Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sun 29 Oct

The vessel started the day Transiting to Auckland, NZ. At ~08:25 the vessel was secured alongside Pier J2 Auckland, NZ beginning moblization for MGL1708, Continued in that mode throughout the rest of the day.

Focus during the day was put on cleanup and securing Lab spaces in preparation for Science Party's arrival. Offloading of Divers equipment, finish last few odds and ends on the Source. Continued repair of Hydraulic Control valve body for streamer #4. Repairs to FLIR Camera, and new tie-down points for the Streamer Head floats. Got first 5 palates of food onboard today.

Daily Comment Summaries - Plan for Tomorrow

Sun 29 Oct

Continue alongside Pier J2 Auckland, NZ mobilizing for MGL1708. The vessel will focus on Loading fueling, lubes,and stores, as well as conducting a pre-cruise Gravity Tie and Welcome Aboard Safety Briefing.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Transit	SB_TRT	Sun 29. Oct 00:00	Sun 29. Oct 08:25	8.417
Received MPI Clearance. Transiting to Auckland to begin Mobilization for MGL1708				
Mob Ashore	MB_MA	Sun 29. Oct 08:25	Sun 29. Oct 24:00	15.583
Mobilising Ashore.				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

29-Oct	Hours	%Percent
Chargeable Standby	**8.417**	**35.069**
Transit	8.417	35.069
Mobilisation	**15.583**	**64.931**
Mob Ashore	15.583	64.931
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	%Percent
Mobilisation	**15.583**	**64.931**
Mob Ashore	15.583	64.931
Chargeable Standby	**8.417**	**35.069**
Transit	8.417	35.069
Total	24.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 29 Oct

Navigation:
No Major Issues toReport

Information Technology (IT):
No Major Issues toReport

Acquisition (OBS):
No Major Issues toReport

Towing and Handling (Source):
No Major Issues to Report

General PurposeScience:
No Major Issues to Report

Miscellaneous:
No Major Issues to Report

Daily Science Report

Daily Comment Summaries - Personnel Onboard

Sun 29 Oct

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

PSO Staff On-board the Langseth
Amanda Dubuque RPS Lead PSO
Sara Davis RPS PAM operator / PSO
Luis Gonclaves RPS PSO
James Wills RPS PSO
Mary Jane Waru RPS PSO

Science Party On-board the Langseth
Dr. Nathan Bangs UTIG Chief Scientist
Adrien Arnulf UTIG Scientist
Steffen Saustrup UTIG Technician
Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Mon 30 Oct

The vessel started the day secured alongside Pier J2 Auckland, NZ mobilization for MGL1708 and continued in that mode throughout the remainder of the day.

Focus during the day was put on cleanup and securing Lab spaces. Securing Science Party's Equipment, Repairs to the FLIR Camera, Welcome aboard Safety Briefing for New Science Crew and Science Party. Safety Orientation tour of the vessel. Moved some streamer around to make preparation for the survey.

Held an internal meeting to discuss New IHA procedures with PI, PSO's and Science Crew.

Daily Comment Summaries - Plan for Tomorrow

Mon 30 Oct

The vessel will Continue alongside Pier J2 Auckland, NZ mobilizing for MGL1708, until ~21:00 UTC at which time it is expected get underway for the Survey area (Line MGL1708OB02 "SE")

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Mob Ashore	MB_MA	Mon 30. Oct 00:00	Mon 30. Oct 24:00	24.000
Mobilising Ashore.				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

30-Oct	Hours	%Percent
Mobilisation	**24.000**	**100.000**
Mob Ashore	24.000	100.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	%Percent
Mobilisation	**39.583**	**82.465**
Mob Ashore	39.583	82.465
Chargeable Standby	**8.417**	**17.535**
Transit	8.417	17.535
Total	48.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 30 Oct

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
Continue to work on Hydraulic Valve block for auxiliary equipment streamer #4

General Purpose Science:
No Major Issues to Report

Miscellaneous:
No Major Issues to Report

Daily Comment Summaries - Personnel Onboard

Mon 30 Oct

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

PSO Staff On-board the Langseth
Amanda Dubuque RPS Lead PSO
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Luis Gonclaves RPS PSO
James Wills RPS PSO
Mary Jane Waru RPS PSO

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Dr. Nathan Bangs UTIG Chief Scientist
Adrien Arnulf UTIG Scientist
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Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
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Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Tue 31 Oct

The vessel start the day alongside Pier J2 Auckland, NZ mobilizing for MGL1708. At ~22:00 UTC, delayed sailing 4 hours due to continued work in the engine room got underway. Work in engine room continued throughout the rest of the day.

Daily Comment Summaries - Plan for Tomorrow

Tue 31 Oct

The vessel started the day continuing alongside Pier J2 Auckland, NZ finishing up last minute work in the engine room. The vessel is expected to get under way for the Survey area (Line MGL1708OB02 "SE") at ~02:00 UTC. It is expected that at ~13:00 UTC the vessel will be on location and in a position to deploy the source. Following the source deployment it is expect that acquisition on Line MGL1708OB02 (SE) will commence at ~17:00 UTC. Times will be adjusted as the vessel progresses from Auckland to the Bay of Plenty.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Mob Ashore	MB_MA	Tue 31. Oct 00:00	Tue 31. Oct 21:00	21.000
Mobilising Ashore.				
Vessel	DT_VE	Tue 31. Oct 21:00	Tue 31. Oct 24:00	3.000
Delayed Sailing due to Continued work in the engine room.				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

31-Oct	Hours	% Percent
DownTime	**3.000**	**12.500**
Vessel	3.000	12.500
Mobilisation	**21.000**	**87.500**
Mob Ashore	21.000	87.500
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
Mobilisation	**60.583**	**84.144**
Mob Ashore	60.583	84.144
Chargeable Standby	**8.417**	**11.690**
Transit	8.417	11.690
DownTime	**3.000**	**4.167**
Vessel	3.000	4.167
Total	72.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 31 Oct

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
Continue to work on Hydraulic Valve block for auxiliary equipment streamer #4

General Purpose Science:
No Major Issues to Report

Miscellaneous:
No Major Issues to Report

Daily Comment Summaries - Personnel Onboard

Tue 31 Oct

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
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Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Daily Science Report

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

0%

Prime Lines Completed

0%

Preplot Lines	Complete	Incomplete	Pending
60	0	0	0

Percentages Charged	
Prime	0.00% of 5504.20 km

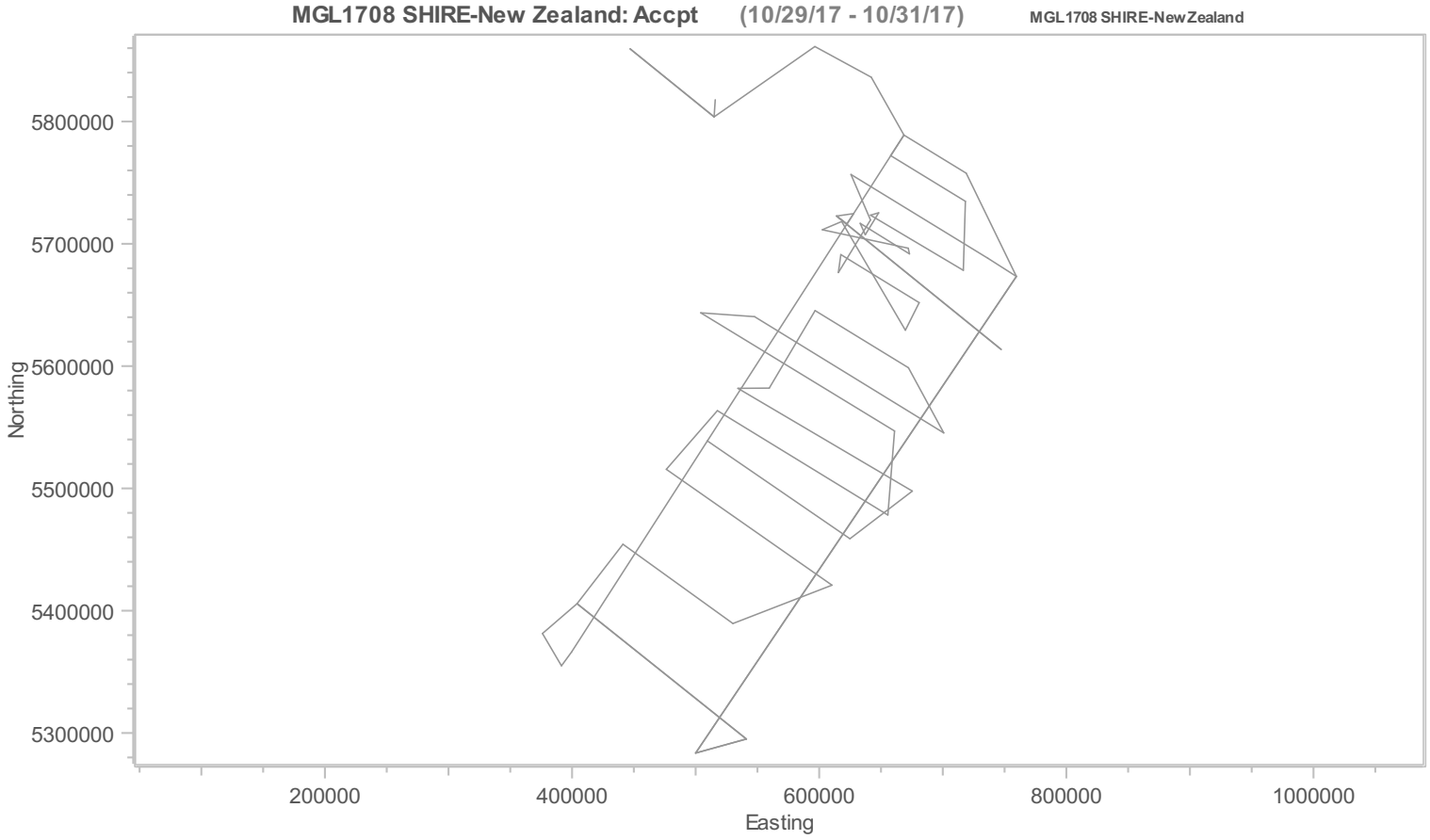
Average Daily Production	
Average Accepted Daily Production	0.00 km
Average Charged Daily Production	0.00 km

Production Day By Day (Chgd km) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production

Production Totals (Chgd km) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	0.00	0.00	0.00	0.00
Infill	0.00	0.00	0.00	0.00
Combined	**0.00**	**0.00**	**0.00**	**0.00**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Wed 01 Nov

The vessel started the day continuing alongside Pier J2 Auckland, NZ. At 02:05 The vessel got under way for the Survey area (Line MGL1708OB02 "SE") at 02:05 UTC. At 14:34 UTC the vessel slowed down and started deploying PAM, MAGGIE, and the Source. At 16:48 UTC PAM, MAGGIE, and the Source were deployed and ramp-up began. At 17:08 UTC Ramp-up was completed and the vessel had a short run-in to Line MGL1708OB02 before beginning production at 17:23 UTC. It remained in production throughout the remainder of the day. During the line DigiSHOT powered itself off on two different occasions. The system was restarted and further investigation will take place on the line change.

Daily Comment Summaries - Plan for Tomorrow

Wed 01 Nov

The Vessel will start the day continuing production on Line MGL1708OB02. It is expected to complete this line at ~05:00 UTC. We will then recover the source and transit over to line MGL1708OB07 and redeploy the source before starting production at ~19:00 UTC. The vessel should remain in production on Line MGL1708OB07 throughout the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Vessel	DT_VE	Wed 1. Nov 00:00	Wed 1. Nov 02:05	2.083
Delayed Sailing due to Continued work in the engine room.				
Transit to Prospect	MB_TT	Wed 1. Nov 02:05	Wed 1. Nov 14:39	12.567
In transit to prospect				
Deployment	MB_DP	Wed 1. Nov 14:39	Wed 1. Nov 16:48	2.150
Deployment of PAM Maggie and Source				
Cetacean	SB_CT	Wed 1. Nov 16:48	Wed 1. Nov 17:08	0.333
Rampup of Source				
Transit	SB_TRT	Wed 1. Nov 17:08	Wed 1. Nov 17:23	0.250
Transit to First Shot point				
Production Prime	AC_PP	Wed 1. Nov 17:23	Wed 1. Nov 21:05	3.700
SOL Seq 1 Line:Line2 FGSP=2950 FCSP=2950 Hdg=129.3° Prime EOL Seq 1 Line:Line2 LGSP=2329 LCSP=2329 Incomplete SOL Water Depth=342m				
Source	DT_SC	Wed 1. Nov 21:05	Wed 1. Nov 21:08	0.050
NTBP Seq 1 Line2 FSP=2328 LSP=2324 DigiShot Powered itself down				
Production Prime	AC_PP	Wed 1. Nov 21:08	Wed 1. Nov 21:24	0.267
SOL Seq 1 Line:Line2 FGSP=2323 FCSP=2323 Hdg=129.3° Prime EOL Seq 1 Line:Line2 LGSP=2278 LCSP=2278 Incomplete				
Source	DT_SC	Wed 1. Nov 21:24	Wed 1. Nov 21:28	0.067
NTBP Seq 1 Line2 FSP=2277 LSP=2273				

Category	Code	Start	End	Duration
DigiShot Powered itself down				
Production Prime	AC_PP	Wed 1. Nov 21:28	Wed 1. Nov 24:00	2.533
SOL Seq 1 Line:Line2 FGSP=2272 FCSP=2272 Hdg=129.3° Prime MSP Seq 1 Line:Line2 LGSP=1831 LCSP=1831 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

1-Nov	Hours	% Percent
Acquisition	**6.500**	**27.083**
Production Prime	6.500	27.083
Chargeable Standby	**0.583**	**2.431**
Cetacean	0.333	1.389
Transit	0.250	1.042
DownTime	**2.200**	**9.167**
Source	0.117	0.486
Vessel	2.083	8.681
Mobilisation	**14.717**	**61.319**
Deployment	2.150	8.958
Transit to Prospect	12.567	52.361
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
Chargeable Standby	**9.000**	**9.375**
Cetacean	0.333	0.347
Transit	8.667	9.028
Mobilisation	**75.300**	**78.438**
Deployment	2.150	2.240
Mob Ashore	60.583	63.108
Transit to Prospect	12.567	13.090
Acquisition	**6.500**	**6.771**
Production Prime	6.500	6.771
DownTime	**5.200**	**5.417**
Source	0.117	0.122
Vessel	5.083	5.295
Total	96.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 01 Nov

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
Continue to work on Hydraulic Valve block for auxiliary equipment streamer #4, After starting the first line there are a few issues to address in the source array.

General Purpose Science:
No Major Issues to Report

Miscellaneous:
No Major Issues to Report

Daily Comment Summaries - Personnel Onboard

Wed 01 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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Steffen Saustrup UTIG Technician
Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

1%

Prime Lines Completed

0%

Preplot Lines	Complete	Incomplete	Pending
60	0	0	0

Percentages Charged	
Prime	1.01% of 5504.20 km (Sail Line)

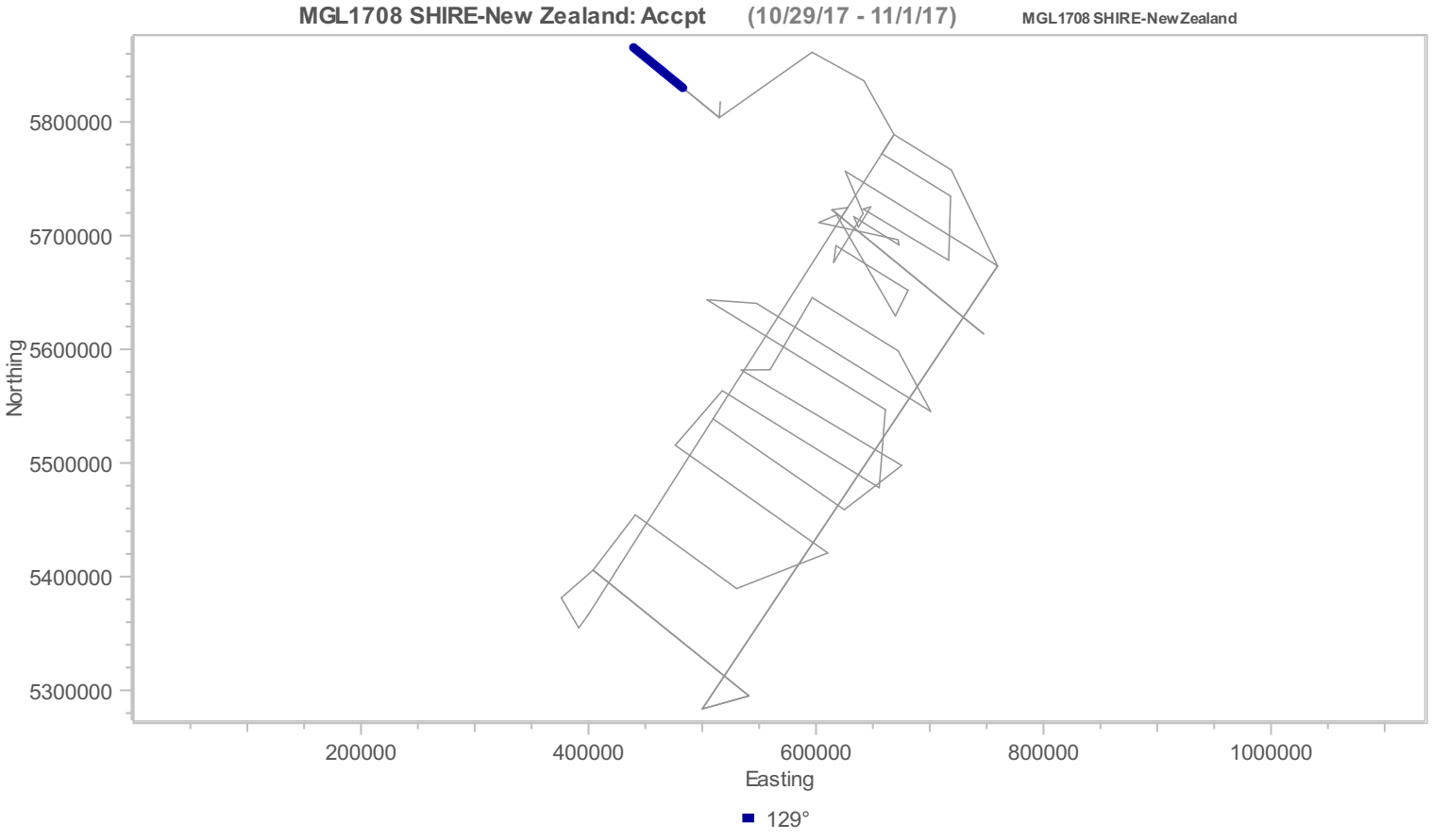
Average Daily Production	
Average Accepted Daily Production	55.45 km
Average Charged Daily Production	55.45 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Wed 1 Nov	Marcus G Langseth	1	55.45
Total Production:			**55.45**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	55.45	55.45	55.45	55.45
Infill	0.00	0.00	0.00	0.00
Combined	**55.45**	**55.45**	**55.45**	**55.45**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Thu 02 Nov

The vessel started the Day in Production on line MGL1708OB02 shooting to the SW. At 04:16 The vessel completed the line and made a turn to the NE to head offshore in the Bay of Plenty. Once the Source was onbaord the vessel transited towards the next line (MGL1708OB07) which was started at 18:19 UTC and continued throughout the rest of the day.

On the redeployment it was observed that rGPS on Sub-array #1 was not operational. Additional The DigiRange acoustics on Sub-Arrays 1 and 4 are not functioning. During Line MGL1708OB02 the primary PAM streamer started having issues with one of its 4 hydrophones. It was replaced with the spare before the start of MGL1708OB07.

Daily Comment Summaries - Plan for Tomorrow

Thu 02 Nov

The vessel will start the day continuing production on Line MGL1708OB07. It is expected to complete this line at ~06:30 UTC and make a normal line change to MGL1708OB12. This line is expected to begain at 08:40 UTC and continue throughout the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Thu 2. Nov 00:00	Thu 2. Nov 04:16	4.267
SOL Seq 1 Line:MGL1708OB02 Preplot:Line2 FGSP=1830 FCSP=1830 Hdg=129.3° Prime EOL Seq 1 Line:MGL1708OB02 Preplot:Line2 LGSP=1129 LCSP=1129 Complete				
Field Operations	SB_FO	Thu 2. Nov 04:16	Thu 2. Nov 06:31	2.250
Recovery of Source, PAM, and Maggie				
Transit	SB_TRT	Thu 2. Nov 06:31	Thu 2. Nov 16:30	9.983
Transit to Line MGL1708OB07				
Field Operations	SB_FO	Thu 2. Nov 16:30	Thu 2. Nov 17:53	1.383
Deployment of Source, Pam, and Maggie				
Cetacean	SB_CT	Thu 2. Nov 17:53	Thu 2. Nov 18:14	0.350
Ramp-up of Source				
Field Operations	SB_FO	Thu 2. Nov 18:14	Thu 2. Nov 18:19	0.083
Prepairing for Start of Line MGL1708OB07				
Production Prime	AC_PP	Thu 2. Nov 18:19	Thu 2. Nov 24:00	5.683
SOL Seq 2 Line:Line7 FGSP=731 FCSP=731 Hdg=212.4° Prime MSP Seq 2 Line:Line7 LGSP=1739 LCSP=1739 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

2-Nov	Hours	% Percent
Acquisition	**9.950**	**41.458**
Production Prime	9.950	41.458
Chargeable Standby	**14.050**	**58.542**

2-Nov	Hours	% Percent
Cetacean	0.350	1.458
Field Operations	3.717	15.486
Transit	9.983	41.597
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
Chargeable Standby	**23.050**	**19.208**
Cetacean	0.683	0.569
Field Operations	3.717	3.097
Transit	18.650	15.542
Mobilisation	**75.300**	**62.750**
Deployment	2.150	1.792
Mob Ashore	60.583	50.486
Transit to Prospect	12.567	10.472
Acquisition	**16.450**	**13.708**
Production Prime	16.450	13.708
DownTime	**5.200**	**4.333**
Source	0.117	0.097
Vessel	5.083	4.236
Total	120.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 02 Nov

Navigation:
GPS on Sub-Array #1 not working. DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
Multiple Power downs of DigiShot controller for no reason.

Towing and Handling (Source):
Continue to work on Hydraulic Valve block for auxiliary equipment streamer #4, After starting the first line there are a few issues to address in the source array.

