
1 MGL1801M1284 057994 003486 -38.636365 178.476698 2018 01 19 19 43
44.179800 131.7
676 MGL1801M1284 058669 002791 -38.716752 178.648061 2018 01 19 21 43
52.654800 1024.0
Number of shots on MGL1801/TAPE0114: 676

TAPE: MGL1801/TAPE0115
1 MGL1801M1284 058670 002790 -38.716867 178.648307 2018 01 19 21 44
03.001800 1025.8
549 MGL1801M1284 059218 002242 -38.779927 178.783801 2018 01 19 23 17
25.823800 860.1
Number of shots on MGL1801/TAPE0115: 549

TAPE: MGL1801/TAPE0116
1 MGL1801M1284 059219 002241 -38.780036 178.784051 2018 01 19 23 17
35.640800 855.6
549 MGL1801M1284 059767 001693 -38.843413 178.919413 2018 01 20 00 50
29.565800 3024.1
Number of shots on MGL1801/TAPE0116: 549

TAPE: MGL1801/TAPE0117
1 MGL1801M1284 059768 001692 -38.843522 178.919664 2018 01 20 00 50
39.847800 3021.6
549 MGL1801M1284 060316 001144 -38.907122 179.054963 2018 01 20 02 23
39.430800 3514.1
Number of shots on MGL1801/TAPE0117: 549

TAPE: MGL1801/TAPE0118
1 MGL1801M1284 060317 001143 -38.907242 179.055211 2018 01 20 02 23
49.826800 3513.0
265 MGL1801M1284 060581 000879 -38.937439 179.120768 2018 01 20 03 08
10.180800 3525.3
Number of shots on MGL1801/TAPE0118: 265

TAPE: MGL1801/TAPE0119

1 MGL1801M1100 060582 000924 -38.982643 179.064207 2018 01 20 05 26
48.144800 3505.3
549 MGL1801M1100 061130 001472 -38.919588 178.928335 2018 01 20 07 05
19.812800 2816.8
Number of shots on MGL1801/TAPE0119: 549

TAPE: MGL1801/TAPE0120

1 MGL1801M1100 061131 001473 -38.919474 178.928083 2018 01 20 07 05
30.672800 2810.4
549 MGL1801M1100 061679 002021 -38.856680 178.792146 2018 01 20 08 43
24.776800 1136.7
Number of shots on MGL1801/TAPE0120: 549

TAPE: MGL1801/TAPE0121

1 MGL1801M1100 061680 002022 -38.856557 178.791904 2018 01 20 08 43
35.688800 1148.4
549 MGL1801M1100 062228 002570 -38.793511 178.656251 2018 01 20 10 20
13.378800 1080.4
Number of shots on MGL1801/TAPE0121: 549

TAPE: MGL1801/TAPE0122

1 MGL1801M1100 062229 002571 -38.793404 178.656004 2018 01 20 10 20
24.287800 1080.7
549 MGL1801M1100 062777 003119 -38.730175 178.520616 2018 01 20 11 57
55.168800 756.4
Number of shots on MGL1801/TAPE0122: 549

TAPE: MGL1801/TAPE0123

1 MGL1801M1100 062778 003120 -38.730056 178.520376 2018 01 20 11 58
05.500800 756.9
405 MGL1801M1100 063182 003524 -38.683311 178.420723 2018 01 20 13 06
15.724800 103.6
Number of shots on MGL1801/TAPE0123: 405

TAPE: MGL1801/TAPE0124

1 MGL1801M1292 063183 003532 -38.628974 178.467280 2018 01 20 15 03
16.224800 118.3
549 MGL1801M1292 063731 002984 -38.692448 178.602303 2018 01 20 16 39
58.454800 770.0
Number of shots on MGL1801/TAPE0124: 549

TAPE: MGL1801/TAPE0125

1 MGL1801M1292 063732 002983 -38.692569 178.602546 2018 01 20 16 40
08.871800 769.7
549 MGL1801M1292 064280 002435 -38.755919 178.737775 2018 01 20 18 17
53.722800 905.0
Number of shots on MGL1801/TAPE0125: 549

TAPE: MGL1801/TAPE0126

1 MGL1801M1292 064281 002434 -38.756033 178.738023 2018 01 20 18 18
04.504800 907.2
549 MGL1801M1292 064829 001886 -38.818935 178.873704 2018 01 20 19 53
34.976800 2365.1
Number of shots on MGL1801/TAPE0126: 549

TAPE: MGL1801/TAPE0127
1 MGL1801M1292 064830 001885 -38.819046 178.873951 2018 01 20 19 53
45.176800 2378.1
549 MGL1801M1292 065378 001337 -38.881987 179.009708 2018 01 20 21 27
06.423800 3496.3
Number of shots on MGL1801/TAPE0127: 549

TAPE: MGL1801/TAPE0128
1 MGL1801M1292 065379 001336 -38.882102 179.009954 2018 01 20 21 27
16.839800 3503.8
458 MGL1801M1292 065836 000879 -38.934838 179.123069 2018 01 20 22 45
29.387800 3526.2
Number of shots on MGL1801/TAPE0128: 458

TAPE: MGL1801/TAPE0129
1 MGL1801M1108 065837 000923 -38.980630 179.066060 2018 01 21 02 08
46.493800 3506.5
549 MGL1801M1108 066385 001471 -38.917534 178.930224 2018 01 21 03 46
54.687800 2809.2
Number of shots on MGL1801/TAPE0129: 549

TAPE: MGL1801/TAPE0130
1 MGL1801M1108 066386 001472 -38.917422 178.929974 2018 01 21 03 47
06.108800 2792.3
549 MGL1801M1108 066934 002020 -38.854137 178.794412 2018 01 21 05 28
43.418800 1164.0
Number of shots on MGL1801/TAPE0130: 549

TAPE: MGL1801/TAPE0131
1 MGL1801M1108 066935 002021 -38.854024 178.794165 2018 01 21 05 28
54.241800 1158.9
549 MGL1801M1108 067483 002569 -38.791065 178.658450 2018 01 21 07 04
09.902800 1078.0
Number of shots on MGL1801/TAPE0131: 549

TAPE: MGL1801/TAPE0132
1 MGL1801M1108 067484 002570 -38.790945 178.658206 2018 01 21 07 04
19.938800 1076.4
549 MGL1801M1108 068032 003118 -38.728208 178.522447 2018 01 21 08 37
42.604800 759.6
Number of shots on MGL1801/TAPE0132: 549

TAPE: MGL1801/TAPE0133

1 MGL1801M1108 068033 003119 -38.728093 178.522193 2018 01 21 08 37
52.874800 756.3
406 MGL1801M1108 068438 003524 -38.681149 178.422377 2018 01 21 09 49
39.004800 104.2
Number of shots on MGL1801/TAPE0133: 406

TAPE: MGL1801/TAPE0134

1 MGL1801M1300 068439 003463 -38.634401 178.485928 2018 01 21 12 06
09.079800 137.0
549 MGL1801M1300 068987 002915 -38.697903 178.620934 2018 01 21 13 39
40.840800 928.2
Number of shots on MGL1801/TAPE0134: 549

TAPE: MGL1801/TAPE0135

1 MGL1801M1300 068988 002914 -38.698018 178.621180 2018 01 21 13 39
50.853800 928.5
549 MGL1801M1300 069536 002366 -38.761269 178.756493 2018 01 21 15 11
53.331800 952.3
Number of shots on MGL1801/TAPE0135: 549

TAPE: MGL1801/TAPE0136

1 MGL1801M1300 069537 002365 -38.761376 178.756743 2018 01 21 15 12
03.496800 954.5
549 MGL1801M1300 070085 001817 -38.824426 178.892321 2018 01 21 16 46
22.549800 2696.7
Number of shots on MGL1801/TAPE0136: 549

TAPE: MGL1801/TAPE0137

1 MGL1801M1300 070086 001816 -38.824538 178.892573 2018 01 21 16 46
32.677800 2698.4
549 MGL1801M1300 070634 001268 -38.887559 179.028272 2018 01 21 18 19
31.237800 3513.2
Number of shots on MGL1801/TAPE0137: 549

TAPE: MGL1801/TAPE0138

1 MGL1801M1300 070635 001267 -38.887680 179.028521 2018 01 21 18 19
41.688800 3513.2
389 MGL1801M1300 071023 000879 -38.932752 179.124315 2018 01 21 19 26
57.702800 3529.5
Number of shots on MGL1801/TAPE0138: 389

TAPE: MGL1801/TAPE0139

1 MGL1801M1116 071024 000886 -38.982168 179.077296 2018 01 21 21 54
46.557800 3509.4
549 MGL1801M1116 071572 001434 -38.919548 178.941120 2018 01 21 23 33
44.396800 3080.9
Number of shots on MGL1801/TAPE0139: 549

TAPE: MGL1801/TAPE0140

1 MGL1801M1116 071573 001435 -38.919431 178.940868 2018 01 21 23 33
54.944800 3069.8
549 MGL1801M1116 072121 001983 -38.856120 178.805305 2018 01 22 01 09
34.940800 1333.3
Number of shots on MGL1801/TAPE0140: 549