General Purpose Science:
One Crash of EM122 SIS software.

Miscellaneous:
Primary PAM streamer has 1 of the 4 Hydrophones failing. It was replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Thu 02 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav

Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
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Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

3%

Prime Lines Completed

2%

Preplot Lines	Complete	Incomplete	Pending
60	1	0	0

Percentages Charged	
Prime	2.56% of 5504.20 km (Sail Line)

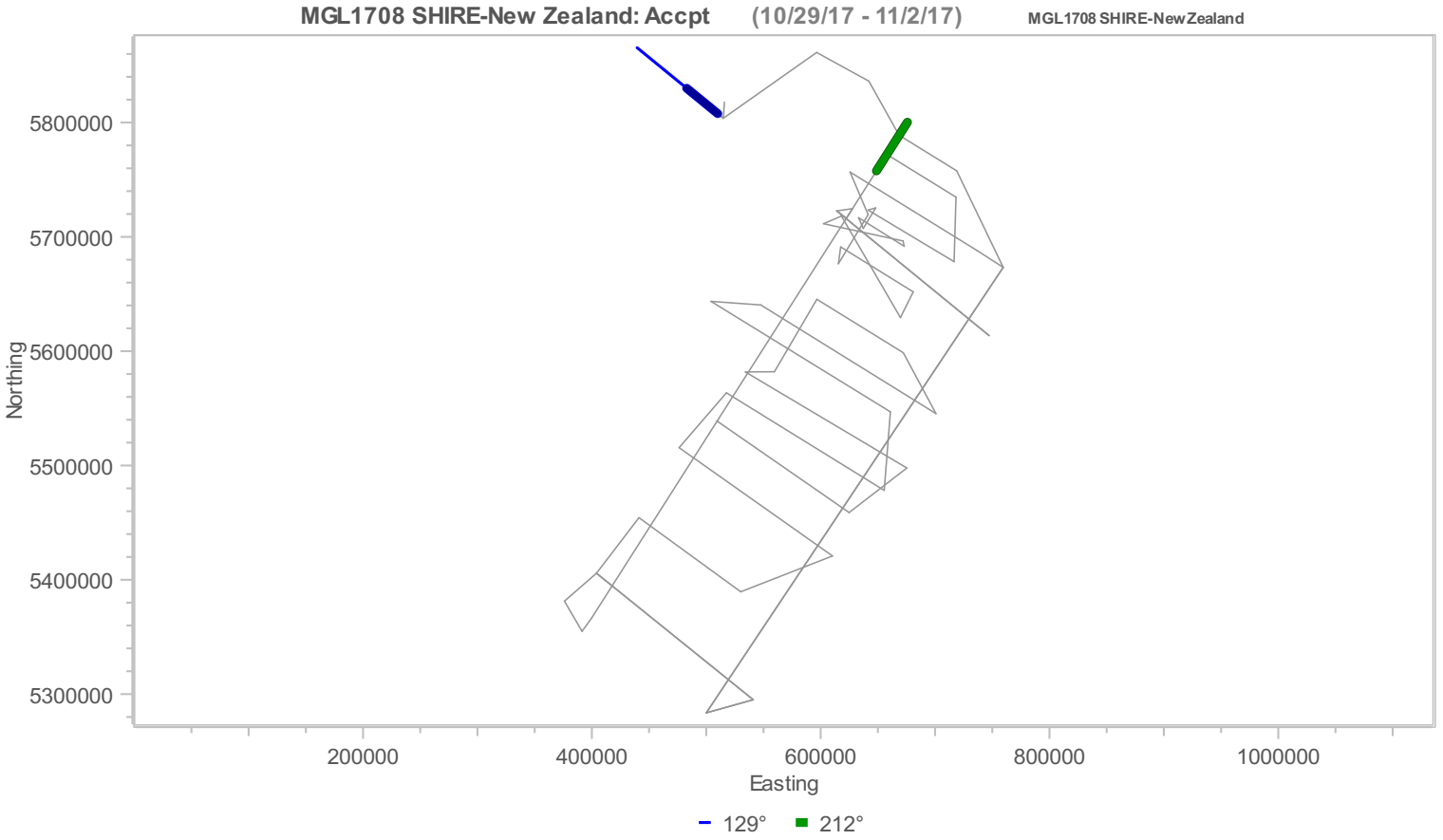
Average Daily Production	
Average Accepted Daily Production	70.47 km
Average Charged Daily Production	70.47 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Thu 2 Nov	Marcus G Langseth	1 - 2	85.50
Total Production:			**85.50**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	85.50	140.95	140.95	140.95
Infill	0.00	0.00	0.00	0.00
Combined	**85.50**	**140.95**	**140.95**	**140.95**


MGL1708 SHIRE-New Zealand: Accpt (10/29/17 - 11/2/17)
MGL1708 SHIRE-NewZealand
5800000
5700000
5600000
5500000
5400000
5300000
Northing
200000
400000
600000
800000
1000000
Easting
129°
212°

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Fri 03 Nov

The Vessel started the Day continuing Production on Line MGL1708OB07 in source only mode. At 05:35 UTC this line was completed and the vessel began a line change to MGL1708OB09, This line started at 06:47 UTC an continued throughout the remainder of the day.

Daily Comment Summaries - Plan for Tomorrow

Fri 03 Nov

The vessel will start the day continuing production on Line MGL1708OB09. This line is expected to be completed at ~02:30 UTC. At that time the Source, PAM, and Maggie will be recovered, so deployment of the 12.6km MCS streamer cable can start. It is expected that it will take 14 to 16 hours to deploy and once completed the vessel will make it way back towards line MGL1708MC10 an begin production before the end of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Fri 3. Nov 00:00	Fri 3. Nov 05:35	5.583
SOL Seq 2 Line:Line7 FGSP=1740 FCSP=1740 Hdg=212.4° Prime EOL Seq 2 Line:Line7 LGSP=2786 LCSP=2786 Complete				
Prime Line Change	AC_PLC	Fri 3. Nov 05:35	Fri 3. Nov 06:47	1.200
Nominal Prime line change.				
Production Prime	AC_PP	Fri 3. Nov 06:47	Fri 3. Nov 24:00	17.217
SOL Seq 3 Line:MGL1708OB09 Preplot:Line9 FGSP=1151 FCSP=1151 Hdg=129.3° Prime MSP Seq 3 Line:MGL1708OB09 Preplot:Line9 LGSP=4181 LCSP=4181 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

3-Nov	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	1.200	5.000
Production Prime	22.800	95.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
Chargeable Standby	**23.050**	**16.007**
Cetacean	0.683	0.475
Field Operations	3.717	2.581
Transit	18.650	12.951
Mobilisation	**75.300**	**52.292**
Deployment	2.150	1.493
Mob Ashore	60.583	42.072

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Hours	% Percent
Transit to Prospect	12.567	8.727
Acquisition	**40.450**	**28.090**
Prime Line Change	1.200	0.833
Production Prime	39.250	27.257
DownTime	**5.200**	**3.611**
Source	0.117	0.081
Vessel	5.083	3.530
Total	144.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 03 Nov

Navigation:
GPS on Sub-Array #1 not working. DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
HSN Dish has lost track twice during the day and need power resets to get it to come back.

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
Continue to work on Hydraulic Valve block for auxiliary equipment streamer #4,

General Purpose Science:
One Crash of EM122 SIS software.

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Fri 03 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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Amanda Dubuque RPS Lead PSO
Sara Davis RPS PAM operator / PSO
Luis Gonclaves RPS PSO
James Wills RPS PSO
Mary Jane Waru RPS PSO

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Dr. Nathan Bangs UTIG Chief Scientist
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Steffen Saustrup UTIG Technician
Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

6%

Prime Lines Completed

3%

Preplot Lines	Complete	Incomplete	Pending
60	2	0	0

Percentages Charged	
Prime	6.26% of 5504.20 km (Sail Line)

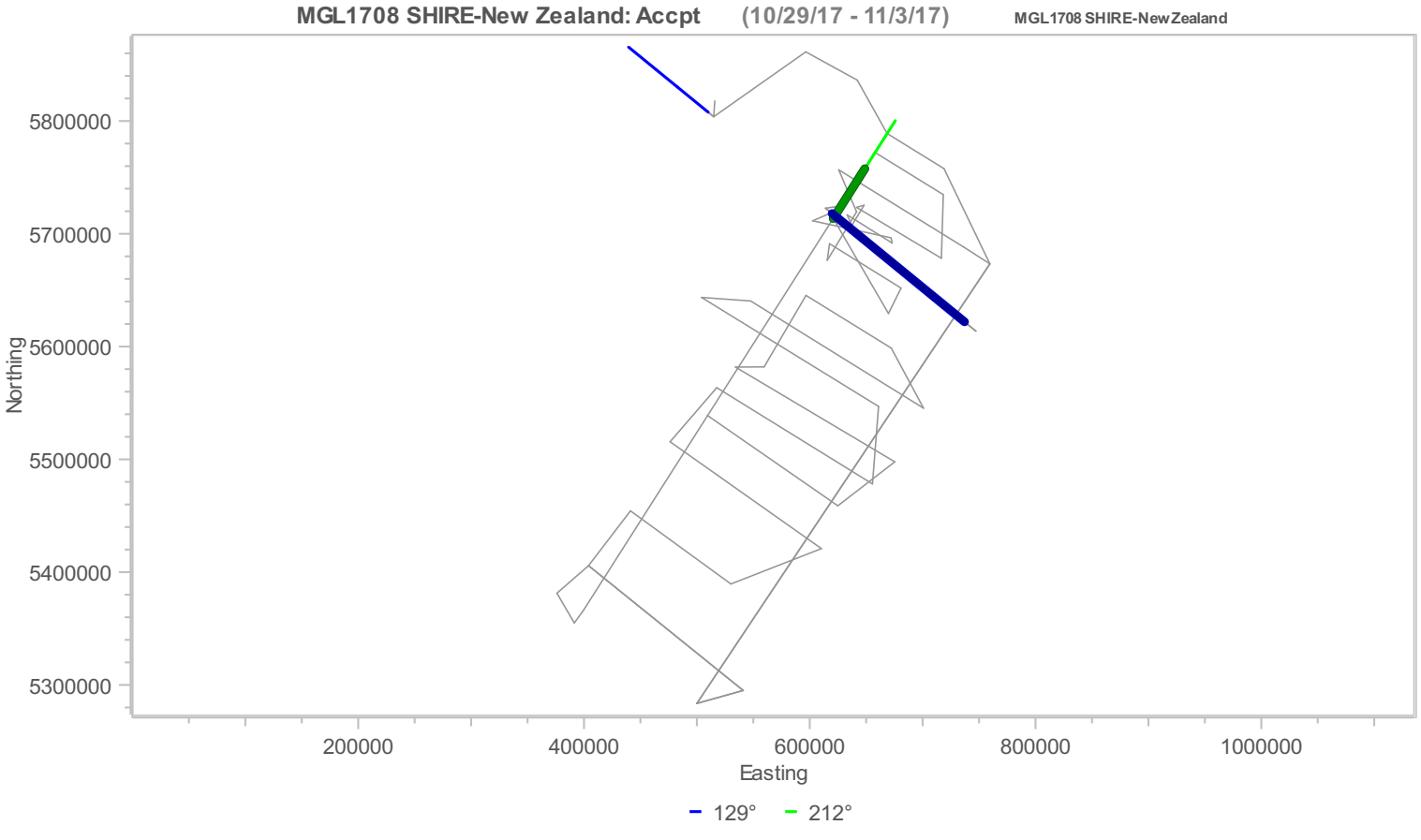
Average Daily Production	
Average Accepted Daily Production	114.93 km
Average Charged Daily Production	114.93 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Fri 3 Nov	Marcus G Langseth	2 - 3	203.85
Total Production:			**203.85**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	203.85	344.80	344.80	344.80
Infill	0.00	0.00	0.00	0.00
Combined	**203.85**	**344.80**	**344.80**	**344.80**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sat 04 Nov

The vessel started the day continuing production on Line MGL1708OB09. This line was completed at ~01:34 UTC. At that time the Source, PAM, and Maggie will be recovered, so deployment of the 12.6km MCS streamer cable began. After some trouble shooting of telemetry issues near the front end the streamer was full deployed at 18:00 UTC. The Source, PAM, and MAGGIE followed and ramp-up of the source started at 20:56 UTC. At 21:18 UTC the vessel resumed production on MGL1708MC10 and continued on it throughout the remainder of the day.

Daily Comment Summaries - Plan for Tomorrow

Sat 04 Nov

The Vessel will start the day in Production on Line MGL1708MC10 and is expected to finish at 20:50 UTC. It will then begin a line change to MGL1708MC12, which is expected to take the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sat 4. Nov 00:00	Sat 4. Nov 01:34	1.567
SOL Seq 3 Line:MGL1708OB09 Preplot:Line9 FGSP=4182 FCSP=4182 Hdg=129.3° Prime EOL Seq 3 Line:MGL1708OB09 Preplot:Line9 LGSP=4457 LCSP=4457 Complete				
Streamer Reconfig	SB_REC_SR	Sat 4. Nov 01:34	Sat 4. Nov 03:00	1.433
Recovery of Source, PAM, and MAGGIE for Streamer Deployment				
Deployment	MB_DP	Sat 4. Nov 03:00	Sat 4. Nov 18:00	15.000
Deployment of 12.6km Streamer				
Streamer Reconfig	SB_REC_SR	Sat 4. Nov 18:00	Sat 4. Nov 20:56	2.933
Re-deployment of Source, PAM, and Maggie. After 12.6km Streamer Deployment				
Cetacean	SB_CT	Sat 4. Nov 20:56	Sat 4. Nov 21:18	0.367
Ramp-up of source after Streamer Deployment.				
Production Prime	AC_PP	Sat 4. Nov 21:18	Sat 4. Nov 24:00	2.700
SOL Seq 4 Line:MGL1708MC10 Preplot:Line10 FGSP=883 FCSP=883 Hdg=309.3° Prime MSP Seq 4 Line:MGL1708MC10 Preplot:Line10 LGSP=1285 LCSP=1285 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

4-Nov	Hours	% Percent
Acquisition	**4.267**	**17.778**
Production Prime	4.267	17.778
Chargeable Standby	**4.733**	**19.722**
Cetacean	0.367	1.528
Reconfiguration	4.367	18.194
Streamer Reconfig	4.367	18.194
Mobilisation	**15.000**	**62.500**
Deployment	15.000	62.500

4-Nov	Hours	% Percent
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
Chargeable Standby	**27.783**	**16.538**
Cetacean	1.050	0.625
Field Operations	3.717	2.212
Reconfiguration	4.367	2.599
Streamer Reconfig	4.367	2.599
Transit	18.650	11.101
Mobilisation	**90.300**	**53.750**
Deployment	17.150	10.208
Mob Ashore	60.583	36.062
Transit to Prospect	12.567	7.480
Acquisition	**44.717**	**26.617**
Prime Line Change	1.200	0.714
Production Prime	43.517	25.903
DownTime	**5.200**	**3.095**
Source	0.117	0.069
Vessel	5.083	3.026
Total	168.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 04 Nov

Navigation:
GPS on Sub-Array #1 not working. DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
Meraki MX80, lost it configuration after a reset and needed to be re-programed.

Acquisition (OBS):
Streamer had a few issues on deployment with Telemetry. Changed out 2 x LAUMS and 1 x Active streamer Section positively identified not to be passing data.

Towing and Handling (Source):
Continue to work on Hydraulic Valve block for auxiliary equipment streamer #4,

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Sat 04 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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Sara Davis RPS PAM operator / PSO
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James Wills RPS PSO
Mary Jane Waru RPS PSO

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Adrien Arnulf UTIG Scientist
Steffen Saustrup UTIG Technician
Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

7%

Prime Lines Completed

5%

Preplot Lines	Complete	Incomplete	Pending
60	3	0	0

Percentages Charged	
Prime	6.88% of 5504.20 km (Sail Line)

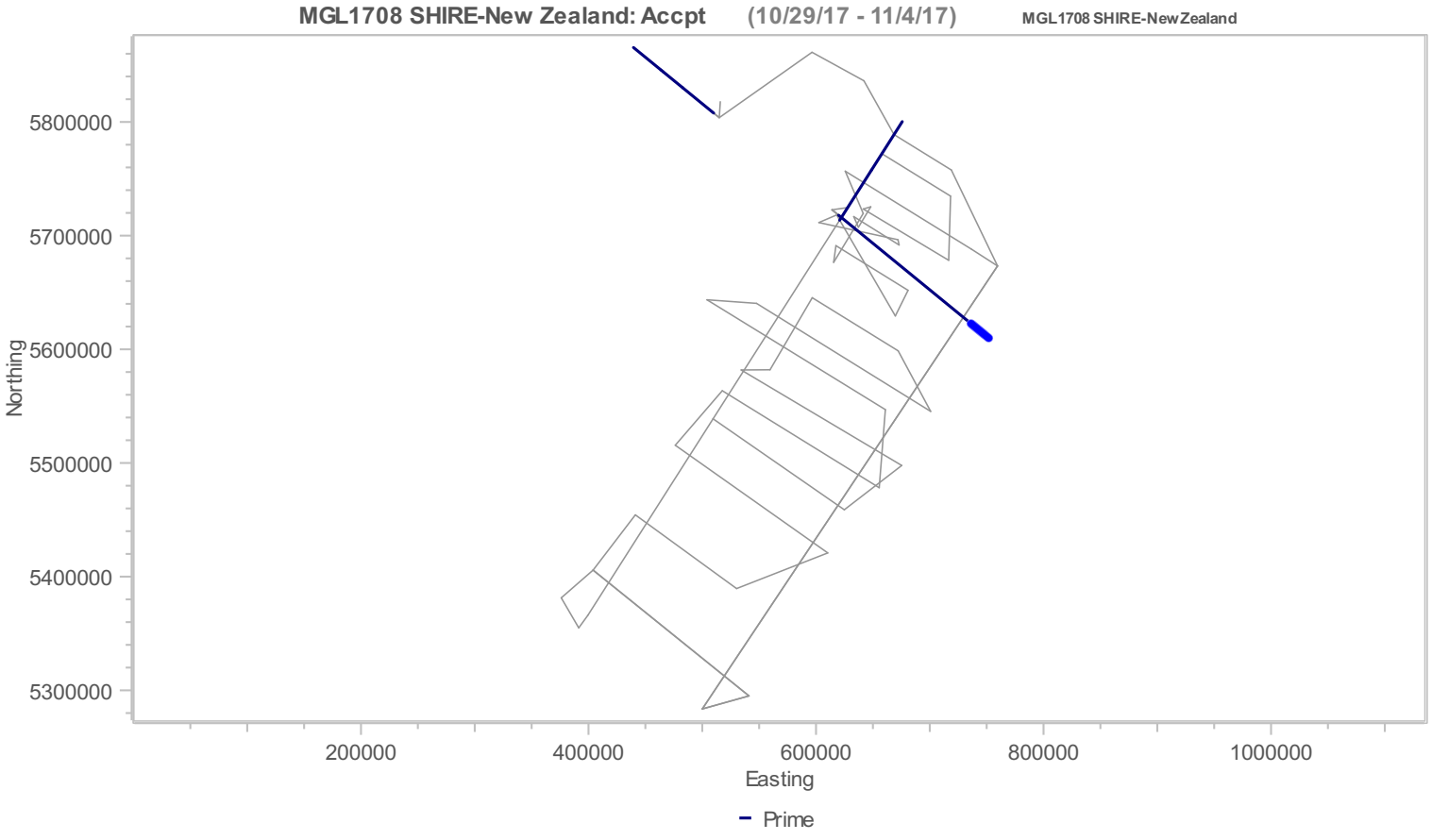
Average Daily Production	
Average Accepted Daily Production	94.67 km
Average Charged Daily Production	94.67 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Sat 4 Nov	Marcus G Langseth	3 - 4	33.90
Total Production:			**33.90**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	33.90	378.70	378.70	378.70
Infill	0.00	0.00	0.00	0.00
Combined	**33.90**	**378.70**	**378.70**	**378.70**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sun 05 Nov

The vessel started the day continuing production on Line MGL1708OB10. At 19:00 UTC the line was completed and the vessel began a line change to MGL1708MC11. This line started at 19:24 UTC and continued until 21:28 UTC. At that time the vessel made another line change to Line MGL1708MC12, which started at 23:32 UTC an continue throughout the remainder of the day.

Daily Comment Summaries - Plan for Tomorrow

Sun 05 Nov

The Vessel will start the day in Production on Line MGL1708MC12 is expected to continue it throughout the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sun 5. Nov 00:00	Sun 5. Nov 19:00	19.000
SOL Seq 4 Line:MGL1708MC10 Preplot:Line10 FGSP=1286 FCSP=1286 Hdg=309.3° Prime EOL Seq 4 Line:MGL1708MC10 Preplot:Line10 LGSP=4465 LCSP=4465 Complete				
Prime Line Change	AC_PLC	Sun 5. Nov 19:00	Sun 5. Nov 19:24	0.400
Nominal Prime line change.				
Production Prime	AC_PP	Sun 5. Nov 19:24	Sun 5. Nov 21:28	2.067
SOL Seq 5 Line:MGL1708MC11 Preplot:Line11 FGSP=1020 FCSP=1020 Hdg=81.9° Prime EOL Seq 5 Line:MGL1708MC11 Preplot:Line11 LGSP=1370 LCSP=1370 Complete				
Prime Line Change	AC_PLC	Sun 5. Nov 21:28	Sun 5. Nov 23:32	2.067
Nominal Prime line change.				
Production Prime	AC_PP	Sun 5. Nov 23:32	Sun 5. Nov 24:00	0.467
SOL Seq 6 Line:MGL1708MC12 Preplot:Line12 FGSP=929 FCSP=929 Hdg=212.5° Prime MSP Seq 6 Line:MGL1708MC12 Preplot:Line12 LGSP=1005 LCSP=1005 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

5-Nov	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	2.467	10.278
Production Prime	21.533	89.722
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
Chargeable Standby	**27.783**	**14.470**
Cetacean	1.050	0.547
Field Operations	3.717	1.936
Reconfiguration	4.367	2.274

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Hours	% Percent
Streamer Reconfig	4.367	2.274
Transit	18.650	9.714
Mobilisation	**90.300**	**47.031**
Deployment	17.150	8.932
Mob Ashore	60.583	31.554
Transit to Prospect	12.567	6.545
Acquisition	**68.717**	**35.790**
Prime Line Change	3.667	1.910
Production Prime	65.050	33.880
DownTime	**5.200**	**2.708**
Source	0.117	0.061
Vessel	5.083	2.648
Total	192.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 05 Nov

Navigation:
GPS on Sub-Array #1 not working. DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Sun 05 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
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Amanda Dubuque RPS Lead PSO
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James Wills RPS PSO
Mary Jane Waru RPS PSO

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Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

10%

Prime Lines Completed

8%

Preplot Lines	Complete	Incomplete	Pending
60	5	0	0

Percentages Charged	
Prime	10.16% of 5504.20 km (Sail Line)

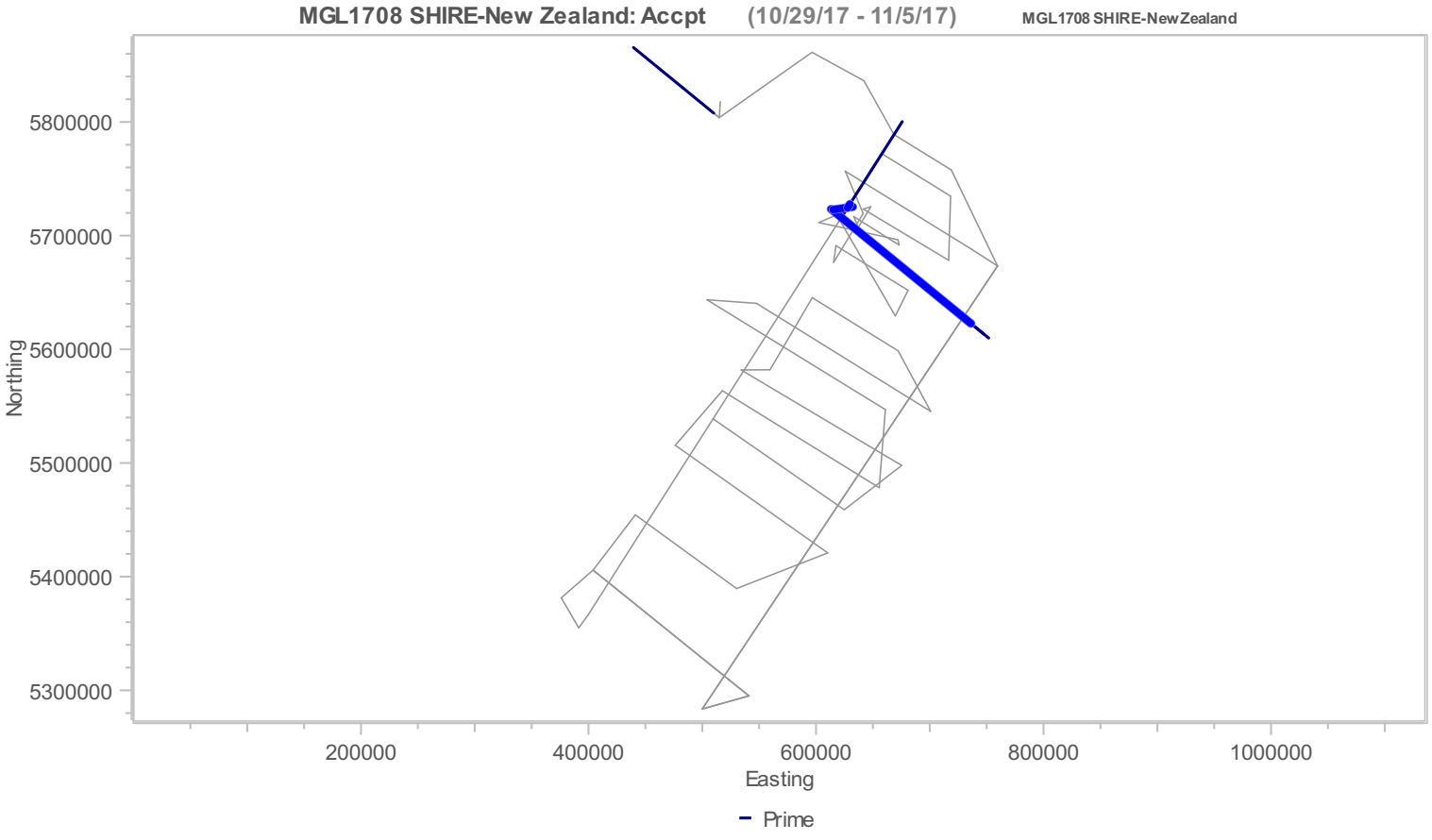
Average Daily Production	
Average Accepted Daily Production	111.80 km
Average Charged Daily Production	111.80 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Sun 5 Nov	Marcus G Langseth	4 - 6	180.30
Total Production:			**180.30**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	180.30	559.00	559.00	559.00
Infill	0.00	0.00	0.00	0.00
Combined	**180.30**	**559.00**	**559.00**	**559.00**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Mon 06 Nov

The vessel started the day continuing production on Line MGL1708MC12.an continue throughout the remainder of the day.

Early in the Day the Streamer had a data rail failure up near the head of the streamer. It took ~10 min to get the streamer powered down the system reset for the line and streamer back up to acquire Data. NO further issues throughout the day with data Telemetry. Additional the Bird Communication issues with Birds aft (21 to 45) have been getting progressively worse throughout the day. The Streamer Shape on Spectra has been looking ok, but that is do to a solid position from the Tailbuoy. After some trouble shooting it seems that there is a complete break in the acoustic communication line of the streamer near the head of the streamer and it also appears that there is a leakage issues on the bird communication line near the head of the streamer.

Taking both of these failures into account it looks like the possible source is between Active Sections 3 and LAUM #1.

Later in the afternoon after finishing it's OBS deployments the R/V Tangaroa, made it way to the R/V Marcus G Langseth location to assist in guard vessel duties. During the Tangaroa's transit to the Langseth location they made contact with two fishing vessel. These vessel were to the SW of the Langseth very near her track-line. Tangaroa passed on the Langseth Information and also provided the Langseth with information about the location of the fishing vessel and their gea.

Daily Comment Summaries - Plan for Tomorrow

Mon 06 Nov

The Vessel will continue the day in Production on Line MGL1708MC12 and is expected to continue throughout the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Mon 6. Nov 00:00	Mon 6. Nov 00:38	0.633
SOL Seq 6 Line:MGL1708MC12 Preplot:Line12 FGSP=1006 FCSP=1006 Hdg=212.5° Prime EOL Seq 6 Line:MGL1708MC12 Preplot:Line12 LGSP=1109 LCSP=1109 Incomplete				
Recording	DT_RC	Mon 6. Nov 00:38	Mon 6. Nov 00:48	0.167
NTBP Seq 6 FSP=1110 LSP=1135 One of the two Data Rails on the streamer failed. It took a full streamer power reset to get it back.				
Production Prime	AC_PP	Mon 6. Nov 00:48	Mon 6. Nov 24:00	23.200
SOL Seq 6 Line:MGL1708MC12 Preplot:Line12 FGSP=1136 FCSP=1136 Hdg=212.5° Prime MSP Seq 6 Line:MGL1708MC12 Preplot:Line12 LGSP=4912 LCSP=4912 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

6-Nov	Hours	% Percent
Acquisition	**23.833**	**99.306**
Production Prime	23.833	99.306
DownTime	**0.167**	**0.694**
Recording	0.167	0.694

6-Nov	Hours	% Percent
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
Chargeable Standby	**27.783**	**12.863**
Cetacean	1.050	0.486
Field Operations	3.717	1.721
Reconfiguration	4.367	2.022
Streamer Reconfig	4.367	2.022
Transit	18.650	8.634
Mobilisation	**90.300**	**41.806**
Deployment	17.150	7.940
Mob Ashore	60.583	28.048
Transit to Prospect	12.567	5.818
Acquisition	**92.550**	**42.847**
Prime Line Change	3.667	1.698
Production Prime	88.883	41.150
DownTime	**5.367**	**2.485**
Recording	0.167	0.077
Source	0.117	0.054
Vessel	5.083	2.353
Total	216.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 06 Nov

Navigation:
DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
Throughout the Day the Bird Communication issues with Birds aft (21 to 45) have been getting progressively worse. The Streamer Shape on Spectra has been looking ok, but that is do to a solid position from the Tailbuoy. After some trouble shooting it seems that there is a complete break in the acoustic communication line of the streamer near the head of the streamer and it also appears that there is a leakage issues on the bird communication line near the head of the streamer.

Additionally Early in the Day the Streamer had a data rail failure up near the head of the streamer. It took ~10 min to get the streamer powered down the system reset for the line and streamer back up to acquire Data.

Taking both of these failures into account it looks like possible source of these failures is between Sections 3 to Section 5.

Towing and Handling (Source):
During the day S3G2 (360in3) element failed during the day and was disabled. S3G5 "Spare" (180in3) was enabled.

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Mon 06 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

PSO Staff On-board the Langseth
Amanda Dubuque RPS Lead PSO
Sara Davis RPS PAM operator / PSO
Luis Gonclaves RPS PSO
James Wills RPS PSO
Mary Jane Waru RPS PSO

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Adrien Arnulf UTIG Scientist
Steffen Saustrup UTIG Technician
Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

14%

Prime Lines Completed

8%

Preplot Lines	Complete	Incomplete	Pending
60	5	0	0

Percentages Charged	
Prime	13.68% of 5504.20 km (Sail Line)

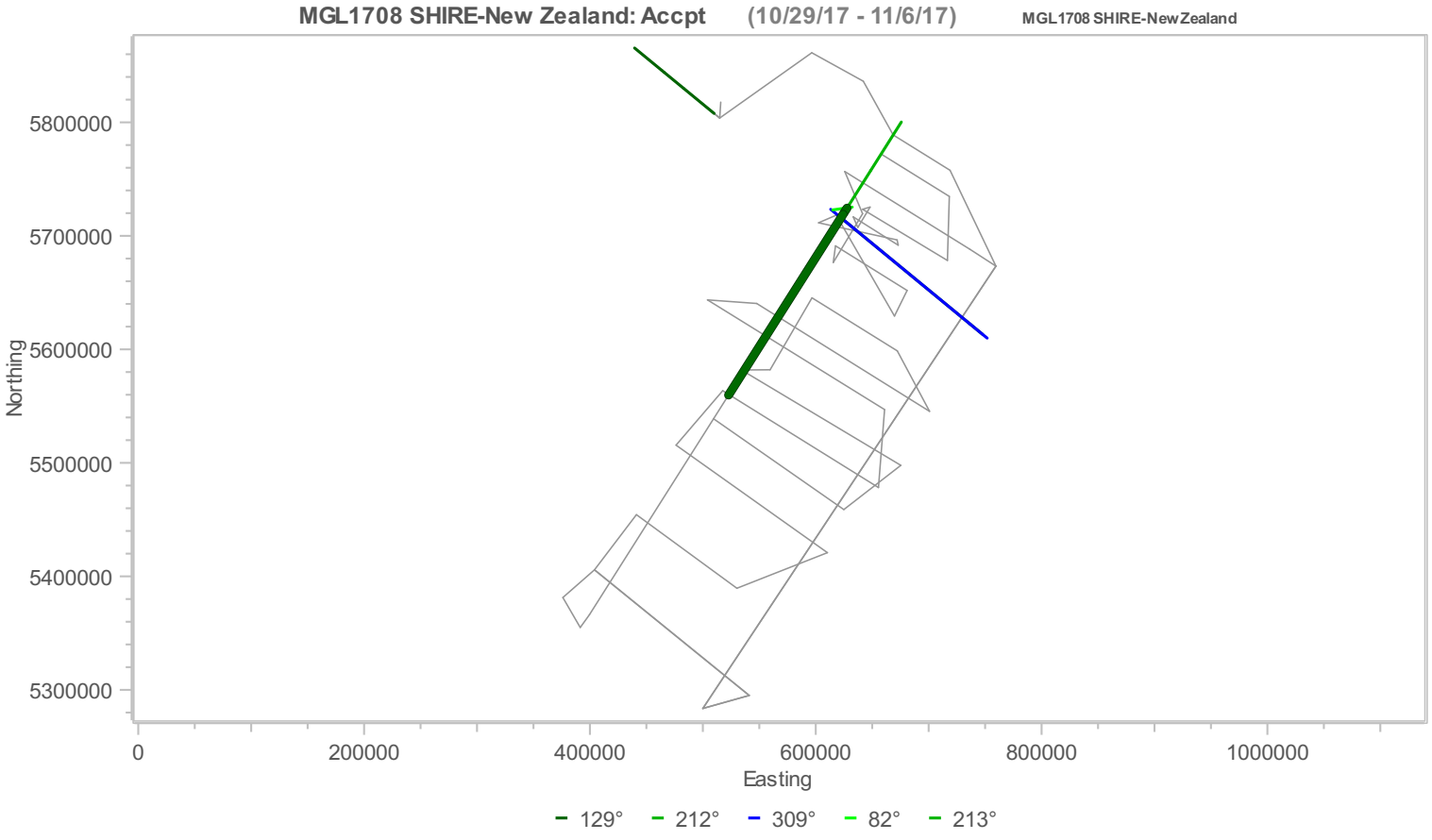
Average Daily Production	
Average Accepted Daily Production	125.51 km
Average Charged Daily Production	125.51 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Mon 6 Nov	Marcus G Langseth	6	194.05
Total Production:			**194.05**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	194.05	194.05	753.05	753.05
Infill	0.00	0.00	0.00	0.00
Combined	**194.05**	**194.05**	**753.05**	**753.05**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Tue 07 Nov

The vessel started the day continuing production on Line MGL1708MC12.an continue throughout the remainder of the day.

The weather picked up throughout most of the day. At the start the weather was NNE at 20-25 Kts 1-2m Seas. At about 18:00 UTC the wind started to switch to the NNW started to blow 30-40 Kts Sea reached 2-3m. At ~21:00 UTC the weather peaked out from the NW at 40-45 Kts with some gust maxing out at 56 kts, seas of 3 - 4m. By the end of the day the wind has started to diminish and was out of the NW @ 25-30 kts and Seas were 2-3m

Daily Comment Summaries - Plan for Tomorrow

Tue 07 Nov

The Vessel start the day continuing Production on Line MGL1708MC12 and is expected to complete it at ~12:00 UTC. It will make a line change to MGL1708MC14 which is expected to begin at ~12:30 UTC and continue until ~16:30 UTC. At this time the vessel will make a line change to MGL1708MC15 which is expected to began at ~17:00 UTC and continue to ~22:00 UTC. At this time the vessel will make a line change to MGL1708OB16 which will continue throughout the remainder of the day.

As Line MGL1708MC15 is of lower priority, the vessel will use that time to preform preventive maintenance on the Source Sub-Arrays, so they are fully opeartional for the MGL1708OB16 and MGL1708OB18.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Tue 7. Nov 00:00	Tue 7. Nov 24:00	24.000
SOL Seq 6 Line:MGL1708MC12 Preplot:Line12 FGSP=4913 FCSP=4913 Hdg=212.5° Prime MSP Seq 6 Line:MGL1708MC12 Preplot:Line12 LGSP=8608 LCSP=8608 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

7-Nov	Hours	% Percent
Acquisition	**24.000**	**100.000**
Production Prime	24.000	100.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
Chargeable Standby	**27.783**	**11.576**
Cetacean	1.050	0.438
Field Operations	3.717	1.549
Reconfiguration	4.367	1.819
Streamer Reconfig	4.367	1.819
Transit	18.650	7.771
Mobilisation	**90.300**	**37.625**

Category	Hours	% Percent
Deployment	17.150	7.146
Mob Ashore	60.583	25.243
Transit to Prospect	12.567	5.236
Acquisition	**116.550**	**48.562**
Prime Line Change	3.667	1.528
Production Prime	112.883	47.035
DownTime	**5.367**	**2.236**
Recording	0.167	0.069
Source	0.117	0.049
Vessel	5.083	2.118
Total	240.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 07 Nov

Navigation:
PosNet rGPS pod on Sub-Array number is not operational DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
Throughout the Day the Bird Communication issues with Birds aft (21 to 45) continued. The Streamer Shape on Spectra has been looking ok, but that is do to a solid position from the Tailbuoy.

Taking both of these failures into account it looks like possible source of these failures is between Sections 3 to Section 5.

Towing and Handling (Source):
S3G2 (360in3) element failed during the previous day and remained disabled. S3G5 "Spare" (180in3) was enabled.

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Tue 07 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
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Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged 17%

Prime Lines Completed 8%

Preplot Lines	Complete	Incomplete	Pending
60	5	0	0

Percentages Charged	
Prime	17.04% of 5504.20 km (Sail Line)

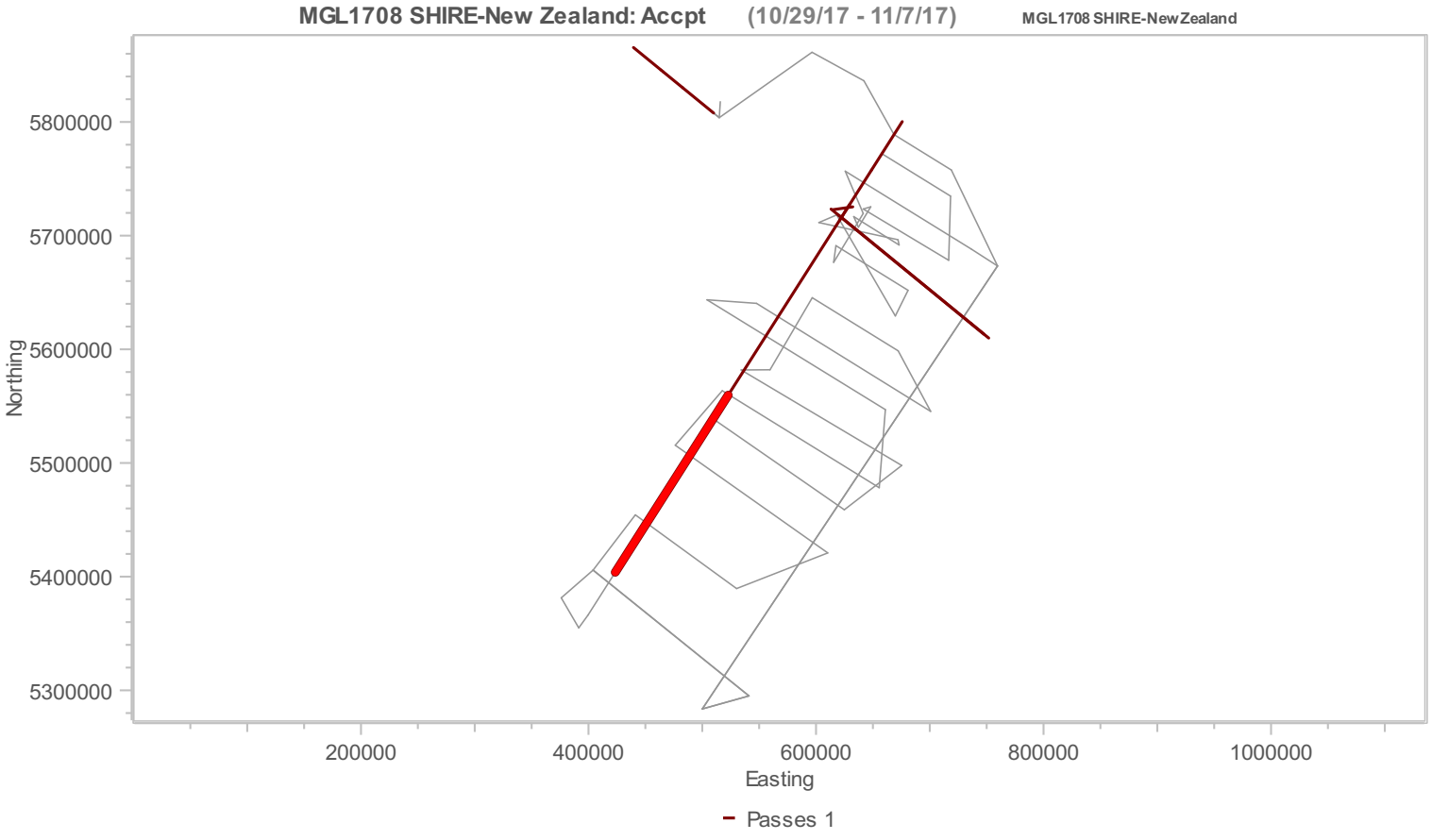
Average Daily Production	
Average Accepted Daily Production	133.98 km
Average Charged Daily Production	133.98 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Tue 7 Nov	Marcus G Langseth	6	184.80
Total Production:			**184.80**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	184.80	378.85	937.85	937.85
Infill	0.00	0.00	0.00	0.00
Combined	**184.80**	**378.85**	**937.85**	**937.85**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Wed 08 Nov

The Vessel started the day continuing production on Line MGL1708MC12 which was completed at ~09:21 UTC. The vessel made a line change to MGL1708MC14 which begin at ~09:33 UTC and continue until ~12:17 UTC. At that time the vessel made line change to MGL1708MC15 which began at ~12:31 UTC and continue to ~16:49 UTC. The vessel then made a line change to MGL1708OB16 which began at 16:54 and continue throughout the remainder of the day.

There where a total of 3 power-downs during the day for PSO sightings of animals in the 500m EZ. One on Line MGL1708MC12 and two on Line MGL1708OB16 totaling a little over 2 hours of time including the power-downs and ramp-ups. During line MGL1708MC15 All four sub-arrays were recovered for preventive maintenance. Sub-Array #1 came up with a large tree tangled in it.

Daily Comment Summaries - Plan for Tomorrow

Wed 08 Nov

The Vessel will start the day continuing down line MGL1708OB16. At ~17:30 UTC the line will be completed and the vessel turn fair seas to begin recovering of the MCS streamer. The Streamer is being recovered due to the issues with the bird communication line, Data Telemetry line, and rGPS Tailbuoy. Additional the weather reports are predicting Higher Seas 5+m to start moving into the areas later on Friday evening with the bigger of the seas topping out at ~7m on Saturday Evening.