TAPE: MGL1801/TAPE0141
1 MGL1801M1116 072122 001984 -38.856004 178.805054 2018 01 22 01 09
45.554800 1327.7
549 MGL1801M1116 072670 002532 -38.792958 178.669400 2018 01 22 02 47
00.514800 1073.0
Number of shots on MGL1801/TAPE0141: 549

TAPE: MGL1801/TAPE0142
1 MGL1801M1116 072671 002533 -38.792843 178.669158 2018 01 22 02 47
10.815800 1073.1
549 MGL1801M1116 073219 003081 -38.730201 178.533321 2018 01 22 04 23
14.915800 779.4
Number of shots on MGL1801/TAPE0142: 549

TAPE: MGL1801/TAPE0143
1 MGL1801M1116 073220 003082 -38.730081 178.533079 2018 01 22 04 23
25.581800 777.3
444 MGL1801M1116 073663 003525 -38.678806 178.423839 2018 01 22 05 43
54.510800 103.7
Number of shots on MGL1801/TAPE0143: 444

TAPE: MGL1801/TAPE0144
1 MGL1801M1308 073664 003462 -38.632560 178.487979 2018 01 22 07 58
26.679800 135.7
549 MGL1801M1308 074212 002914 -38.696206 178.622877 2018 01 22 09 33
16.734800 910.2
Number of shots on MGL1801/TAPE0144: 549

TAPE: MGL1801/TAPE0145
1 MGL1801M1308 074213 002913 -38.696322 178.623121 2018 01 22 09 33
27.320800 913.5
549 MGL1801M1308 074761 002365 -38.759418 178.758549 2018 01 22 11 08
39.675800 968.9
Number of shots on MGL1801/TAPE0145: 549

TAPE: MGL1801/TAPE0146
1 MGL1801M1308 074762 002364 -38.759532 178.758797 2018 01 22 11 08
50.202800 956.3
549 MGL1801M1308 075310 001816 -38.822194 178.894649 2018 01 22 12 42
32.073800 2778.8
Number of shots on MGL1801/TAPE0146: 549

TAPE: MGL1801/TAPE0147

1 MGL1801M1308 075311 001815 -38.822314 178.894892 2018 01 22 12 42
42.041800 2709.8
549 MGL1801M1308 075859 001267 -38.885494 179.030488 2018 01 22 14 15
15.383800 3512.6
Number of shots on MGL1801/TAPE0147: 549

TAPE: MGL1801/TAPE0148
1 MGL1801M1308 075860 001266 -38.885609 179.030730 2018 01 22 14 15
25.524800 3512.7
388 MGL1801M1308 076247 000879 -38.930770 179.126125 2018 01 22 15 21
01.869800 3529.6
Number of shots on MGL1801/TAPE0148: 388

TAPE: MGL1801/TAPE0149
1 MGL1801M1012 076248 000871 -39.014471 179.058200 2018 01 22 18 30
31.934800 3495.3
549 MGL1801M1012 076796 001419 -38.951452 178.922261 2018 01 22 20 04
27.719800 2757.2
Number of shots on MGL1801/TAPE0149: 549

TAPE: MGL1801/TAPE0150
1 MGL1801M1012 076797 001420 -38.951337 178.922017 2018 01 22 20 04
37.834800 2753.4
549 MGL1801M1012 077345 001968 -38.888703 178.785887 2018 01 22 21 38
16.139800 1258.7
Number of shots on MGL1801/TAPE0150: 549

TAPE: MGL1801/TAPE0151
1 MGL1801M1012 077346 001969 -38.888598 178.785629 2018 01 22 21 38
26.494800 1258.3
549 MGL1801M1012 077894 002517 -38.825364 178.650064 2018 01 22 23 13
06.027800 628.9
Number of shots on MGL1801/TAPE0151: 549

TAPE: MGL1801/TAPE0152
1 MGL1801M1012 077895 002518 -38.825244 178.649814 2018 01 22 23 13
16.276800 624.6
549 MGL1801M1012 078443 003066 -38.761468 178.514773 2018 01 23 00 47
47.561800 685.3
Number of shots on MGL1801/TAPE0152: 549

TAPE: MGL1801/TAPE0153
1 MGL1801M1012 078444 003067 -38.761361 178.514518 2018 01 23 00 47
58.026800 681.9
459 MGL1801M1012 078902 003525 -38.708424 178.401482 2018 01 23 02 12
08.504800 100.0
Number of shots on MGL1801/TAPE0153: 459

TAPE: MGL1801/TAPE0154

1 MGL1801M1188 078903 003474 -38.665729 178.458589 2018 01 23 04 19
38.863800 127.1
549 MGL1801M1188 079451 002926 -38.729030 178.593823 2018 01 23 05 53
49.753800 972.2
Number of shots on MGL1801/TAPE0154: 549

TAPE: MGL1801/TAPE0155
1 MGL1801M1188 079452 002925 -38.729146 178.594064 2018 01 23 05 54
00.364800 974.9
549 MGL1801M1188 080000 002377 -38.792683 178.729221 2018 01 23 07 29
44.880800 901.2
Number of shots on MGL1801/TAPE0155: 549

TAPE: MGL1801/TAPE0156
1 MGL1801M1188 080001 002376 -38.792796 178.729469 2018 01 23 07 29
55.053800 903.6
549 MGL1801M1188 080549 001828 -38.855708 178.865207 2018 01 23 09 04
34.222800 2040.8
Number of shots on MGL1801/TAPE0156: 549

TAPE: MGL1801/TAPE0157
1 MGL1801M1188 080550 001827 -38.855830 178.865449 2018 01 23 09 04
44.560800 2060.4
549 MGL1801M1188 081098 001279 -38.919021 179.001108 2018 01 23 10 39
08.256800 3489.5
Number of shots on MGL1801/TAPE0157: 549

TAPE: MGL1801/TAPE0158
1 MGL1801M1188 081099 001278 -38.919135 179.001356 2018 01 23 10 39
18.421800 3489.0
400 MGL1801M1188 081498 000879 -38.964962 179.100331 2018 01 23 11 47
52.003800 3518.5
Number of shots on MGL1801/TAPE0158: 400

TAPE: MGL1801/TAPE0159
1 MGL1801M1004 081499 000799 -39.025152 179.073923 2018 01 23 13 46
01.222800 3494.4
549 MGL1801M1004 082047 001347 -38.961855 178.938151 2018 01 23 15 23
35.363800 3187.0
Number of shots on MGL1801/TAPE0159: 549

TAPE: MGL1801/TAPE0160
1 MGL1801M1004 082048 001348 -38.961741 178.937906 2018 01 23 15 23
45.991800 3188.4
549 MGL1801M1004 082596 001896 -38.898702 178.802062 2018 01 23 17 01
12.170800 1221.8
Number of shots on MGL1801/TAPE0160: 549

TAPE: MGL1801/TAPE0161

1 MGL1801M1004 082597 001897 -38.898595 178.801810 2018 01 23 17 01
22.678800 1203.4
549 MGL1801M1004 083145 002445 -38.835417 178.666206 2018 01 23 18 36
29.997800 990.0
Number of shots on MGL1801/TAPE0161: 549

TAPE: MGL1801/TAPE0162
1 MGL1801M1004 083146 002446 -38.835296 178.665959 2018 01 23 18 36
40.433800 985.5
549 MGL1801M1004 083694 002994 -38.771981 178.530542 2018 01 23 20 17
15.002800 805.6
Number of shots on MGL1801/TAPE0162: 549

TAPE: MGL1801/TAPE0163
1 MGL1801M1004 083695 002995 -38.771864 178.530296 2018 01 23 20 17
25.319800 802.6
530 MGL1801M1004 084224 003524 -38.710687 178.399741 2018 01 23 21 57
23.929800 102.0
Number of shots on MGL1801/TAPE0163: 530

TAPE: MGL1801/TAPE0164
1 MGL1801M1316 084225 003419 -38.635066 178.500464 2018 01 24 00 45
32.968800 150.3
549 MGL1801M1316 084773 002871 -38.698476 178.635542 2018 01 24 02 20
08.719800 1011.2
Number of shots on MGL1801/TAPE0164: 549

TAPE: MGL1801/TAPE0165
1 MGL1801M1316 084774 002870 -38.698585 178.635794 2018 01 24 02 20
19.085800 1012.2
549 MGL1801M1316 085322 002322 -38.761732 178.771185 2018 01 24 03 53
35.522800 955.7
Number of shots on MGL1801/TAPE0165: 549

TAPE: MGL1801/TAPE0166
1 MGL1801M1316 085323 002321 -38.761845 178.771431 2018 01 24 03 53
45.558800 954.3
549 MGL1801M1316 085871 001773 -38.824976 178.906948 2018 01 24 05 25
53.377800 2954.8
Number of shots on MGL1801/TAPE0166: 549

TAPE: MGL1801/TAPE0167
1 MGL1801M1316 085872 001772 -38.825087 178.907197 2018 01 24 05 26
04.016800 2971.3
549 MGL1801M1316 086420 001224 -38.888039 179.042959 2018 01 24 07 04
52.323800 3514.6
Number of shots on MGL1801/TAPE0167: 549