Depending on how the weather looks after the streamer recovery, the vessel might re-deploy the source and start Source only production to the OBS on Line MGL1708OB18 heading to the NE.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Wed 8. Nov 00:00	Wed 8. Nov 07:02	7.033
SOL Seq 6 Line:MGL1708MC12 Preplot:Line12 FGSP=8609 FCSP=8609 Hdg=212.5° Prime EOL Seq 6 Line:MGL1708MC12 Preplot:Line12 LGSP=9386 LCSP=9386 Incomplete				
Cetacean	SB_CT	Wed 8. Nov 07:02	Wed 8. Nov 07:43	0.683
NTBP Seq 6 FSP=9387 LSP=9481 Power down due to close proximity of Cetaceans (SEAL).				
Production Prime	AC_PP	Wed 8. Nov 07:43	Wed 8. Nov 09:21	1.633
SOL Seq 6 Line:MGL1708MC12 Preplot:Line12 FGSP=9482 FCSP=9482 Hdg=212.5° Prime EOL Seq 6 Line:MGL1708MC12 Preplot:Line12 LGSP=9733 LCSP=9733 Complete				
Prime Line Change	AC_PLC	Wed 8. Nov 09:21	Wed 8. Nov 09:33	0.200
Nominal Prime line change.				
Production Prime	AC_PP	Wed 8. Nov 09:33	Wed 8. Nov 12:17	2.733
SOL Seq 7 Line:MGL1708MC14 Preplot:Line14 FGSP=1070 FCSP=1070 Hdg=329.8° Prime EOL Seq 7 Line:MGL1708MC14 Preplot:Line14 LGSP=1595 LCSP=1595 Complete				
Prime Line Change	AC_PLC	Wed 8. Nov 12:17	Wed 8. Nov 12:31	0.233
Nominal Prime line change.				

Category	Code	Start	End	Duration
Production Prime	AC_PP	Wed 8. Nov 12:31	Wed 8. Nov 16:49	4.300
SOL Seq 8 Line:MGL1708MC15 Preplot:Line15 FGSP=1028 FCSP=1028 Hdg=48.9° Prime EOL Seq 8 Line:MGL1708MC15 Preplot:Line15 LGSP=1726 LCSP=1726 Complete				
Prime Line Change	AC_PLC	Wed 8. Nov 16:49	Wed 8. Nov 16:54	0.083
Nominal Prime line change.				
Production Prime	AC_PP	Wed 8. Nov 16:54	Wed 8. Nov 20:14	3.333
SOL Seq 9 Line:MGL1708OB16 Preplot:Line16 FGSP=1013 FCSP=1013 Hdg=128.9° Prime EOL Seq 9 Line:MGL1708OB16 Preplot:Line16 LGSP=1523 LCSP=1523 Incomplete				
Cetacean	SB_CT	Wed 8. Nov 20:14	Wed 8. Nov 20:56	0.700
NTBP Seq 9 FSP=1524 LSP=1618 Power down due to close proximity of Cetaceans (SEAL).				
Production Prime	AC_PP	Wed 8. Nov 20:56	Wed 8. Nov 22:18	1.367
SOL Seq 9 Line:MGL1708OB16 Preplot:Line16 FGSP=1619 FCSP=1619 Hdg=128.9° Prime EOL Seq 9 Line:MGL1708OB16 Preplot:Line16 LGSP=1817 LCSP=1817 Incomplete				
Cetacean	SB_CT	Wed 8. Nov 22:18	Wed 8. Nov 22:57	0.650
NTBP Seq 9 FSP=1818 LSP=1912 Power down due to close proximity of Cetaceans (SEAL).				
Production Prime	AC_PP	Wed 8. Nov 22:57	Wed 8. Nov 24:00	1.050
SOL Seq 9 Line:MGL1708OB16 Preplot:Line16 FGSP=1913 FCSP=1913 Hdg=128.9° Prime MSP Seq 9 Line:MGL1708OB16 Preplot:Line16 LGSP=2063 LCSP=2063 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

8-Nov	Hours	% Percent
Acquisition	**21.967**	**91.528**
Prime Line Change	0.517	2.153
Production Prime	21.450	89.375
Chargeable Standby	**2.033**	**8.472**
Cetacean	2.033	8.472
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
Chargeable Standby	**29.817**	**11.294**
Cetacean	3.083	1.168
Field Operations	3.717	1.408
Reconfiguration	4.367	1.654
Streamer Reconfig	4.367	1.654
Transit	18.650	7.064
Mobilisation	**90.300**	**34.205**
Deployment	17.150	6.496
Mob Ashore	60.583	22.948
Transit to Prospect	12.567	4.760
Acquisition	**138.517**	**52.468**
Prime Line Change	4.183	1.585
Production Prime	134.333	50.884
DownTime	**5.367**	**2.033**
Recording	0.167	0.063
Source	0.117	0.044

Category	Hours	% Percent
Vessel	5.083	1.926
Total	264.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 08 Nov

Navigation:
PosNet rGPS pod on Sub-Array number One and Streamer Tailbuoy are not operational
DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
Throughout the Day the Bird Communication issues with Birds aft (21 to 45) continued. The Streamer Shape on Spectra has been looking .

Towing and Handling (Source):
S3G10 and S4G10 (220in3) element failed during the day and have been disabled.

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Wed 08 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
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Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged 20%

Prime Lines Completed 13%

Preplot Lines	Complete	Incomplete	Pending
60	8	0	0

Percentages Charged	
Prime	19.87% of 5504.20 km (Sail Line)

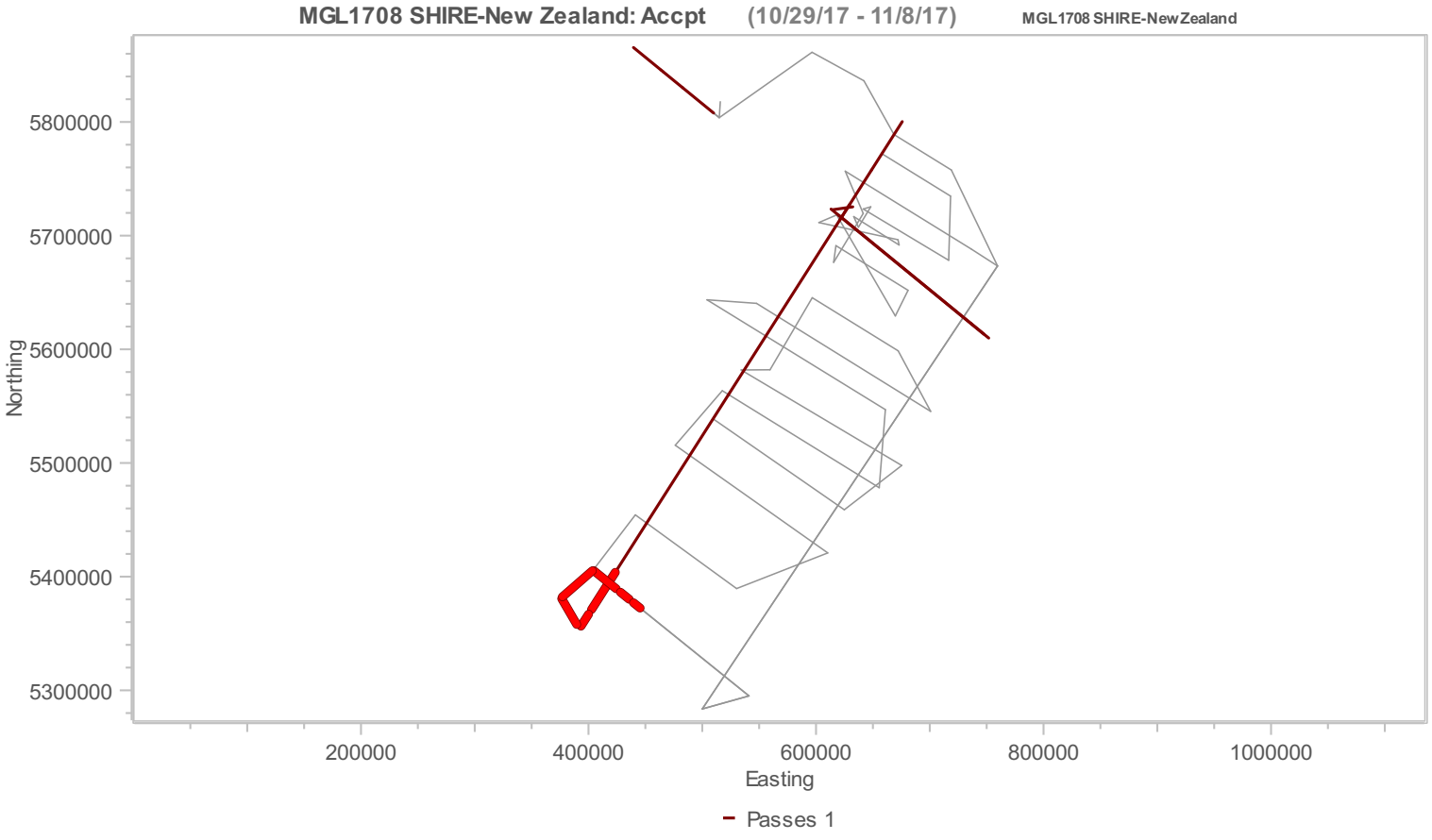
Average Daily Production	
Average Accepted Daily Production	136.69 km
Average Charged Daily Production	136.69 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Wed 8 Nov	Marcus G Langseth	6 - 9	155.65
Total Production:			**155.65**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	155.65	534.50	1093.50	1093.50
Infill	0.00	0.00	0.00	0.00
Combined	**155.65**	**534.50**	**1093.50**	**1093.50**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Thu 09 Nov

The Vessel started the day continuing production on Line MGL1708MC16 which was completed at ~13:56 UTC. At the end of the line the source was recovered followed by the streamer. The Streamer was recovered due to incoming weather and to repair issues with the Bird Line and Tailbuoy. The Streamer was on-board at 23:11 UTC and at the end of day the vessel was transiting back to the start of Line MGL1708OB18 which will be shot as a source only line.

There where a total of 2 power-downs during the day for PSO sightings of animals in the 500m EZ. Both on Line MGL1708OB16 totaling a little over 1.6 hours including the power-downs and ramp-ups.

Shortly after the Streamer was on-board while transiting to Line MGL1708OB18, the Stbd Main engine was taken off-line for a short period of time so the engineers could preform some maintenance.

Daily Comment Summaries - Plan for Tomorrow

Thu 09 Nov

The Vessel will start the day continuing the transit to line MGL1708OB18. At ~05:30 UTC the line will be started in a source only mode and will continue throughout the day or until the weather shuts us down.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Thu 9. Nov 00:00	Thu 9. Nov 01:20	1.333
SOL Seq 9 Line:MGL1708OB16 Preplot:Line16 FGSP=2064 FCSP=2064 Hdg=128.9° Prime EOL Seq 9 Line:MGL1708OB16 Preplot:Line16 LGSP=2258 LCSP=2258 Incomplete				
Cetacean	SB_CT	Thu 9. Nov 01:20	Thu 9. Nov 02:26	1.100
NTBP Seq 9 FSP=2259 LSP=2440 Power down due to close proximity of Cetaceans (SEAL).				
Production Prime	AC_PP	Thu 9. Nov 02:26	Thu 9. Nov 06:45	4.317
SOL Seq 9 Line:MGL1708OB16 Preplot:Line16 FGSP=2441 FCSP=2441 Hdg=128.9° Prime EOL Seq 9 Line:MGL1708OB16 Preplot:Line16 LGSP=3194 LCSP=3194 Incomplete				
Cetacean	SB_CT	Thu 9. Nov 06:45	Thu 9. Nov 07:22	0.617
NTBP Seq 9 FSP=3195 LSP=3301 Power down due to close proximity of Cetaceans (SEAL).				
Production Prime	AC_PP	Thu 9. Nov 07:22	Thu 9. Nov 13:56	6.567
SOL Seq 9 Line:MGL1708OB16 Preplot:Line16 FGSP=3302 FCSP=3302 Hdg=128.9° Prime EOL Seq 9 Line:MGL1708OB16 Preplot:Line16 LGSP=4586 LCSP=4586 Complete				
Weather	SB_WX	Thu 9. Nov 13:56	Thu 9. Nov 16:04	2.133
Recovering Source for Streamer recovery for pending weather.				
Weather	SB_WX	Thu 9. Nov 16:04	Thu 9. Nov 17:01	0.950
Maneuvering for Streamer Recovery				
Weather	SB_WX	Thu 9. Nov 17:01	Thu 9. Nov 17:42	0.683
Recovering Front end of streamer to remove head float				

Category	Code	Start	End	Duration
Streamers	DT_ST	Thu 9. Nov 17:42	Thu 9. Nov 18:52	1.167
Trouble Shooting Bird Line Communication issues (Found to be Section 2) and Data line fault - which appears to be in the SHS, RVIM, or Lead-in.				
Weather	SB_WX	Thu 9. Nov 18:52	Thu 9. Nov 23:11	4.317
Continue to recover streamer for Pending Weather.				
Transit	SB_TRT	Thu 9. Nov 23:11	Thu 9. Nov 24:00	0.817
Transit back to Line MGL1708OB18 after recovery of the streamer.				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

9-Nov	Hours	% Percent
Acquisition	**12.217**	**50.903**
Production Prime	12.217	50.903
Chargeable Standby	**10.617**	**44.236**
Cetacean	1.717	7.153
Transit	0.817	3.403
Weather	8.083	33.681
DownTime	**1.167**	**4.861**
Streamers	1.167	4.861
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
Chargeable Standby	**40.433**	**14.039**
Cetacean	4.800	1.667
Field Operations	3.717	1.291
Reconfiguration	4.367	1.516
Streamer Reconfig	4.367	1.516
Transit	19.467	6.759
Weather	8.083	2.807
Mobilisation	**90.300**	**31.354**
Deployment	17.150	5.955
Mob Ashore	60.583	21.036
Transit to Prospect	12.567	4.363
Acquisition	**150.733**	**52.338**
Prime Line Change	4.183	1.453
Production Prime	146.550	50.885
DownTime	**6.533**	**2.269**
Recording	0.167	0.058
Source	0.117	0.041
Streamers	1.167	0.405
Vessel	5.083	1.765
Total	288.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 09 Nov

Navigation:
PosNet rGPS pod on Sub-Array number One and Streamer Tailbuoy are not operational
DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
During the recovery of the streamer sometime was taken to trouble shoot the Bird Line Communication issues as well as the Data Telemetry issues. The Bird line Communication issue was traced down to a bad section (#2 S/N: 6347) which was removed from the streamer and we were able to talk to all 45 birds. During this same trouble shooting we looked at the Telemetry issues and was able to isolate the issue to Either of the two SHS, the RVIM, the HAPU, or Lead-in. We will do further trouble shooting when the streamer is re-deployed after the weather passes an we finish Line MGL1608OB18.

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Thu 09 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
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Mary Jane Waru RPS PSO

Science Party On-board the Langseth
Dr. Nathan Bangs UTIG Chief Scientist
Adrien Arnulf UTIG Scientist
Steffen Saustrup UTIG Technician
Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged 22%

Prime Lines Completed 15%

Preplot Lines	Complete	Incomplete	Pending
60	9	0	0

Percentages Charged	
Prime	21.90% of 5504.20 km (Sail Line)

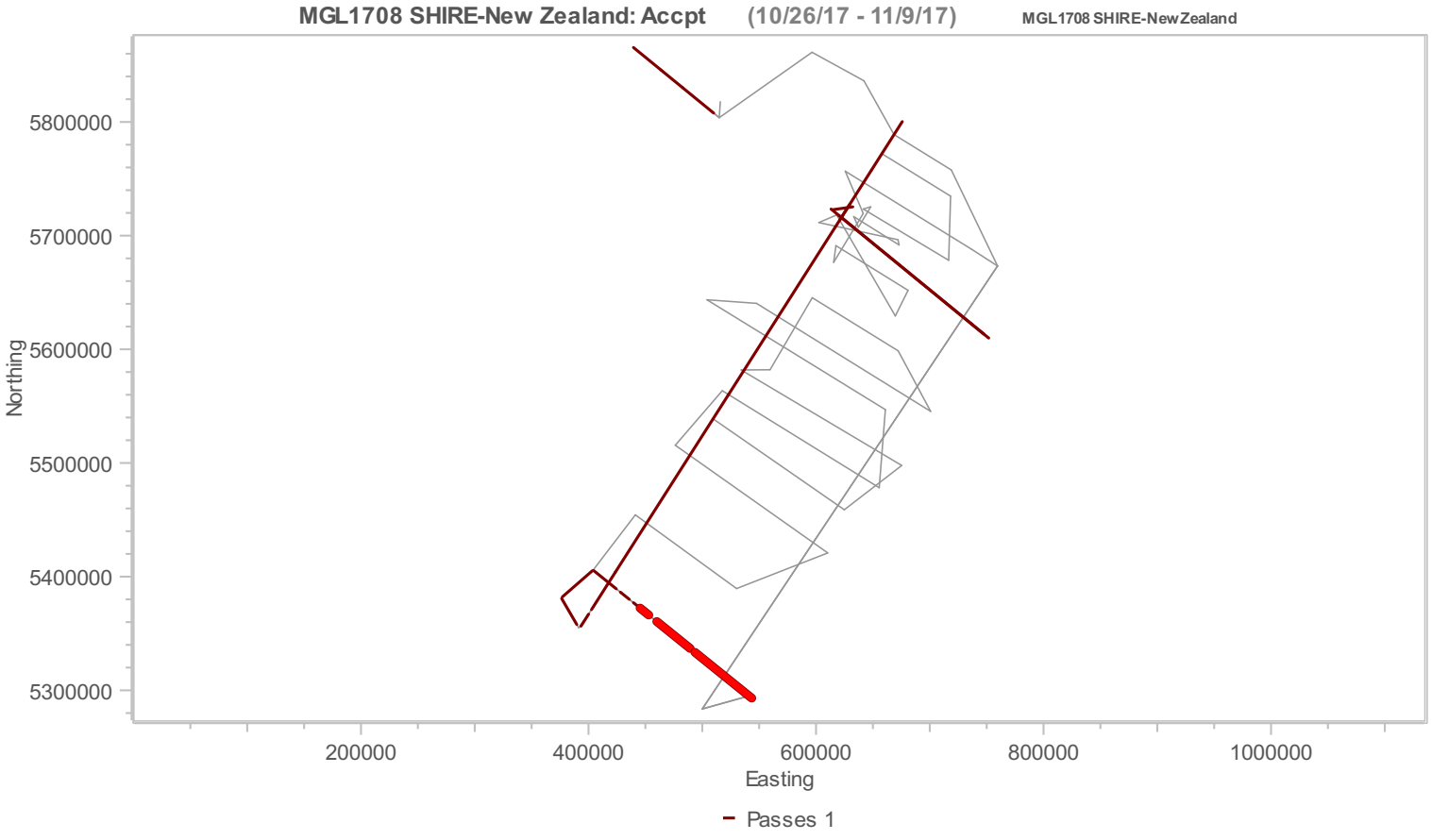
Average Daily Production	
Average Accepted Daily Production	133.91 km
Average Charged Daily Production	133.91 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Thu 9 Nov	Marcus G Langseth	9	111.70
Total Production:			**111.70**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	111.70	646.20	1205.20	1205.20
Infill	0.00	0.00	0.00	0.00
Combined	**111.70**	**646.20**	**1205.20**	**1205.20**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Fri 10 Nov

The Vessel started the day continuing to transit back to line MGL1708OB18 after recovering the streamer. At 06:33 UTC the vessel was on the run-in to Line when the source needed to be powered down for a PSO sighting in the 500m EZ. At 07:12 UTC the Source was once again ramped up and production on Line MGL1708OB18 commenced and continued throughout the remainder of the day.

Daily Comment Summaries - Plan for Tomorrow

Fri 10 Nov

The Vessel will start the day continuing production on line MGL1708OB18. Depending on weather it is hoped that the vessel can remain in production on this line throughout the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Transit	SB_TRT	Fri 10. Nov 00:00	Fri 10. Nov 03:10	3.167
Transit back to Line MGL1708OB18 after recovery of the streamer for pending weather.				
Weather	SB_WX	Fri 10. Nov 03:10	Fri 10. Nov 05:38	2.467
Deploying Source after recovering streamer for pending weather.				
Weather	SB_WX	Fri 10. Nov 05:38	Fri 10. Nov 05:58	0.333
Ramping up Source				
Transit	SB_TRT	Fri 10. Nov 05:58	Fri 10. Nov 06:33	0.583
Source out and ramped up- Transiting to start of line				
Cetacean	DT_CT	Fri 10. Nov 06:33	Fri 10. Nov 07:12	0.650
Power down for PSO Sighting of Cetaceans in 500m EZ.				
Production Prime	AC_PP	Fri 10. Nov 07:12	Fri 10. Nov 24:00	16.800
SOL Seq 10 Line:MGL1708OB18 Preplot:Line18 FGSP=1069 FCSP=1069 Hdg=33.7° Prime MSP Seq 10 Line:MGL1708OB18 Preplot:Line18 LGSP=3689 LCSP=3689 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

10-Nov	Hours	% Percent
Acquisition	**16.800**	**70.000**
Production Prime	16.800	70.000
Chargeable Standby	**6.550**	**27.292**
Transit	3.750	15.625
Weather	2.800	11.667
DownTime	**0.650**	**2.708**
Cetacean	0.650	2.708
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**11.983**	**3.841**
Cetacean	5.450	1.747
Recording	0.167	0.053
Source	0.117	0.037
Streamers	1.167	0.374
Vessel	5.083	1.629
Mobilisation	**90.300**	**28.942**
Deployment	17.150	5.497
Mob Ashore	60.583	19.418
Transit to Prospect	12.567	4.028
Chargeable Standby	**42.183**	**13.520**
Field Operations	3.717	1.191
Reconfiguration	4.367	1.400
Streamer Reconfig	4.367	1.400
Transit	23.217	7.441
Weather	10.883	3.488
Acquisition	**167.533**	**53.697**
Prime Line Change	4.183	1.341
Production Prime	163.350	52.356
Total	312.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 10 Nov

Navigation:
PosNet rGPS pod on Sub-Array number One, 2 and 3 are not Operational. The issues with the Streamer Tailbuoy was traced down to a damaged Stic Cable. It looks to have be struck by an object an has leakage on a number of wire pairs. A spare has been put into place and the tailbuoy powers up.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
During the recovery of the streamer the SEAL HCI stopped communicating with the rest of the components in the rack room. It would seem that the network configuration was corrupted. The Spare HCI was put into to place and the system is functioning. The Techs are trying to work out a few display issues, but are able to power up the streamer an record data.