TAPE: MGL1801/TAPE0168

1 MGL1801M1316 086421 001223 -38.888154 179.043207 2018 01 24 07 05
02.509800 3515.3
345 MGL1801M1316 086765 000879 -38.927570 179.128555 2018 01 24 08 05
07.358800 3529.7
Number of shots on MGL1801/TAPE0168: 345

TAPE: MGL1801/TAPE0169
1 MGL1801M1124 086766 000989 -38.968324 179.053260 2018 01 24 10 41
01.779800 3505.2
549 MGL1801M1124 087314 001537 -38.905486 178.917253 2018 01 24 12 19
26.223800 2778.4
Number of shots on MGL1801/TAPE0169: 549

TAPE: MGL1801/TAPE0170
1 MGL1801M1124 087315 001538 -38.905373 178.917004 2018 01 24 12 19
37.241800 2788.8
549 MGL1801M1124 087863 002086 -38.841952 178.781564 2018 01 24 13 58
21.964800 1288.1
Number of shots on MGL1801/TAPE0170: 549

TAPE: MGL1801/TAPE0171
1 MGL1801M1124 087864 002087 -38.841837 178.781317 2018 01 24 13 58
32.741800 1285.9
549 MGL1801M1124 088412 002635 -38.778467 178.645951 2018 01 24 15 38
27.043800 1059.0
Number of shots on MGL1801/TAPE0171: 549

TAPE: MGL1801/TAPE0172
1 MGL1801M1124 088413 002636 -38.778350 178.645703 2018 01 24 15 38
38.156800 1060.5
549 MGL1801M1124 088961 003184 -38.715248 178.510247 2018 01 24 17 18
02.090800 654.6
Number of shots on MGL1801/TAPE0172: 549

TAPE: MGL1801/TAPE0173
1 MGL1801M1124 088962 003185 -38.715124 178.510001 2018 01 24 17 18
12.700800 655.0
341 MGL1801M1124 089302 003525 -38.675749 178.426167 2018 01 24 18 17
48.415800 103.0
Number of shots on MGL1801/TAPE0173: 341

TAPE: MGL1801/TAPE0174
1 MGL1801M1324 089303 003413 -38.633340 178.503785 2018 01 24 20 43
10.471800 151.6
549 MGL1801M1324 089851 002865 -38.696965 178.638703 2018 01 24 22 17
53.389800 1008.7
Number of shots on MGL1801/TAPE0174: 549

TAPE: MGL1801/TAPE0175

1 MGL1801M1324 089852 002864 -38.697082 178.638950 2018 01 24 22 18
04.112800 1012.4
549 MGL1801M1324 090400 002316 -38.760535 178.774100 2018 01 24 23 54
14.646800 958.0
Number of shots on MGL1801/TAPE0175: 549

TAPE: MGL1801/TAPE0176
1 MGL1801M1324 090401 002315 -38.760647 178.774350 2018 01 24 23 54
25.012800 958.5
549 MGL1801M1324 090949 001767 -38.822918 178.910513 2018 01 25 01 27
46.666800 3070.4
Number of shots on MGL1801/TAPE0176: 549

TAPE: MGL1801/TAPE0177
1 MGL1801M1324 090950 001766 -38.823035 178.910760 2018 01 25 01 27
56.719800 3071.5
549 MGL1801M1324 091498 001218 -38.886222 179.046339 2018 01 25 03 02
52.750800 3515.8
Number of shots on MGL1801/TAPE0177: 549

TAPE: MGL1801/TAPE0178
1 MGL1801M1324 091499 001217 -38.886336 179.046586 2018 01 25 03 03
03.299800 3515.2
339 MGL1801M1324 091837 000879 -38.925136 179.130400 2018 01 25 04 02
22.654800 3532.6
Number of shots on MGL1801/TAPE0178: 339

TAPE: MGL1801/TAPE0179
1 MGL1801M1132 091838 000991 -38.965779 179.054504 2018 01 25 06 39
33.691800 3507.2
549 MGL1801M1132 092386 001539 -38.902499 178.918846 2018 01 25 08 17
33.327800 2803.2
Number of shots on MGL1801/TAPE0179: 549

TAPE: MGL1801/TAPE0180
1 MGL1801M1132 092387 001540 -38.902381 178.918613 2018 01 25 08 17
44.100800 2804.1
549 MGL1801M1132 092935 002088 -38.839668 178.782630 2018 01 25 09 56
57.841800 1269.7
Number of shots on MGL1801/TAPE0180: 549

TAPE: MGL1801/TAPE0181
1 MGL1801M1132 092936 002089 -38.839551 178.782380 2018 01 25 09 57
08.732800 1267.2
549 MGL1801M1132 093484 002637 -38.776332 178.646910 2018 01 25 11 35
06.739800 1057.2
Number of shots on MGL1801/TAPE0181: 549

TAPE: MGL1801/TAPE0182

1 MGL1801M1132 093485 002638 -38.776212 178.646661 2018 01 25 11 35
17.380800 1057.3
549 MGL1801M1132 094033 003186 -38.713098 178.511227 2018 01 25 13 13
12.657800 660.5
Number of shots on MGL1801/TAPE0182: 549

TAPE: MGL1801/TAPE0183
1 MGL1801M1132 094034 003187 -38.712969 178.510988 2018 01 25 13 13
23.306800 659.5
339 MGL1801M1132 094372 003525 -38.673815 178.427659 2018 01 25 14 13
40.565800 103.6
Number of shots on MGL1801/TAPE0183: 339

TAPE: MGL1801/TAPE0184
1 MGL1801M1332 094373 003411 -38.631187 178.505769 2018 01 25 16 40
33.638800 147.6
15 MGL1801M1332 094387 003397 -38.632828 178.509198 2018 01 25 16 43
04.973800 153.2
Number of shots on MGL1801/TAPE0184: 15

TAPE: MGL1801/TAPE0185
1 MGL1801A1332 094388 003423 -38.629759 178.502864 2018 01 25 20 55
10.571800 145.5
549 MGL1801A1332 094936 002875 -38.693467 178.637694 2018 01 25 22 39
35.353800 956.8
Number of shots on MGL1801/TAPE0185: 549

TAPE: MGL1801/TAPE0186
1 MGL1801A1332 094937 002874 -38.693587 178.637937 2018 01 25 22 39
47.158800 960.3
549 MGL1801A1332 095485 002326 -38.756586 178.773421 2018 01 26 00 28
50.315800 973.3
Number of shots on MGL1801/TAPE0186: 549

TAPE: MGL1801/TAPE0187
1 MGL1801A1332 095486 002325 -38.756698 178.773676 2018 01 26 00 29
02.232800 972.8
549 MGL1801A1332 096034 001777 -38.819192 178.909651 2018 01 26 02 10
13.886800 3205.0
Number of shots on MGL1801/TAPE0187: 549

TAPE: MGL1801/TAPE0188
1 MGL1801A1332 096035 001776 -38.819302 178.909902 2018 01 26 02 10
24.348800 3195.1
549 MGL1801A1332 096583 001228 -38.882543 179.045464 2018 01 26 03 46
10.871800 3519.0
Number of shots on MGL1801/TAPE0188: 549

TAPE: MGL1801/TAPE0189

1 MGL1801A1332 096584 001227 -38.882658 179.045706 2018 01 26 03 46
21.266800 3518.4
349 MGL1801A1332 096932 000879 -38.922552 179.132013 2018 01 26 04 46
55.822800 3533.7
Number of shots on MGL1801/TAPE0189: 349

TAPE: MGL1801/TAPE0190
1 MGL1801M1140 096933 000986 -38.963996 179.057510 2018 01 26 07 25
47.360800 3504.9
549 MGL1801M1140 097481 001534 -38.900743 178.921869 2018 01 26 09 03
59.332800 2806.3
Number of shots on MGL1801/TAPE0190: 549

TAPE: MGL1801/TAPE0191
1 MGL1801M1140 097482 001535 -38.900619 178.921627 2018 01 26 09 04
10.134800 2809.6
549 MGL1801M1140 098030 002083 -38.837673 178.785828 2018 01 26 10 41
09.963800 1227.4
Number of shots on MGL1801/TAPE0191: 549

TAPE: MGL1801/TAPE0192
1 MGL1801M1140 098031 002084 -38.837556 178.785580 2018 01 26 10 41
20.763800 1229.0
549 MGL1801M1140 098579 002632 -38.774697 178.649802 2018 01 26 12 19
43.417800 1052.6
Number of shots on MGL1801/TAPE0192: 549

TAPE: MGL1801/TAPE0193
1 MGL1801M1140 098580 002633 -38.774580 178.649556 2018 01 26 12 19
53.767800 1051.2
549 MGL1801M1140 099128 003181 -38.711432 178.514133 2018 01 26 13 56
00.950800 671.7
Number of shots on MGL1801/TAPE0193: 549

TAPE: MGL1801/TAPE0194
1 MGL1801M1140 099129 003182 -38.711321 178.513883 2018 01 26 13 56
11.580800 666.1
344 MGL1801M1140 099472 003525 -38.671835 178.429148 2018 01 26 14 57
26.019800 104.1
Number of shots on MGL1801/TAPE0194: 344

TAPE: MGL1801/TAPE0195
1 MGL1801M1340 099473 003437 -38.625762 178.501234 2018 01 26 17 22
52.738800 141.8
549 MGL1801M1340 100021 002889 -38.689211 178.636244 2018 01 26 18 59
58.388800 902.8
Number of shots on MGL1801/TAPE0195: 549

TAPE: MGL1801/TAPE0196

1 MGL1801M1340 100022 002888 -38.689324 178.636493 2018 01 26 19 00
08.886800 904.6
549 MGL1801M1340 100570 002340 -38.752387 178.771921 2018 01 26 20 37
46.624800 980.7
Number of shots on MGL1801/TAPE0196: 549

TAPE: MGL1801/TAPE0197
1 MGL1801M1340 100571 002339 -38.752499 178.772167 2018 01 26 20 37
57.373800 975.2
549 MGL1801M1340 101119 001791 -38.815749 178.907601 2018 01 26 22 17
16.656800 3032.1
Number of shots on MGL1801/TAPE0197: 549

TAPE: MGL1801/TAPE0198
1 MGL1801M1340 101120 001790 -38.815864 178.907850 2018 01 26 22 17
27.168800 3069.4
549 MGL1801M1340 101668 001242 -38.878759 179.043628 2018 01 26 23 53
07.454800 3517.6
Number of shots on MGL1801/TAPE0198: 549

TAPE: MGL1801/TAPE0199
1 MGL1801M1340 101669 001241 -38.878883 179.043874 2018 01 26 23 53
18.014800 3518.1
363 MGL1801M1340 102031 000879 -38.920428 179.133624 2018 01 27 00 56
12.864800 3534.7
Number of shots on MGL1801/TAPE0199: 363

TAPE: MGL1801/TAPE0200
1 MGL1801M1148 102032 000989 -38.961284 179.058595 2018 01 27 03 50
25.985800 3507.6
549 MGL1801M1148 102580 001537 -38.897820 178.923073 2018 01 27 05 33
01.658800 2804.3
Number of shots on MGL1801/TAPE0200: 549

TAPE: MGL1801/TAPE0201
1 MGL1801M1148 102581 001538 -38.897702 178.922822 2018 01 27 05 33
12.373800 2805.7
549 MGL1801M1148 103129 002086 -38.834647 178.787099 2018 01 27 07 09
25.573800 1198.5
Number of shots on MGL1801/TAPE0201: 549

TAPE: MGL1801/TAPE0202
1 MGL1801M1148 103130 002087 -38.834533 178.786851 2018 01 27 07 09
35.922800 1197.3
549 MGL1801M1148 103678 002635 -38.771794 178.651010 2018 01 27 08 46
47.206800 1057.8
Number of shots on MGL1801/TAPE0202: 549

TAPE: MGL1801/TAPE0203

1 MGL1801M1148 103679 002636 -38.771674 178.650764 2018 01 27 08 46
58.015800 1055.8
549 MGL1801M1148 104227 003184 -38.708648 178.515254 2018 01 27 10 21
28.415800 668.1
Number of shots on MGL1801/TAPE0203: 549

TAPE: MGL1801/TAPE0204
1 MGL1801M1148 104228 003185 -38.708537 178.515005 2018 01 27 10 21
38.824800 666.7
340 MGL1801M1148 104567 003524 -38.669895 178.430967 2018 01 27 11 20
57.270800 101.9
Number of shots on MGL1801/TAPE0204: 340

TAPE: MGL1801/TAPE0205
1 MGL1801M1348 104568 003437 -38.623644 178.503186 2018 01 27 13 48
52.977800 140.8
549 MGL1801M1348 105116 002889 -38.687061 178.638230 2018 01 27 15 26
01.293800 893.0
Number of shots on MGL1801/TAPE0205: 549

TAPE: MGL1801/TAPE0206
1 MGL1801M1348 105117 002888 -38.687168 178.638481 2018 01 27 15 26
12.032800 895.6
549 MGL1801M1348 105665 002340 -38.750292 178.773875 2018 01 27 17 02
36.778800 989.6
Number of shots on MGL1801/TAPE0206: 549

TAPE: MGL1801/TAPE0207
1 MGL1801M1348 105666 002339 -38.750409 178.774120 2018 01 27 17 02
47.240800 993.7
549 MGL1801M1348 106214 001791 -38.813465 178.909673 2018 01 27 18 39
27.477800 3067.1
Number of shots on MGL1801/TAPE0207: 549

TAPE: MGL1801/TAPE0208
1 MGL1801M1348 106215 001790 -38.813579 178.909921 2018 01 27 18 39
37.808800 3068.3
549 MGL1801M1348 106763 001242 -38.876657 179.045551 2018 01 27 20 14
06.775800 3518.5
Number of shots on MGL1801/TAPE0208: 549

TAPE: MGL1801/TAPE0209
1 MGL1801M1348 106764 001241 -38.876769 179.045795 2018 01 27 20 14
17.110800 3518.9
363 MGL1801M1348 107126 000879 -38.918235 179.135627 2018 01 27 21 15
57.104800 3533.5
Number of shots on MGL1801/TAPE0209: 363

TAPE: MGL1801/TAPE0210

1 MGL1801M1156 107127 000984 -38.959621 179.061512 2018 01 27 23 56
08.634800 3508.4
549 MGL1801M1156 107675 001532 -38.896483 178.925765 2018 01 28 01 36
24.035800 2788.9
Number of shots on MGL1801/TAPE0210: 549

TAPE: MGL1801/TAPE0211
1 MGL1801M1156 107676 001533 -38.896373 178.925513 2018 01 28 01 36
35.415800 2792.8
549 MGL1801M1156 108224 002081 -38.833202 178.789898 2018 01 28 03 17
36.812800 1171.8
Number of shots on MGL1801/TAPE0211: 549

TAPE: MGL1801/TAPE0212
1 MGL1801M1156 108225 002082 -38.833083 178.789657 2018 01 28 03 17
47.400800 1169.5
549 MGL1801M1156 108773 002630 -38.769833 178.654197 2018 01 28 04 52
54.477800 1050.3
Number of shots on MGL1801/TAPE0212: 549

TAPE: MGL1801/TAPE0213
1 MGL1801M1156 108774 002631 -38.769718 178.653953 2018 01 28 04 53
05.229800 1049.5
549 MGL1801M1156 109322 003179 -38.706679 178.518453 2018 01 28 06 30
53.791800 637.5
Number of shots on MGL1801/TAPE0213: 549

TAPE: MGL1801/TAPE0214
1 MGL1801M1156 109323 003180 -38.706570 178.518199 2018 01 28 06 31
04.361800 635.7
345 MGL1801M1156 109667 003524 -38.666901 178.433291 2018 01 28 07 30
52.687800 101.4
Number of shots on MGL1801/TAPE0214: 345

TAPE: MGL1801/TAPE0215
1 MGL1801M1356 109668 003413 -38.624035 178.510900 2018 01 28 09 59
18.167800 144.8
549 MGL1801M1356 110216 002865 -38.687568 178.645860 2018 01 28 11 34
01.343800 943.1
Number of shots on MGL1801/TAPE0215: 549

TAPE: MGL1801/TAPE0216
1 MGL1801M1356 110217 002864 -38.687688 178.646102 2018 01 28 11 34
12.075800 947.0
549 MGL1801M1356 110765 002316 -38.750871 178.781448 2018 01 28 13 10
45.861800 1024.3
Number of shots on MGL1801/TAPE0216: 549

TAPE: MGL1801/TAPE0217

1 MGL1801M1356 110766 002315 -38.750984 178.781695 2018 01 28 13 10
56.543800 1022.9
549 MGL1801M1356 111314 001767 -38.813984 178.917281 2018 01 28 14 46
25.455800 3073.1
Number of shots on MGL1801/TAPE0217: 549

TAPE: MGL1801/TAPE0218
1 MGL1801M1356 111315 001766 -38.814104 178.917529 2018 01 28 14 46
35.884800 3077.4
549 MGL1801M1356 111863 001218 -38.877072 179.053258 2018 01 28 16 22
44.755800 3520.2
Number of shots on MGL1801/TAPE0218: 549

TAPE: MGL1801/TAPE0219
1 MGL1801M1356 111864 001217 -38.877181 179.053511 2018 01 28 16 22
55.309800 3520.4
339 MGL1801M1356 112202 000879 -38.915863 179.137396 2018 01 28 17 22
17.817800 3534.9
Number of shots on MGL1801/TAPE0219: 339

TAPE: MGL1801/TAPE0220
1 MGL1801M1164 112203 000960 -38.959461 179.069669 2018 01 28 19 55
33.588800 3510.3
549 MGL1801M1164 112751 001508 -38.896658 178.933659 2018 01 28 21 39
26.265800 2846.4
Number of shots on MGL1801/TAPE0220: 549

TAPE: MGL1801/TAPE0221
1 MGL1801M1164 112752 001509 -38.896545 178.933409 2018 01 28 21 39
38.301800 2839.9
549 MGL1801M1164 113300 002057 -38.833377 178.797794 2018 01 28 23 22
50.665800 1124.0
Number of shots on MGL1801/TAPE0221: 549

TAPE: MGL1801/TAPE0222
1 MGL1801M1164 113301 002058 -38.833262 178.797550 2018 01 28 23 23
01.358800 1118.8
549 MGL1801M1164 113849 002606 -38.770273 178.661917 2018 01 29 01 01
26.797800 1055.2
Number of shots on MGL1801/TAPE0222: 549