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Fri 10 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
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Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

24%

Prime Lines Completed

15%

Preplot Lines	Complete	Incomplete	Pending
60	9	0	0

Percentages Charged	
Prime	24.28% of 5504.20 km (Sail Line)

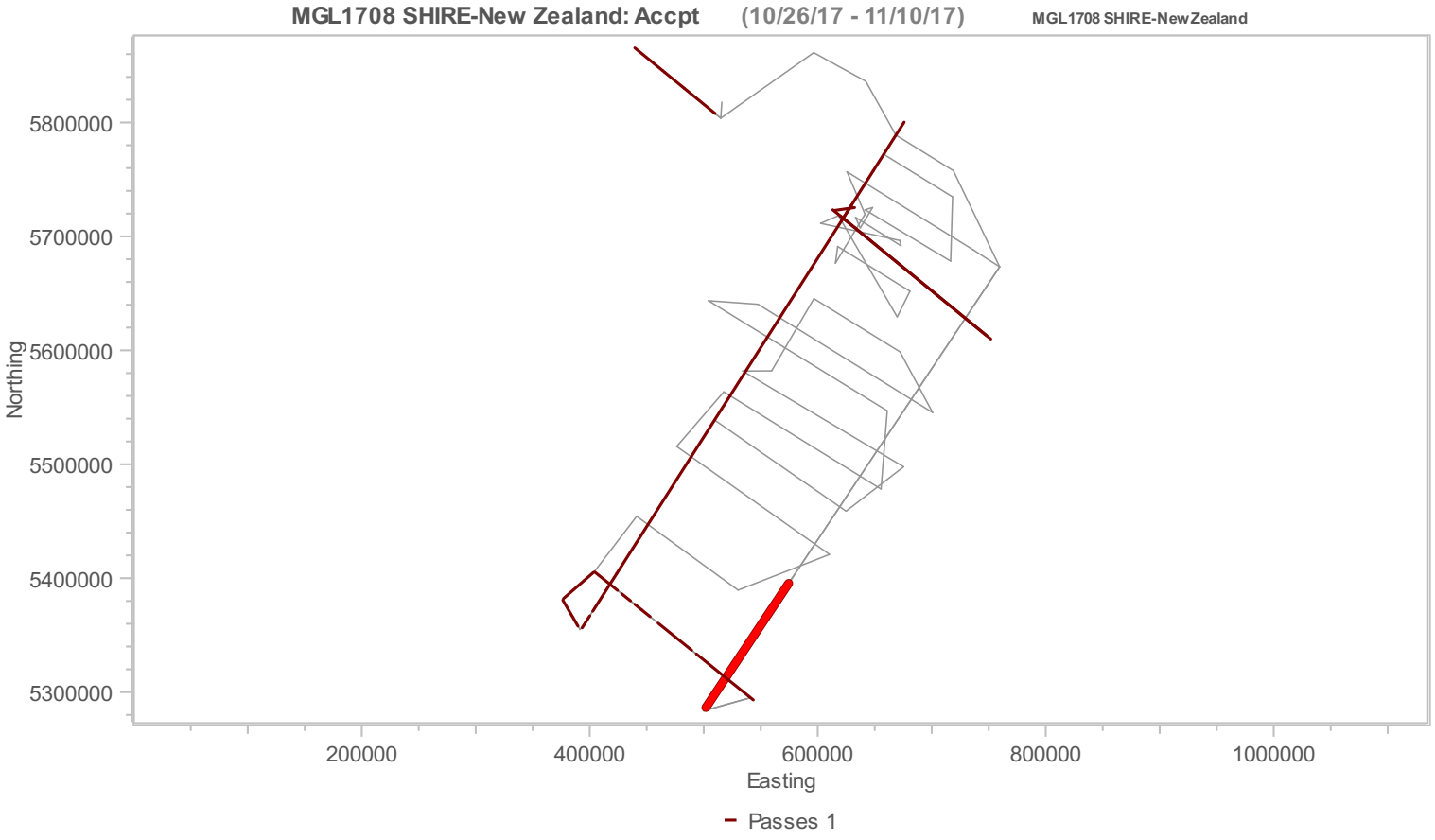
Average Daily Production	
Average Accepted Daily Production	133.62 km
Average Charged Daily Production	133.62 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Fri 10 Nov	Marcus G Langseth	10	131.00
Total Production:			**131.00**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	131.00	777.20	1336.20	1336.20
Infill	0.00	0.00	0.00	0.00
Combined	**131.00**	**777.20**	**1336.20**	**1336.20**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sat 11 Nov

The Vessel started the day continuing production on Line MGL1708OB18 and continued throughout the remainder of the day.

Daily Comment Summaries - Plan for Tomorrow

Sat 11 Nov

The Vessel will start the day continuing production on line MGL1708OB18. At ~19:20 UTC the vessel will finish the line and at that time will begin deployment of the streamer which is expected to take the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sat 11. Nov 00:00	Sat 11. Nov 24:00	24.000
SOL Seq 10 Line:MGL1708OB18 Preplot:Line18 FGSP=3690 FCSP=3690 Hdg=33.7° Prime MSP Seq 10 Line:MGL1708OB18 Preplot:Line18 LGSP=7417 LCSP=7417 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

11-Nov	Hours	% Percent
Acquisition	**24.000**	**100.000**
Production Prime	24.000	100.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**11.983**	**3.566**
Cetacean	5.450	1.622
Recording	0.167	0.050
Source	0.117	0.035
Streamers	1.167	0.347
Vessel	5.083	1.513
Mobilisation	**90.300**	**26.875**
Deployment	17.150	5.104
Mob Ashore	60.583	18.031
Transit to Prospect	12.567	3.740
Chargeable Standby	**42.183**	**12.555**
Field Operations	3.717	1.106
Reconfiguration	4.367	1.300
Streamer Reconfig	4.367	1.300
Transit	23.217	6.910
Weather	10.883	3.239
Acquisition	**191.533**	**57.004**
Prime Line Change	4.183	1.245

Category	Hours	% Percent
Production Prime	187.350	55.759
Total	336.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 11 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1, 2 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
HCI was the issues with the SEAL recording system... It has been repaired and is fully operational.

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Sat 11 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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Amanda Dubuque RPS Lead PSO
Sara Davis RPS PAM operator / PSO
Luis Gonclaves RPS PSO
James Wills RPS PSO
Mary Jane Waru RPS PSO

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Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

28%

Prime Lines Completed

15%

Preplot Lines	Complete	Incomplete	Pending
60	9	0	0

Percentages Charged	
Prime	27.66% of 5504.20 km (Sail Line)

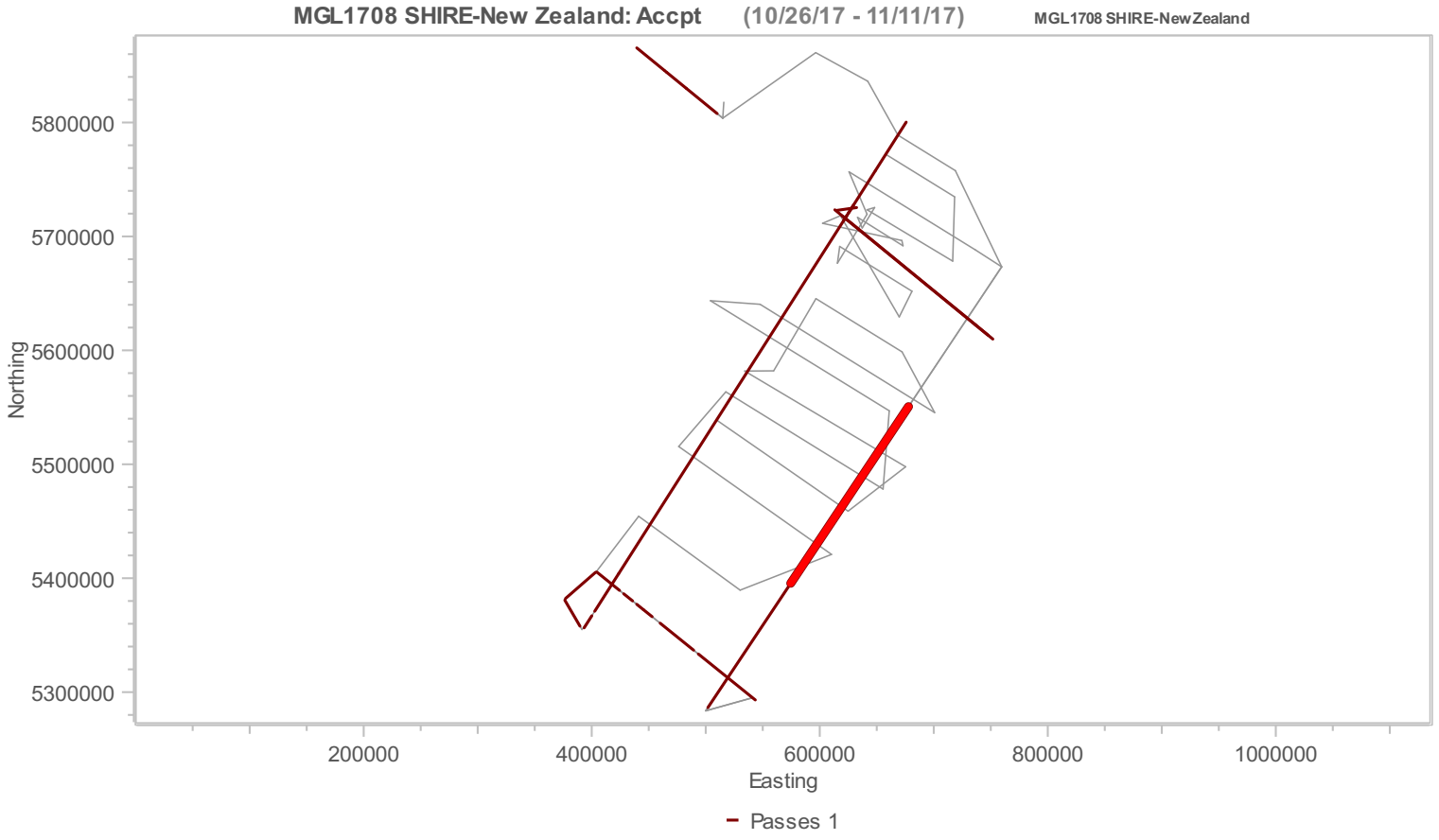
Average Daily Production	
Average Accepted Daily Production	138.42 km
Average Charged Daily Production	138.42 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Sat 11 Nov	Marcus G Langseth	10	186.40
Total Production:			**186.40**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	186.40	963.60	1522.60	1522.60
Infill	0.00	0.00	0.00	0.00
Combined	**186.40**	**963.60**	**1522.60**	**1522.60**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sun 12 Nov

The Vessel started the day continuing production on Line MGL1708OB18 and until 19:24 UTC. At that time the vessel began recovering the Source, PAM, and Maggie, so the re-deployment of the Streamer could take place. At 20:55 UTC the Source, PAM, and Maggie were on-board and the streamer deployment began, this continued throughout the remainder of the day.

Daily Comment Summaries - Plan for Tomorrow

Sun 12 Nov

The Vessel will start the day continuing continuing re-deployment of the streamer. At ~07:00 UTC the vessel is expected to have all towed equipment re-deployed an begin production on Line MBL1708MC40 (line40) heading to the SW. Once production begin the vessel is expected to remain in that mode throughout the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sun 12. Nov 00:00	Sun 12. Nov 19:24	19.400
SOL Seq 10 Line:MGL1708OB18 Preplot:Line18 FGSP=7418 FCSP=7418 Hdg=33.7° Prime EOL Seq 10 Line:MGL1708OB18 Preplot:Line18 LGSP=10361 LCSP=10361 Complete				
Weather	SB_WX	Sun 12. Nov 19:24	Sun 12. Nov 20:55	1.517
Recovering Source to Re-Deploy Streamer after weather has passed.				
Weather	SB_WX	Sun 12. Nov 20:55	Sun 12. Nov 24:00	3.083
Re-Deploying Streamer after weather had passed.				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

12-Nov	Hours	% Percent
Acquisition	**19.400**	**80.833**
Production Prime	19.400	80.833
Chargeable Standby	**4.600**	**19.167**
Weather	4.600	19.167
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**11.983**	**3.329**
Cetacean	5.450	1.514
Recording	0.167	0.046
Source	0.117	0.032
Streamers	1.167	0.324
Vessel	5.083	1.412
Mobilisation	**90.300**	**25.083**
Deployment	17.150	4.764
Mob Ashore	60.583	16.829

Category	Hours	% Percent
Transit to Prospect	12.567	3.491
Chargeable Standby	**46.783**	**12.995**
Field Operations	3.717	1.032
Reconfiguration	4.367	1.213
Streamer Reconfig	4.367	1.213
Transit	23.217	6.449
Weather	15.483	4.301
Acquisition	**210.933**	**58.593**
Prime Line Change	4.183	1.162
Production Prime	206.750	57.431
Total	360.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 12 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1, 2 and 3 are not Operational at the end of line. Will be worked on while the source is on-board..

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
More issues with SEAL. This time we are not able to power up streamer #3, trouble shooting on going. Streamer 1 and 2 are fine an this issue will not delay production once the 12.6km streamer is re-deployed.

Towing and Handling (Source):
Sub-Array #1 developed an Airleak during the evening hours. On recovery it was found that the fire chamber on S1G10 (220in3) had ruptured. The New 220in3 Cluster just built from the polar program elements will be put into service.

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Sun 12 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
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Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

30%

Prime Lines Completed

17%

Preplot Lines	Complete	Incomplete	Pending
60	10	0	0

Percentages Charged	
Prime	30.34% of 5504.20 km (Sail Line)

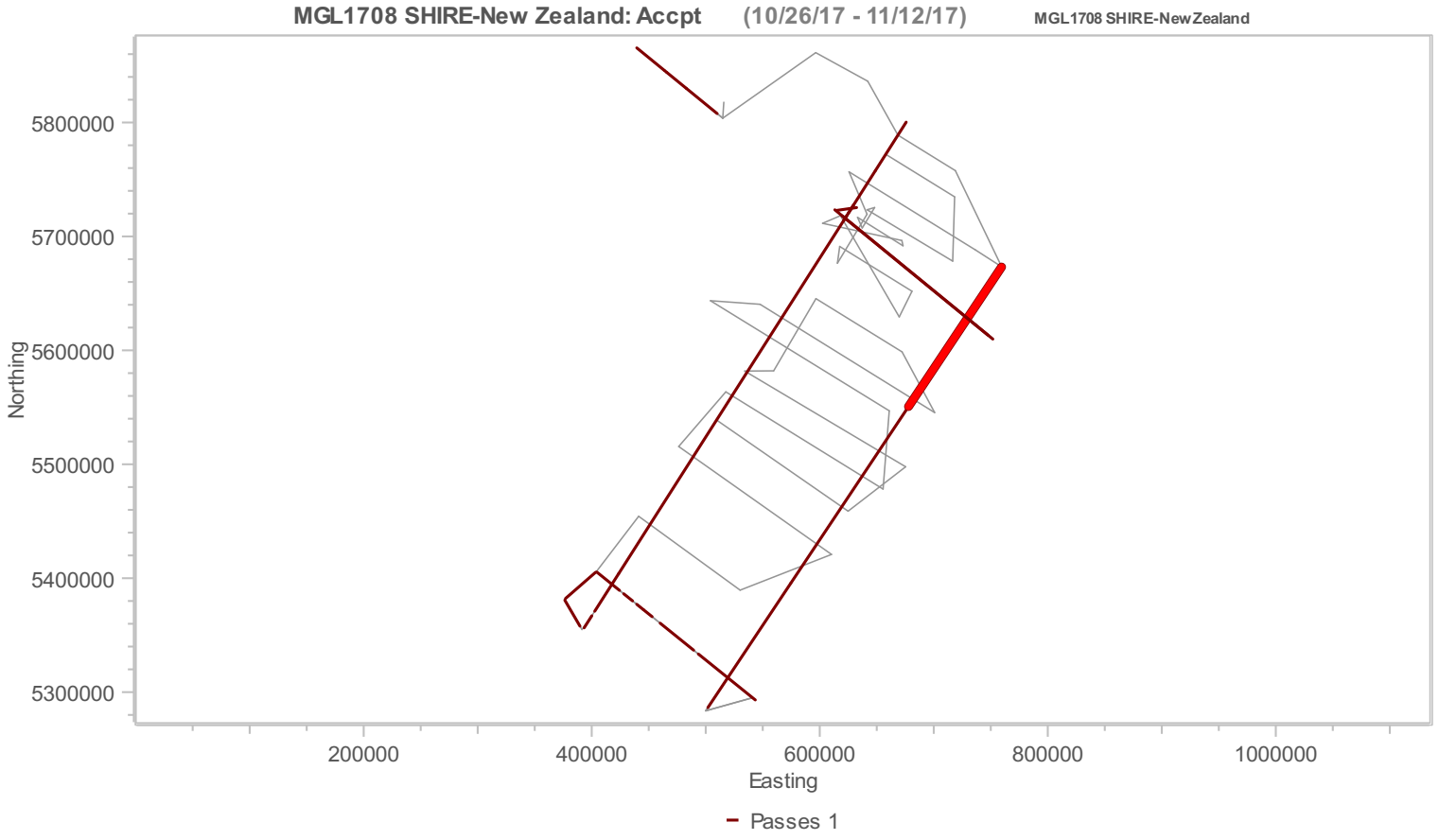
Average Daily Production	
Average Accepted Daily Production	139.15 km
Average Charged Daily Production	139.15 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Sun 12 Nov	Marcus G Langseth	10	147.20
Total Production:			**147.20**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	147.20	1110.80	1669.80	1669.80
Infill	0.00	0.00	0.00	0.00
Combined	**147.20**	**1110.80**	**1669.80**	**1669.80**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Mon 13 Nov

The Vessel started the day continuing continuing re-deployment of the streamer. At 07:03 UTC the vessel had all towed equipment re-deployed an begin ramp up of the Source. At 07:30 UTC production on Line MBL1708MC40 heading to the SW. The vessel remained on-line the remainder of the day without any issues.

Near the beginning of LIne MGL1708MC40 the SEAL408 Recording system was having some issues recording data the external drives. They system was reset and Due to the quick actions of the Watch Standers the system brought back resulting in the loose of only 81 shot points.

Daily Comment Summaries - Plan for Tomorrow

Mon 13 Nov

The Vessel will start the day continuing production on Line MBL1708MC40 (line40) heading to the SW and expected to remain in that mode throughout the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Weather	SB_WX	Mon 13. Nov 00:00	Mon 13. Nov 04:44	4.733
Re-Deploying Streamer after weather had passed.				
Weather	SB_WX	Mon 13. Nov 04:44	Mon 13. Nov 07:03	2.317
Deployment of Source - PAM & Maggie				
Cetacean	SB_CT	Mon 13. Nov 07:03	Mon 13. Nov 07:23	0.333
Ramp up of source				
Source	DT_SC	Mon 13. Nov 07:23	Mon 13. Nov 07:30	0.117
Re-positioning of Sub-Array #3 after soft tow point repair.				
Production Prime	AC_PP	Mon 13. Nov 07:30	Mon 13. Nov 08:00	0.500
SOL Seq 11 Line:MGL1708MC40 Preplot:Line40 FGSP=1192 FCSP=1192 Hdg=213.7° Prime EOL Seq 11 Line:MGL1708MC40 Preplot:Line40 LGSP=1279 LCSP=1279 Incomplete				
Recording	DT_RC	Mon 13. Nov 08:00	Mon 13. Nov 08:27	0.450
NTBP Seq 11 FSP=1280 LSP=1359 SEAL recording system lockup and reset				
Production Prime	AC_PP	Mon 13. Nov 08:27	Mon 13. Nov 24:00	15.550
SOL Seq 11 Line:MGL1708MC40 Preplot:Line40 FGSP=1360 FCSP=1360 Hdg=213.7° Prime MSP Seq 11 Line:MGL1708MC40 Preplot:Line40 LGSP=4025 LCSP=4025 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

13-Nov	Hours	% Percent
Acquisition	**16.050**	**66.875**
Production Prime	16.050	66.875
Chargeable Standby	**7.383**	**30.764**
Cetacean	0.333	1.389
Weather	7.050	29.375

13-Nov	Hours	% Percent
DownTime	**0.567**	**2.361**
Recording	0.450	1.875
Source	0.117	0.486
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**11.867**	**3.090**
Cetacean	4.767	1.241
Recording	0.617	0.161
Source	0.233	0.061
Streamers	1.167	0.304
Vessel	5.083	1.324
Chargeable Standby	**54.517**	**14.197**
Cetacean	0.683	0.178
Field Operations	3.717	0.968
Reconfiguration	4.367	1.137
Streamer Reconfig	4.367	1.137
Transit	23.217	6.046
Weather	22.533	5.868
Mobilisation	**90.633**	**23.602**
Deployment	17.483	4.553
Mob Ashore	60.583	15.777
Transit to Prospect	12.567	3.273
Acquisition	**226.983**	**59.110**
Prime Line Change	4.183	1.089
Production Prime	222.800	58.021
Total	384.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 13 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
At the Beginning of Line MGL1708MC40 (Line40) SeisNET locked up. Followed very shortly by the SEAL408 Recording system. I took some time and a number of re-boots to get the system communicating correctly and the line going.

Towing and Handling (Source):
Sub-Array #1 Airleak from the previous day was traced to a crack in the Elements S1G10's fire chamber.