TAPE: MGL1801/TAPE0223
1 MGL1801M1164 113850 002607 -38.770155 178.661672 2018 01 29 01 01
37.020800 1054.0
549 MGL1801M1164 114398 003155 -38.706981 178.526266 2018 01 29 02 37
08.367800 654.8
Number of shots on MGL1801/TAPE0223: 549

TAPE: MGL1801/TAPE0224

1 MGL1801M1164 114399 003156 -38.706870 178.526015 2018 01 29 02 37
18.767800 653.8
369 MGL1801M1164 114767 003524 -38.665015 178.434727 2018 01 29 03 40
19.922800 102.4
Number of shots on MGL1801/TAPE0224: 369

TAPE: MGL1801/TAPE0225
1 MGL1801M1364 114768 003423 -38.620409 178.510312 2018 01 29 06 05
14.041800 145.5
549 MGL1801M1364 115316 002875 -38.683940 178.645279 2018 01 29 07 39
13.616800 902.8
Number of shots on MGL1801/TAPE0225: 549

TAPE: MGL1801/TAPE0226
1 MGL1801M1364 115317 002874 -38.684057 178.645525 2018 01 29 07 39
23.675800 906.7
549 MGL1801M1364 115865 002326 -38.747316 178.780797 2018 01 29 09 13
38.413800 1044.2
Number of shots on MGL1801/TAPE0226: 549

TAPE: MGL1801/TAPE0227
1 MGL1801M1364 115866 002325 -38.747438 178.781045 2018 01 29 09 13
48.791800 1041.8
549 MGL1801M1364 116414 001777 -38.810232 178.916788 2018 01 29 10 48
32.249800 3075.7
Number of shots on MGL1801/TAPE0227: 549

TAPE: MGL1801/TAPE0228
1 MGL1801M1364 116415 001776 -38.810345 178.917035 2018 01 29 10 48
42.505800 3074.5
549 MGL1801M1364 116963 001228 -38.873387 179.052700 2018 01 29 12 21
46.563800 3517.7
Number of shots on MGL1801/TAPE0228: 549

TAPE: MGL1801/TAPE0229
1 MGL1801M1364 116964 001227 -38.873500 179.052949 2018 01 29 12 21
56.731800 3518.7
349 MGL1801M1364 117312 000879 -38.913440 179.139228 2018 01 29 13 20
43.751800 3532.5
Number of shots on MGL1801/TAPE0229: 349

TAPE: MGL1801/TAPE0230
1 MGL1801M1172 117313 000971 -38.956133 179.068486 2018 01 29 15 57
48.047800 3515.9
549 MGL1801M1172 117861 001519 -38.893635 178.932273 2018 01 29 17 50
57.969800 2804.1
Number of shots on MGL1801/TAPE0230: 549

TAPE: MGL1801/TAPE0231

1 MGL1801M1172 117862 001520 -38.893514 178.932030 2018 01 29 17 51
09.857800 2790.0
549 MGL1801M1172 118410 002068 -38.829956 178.796715 2018 01 29 19 35
30.632800 1052.8
Number of shots on MGL1801/TAPE0231: 549

TAPE: MGL1801/TAPE0232

1 MGL1801M1172 118411 002069 -38.829846 178.796467 2018 01 29 19 35
41.861800 1056.6
549 MGL1801M1172 118959 002617 -38.766479 178.661112 2018 01 29 21 22
55.171800 1038.3
Number of shots on MGL1801/TAPE0232: 549

TAPE: MGL1801/TAPE0233

1 MGL1801M1172 118960 002618 -38.766360 178.660862 2018 01 29 21 23
07.408800 1029.8
549 MGL1801M1172 119508 003166 -38.703163 178.525510 2018 01 29 23 15
58.349800 637.7
Number of shots on MGL1801/TAPE0233: 549

TAPE: MGL1801/TAPE0234

1 MGL1801M1172 119509 003167 -38.703043 178.525269 2018 01 29 23 16
10.040800 631.5
359 MGL1801M1172 119867 003525 -38.661901 178.436759 2018 01 30 00 24
58.199800 102.7
Number of shots on MGL1801/TAPE0234: 359

TAPE: MGL1801/TAPE0235

1 MGL1801M1372 119868 003418 -38.618748 178.512926 2018 01 30 02 53
45.920800 142.7
549 MGL1801M1372 120416 002870 -38.682252 178.647899 2018 01 30 04 27
51.693800 916.1
Number of shots on MGL1801/TAPE0235: 549

TAPE: MGL1801/TAPE0236

1 MGL1801M1372 120417 002869 -38.682364 178.648145 2018 01 30 04 28
01.758800 919.8
549 MGL1801M1372 120965 002321 -38.745408 178.783589 2018 01 30 06 01
52.381800 1132.7
Number of shots on MGL1801/TAPE0236: 549

TAPE: MGL1801/TAPE0237

1 MGL1801M1372 120966 002320 -38.745530 178.783832 2018 01 30 06 02
02.281800 1133.5
549 MGL1801M1372 121514 001772 -38.808514 178.919423 2018 01 30 07 36
44.874800 3078.4
Number of shots on MGL1801/TAPE0237: 549

TAPE: MGL1801/TAPE0238

1 MGL1801M1372 121515 001771 -38.808628 178.919673 2018 01 30 07 36
55.053800 3073.6
549 MGL1801M1372 122063 001223 -38.871658 179.055339 2018 01 30 09 10
25.613800 3515.1
Number of shots on MGL1801/TAPE0238: 549

TAPE: MGL1801/TAPE0239
1 MGL1801M1372 122064 001222 -38.871763 179.055595 2018 01 30 09 10
35.827800 3518.0
344 MGL1801M1372 122407 000879 -38.911153 179.140614 2018 01 30 10 08
29.436800 3534.7
Number of shots on MGL1801/TAPE0239: 344

TAPE: MGL1801/TAPE0240
1 MGL1801M1180 122408 000933 -38.958266 179.079601 2018 01 30 12 46
49.738800 3512.6
549 MGL1801M1180 122956 001481 -38.895490 178.943610 2018 01 30 14 44
34.850800 3108.2
Number of shots on MGL1801/TAPE0240: 549

TAPE: MGL1801/TAPE0241
1 MGL1801M1180 122957 001482 -38.895377 178.943356 2018 01 30 14 44
47.598800 3083.9
549 MGL1801M1180 123505 002030 -38.832425 178.807573 2018 01 30 16 35
03.818800 1183.8
Number of shots on MGL1801/TAPE0241: 549

TAPE: MGL1801/TAPE0242
1 MGL1801M1180 123506 002031 -38.832314 178.807326 2018 01 30 16 35
15.229800 1181.6
549 MGL1801M1180 124054 002579 -38.768862 178.672043 2018 01 30 18 19
24.853800 1044.6
Number of shots on MGL1801/TAPE0242: 549

TAPE: MGL1801/TAPE0243
1 MGL1801M1180 124055 002580 -38.768733 178.671805 2018 01 30 18 19
36.582800 1044.6
549 MGL1801M1180 124603 003128 -38.705204 178.536691 2018 01 30 20 01
49.811800 648.8
Number of shots on MGL1801/TAPE0243: 549

TAPE: MGL1801/TAPE0244
1 MGL1801M1180 124604 003129 -38.705084 178.536440 2018 01 30 20 01
59.938800 651.4
397 MGL1801M1180 125000 003525 -38.659526 178.438595 2018 01 30 21 10
37.348800 103.4
Number of shots on MGL1801/TAPE0244: 397

TAPE: MGL1801/TAPE0245

1 MGL1801R1268 125001 003422 -38.649062 178.488423 2018 01 30 23 38
16.015800 150.5
491 MGL1801R1268 125491 002932 -38.704974 178.609846 2018 01 31 01 01
12.093800 947.3
Number of shots on MGL1801/TAPE0245: 491

TAPE: MGL1801/TAPE0246
1 MGL1801T1084 125492 002647 -38.788879 178.633989 2018 02 02 18 54
12.998800 1060.1
152 MGL1801T1084 125643 002799 -38.771291 178.596448 2018 02 02 19 21
51.868800 960.8
Number of shots on MGL1801/TAPE0246: 152

TAPE: MGL1801/TAPE0247
1 MGL1801I1276 125644 003473 -38.640301 178.478040 2018 02 03 14 34
34.040800 134.8
549 MGL1801I1276 126192 002925 -38.703156 178.613557 2018 02 03 16 11
35.860800 947.8
Number of shots on MGL1801/TAPE0247: 549

TAPE: MGL1801/TAPE0248
1 MGL1801I1276 126193 002924 -38.703271 178.613804 2018 02 03 16 11
46.665800 954.0
549 MGL1801I1276 126741 002376 -38.764598 178.750612 2018 02 03 17 58
13.798800 958.9
Number of shots on MGL1801/TAPE0248: 549

TAPE: MGL1801/TAPE0249
1 MGL1801I1276 126742 002375 -38.764707 178.750857 2018 02 03 17 58
25.728800 957.1
67 MGL1801I1276 126808 002309 -38.772357 178.767128 2018 02 03 18 11
31.227800 972.8
Number of shots on MGL1801/TAPE0249: 67