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Mon 13 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

PSO Staff On-board the Langseth
Amanda Dubuque RPS Lead PSO
Sara Davis RPS PAM operator / PSO
Luis Gonclaves RPS PSO
James Wills RPS PSO
Mary Jane Waru RPS PSO

Science Party On-board the Langseth
Dr. Nathan Bangs UTIG Chief Scientist
Adrien Arnulf UTIG Scientist
Steffen Saustrup UTIG Technician
Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

32%

Prime Lines Completed

17%

Preplot Lines	Complete	Incomplete	Pending
58	10	0	0

Percentages Charged	
Prime	32.39% of 5579.65 km (Sail Line)

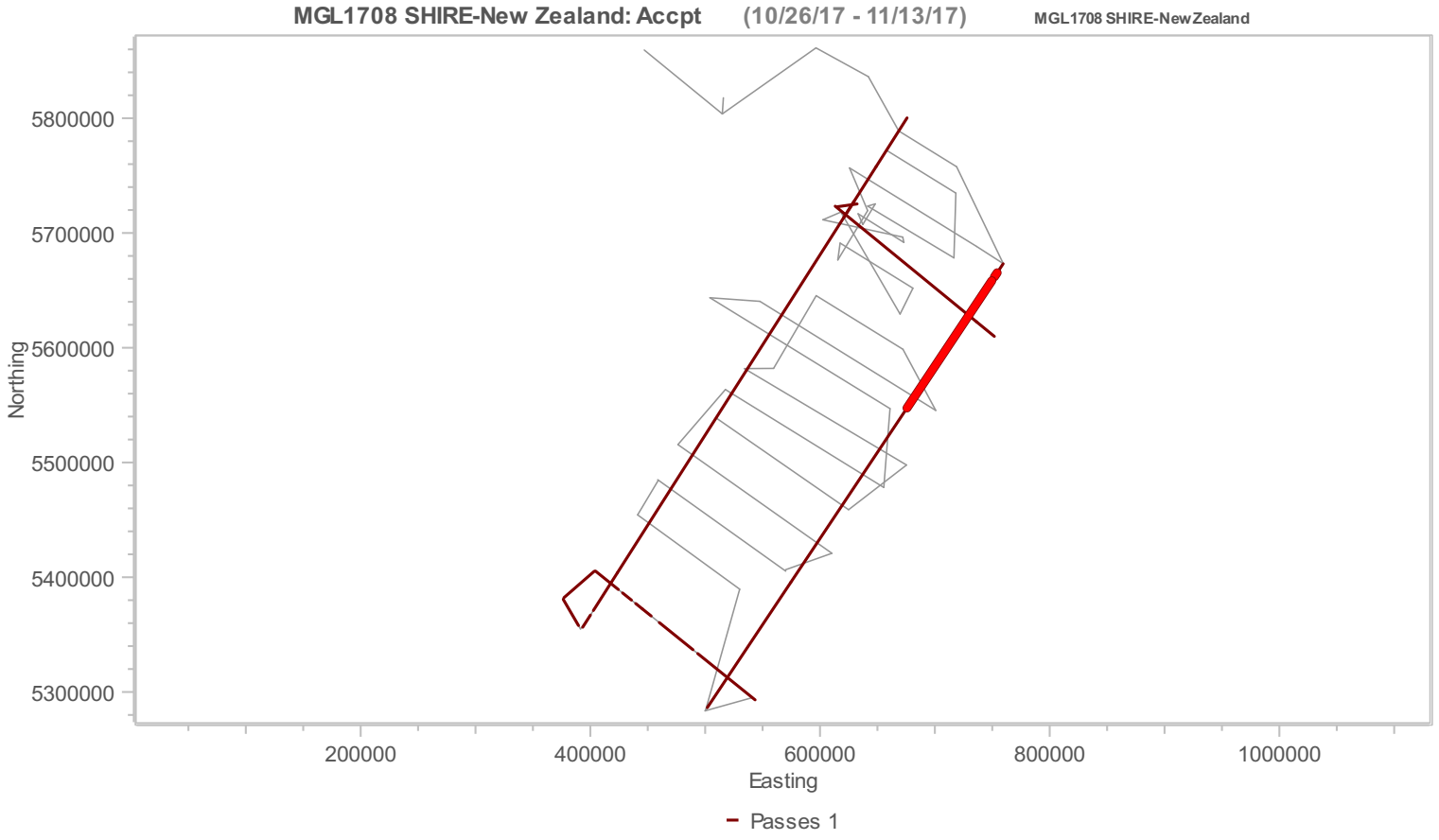
Average Daily Production	
Average Accepted Daily Production	139.03 km
Average Charged Daily Production	139.03 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Mon 13 Nov	Marcus G Langseth	11	137.65
Total Production:			**137.65**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	137.65	137.65	1807.45	1807.45
Infill	0.00	0.00	0.00	0.00
Combined	**137.65**	**137.65**	**1807.45**	**1807.45**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Tue 14 Nov

The Vessel started the day continuing continuing production on line MBL1708MC40 heading to the SW. The vessel remained on-line the remainder of the day without any issues.

Daily Comment Summaries - Plan for Tomorrow

Tue 14 Nov

The Vessel will start the day continuing production on Line MBL1708MC40 (line40) heading to the SW and expected to complete the line at ~13:25 UTC. The vessel will make a turn to the Stbd an acquire data on Line MGL1708MC41 to the North while heading back to MGL1708MC44.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Tue 14. Nov 00:00	Tue 14. Nov 24:00	24.000
SOL Seq 11 Line:MGL1708MC40 Preplot:Line40 FGSP=4026 FCSP=4026 Hdg=213.7° Prime MSP Seq 11 Line:MGL1708MC40 Preplot:Line40 LGSP=8077 LCSP=8077 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

14-Nov	Hours	% Percent
Acquisition	**24.000**	**100.000**
Production Prime	24.000	100.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**11.867**	**2.908**
Cetacean	4.767	1.168
Recording	0.617	0.151
Source	0.233	0.057
Streamers	1.167	0.286
Vessel	5.083	1.246
Chargeable Standby	**54.517**	**13.362**
Cetacean	0.683	0.167
Field Operations	3.717	0.911
Reconfiguration	4.367	1.070
Streamer Reconfig	4.367	1.070
Transit	23.217	5.690
Weather	22.533	5.523
Mobilisation	**90.633**	**22.214**
Deployment	17.483	4.285
Mob Ashore	60.583	14.849

Category	Hours	% Percent
Transit to Prospect	12.567	3.080
Acquisition	**250.983**	**61.516**
Prime Line Change	4.183	1.025
Production Prime	246.800	60.490
Total	408.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 14 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational. PosNet rGPS pod on Sub-Array number 2 was intermittent.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Tue 14 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
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Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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James Wills RPS PSO
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Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

36%

Prime Lines Completed

17%

Preplot Lines	Complete	Incomplete	Pending
58	10	0	0

Percentages Charged	
Prime	36.02% of 5579.65 km (Sail Line)

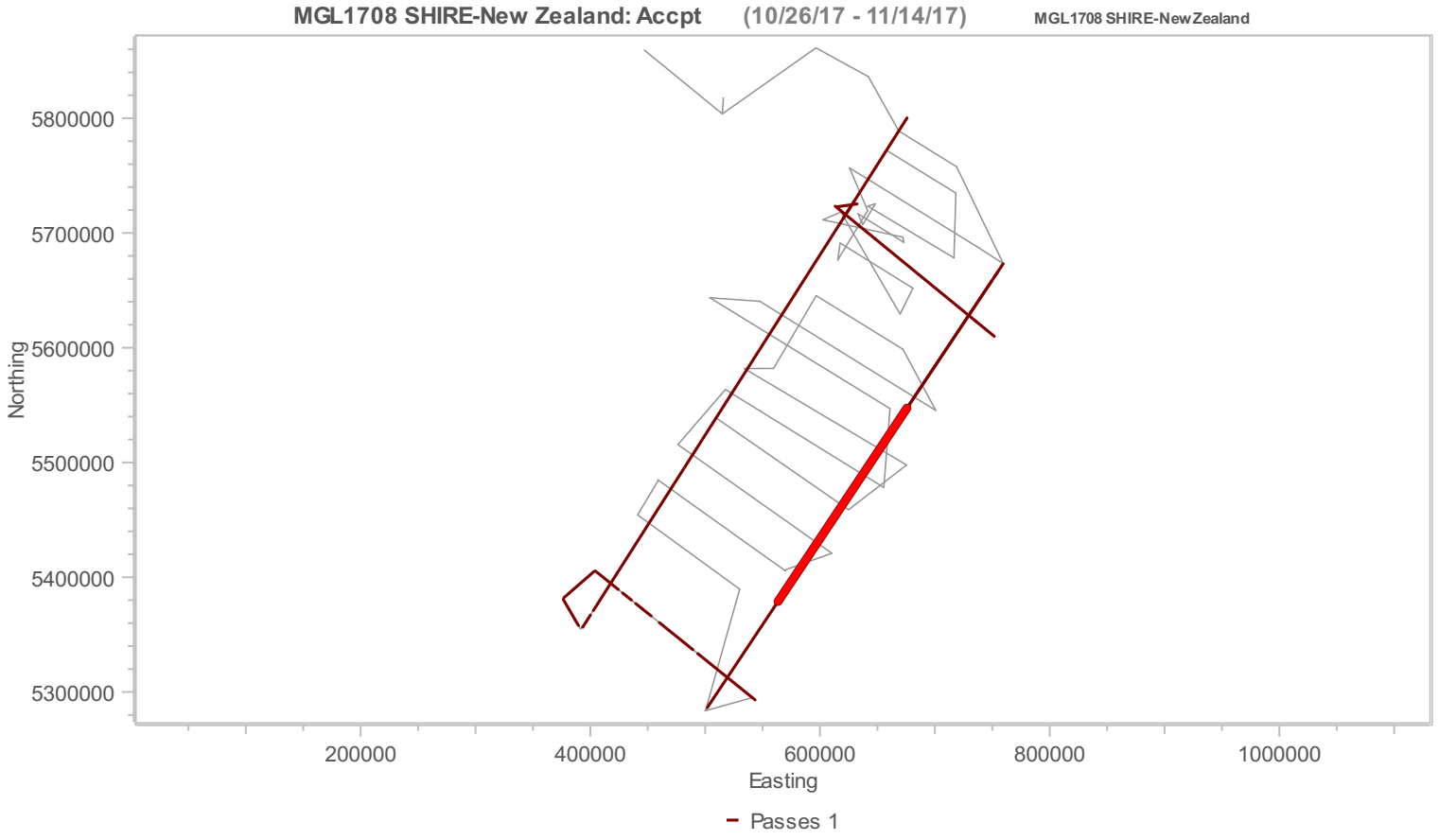
Average Daily Production	
Average Accepted Daily Production	143.58 km
Average Charged Daily Production	143.58 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Tue 14 Nov	Marcus G Langseth	11	202.60
Total Production:			**202.60**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	202.60	340.25	2010.05	2010.05
Infill	0.00	0.00	0.00	0.00
Combined	**202.60**	**340.25**	**2010.05**	**2010.05**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Wed 15 Nov

The Vessel started the day continuing continuing production on line MGL1708MC40 heading to the SW. At 13:13 UTC LIne MGL1708MC40 was completed an the vessel made a line change to MGL1708MC41 Heading NNE and remained on this line throughout the rest of the day. During the Line Change between MC40 and MC41 Sub-Array #3 was recovered to do maintenance and to attempt to get the rGPS Pod operational.

Daily Comment Summaries - Plan for Tomorrow

Wed 15 Nov

The Vessel will start the day continuing production on Line MBL1708MC41 (line41) heading to the NNE and expected to complete the line at ~05:15 UTC. The vessel will make a turn to the Port an acquire data on Line MGL1708MC44 to the NW. At ~19:00 UTC the vessel turn to the NE and acquire data line MGL1708MC43. At ~23:45 UTC the vessel will make yet another line change to Line MGL1708MC42 to the SE. It is expected that the vessel will remain in production on this line throughout the rest of the day and the majority of the following day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Wed 15. Nov 00:00	Wed 15. Nov 13:13	13.217
SOL Seq 11 Line:MGL1708MC40 Preplot:Line40 FGSP=8078 FCSP=8078 Hdg=213.7° Prime EOL Seq 11 Line:MGL1708MC40 Preplot:Line40 LGSP=10348 LCSP=10348 Complete				
Prime Line Change	AC_PLC	Wed 15. Nov 13:13	Wed 15. Nov 14:39	1.433
Nominal Prime line change.				
Production Prime	AC_PP	Wed 15. Nov 14:39	Wed 15. Nov 17:43	3.067
SOL Seq 12 Line:MGL1708MC41 Preplot:Line17 FGSP=-2005 FCSP=-2005 Hdg=15.7° Prime EOL Seq 12 Line:MGL1708MC41 Preplot:Line17 LGSP=-1525 LCSP=-1525 Incomplete				
Cetacean	DT_CT	Wed 15. Nov 17:43	Wed 15. Nov 18:22	0.650
NTBP Seq 12 FSP=-1524 LSP=-1431				
Production Prime	AC_PP	Wed 15. Nov 18:22	Wed 15. Nov 21:15	2.883
SOL Seq 12 Line:MGL1708MC41 Preplot:Line17 FGSP=-1430 FCSP=-1430 Hdg=15.7° Prime EOL Seq 12 Line:MGL1708MC41 Preplot:Line17 LGSP=-1032 LCSP=-1032 Incomplete				
Cetacean	DT_CT	Wed 15. Nov 21:15	Wed 15. Nov 21:39	0.400
NTBP Seq 12 FSP=-1031 LSP=-929				
Source	DT_SC	Wed 15. Nov 21:39	Wed 15. Nov 22:01	0.367
Ramp up restarted after Source Controller error.				
Production Prime	AC_PP	Wed 15. Nov 22:01	Wed 15. Nov 24:00	1.983
SOL Seq 12 Line:MGL1708MC41 Preplot:Line17 FGSP=-928 FCSP=-928 Hdg=15.7° Prime MSP Seq 12 Line:MGL1708MC41 Preplot:Line17 LGSP=-652 LCSP=-652 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

15-Nov	Hours	% Percent
Acquisition	**22.583**	**94.097**
Prime Line Change	1.433	5.972
Production Prime	21.150	88.125
DownTime	**1.417**	**5.903**
Cetacean	1.050	4.375
Source	0.367	1.528
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**13.967**	**3.233**
Cetacean	6.500	1.505
Recording	0.617	0.143
Source	0.600	0.139
Streamers	1.167	0.270
Vessel	5.083	1.177
Mobilisation	**95.000**	**21.991**
Deployment	21.850	5.058
Mob Ashore	60.583	14.024
Transit to Prospect	12.567	2.909
Chargeable Standby	**49.467**	**11.451**
Field Operations	3.717	0.860
Transit	23.217	5.374
Weather	22.533	5.216
Acquisition	**273.567**	**63.326**
Prime Line Change	5.617	1.300
Production Prime	267.950	62.025
Total	432.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 15 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Wed 15 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
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Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged 39%

Prime Lines Completed 19%

Preplot Lines	Complete	Incomplete	Pending
58	11	0	0

Percentages Charged	
Prime	39.10% of 5579.65 km (Sail Line)

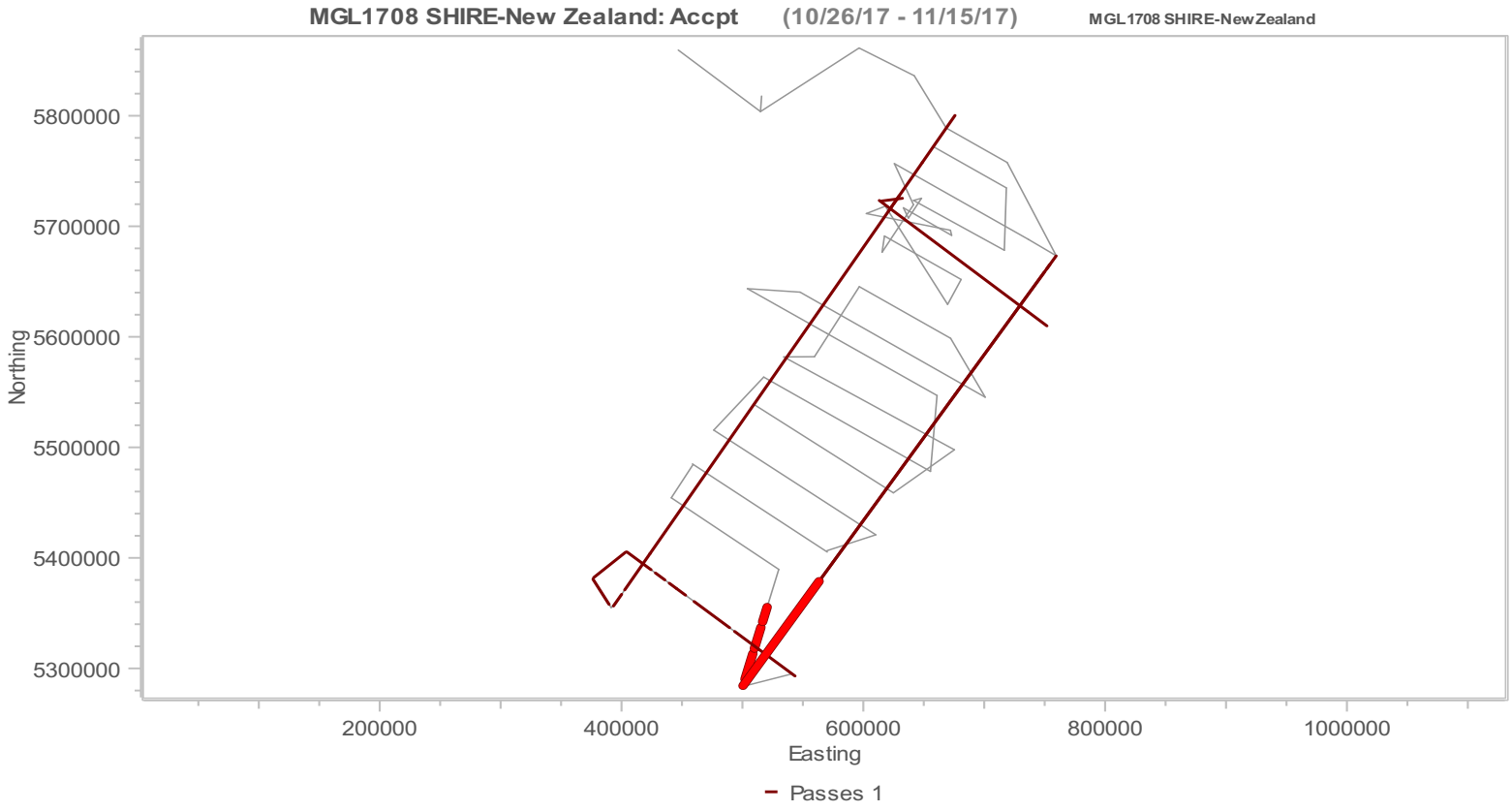
Average Daily Production	
Average Accepted Daily Production	145.43 km
Average Charged Daily Production	145.43 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Wed 15 Nov	Marcus G Langseth	11 - 12	171.35
Total Production:			**171.35**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	171.35	511.60	2181.40	2181.40
Infill	0.00	0.00	0.00	0.00
Combined	**171.35**	**511.60**	**2181.40**	**2181.40**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Thu 16 Nov

The Vessel started the day continuing production on Line MBL1708MC41 (line41) heading to the NNE and completed the line at 04:20 UTC. The vessel made a short line change an acquired MGL1708MC44 to the NW from 05:28 UTC to 20:41 UTC. At that time the vessel turn to the NE and started acquire data line MGL1708MC43 at 20:57 UTC. It remained on Line MGL1708MC43 throughout the rest of the day.

Daily Comment Summaries - Plan for Tomorrow

Thu 16 Nov

The Vessel will start the day continuing production on Line MBL1708MC43 heading to the NE and expected to complete the line at 00:35 UTC. The vessel will make a turn to the Stbd an acquire data on Line MGL1708MC42 to the SE. At ~19:00 UTC the vessel turn to the NE and acquire data line MGL1708MC43. At ~21:00 UTC the vessel will make yet another line change to Line MGL1708MC42 to the NE. It is expected that the vessel will remain in production on this line throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Thu 16. Nov 00:00	Thu 16. Nov 04:20	4.333
SOL Seq 12 Line:MGL1708MC41 Preplot:Line17 FGSP=-651 FCSP=-651 Hdg=15.7° Prime EOL Seq 12 Line:MGL1708MC41 Preplot:Line17 LGSP=-51 LCSP=-51 Complete				
Prime Line Change	AC_PLC	Thu 16. Nov 04:20	Thu 16. Nov 05:28	1.133
Nominal Prime line change.				
Production Prime	AC_PP	Thu 16. Nov 05:28	Thu 16. Nov 20:41	15.217
SOL Seq 13 Line:MGL1708MC44 Preplot:Line44 FGSP=3320 FCSP=3320 Hdg=306.1° Prime EOL Seq 13 Line:MGL1708MC44 Preplot:Line44 LGSP=905 LCSP=905 Complete				
Production Infill	AC_PI	Thu 16. Nov 20:41	Thu 16. Nov 20:57	0.267
Production Prime	AC_PP	Thu 16. Nov 20:57	Thu 16. Nov 24:00	3.050
SOL Seq 14 Line:MGL1708MC43 Preplot:Line43 FGSP=2181 FCSP=2181 Hdg=30.9° Prime MSP Seq 14 Line:MGL1708MC43 Preplot:Line43 LGSP=1658 LCSP=1658 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

16-Nov	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	1.133	4.722
Production Infill	0.267	1.111
Production Prime	22.600	94.167
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**13.967**	**3.063**
Cetacean	6.500	1.425
Recording	0.617	0.135
Source	0.600	0.132
Streamers	1.167	0.256
Vessel	5.083	1.115
Mobilisation	**95.000**	**20.833**
Deployment	21.850	4.792
Mob Ashore	60.583	13.286
Transit to Prospect	12.567	2.756
Chargeable Standby	**49.467**	**10.848**
Field Operations	3.717	0.815
Transit	23.217	5.091
Weather	22.533	4.942
Acquisition	**297.567**	**65.256**
Prime Line Change	6.750	1.480
Production Infill	0.267	0.058
Production Prime	290.550	63.717
Total	456.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 16 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Thu 16 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
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Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

43%

Prime Lines Completed

22%

Preplot Lines	Complete	Incomplete	Pending
58	13	0	0

Percentages Charged	
Prime	43.25% of 5452.80 km (Sail Line)

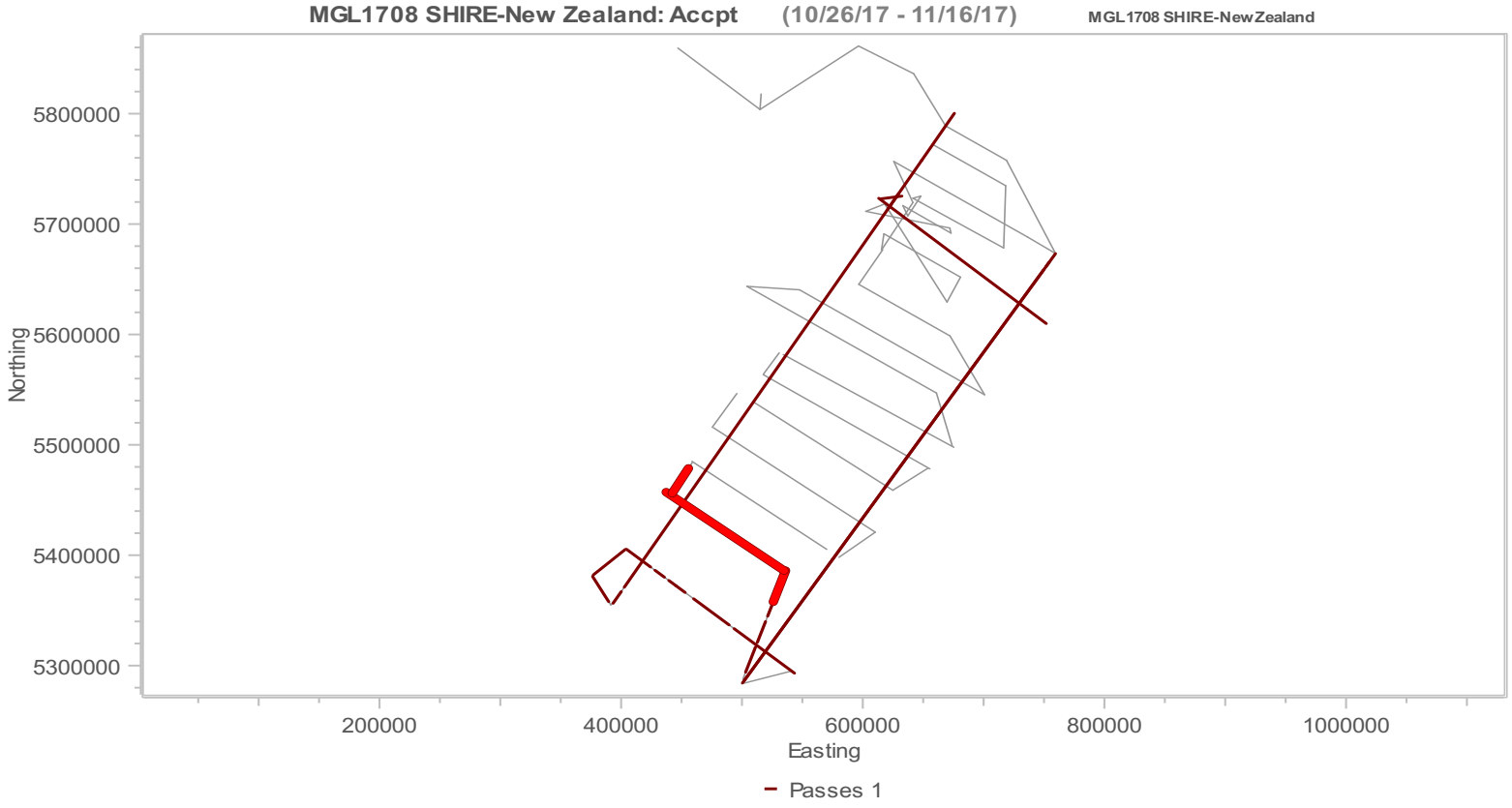
Average Daily Production	
Average Accepted Daily Production	147.40 km
Average Charged Daily Production	147.40 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Thu 16 Nov	Marcus G Langseth	12 - 14	176.95
Total Production:			**176.95**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	176.95	688.55	2358.35	2358.35
Infill	0.00	0.00	0.00	0.00
Combined	**176.95**	**688.55**	**2358.35**	**2358.35**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Fri 17 Nov

The vessel started the day in production on Line MGL1708MC43 (Line43) heading to the NE. At 00:45 UTC this line was completed and the vessel made a line change to MGL1708MC44 which started at 01:23 UTC. Line MGL1708MC44 continued until 19:50 UTC, at which time the vessel made another line change to Line MGL1708MC45. This started at 20:02 UTC and continued throughout the rest of the day.

Daily Comment Summaries - Plan for Tomorrow

Fri 17 Nov

The Vessel will start the day continuing production on Line MBL1708MC45 heading to the NE and expected to complete the line at 00:18 UTC. The vessel will make a turn to the Port an acquire data on Line MGL1708MC46 to the NW. At ~22:00 UTC the vessel turn to the NE and acquire data line MGL1708MC47 and is expected to remain in production on this line throughout the rest of the day.

There was one power down and ensuing ramp-up near the end of MGL1708MC46 for a PSO sighting in the 500m EZ.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Fri 17. Nov 00:00	Fri 17. Nov 00:45	0.750
SOL Seq 14 Line:MGL1708MC43 Preplot:Line43 FGSP=1657 FCSP=1657 Hdg=30.9° Prime EOL Seq 14 Line:MGL1708MC43 Preplot:Line43 LGSP=1530 LCSP=1530 Complete				
Prime Line Change	AC_PLC	Fri 17. Nov 00:45	Fri 17. Nov 01:23	0.633
Nominal Prime line change.				
Production Prime	AC_PP	Fri 17. Nov 01:23	Fri 17. Nov 18:03	16.667
SOL Seq 15 Line:Line42 FGSP=4015 FCSP=4015 Hdg=125.6° Prime EOL Seq 15 Line:Line42 LGSP=1215 LCSP=1215 Incomplete				
Cetacean	DT_CT	Fri 17. Nov 18:03	Fri 17. Nov 18:39	0.600
NTBP Seq 15 Line42 FSP=1214 LSP=1117 Power Down and Ramp-up for PSO Sighting (SEAL)				
Production Prime	AC_PP	Fri 17. Nov 18:39	Fri 17. Nov 19:50	1.183
SOL Seq 15 Line:Line42 FGSP=1116 FCSP=1116 Hdg=125.6° Prime EOL Seq 15 Line:Line42 LGSP=919 LCSP=919 Complete				
Prime Line Change	AC_PLC	Fri 17. Nov 19:50	Fri 17. Nov 20:02	0.200
Nominal Prime line change.				
Production Prime	AC_PP	Fri 17. Nov 20:02	Fri 17. Nov 24:00	3.967
SOL Seq 16 Line:Line45 FGSP=2000 FCSP=2000 Hdg=52.8° Prime MSP Seq 16 Line:Line45 LGSP=2627 LCSP=2627 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

17-Nov	Hours	% Percent
Acquisition	**23.400**	**97.500**
Prime Line Change	0.833	3.472
Production Prime	22.567	94.028
DownTime	**0.600**	**2.500**
Cetacean	0.600	2.500
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**14.567**	**3.035**
Cetacean	7.100	1.479
Recording	0.617	0.128
Source	0.600	0.125
Streamers	1.167	0.243
Vessel	5.083	1.059
Mobilisation	**95.000**	**19.792**
Deployment	21.850	4.552
Mob Ashore	60.583	12.622
Transit to Prospect	12.567	2.618
Chargeable Standby	**49.467**	**10.306**
Field Operations	3.717	0.774
Transit	23.217	4.837
Weather	22.533	4.694
Acquisition	**320.967**	**66.868**
Prime Line Change	7.583	1.580
Production Infill	0.267	0.056
Production Prime	313.117	65.233
Total	480.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 17 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Fri 17 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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Amanda Dubuque RPS Lead PSO
Sara Davis RPS PAM operator / PSO
Luis Gonclaves RPS PSO
James Wills RPS PSO
Mary Jane Waru RPS PSO

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Adrien Arnulf UTIG Scientist
Steffen Saustrup UTIG Technician
Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged 47%

Prime Lines Completed 26%

Preplot Lines	Complete	Incomplete	Pending
58	15	1	0

Percentages Charged	
Prime	46.69% of 5452.80 km (Sail Line)

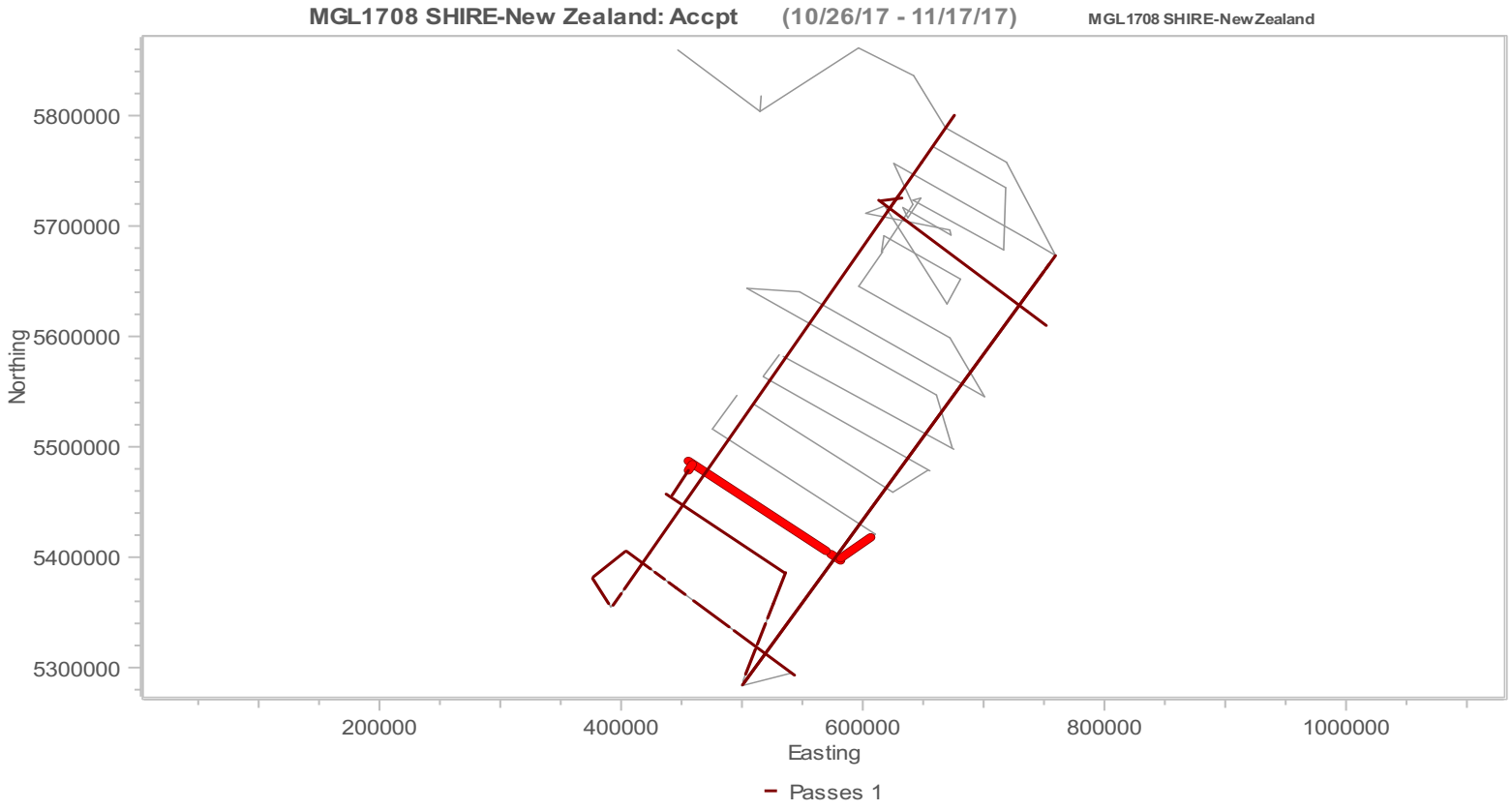
Average Daily Production	
Average Accepted Daily Production	149.76 km
Average Charged Daily Production	149.76 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Fri 17 Nov	Marcus G Langseth	14 - 16	187.65
Total Production:			**187.65**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	187.65	876.20	2546.00	2546.00
Infill	0.00	0.00	0.00	0.00
Combined	**187.65**	**876.20**	**2546.00**	**2546.00**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sat 18 Nov

The Vessel started the day continuing production on Line MBL1708MC45 heading to the NE which it completed 00:18 UTC. The vessel Port an acquire data on Line MGL1708MC46 to the NW 01:32 UTC to 20:08 UTC. The vessel then made another line change and started acquiring data line MGL1708MC47 at 20:24 UTC and remain in production on this line throughout the rest of the day.

There was one power down and ensuing ramp-up near the end of MGL1708MC46 for a PSO sighting in the 500m EZ During Line MGL1708MC47 - Sub-Array #2 was recovered to make repairs to the rGPS pod which had come loose, as well as preform preventive maintenance on the string. .

Daily Comment Summaries - Plan for Tomorrow

Sat 18 Nov

The Vessel will start the day continuing production on Line MBL1708MC47 heading to the NE and expected to complete the line at 04:30 UTC. The vessel will make a turn to the Stbd an acquire data on Line MGL1708MC60 to the SE throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sat 18. Nov 00:00	Sat 18. Nov 00:18	0.300
SOL Seq 16 Line:Line45 FGSP=2628 FCSP=2628 Hdg=52.8° Prime EOL Seq 16 Line:Line45 LGSP=2674 LCSP=2674 Complete				
Prime Line Change	AC_PLC	Sat 18. Nov 00:18	Sat 18. Nov 01:32	1.233
Nominal Prime line change.				
Production Prime	AC_PP	Sat 18. Nov 01:32	Sat 18. Nov 06:44	5.200
SOL Seq 17 Line:MGL1708MC46 Preplot:Line46 FGSP=1202 FCSP=1202 Hdg=305.2° Prime EOL Seq 17 Line:MGL1708MC46 Preplot:Line46 LGSP=2085 LCSP=2085 Incomplete				
Cetacean	DT_CT	Sat 18. Nov 06:44	Sat 18. Nov 07:25	0.683
NTBP Seq 17 FSP=2086 LSP=2199 Powered Down for PSO Sighting				
Production Prime	AC_PP	Sat 18. Nov 07:25	Sat 18. Nov 20:08	12.717
SOL Seq 17 Line:MGL1708MC46 Preplot:Line46 FGSP=2200 FCSP=2200 Hdg=305.2° Prime EOL Seq 17 Line:MGL1708MC46 Preplot:Line46 LGSP=4259 LCSP=4259 Complete				
Prime Line Change	AC_PLC	Sat 18. Nov 20:08	Sat 18. Nov 20:24	0.267
Nominal Prime line change.				
Production Prime	AC_PP	Sat 18. Nov 20:24	Sat 18. Nov 24:00	3.600
SOL Seq 18 Line:MGL1708MC47 Preplot:Line47 FGSP=1040 FCSP=1040 Hdg=33.7° Prime MSP Seq 18 Line:MGL1708MC47 Preplot:Line47 LGSP=1599 LCSP=1599 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

18-Nov	Hours	% Percent
Acquisition	**23.317**	**97.153**
Prime Line Change	1.500	6.250
Production Prime	21.817	90.903
DownTime	**0.683**	**2.847**
Cetacean	0.683	2.847
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**15.250**	**3.026**
Cetacean	7.783	1.544
Recording	0.617	0.122
Source	0.600	0.119
Streamers	1.167	0.231
Vessel	5.083	1.009
Mobilisation	**95.000**	**18.849**
Deployment	21.850	4.335
Mob Ashore	60.583	12.021
Transit to Prospect	12.567	2.493
Chargeable Standby	**49.467**	**9.815**
Field Operations	3.717	0.737
Transit	23.217	4.606
Weather	22.533	4.471
Acquisition	**344.283**	**68.310**
Prime Line Change	9.083	1.802
Production Infill	0.267	0.053
Production Prime	334.933	66.455
Total	504.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 18 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

PosNet rGPS pod on Sub-Array 2 bracket broke and the string was recovered to make repairs.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Sat 18 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

50%

Prime Lines Completed

29%

Preplot Lines	Complete	Incomplete	Pending
58	17	0	0

Percentages Charged	
Prime	49.95% of 5452.80 km (Sail Line)

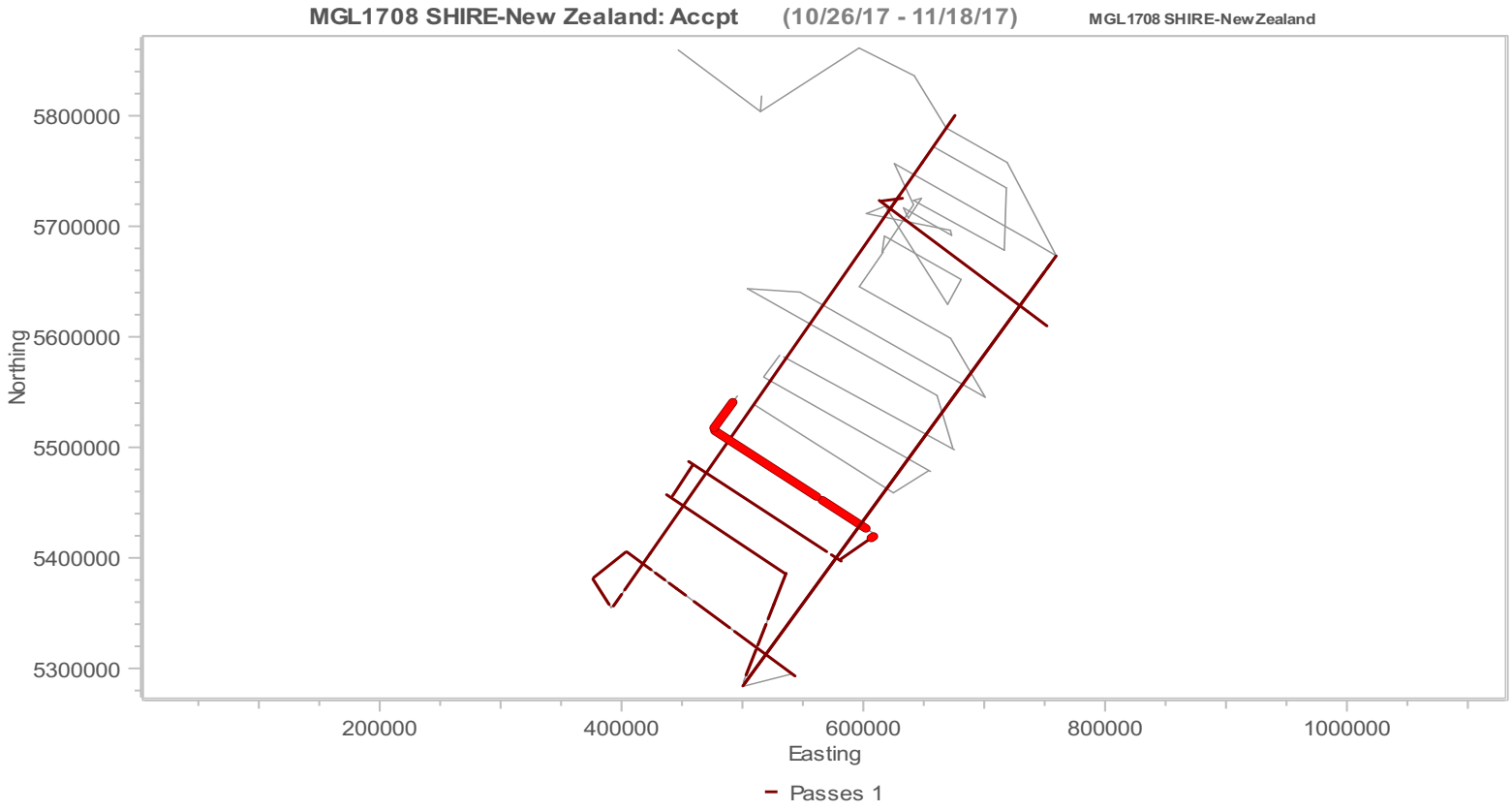
Average Daily Production	
Average Accepted Daily Production	151.30 km
Average Charged Daily Production	151.30 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Sat 18 Nov	Marcus G Langseth	16 - 18	177.45
Total Production:			**177.45**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	177.45	1053.65	2723.45	2723.45
Infill	0.00	0.00	0.00	0.00
Combined	**177.45**	**1053.65**	**2723.45**	**2723.45**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sun 19 Nov

The Vessel started the day continuing production on Line MBL1708MC47 heading to the NE which it completed 00:50 UTC. The vessel made a Stbd Turn an acquire data on Line MGL1708MC60 to the SE from 02:03 UTC to 22:23 UTC. The vessel then made another line change and started acquiring data line MGL1708MC59 at 23:35 UTC and remain in production on this line throughout the rest of the day.

During Line MGL1708MC59 Sub-Arrays 1 & 2 were picked up for preventive maintenance. Once Re-Deployed Sub-Arrays 3 & 4 were recovered and maintenance preformed on them as well.