TAPE: MGL1801/TAPE0250
1 MGL1801A1276 126809 002243 -38.779942 178.783456 2018 02 03 18 25
13.864800 854.5
549 MGL1801A1276 127357 001695 -38.839165 178.921966 2018 02 03 20 18
16.391800 3028.5
Number of shots on MGL1801/TAPE0250: 549

TAPE: MGL1801/TAPE0251
1 MGL1801A1276 127358 001694 -38.839231 178.922241 2018 02 03 20 18
29.646800 3027.8
549 MGL1801A1276 127906 001146 -38.897433 179.061621 2018 02 03 22 15
07.680800 3517.9
Number of shots on MGL1801/TAPE0251: 549

TAPE: MGL1801/TAPE0252

1 MGL1801A1276 127907 001145 -38.897568 179.061853 2018 02 03 22 15
19.343800 3518.2
267 MGL1801A1276 128173 000879 -38.928746 179.127355 2018 02 03 23 08
04.232800 3529.1
Number of shots on MGL1801/TAPE0252: 267

TAPE: MGL1801/TAPE0253
1 MGL1801R1076 128174 000968 -38.984709 179.047893 2018 02 04 01 57
17.791800 3498.3
549 MGL1801R1076 128722 001516 -38.921703 178.911979 2018 02 04 03 33
17.159800 2446.1
Number of shots on MGL1801/TAPE0253: 549

TAPE: MGL1801/TAPE0254
1 MGL1801R1076 128723 001517 -38.921584 178.911731 2018 02 04 03 33
27.102800 2445.1
549 MGL1801R1076 129271 002065 -38.857966 178.776428 2018 02 04 05 05
52.316800 1332.3
Number of shots on MGL1801/TAPE0254: 549

TAPE: MGL1801/TAPE0255
1 MGL1801R1076 129272 002066 -38.857847 178.776182 2018 02 04 05 06
02.677800 1333.4
549 MGL1801R1076 129820 002614 -38.795001 178.640369 2018 02 04 06 39
56.084800 1073.2
Number of shots on MGL1801/TAPE0255: 549

TAPE: MGL1801/TAPE0256
1 MGL1801R1076 129821 002615 -38.794887 178.640119 2018 02 04 06 40
06.353800 1063.0
549 MGL1801R1076 130369 003205 -38.726480 178.494590 2018 02 04 08 26
46.704800 627.1
Number of shots on MGL1801/TAPE0256: 549

TAPE: MGL1801/TAPE0257
1 MGL1801R1076 130370 003206 -38.726364 178.494336 2018 02 04 08 26
57.680800 627.0
319 MGL1801R1076 130688 003524 -38.689551 178.415912 2018 02 04 09 24
56.603800 93.4
Number of shots on MGL1801/TAPE0257: 319

TAPE: MGL1801/TAPE0258
1 MGL1801B1268 130689 003383 -38.652539 178.498831 2018 02 04 10 45
53.575800 175.1
549 MGL1801B1268 131237 002835 -38.716703 178.633378 2018 02 04 12 20
26.473800 1021.5
Number of shots on MGL1801/TAPE0258: 549

TAPE: MGL1801/TAPE0259

1 MGL1801B1268 131238 002834 -38.716820 178.633620 2018 02 04 12 20
36.788800 1022.3
549 MGL1801B1268 131786 002286 -38.779935 178.769079 2018 02 04 13 56
35.487800 1005.0
Number of shots on MGL1801/TAPE0259: 549

TAPE: MGL1801/TAPE0260
1 MGL1801B1268 131787 002285 -38.780052 178.769325 2018 02 04 13 56
46.703800 1005.3
549 MGL1801B1268 132335 001737 -38.843159 178.904889 2018 02 04 15 45
33.348800 2915.3
Number of shots on MGL1801/TAPE0260: 549

TAPE: MGL1801/TAPE0261
1 MGL1801B1268 132336 001736 -38.843273 178.905133 2018 02 04 15 45
45.414800 2914.9
549 MGL1801B1268 132884 001188 -38.906404 179.040787 2018 02 04 17 34
13.102800 3510.1
Number of shots on MGL1801/TAPE0261: 549

TAPE: MGL1801/TAPE0262
1 MGL1801B1268 132885 001187 -38.906520 179.041035 2018 02 04 17 34
24.437800 3510.5
309 MGL1801B1268 133193 000879 -38.942169 179.117224 2018 02 04 18 34
13.253800 3526.0
Number of shots on MGL1801/TAPE0262: 309

TAPE: MGL1801/TAPE0263
1 MGL1801I1116 133194 000967 -38.972982 179.057108 2018 02 04 20 54
35.069800 3505.3
549 MGL1801I1116 133742 001515 -38.910835 178.920576 2018 02 04 22 27
10.015800 2748.2
Number of shots on MGL1801/TAPE0263: 549

TAPE: MGL1801/TAPE0264
1 MGL1801I1116 133743 001516 -38.910717 178.920331 2018 02 04 22 27
19.901800 2751.6
549 MGL1801I1116 134291 002066 -38.846775 178.784570 2018 02 04 23 59
39.871800 1272.7
Number of shots on MGL1801/TAPE0264: 549

TAPE: MGL1801/TAPE0265
1 MGL1801I1116 134292 002067 -38.846660 178.784322 2018 02 04 23 59
50.160800 1273.1
549 MGL1801I1116 134840 002615 -38.783538 178.648778 2018 02 05 01 35
07.481800 1068.8
Number of shots on MGL1801/TAPE0265: 549

TAPE: MGL1801/TAPE0266

1 MGL1801I1116 134841 002616 -38.783418 178.648527 2018 02 05 01 35
17.858800 1065.8
549 MGL1801I1116 135389 003164 -38.720239 178.513107 2018 02 05 03 09
23.171800 701.9
Number of shots on MGL1801/TAPE0266: 549

TAPE: MGL1801/TAPE0267
1 MGL1801I1116 135390 003165 -38.720157 178.512835 2018 02 05 03 09
33.267800 698.6
361 MGL1801I1116 135750 003525 -38.677880 178.424548 2018 02 05 04 16
35.365800 102.1
Number of shots on MGL1801/TAPE0267: 361

TAPE: MGL1801/TAPE0268
1 MGL1801I1244 135751 003169 -38.684633 178.545983 2018 02 05 06 11
33.917800 435.7
549 MGL1801I1244 136299 002619 -38.747233 178.682440 2018 02 05 07 46
59.659800 988.0
Number of shots on MGL1801/TAPE0268: 549

TAPE: MGL1801/TAPE0269
1 MGL1801I1244 136300 002618 -38.747335 178.682696 2018 02 05 07 47
09.893800 990.1
549 MGL1801I1244 136848 002050 -38.813143 178.822880 2018 02 05 09 27
50.693800 1118.3
Number of shots on MGL1801/TAPE0269: 549

TAPE: MGL1801/TAPE0270
1 MGL1801I1244 136849 002049 -38.813195 178.823138 2018 02 05 09 28
01.097800 1141.3
549 MGL1801I1244 137397 001501 -38.876479 178.958663 2018 02 05 11 05
32.955800 3467.8
Number of shots on MGL1801/TAPE0270: 549

TAPE: MGL1801/TAPE0271
1 MGL1801I1244 137398 001500 -38.876580 178.958922 2018 02 05 11 05
43.525800 3467.3
549 MGL1801I1244 137946 000952 -38.939515 179.094791 2018 02 05 12 40
05.747800 3526.4
Number of shots on MGL1801/TAPE0271: 549

TAPE: MGL1801/TAPE0272
1 MGL1801I1244 137947 000951 -38.939624 179.095044 2018 02 05 12 40
15.895800 3525.0
73 MGL1801I1244 138019 000879 -38.947913 179.112876 2018 02 05 12 52
28.399800 3524.2
Number of shots on MGL1801/TAPE0272: 73

TAPE: MGL1801/TAPE0273

1 MGL1801I1004 138020 000963 -39.006251 179.033221 2018 02 05 15 33
58.118800 3493.9
549 MGL1801I1004 138568 001511 -38.942829 178.897594 2018 02 05 17 06
27.972800 2345.4
Number of shots on MGL1801/TAPE0273: 549

TAPE: MGL1801/TAPE0274
1 MGL1801I1004 138569 001512 -38.942712 178.897348 2018 02 05 17 06
37.992800 2342.1
549 MGL1801I1004 139117 002060 -38.879774 178.761477 2018 02 05 18 38
52.293800 1316.7
Number of shots on MGL1801/TAPE0274: 549

TAPE: MGL1801/TAPE0275
1 MGL1801I1004 139118 002061 -38.879663 178.761228 2018 02 05 18 39
02.718800 1315.3
549 MGL1801I1004 139666 002613 -38.801859 178.635462 2018 02 05 20 16
39.326800 929.6
Number of shots on MGL1801/TAPE0275: 549

TAPE: MGL1801/TAPE0276
1 MGL1801I1004 139667 002614 -38.801715 178.635236 2018 02 05 20 16
49.590800 928.8
549 MGL1801I1004 140215 003162 -38.735454 178.502147 2018 02 05 21 52
36.527800 708.3
Number of shots on MGL1801/TAPE0276: 549

TAPE: MGL1801/TAPE0277
1 MGL1801I1004 140216 003163 -38.735310 178.501921 2018 02 05 21 52
47.271800 708.7
362 MGL1801I1004 140577 003524 -38.692116 178.413973 2018 02 05 22 55
06.911800 94.7
Number of shots on MGL1801/TAPE0277: 362

TAPE: MGL1801/TAPE0278
1 MGL1801I1188 140578 003379 -38.677265 178.481606 2018 02 06 00 42
56.999801 363.5
549 MGL1801I1188 141126 002831 -38.740945 178.616549 2018 02 06 02 19
36.684800 999.5
Number of shots on MGL1801/TAPE0278: 549

TAPE: MGL1801/TAPE0279
1 MGL1801I1188 141127 002830 -38.741059 178.616797 2018 02 06 02 19
47.719800 997.5
549 MGL1801I1188 141675 002282 -38.805031 178.751658 2018 02 06 03 55
54.456800 1144.8
Number of shots on MGL1801/TAPE0279: 549

TAPE: MGL1801/TAPE0280

1 MGL1801I1188 141676 002281 -38.805156 178.751905 2018 02 06 03 56
05.191800 1145.6
549 MGL1801I1188 142224 001733 -38.868120 178.887618 2018 02 06 05 40
22.898800 2399.3
Number of shots on MGL1801/TAPE0280: 549

TAPE: MGL1801/TAPE0281
1 MGL1801I1188 142225 001732 -38.868237 178.887863 2018 02 06 05 40
34.333800 2421.7
549 MGL1801I1188 142773 001184 -38.930827 179.023993 2018 02 06 07 23
13.343800 3500.9
Number of shots on MGL1801/TAPE0281: 549

TAPE: MGL1801/TAPE0282
1 MGL1801I1188 142774 001183 -38.930945 179.024241 2018 02 06 07 23
24.258800 3503.2
305 MGL1801I1188 143078 000879 -38.964527 179.100658 2018 02 06 08 18
05.062800 3516.4
Number of shots on MGL1801/TAPE0282: 305

TAPE: MGL1801/TAPE0283
1 MGL1801A1004 143079 000974 -39.006306 179.029532 2018 02 06 10 42
45.313800 3492.8
549 MGL1801A1004 143627 001522 -38.943358 178.893543 2018 02 06 12 16
03.268800 2351.7
Number of shots on MGL1801/TAPE0283: 549

TAPE: MGL1801/TAPE0284
1 MGL1801A1004 143628 001523 -38.943238 178.893298 2018 02 06 12 16
13.509800 2351.4
549 MGL1801A1004 144176 002071 -38.880170 178.757500 2018 02 06 13 49
05.913800 1322.3
Number of shots on MGL1801/TAPE0284: 549

TAPE: MGL1801/TAPE0285
1 MGL1801A1004 144177 002072 -38.880055 178.757245 2018 02 06 13 49
16.123800 1317.8
549 MGL1801A1004 144725 002620 -38.816853 178.621669 2018 02 06 15 23
20.053800 551.6
Number of shots on MGL1801/TAPE0285: 549

TAPE: MGL1801/TAPE0286
1 MGL1801A1004 144726 002621 -38.816753 178.621431 2018 02 06 15 23
30.569800 555.5
549 MGL1801A1004 145274 003169 -38.753323 178.486132 2018 02 06 16 58
41.772800 515.8
Number of shots on MGL1801/TAPE0286: 549

TAPE: MGL1801/TAPE0287

1 MGL1801A1004 145275 003170 -38.753212 178.485881 2018 02 06 16 58
52.075800 516.8
355 MGL1801A1004 145629 003524 -38.712224 178.398575 2018 02 06 18 02
37.543800 104.2
Number of shots on MGL1801/TAPE0287: 355

TAPE: MGL1801/TAPE0288
1 MGL1801B1276 145630 003491 -38.639021 178.473026 2018 02 06 19 56
58.287800 130.8
295 MGL1801B1276 145924 003195 -38.671501 178.547321 2018 02 06 20 50
04.744800 356.6
Number of shots on MGL1801/TAPE0288: 295

Appendix B – Shot recording irregularities

Line: MGL1801M1004

First ffid and shot: 81499,799
Record length: 96
Last ffid shot: 84224, 3524
Number of shots counted = 2726
Number of ffids listed = 2726
Number of shots listed = 2726

Line: MGL1801A1004

First ffid and shot: 143079,974
Record length: 96
Last ffid shot: 145629, 3524
Number of shots counted = 2551
Number of ffids listed = 2551
Number of shots listed = 2551

Line: MGL1801I1004

First ffid and shot: 138020,963
Record length: 96
Irregular shot sequence between ffids and shots - 139124,139125
2067,2070 - number of shots missing: 2
Irregular shot sequence between ffids and shots - 139574,139575
2519,2522 - number of shots missing: 2
Last ffid shot: 140577, 3524
Number of shots counted = 2558
Number of ffids listed = 2558
Number of shots listed = 2562

Line: MGL1801M1012

First ffid and shot: 76248,871
Record length: 96
Last ffid shot: 78902, 3525
Number of shots counted = 2655
Number of ffids listed = 2655
Number of shots listed = 2655

Line: MGL1801M1020

First ffid and shot: 2759,936
Record length: 96

Last ffid shot: 5347, 3524
Number of shots counted = 2589
Number of ffids listed = 2589
Number of shots listed = 2589

Line: MGL1801M1028

First ffid and shot: 7964,924
Record length: 96
Last ffid shot: 10565, 3525
Number of shots counted = 2602
Number of ffids listed = 2602
Number of shots listed = 2602

Line: MGL1801M1036

First ffid and shot: 13104,855
Record length: 96
Last ffid shot: 15774, 3525
Number of shots counted = 2671
Number of ffids listed = 2671
Number of shots listed = 2671

Line: MGL1801M1044

First ffid and shot: 18378,776
Record length: 96
Last ffid shot: 21126, 3524
Number of shots counted = 2749
Number of ffids listed = 2749
Number of shots listed = 2749

Line: MGL1801M1052I

First ffid and shot: 29051,942
Record length: 96
Last ffid shot: 31633, 3524
Number of shots counted = 2583
Number of ffids listed = 2583
Number of shots listed = 2583

Line: MGL1801M1052

First ffid and shot: 23752,909
Record length: 96
Last ffid shot: 26367, 3524
Number of shots counted = 2616
Number of ffids listed = 2616
Number of shots listed = 2616

Line: MGL1801I1052

First ffid and shot: 29051,942
Record length: 96
Last ffid shot: 31633, 3524
Number of shots counted = 2583
Number of ffids listed = 2583
Number of shots listed = 2583

Line: MGL1801M1060

First ffid and shot: 34304,943
Record length: 96
Last ffid shot: 36885, 3524

Number of shots counted = 2582
Number of ffids listed = 2582
Number of shots listed = 2582

Line: MGL1801M1068

First ffid and shot: 39557,903
Record length: 96
Last ffid shot: 42179, 3525
Number of shots counted = 2623
Number of ffids listed = 2623
Number of shots listed = 2623

Line: MGL1801M1076

First ffid and shot: 44761,850
Record length: 96
Last ffid shot: 47435, 3524
Number of shots counted = 2675
Number of ffids listed = 2675
Number of shots listed = 2675

Line: MGL1801R1076

First ffid and shot: 128174,968
Record length: 96
Irregular shot sequence between ffids and shots - 129895,129896
2689,2732 - number of shots missing: 42
Last ffid shot: 130688, 3524
Number of shots counted = 2515
Number of ffids listed = 2515
Number of shots listed = 2557

Line: MGL1801M1084

First ffid and shot: 50189,885
Record length: 96
Last ffid shot: 52828, 3524
Number of shots counted = 2640
Number of ffids listed = 2640
Number of shots listed = 2640

Line: MGL1801M1092

First ffid and shot: 55404,936
Record length: 96
Last ffid shot: 57993, 3525
Number of shots counted = 2590
Number of ffids listed = 2590
Number of shots listed = 2590

Line: MGL1801M1100

First ffid and shot: 60582,924
Record length: 96
Last ffid shot: 63182, 3524
Number of shots counted = 2601
Number of ffids listed = 2601
Number of shots listed = 2601

Line: MGL1801M1108

First ffid and shot: 65837,923
Record length: 96

Last ffid shot: 68438, 3524
Number of shots counted = 2602
Number of ffids listed = 2602
Number of shots listed = 2602

Line: MGL1801M1116

First ffid and shot: 71024,886
Record length: 96
Last ffid shot: 73663, 3525
Number of shots counted = 2640
Number of ffids listed = 2640
Number of shots listed = 2640

Line: MGL1801I1116

First ffid and shot: 133194,967
Record length: 96
Irregular shot sequence between ffids and shots - 133917,133918
1690,1693 - number of shots missing: 2
Last ffid shot: 135750, 3525
Number of shots counted = 2557
Number of ffids listed = 2557
Number of shots listed = 2559

Line: MGL1801M1124

First ffid and shot: 86766,989
Record length: 96
Last ffid shot: 89302, 3525
Number of shots counted = 2537
Number of ffids listed = 2537
Number of shots listed = 2537

Line: MGL1801M1132

First ffid and shot: 91838,991
Record length: 96
Last ffid shot: 94372, 3525
Number of shots counted = 2535
Number of ffids listed = 2535
Number of shots listed = 2535

Line: MGL1801M1140

First ffid and shot: 96933,986
Record length: 96
Last ffid shot: 99472, 3525
Number of shots counted = 2540
Number of ffids listed = 2540
Number of shots listed = 2540

Line: MGL1801M1148

First ffid and shot: 102032,989
Record length: 96
Last ffid shot: 104567, 3524
Number of shots counted = 2536
Number of ffids listed = 2536
Number of shots listed = 2536

Line: MGL1801M1156

First ffid and shot: 107127,984

Record length: 96
Last ffid shot: 109667, 3524
Number of shots counted = 2541
Number of ffids listed = 2541
Number of shots listed = 2541

Line: MGL1801M1164

First ffid and shot: 112203,960
Record length: 96
Last ffid shot: 114767, 3524
Number of shots counted = 2565
Number of ffids listed = 2565
Number of shots listed = 2565

Line: MGL1801M1172

First ffid and shot: 117313,971
Record length: 96
Last ffid shot: 119867, 3525
Number of shots counted = 2555
Number of ffids listed = 2555
Number of shots listed = 2555

Line: MGL1801M1180

First ffid and shot: 122408,933
Record length: 96
Last ffid shot: 125000, 3525
Number of shots counted = 2593
Number of ffids listed = 2593
Number of shots listed = 2593

Line: MGL1801M1188

First ffid and shot: 78903,3474
Record length: 96
Last ffid shot: 81498, 879
Number of shots counted = 2596
Number of ffids listed = 2596
Number of shots listed = -2594

Line: MGL1801I1188

First ffid and shot: 140578,3379
Record length: 96
Last ffid shot: 143078, 879
Number of shots counted = 2501
Number of ffids listed = 2501
Number of shots listed = -2499

Line: MGL1801M1196

First ffid and shot: 1,3636
Record length: 96
Last ffid shot: 1647, 1990
Number of shots counted = 1647
Number of ffids listed = 1647
Number of shots listed = -1645

Line: MGL1801M1204

First ffid and shot: 5348,3524
Record length: 96

Irregular shot sequence between ffids and shots - 5348,5349 3524,3524 -
number of shots missing: -1
Irregular shot sequence between ffids and shots - 5349,5350 3524,3524 -
number of shots missing: -1
Irregular shot sequence between ffids and shots - 5350,5351 3524,3491 -
number of shots missing: -34
Last ffid shot: 7963, 879
Number of shots counted = 2616
Number of ffids listed = 2616
Number of shots listed = -2644

Line: MGL1801M1212

First ffid and shot: 10566,3415
Record length: 96
Last ffid shot: 13103, 878
Number of shots counted = 2538
Number of ffids listed = 2538
Number of shots listed = -2536

Line: MGL1801M1220

First ffid and shot: 15775,3480
Record length: 96
Last ffid shot: 18377, 878
Number of shots counted = 2603
Number of ffids listed = 2603
Number of shots listed = -2601

Line: MGL1801M1228

First ffid and shot: 21127,3502
Record length: 96
Last ffid shot: 23751, 878
Number of shots counted = 2625
Number of ffids listed = 2625
Number of shots listed = -2623

Line: MGL1801M1236

First ffid and shot: 26368,3561
Record length: 96
Last ffid shot: 29050, 879
Number of shots counted = 2683
Number of ffids listed = 2683
Number of shots listed = -2681

Line: MGL1801M1244

First ffid and shot: 31634,3548
Record length: 96
Last ffid shot: 34303, 879
Number of shots counted = 2670
Number of ffids listed = 2670
Number of shots listed = -2668

Line: MGL1801I1244

First ffid and shot: 135751,3169
Record length: 96
Irregular shot sequence between ffids and shots - 135932,135933
2988,2985 - number of shots missing: -4

Irregular shot sequence between ffids and shots - 136380,136381
2538,2535 - number of shots missing: -4
Irregular shot sequence between ffids and shots - 136418,136419
2498,2480 - number of shots missing: -19
Irregular shot sequence between ffids and shots - 136472,136473
2427,2425 - number of shots missing: -3
Last ffid shot: 138019, 879
Number of shots counted = 2269
Number of ffids listed = 2269
Number of shots listed = -2289

Line: MGL1801M1252

First ffid and shot: 36886,3548
Record length: 96
Last ffid shot: 39556, 878
Number of shots counted = 2671
Number of ffids listed = 2671
Number of shots listed = -2669

Line: MGL1801M1260

First ffid and shot: 42180,3459
Record length: 96
Last ffid shot: 44760, 879
Number of shots counted = 2581
Number of ffids listed = 2581
Number of shots listed = -2579

Line: MGL1801M1268A

First ffid and shot: 47573,3494
Record length: 96
Last ffid shot: 50188, 879
Number of shots counted = 2616
Number of ffids listed = 2616
Number of shots listed = -2614

Line: MGL1801B1268

First ffid and shot: 130689,3383
Record length: 96
Last ffid shot: 133193, 879
Number of shots counted = 2505
Number of ffids listed = 2505
Number of shots listed = -2503

Line: MGL1801M1276

First ffid and shot: 52829,3453
Record length: 96
Last ffid shot: 55403, 879
Number of shots counted = 2575
Number of ffids listed = 2575
Number of shots listed = -2573

Line: MGL1801A1276

First ffid and shot: 126809,2243
Record length: 96
Last ffid shot: 128173, 879
Number of shots counted = 1365
Number of ffids listed = 1365

Number of shots listed = -1363

Line: MGL1801I1276

First ffid and shot: 125644,3473

Record length: 96

Last ffid shot: 126808, 2309

Number of shots counted = 1165

Number of ffids listed = 1165

Number of shots listed = -1163

Line: MGL1801M1284

First ffid and shot: 57994,3486

Record length: 96

Irregular shot sequence between ffids and shots - 58062,58063 3418,3402

- number of shots missing: -17

Irregular shot sequence between ffids and shots - 58120,58121 3345,3339

- number of shots missing: -7

Last ffid shot: 60581, 879

Number of shots counted = 2588

Number of ffids listed = 2588

Number of shots listed = -2606

Line: MGL1801M1292

First ffid and shot: 63183,3532

Record length: 96

Last ffid shot: 65836, 879

Number of shots counted = 2654

Number of ffids listed = 2654

Number of shots listed = -2652

Line: MGL1801M1300

First ffid and shot: 68439,3463

Record length: 96

Last ffid shot: 71023, 879

Number of shots counted = 2585

Number of ffids listed = 2585

Number of shots listed = -2583

Line: MGL1801M1308

First ffid and shot: 73664,3462

Record length: 96

Last ffid shot: 76247, 879

Number of shots counted = 2584

Number of ffids listed = 2584

Number of shots listed = -2582

Line: MGL1801M1316

First ffid and shot: 84225,3419

Record length: 96

Last ffid shot: 86765, 879

Number of shots counted = 2541

Number of ffids listed = 2541

Number of shots listed = -2539

Line: MGL1801M1324

First ffid and shot: 89303,3413

Record length: 96

Last ffid shot: 91837, 879
Number of shots counted = 2535
Number of ffids listed = 2535
Number of shots listed = -2533

Line: MGL1801M1332

First ffid and shot: 94388,3423
Record length: 96
Last ffid shot: 96932, 879
Number of shots counted = 2545
Number of ffids listed = 2545
Number of shots listed = -2543

Line: MGL1801M1340

First ffid and shot: 99473,3437
Record length: 96
Last ffid shot: 102031, 879
Number of shots counted = 2559
Number of ffids listed = 2559
Number of shots listed = -2557

Line: MGL1801M1348

First ffid and shot: 109668,3413
Record length: 96
Last ffid shot: 112202, 879
Number of shots counted = 2535
Number of ffids listed = 2535
Number of shots listed = -2533

Line: MGL1801M1356

First ffid and shot: 109668,3413
Record length: 96
Last ffid shot: 112202, 879
Number of shots counted = 2535
Number of ffids listed = 2535
Number of shots listed = -2533

Line: MGL1801M1364

First ffid and shot: 114768,3423
Record length: 96
Last ffid shot: 117312, 879
Number of shots counted = 2545
Number of ffids listed = 2545
Number of shots listed = -2543

Line: MGL1801M1372

First ffid and shot: 119868,3418
Record length: 96
Last ffid shot: 122407, 879
Number of shots counted = 2540
Number of ffids listed = 2540
Number of shots listed = -2538

Appendix C - Recorded shots when the wrong source fired.

There were several instances when the source triggering failed and the incorrect source was fired. These are listed below.

Seq. 24 1284 – shots: 3042, 2587, 2517, 2451

Seq. 25 1100 – shots: 3132

Seq. 26 1292 – shots: 1741, 1662, 1268, 1046, 0930

Seq. 28 1300 – shots: 2030

Seq. 30 1308 – shots: 2154, 2725, 2715, 2265, 2210, 1717, 1715

Seq 31 1012 – shots: 1999