Daily Comment Summaries - Plan for Tomorrow

Sun 19 Nov

The Vessel will start the day continuing production on Line MBL1708MC49 heading to the NE and expected to complete the line at 03:00 UTC. The vessel will make a turn to the Port an acquire data on Line MGL1708MC48 to the NW throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sun 19. Nov 00:00	Sun 19. Nov 00:50	0.833
SOL Seq 18 Line:MGL1708MC47 Preplot:Line47 FGSP=1600 FCSP=1600 Hdg=33.7° Prime EOL Seq 18 Line:MGL1708MC47 Preplot:Line47 LGSP=1731 LCSP=1731 Complete				
Prime Line Change	AC_PLC	Sun 19. Nov 00:50	Sun 19. Nov 02:03	1.217
Nominal Prime line change.				
Production Prime	AC_PP	Sun 19. Nov 02:03	Sun 19. Nov 22:23	20.333
SOL Seq 19 Line:MGL1708MC60 Preplot:Line60 FGSP=3925 FCSP=3925 Hdg=124.7° Prime EOL Seq 19 Line:MGL1708MC60 Preplot:Line60 LGSP=744 LCSP=744 Complete				
Prime Line Change	AC_PLC	Sun 19. Nov 22:23	Sun 19. Nov 23:35	1.200
Nominal Prime line change.				
Production Prime	AC_PP	Sun 19. Nov 23:35	Sun 19. Nov 24:00	0.417
SOL Seq 20 Line:Line59 FGSP=2129 FCSP=2129 Hdg=55.5° Prime MSP Seq 20 Line:Line59 LGSP=2070 LCSP=2070 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

19-Nov	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	2.417	10.069
Production Prime	21.583	89.931
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**15.250**	**2.888**
Cetacean	7.783	1.474
Recording	0.617	0.117
Source	0.600	0.114
Streamers	1.167	0.221
Vessel	5.083	0.963
Mobilisation	**95.000**	**17.992**
Deployment	21.850	4.138
Mob Ashore	60.583	11.474
Transit to Prospect	12.567	2.380
Chargeable Standby	**49.467**	**9.369**
Field Operations	3.717	0.704
Transit	23.217	4.397
Weather	22.533	4.268
Acquisition	**368.283**	**69.751**
Prime Line Change	11.500	2.178
Production Infill	0.267	0.051
Production Prime	356.517	67.522
Total	528.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 19 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

PosNet rGPS pod on Sub-Array 2 bracket broke and the string was recovered to make repairs.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Sun 19 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

53%

Prime Lines Completed

33%

Preplot Lines	Complete	Incomplete	Pending
58	19	0	0

Percentages Charged	
Prime	53.04% of 5452.80 km (Sail Line)

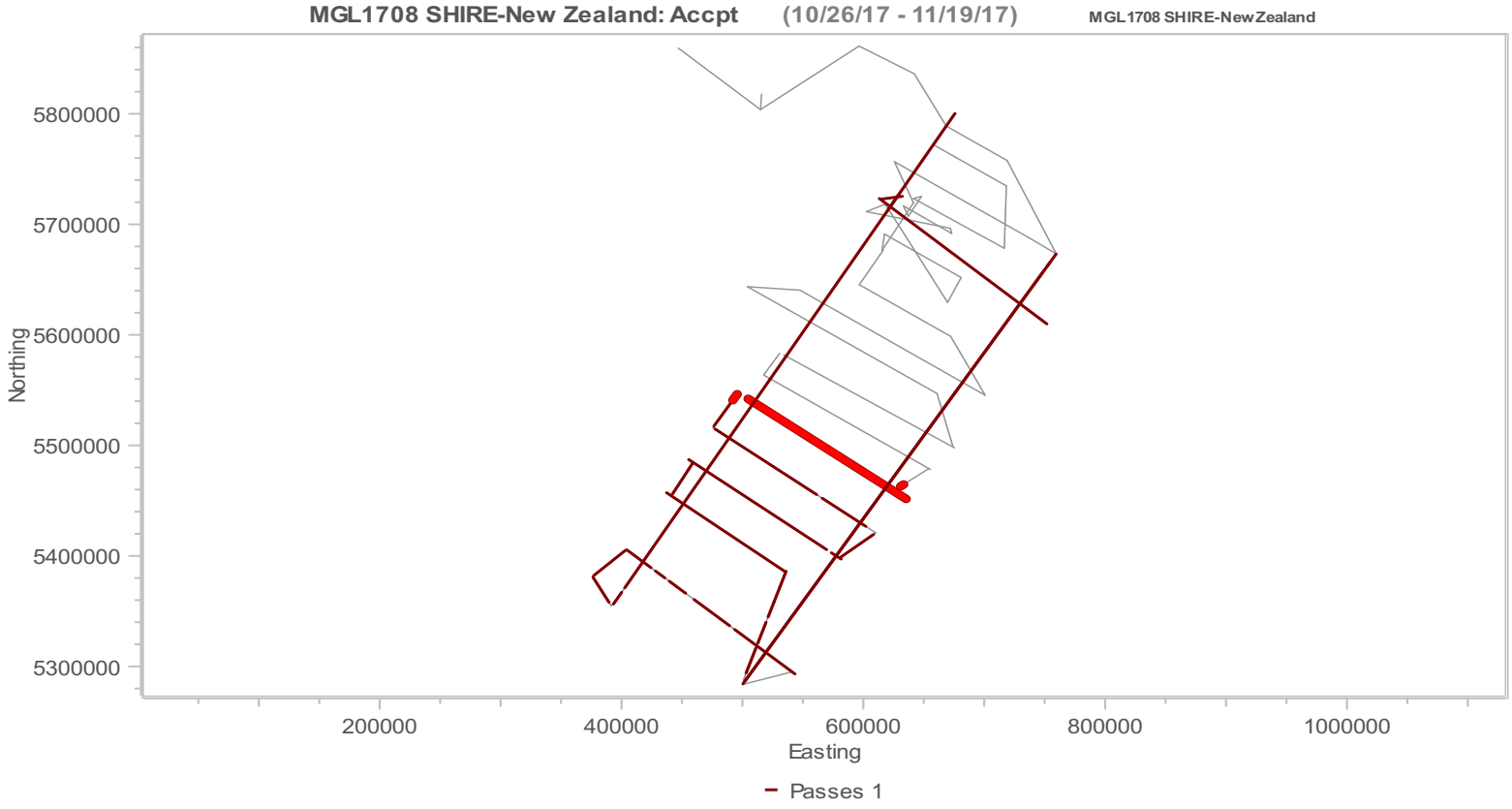
Average Daily Production	
Average Accepted Daily Production	152.21 km
Average Charged Daily Production	152.21 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Sun 19 Nov	Marcus G Langseth	18 - 20	168.60
Total Production:			**168.60**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	168.60	1222.25	2892.05	2892.05
Infill	0.00	0.00	0.00	0.00
Combined	**168.60**	**1222.25**	**2892.05**	**2892.05**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Mon 20 Nov

The Vessel started the day continuing production on Line MBL1708MC59 heading to the NE which was completed 02:51 UTC. The vessel made a Port Turn an acquire data on Line MGL1708MC48 to the NW from 02:03 UTC through the end of the day.

During Line MGL1708MC59 Sub-Arrays 1 & 2 were picked up for preventive maintenance. Once Re-Deployed Sub-Arrays 3 & 4 were recovered and maintenance preformed on them as well.

Daily Comment Summaries - Plan for Tomorrow

Mon 20 Nov

The Vessel will start the day continuing production on Line MBL1708MC48 heading to the NW and is expected to complete the line at 00:50 UTC. The vessel will make a turn to the Stbd an acquire data on Line MGL1708MC57 to the NE until about 03:50 UTC. At that time the vessel will make another Stbd turn towards the SE and acquire data on Line MGL1708MC58 throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Mon 20. Nov 00:00	Mon 20. Nov 02:51	2.850
SOL Seq 20 Line:Line59 FGSP=2069 FCSP=2069 Hdg=55.5° Prime EOL Seq 20 Line:Line59 LGSP=1633 LCSP=1633 Complete				
Prime Line Change	AC_PLC	Mon 20. Nov 02:51	Mon 20. Nov 03:59	1.133
Nominal Prime line change.				
Production Prime	AC_PP	Mon 20. Nov 03:59	Mon 20. Nov 05:29	1.500
SOL Seq 21 Line:MGL1708MC48 Preplot:Line48 FGSP=4046 FCSP=4046 Hdg=301.7° Prime EOL Seq 21 Line:MGL1708MC48 Preplot:Line48 LGSP=3790 LCSP=3790 Incomplete				
Cetacean	DT_CT	Mon 20. Nov 05:29	Mon 20. Nov 06:06	0.617
NTBP Seq 21 FSP=3789 LSP=3685 Power down and ensuing ramp-up for PSO Sighting inside the 500m EZ.				
Production Prime	AC_PP	Mon 20. Nov 06:06	Mon 20. Nov 24:00	17.900
SOL Seq 21 Line:MGL1708MC48 Preplot:Line48 FGSP=3684 FCSP=3684 Hdg=301.7° Prime MSP Seq 21 Line:MGL1708MC48 Preplot:Line48 LGSP=773 LCSP=773 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

20-Nov	Hours	% Percent
Acquisition	**23.383**	**97.431**
Prime Line Change	1.133	4.722
Production Prime	22.250	92.708
DownTime	**0.617**	**2.569**
Cetacean	0.617	2.569
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**15.867**	**2.874**
Cetacean	8.400	1.522
Recording	0.617	0.112
Source	0.600	0.109
Streamers	1.167	0.211
Vessel	5.083	0.921
Mobilisation	**95.000**	**17.210**
Deployment	21.850	3.958
Mob Ashore	60.583	10.975
Transit to Prospect	12.567	2.277
Chargeable Standby	**49.467**	**8.961**
Field Operations	3.717	0.673
Transit	23.217	4.206
Weather	22.533	4.082
Acquisition	**391.667**	**70.954**
Prime Line Change	12.633	2.289
Production Infill	0.267	0.048
Production Prime	378.767	68.617
Total	552.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 20 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Mon 20 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
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Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

54%

Prime Lines Completed

32%

Preplot Lines	Complete	Incomplete	Pending
62	20	0	0

Percentages Charged	
Prime	54.09% of 5680.30 km (Sail Line)

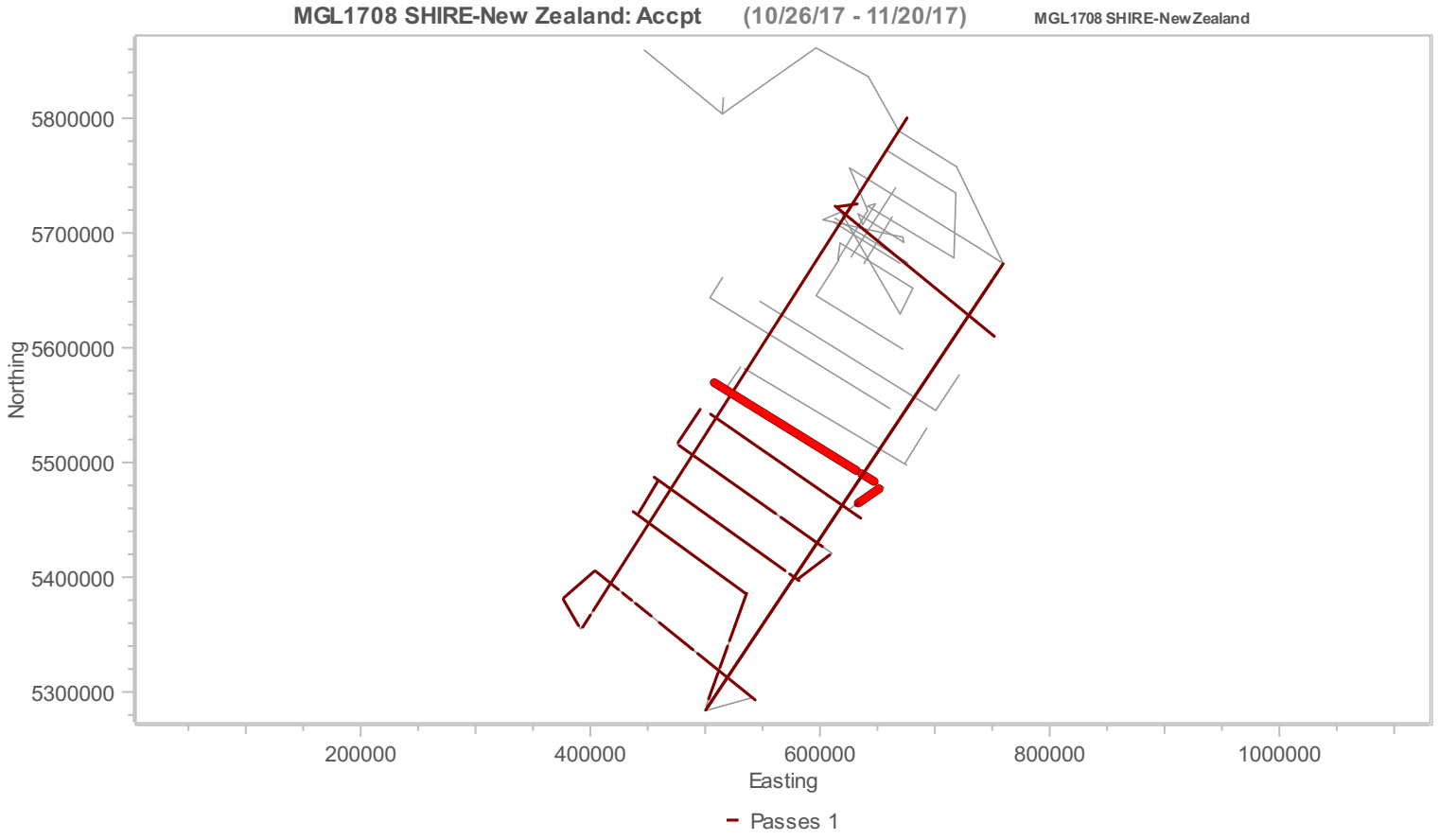
Average Daily Production	
Average Accepted Daily Production	153.61 km
Average Charged Daily Production	153.61 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Mon 20 Nov	Marcus G Langseth	20 - 21	180.25
Total Production:			**180.25**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	180.25	180.25	3072.30	3072.30
Infill	0.00	0.00	0.00	0.00
Combined	**180.25**	**180.25**	**3072.30**	**3072.30**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Tue 21 Nov

The Vessel started the day continuing production on Line MBL1708MC48 heading to the NW which was completed 00:54 UTC. The vessel made a Stbd Turn an acquire data on Line MGL1708MC57 to the NW from 01:36 UTC to 03:29 UTC. At that time the vessel made another Stbd Turn and headed to the SE. At 04:33 UTC began production on line MGL1708MC58 which continued throughout the rest of the day.

Near the beginning of Line MGL1708MC58 there was two power downs due to PSO Sighting.

Daily Comment Summaries - Plan for Tomorrow

Tue 21 Nov

The Vessel will start the day continuing production on Line MBL1708MC58 heading to the SE and is expected to complete the line at 03:00 UTC. The vessel will make a turn to the Port an acquire data on Line MGL1708MC49 to the NE until about 12:00 UTC. At that time the vessel will make another Port turn towards the NW and acquire data on Line MGL1708MC50 throughout the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Tue 21. Nov 00:00	Tue 21. Nov 00:54	0.900
SOL Seq 21 Line:MGL1708MC48 Preplot:Line48 FGSP=772 FCSP=772 Hdg=301.7° Prime EOL Seq 21 Line:MGL1708MC48 Preplot:Line48 LGSP=620 LCSP=620 Complete				
Prime Line Change	AC_PLC	Tue 21. Nov 00:54	Tue 21. Nov 01:36	0.700
Nominal Prime line change.				
Production Prime	AC_PP	Tue 21. Nov 01:36	Tue 21. Nov 03:29	1.883
SOL Seq 22 Line:MGL1708MC57 Preplot:Line57 FGSP=1151 FCSP=1151 Hdg=34.1° Prime EOL Seq 22 Line:MGL1708MC57 Preplot:Line57 LGSP=1476 LCSP=1476 Complete				
Prime Line Change	AC_PLC	Tue 21. Nov 03:29	Tue 21. Nov 04:33	1.067
Nominal Prime line change.				
Production Prime	AC_PP	Tue 21. Nov 04:33	Tue 21. Nov 06:23	1.833
SOL Seq 23 Line:Line58 FGSP=676 FCSP=676 Hdg=120.8° Prime EOL Seq 23 Line:Line58 LGSP=975 LCSP=975 Incomplete				
Cetacean	DT_CT	Tue 21. Nov 06:23	Tue 21. Nov 07:02	0.650
NTBP Seq 23 Line58 FSP=976 LSP=1079				
Production Prime	AC_PP	Tue 21. Nov 07:02	Tue 21. Nov 07:13	0.183
SOL Seq 23 Line:Line58 FGSP=1080 FCSP=1080 Hdg=120.8° Prime EOL Seq 23 Line:Line58 LGSP=1107 LCSP=1107 Incomplete				
Cetacean	DT_CT	Tue 21. Nov 07:13	Tue 21. Nov 07:42	0.483
NTBP Seq 23 Line58 FSP=1108 LSP=1185				
Production Prime	AC_PP	Tue 21. Nov 07:42	Tue 21. Nov 24:00	16.300
SOL Seq 23 Line:Line58 FGSP=1186 FCSP=1186 Hdg=120.8° Prime				

Category	Code	Start	End	Duration
MSP Seq 23 Line:Line58 LGSP=3923 LCSP=3923 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

21-Nov	Hours	% Percent
Acquisition	**22.867**	**95.278**
Prime Line Change	1.767	7.361
Production Prime	21.100	87.917
DownTime	**1.133**	**4.722**
Cetacean	1.133	4.722
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**17.000**	**2.951**
Cetacean	9.533	1.655
Recording	0.617	0.107
Source	0.600	0.104
Streamers	1.167	0.203
Vessel	5.083	0.883
Mobilisation	**95.000**	**16.493**
Deployment	21.850	3.793
Mob Ashore	60.583	10.518
Transit to Prospect	12.567	2.182
Chargeable Standby	**49.467**	**8.588**
Field Operations	3.717	0.645
Transit	23.217	4.031
Weather	22.533	3.912
Acquisition	**414.533**	**71.968**
Prime Line Change	14.400	2.500
Production Infill	0.267	0.046
Production Prime	399.867	69.421
Total	576.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 21 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Tue 21 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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Amanda Dubuque RPS Lead PSO
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Luis Gonclaves RPS PSO
James Wills RPS PSO
Mary Jane Waru RPS PSO

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Adrien Arnulf UTIG Scientist
Steffen Saustrup UTIG Technician
Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged 57%

Prime Lines Completed 35%

Preplot Lines	Complete	Incomplete	Pending
62	22	0	0

Percentages Charged	
Prime	57.21% of 5680.30 km (Sail Line)

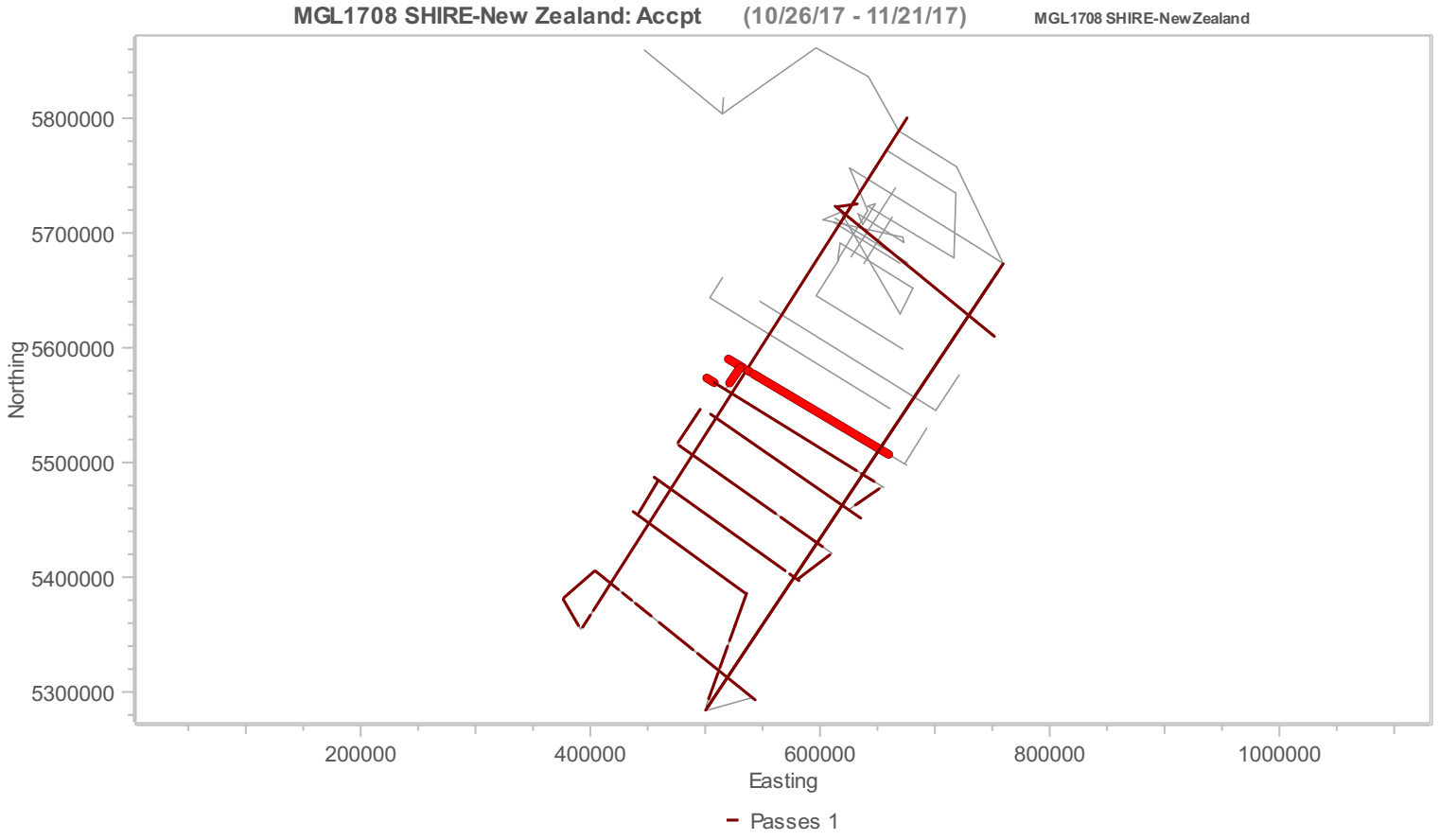
Average Daily Production	
Average Accepted Daily Production	154.74 km
Average Charged Daily Production	154.74 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Tue 21 Nov	Marcus G Langseth	21 - 23	177.15
Total Production:			**177.15**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	177.15	357.40	3249.45	3249.45
Infill	0.00	0.00	0.00	0.00
Combined	**177.15**	**357.40**	**3249.45**	**3249.45**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Wed 22 Nov

The Vessel started the day continuing production on Line MBL1708MC58 heading to the SE and complete the line at 01:56 UTC. The vessel turned to the Port an acquire data on Line MGL1708MC49 to the NE until about 05:55 UTC. At that time the vessel will make another Port turn towards the NW and started acquire data on Line MGL1708MC50 at 07:06 UTC. It continue in this mode throughout the remainder of the day.

Right at the end of the day there was a power down for a PSO sight in the 500m EZ.

Daily Comment Summaries - Plan for Tomorrow

Wed 22 Nov

The Vessel will start the day continuing production on Line MBL1708MC50 heading to the NW and is expected to complete the line at 05:00 UTC. The vessel will make a turn to the Stbd an acquire data on Line MGL1708MC52 to the NE until about 08:00 UTC. At that time the vessel will make another Stbd turn towards the SE and acquire data on Line MGL1708MC53 throughout the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Wed 22. Nov 00:00	Wed 22. Nov 01:56	1.933
SOL Seq 23 Line:MGL1708MC58 Preplot:Line58 FGSP=3924 FCSP=3924 Hdg=120.8° Prime EOL Seq 23 Line:MGL1708MC58 Preplot:Line58 LGSP=4256 LCSP=4256 Complete				
Prime Line Change	AC_PLC	Wed 22. Nov 01:56	Wed 22. Nov 03:01	1.083
Nominal Prime line change.				
Production Prime	AC_PP	Wed 22. Nov 03:01	Wed 22. Nov 05:55	2.900
SOL Seq 24 Line:MGL1708MC49 Preplot:Line49 FGSP=1573 FCSP=1573 Hdg=31.7° Prime EOL Seq 24 Line:MGL1708MC49 Preplot:Line49 LGSP=2051 LCSP=2051 Complete				
Prime Line Change	AC_PLC	Wed 22. Nov 05:55	Wed 22. Nov 07:06	1.183
Nominal Prime line change.				
Production Prime	AC_PP	Wed 22. Nov 07:06	Wed 22. Nov 23:41	16.583
SOL Seq 25 Line:MGL1708MC50 Preplot:Line50 FGSP=514 FCSP=514 Hdg=301.6° Prime EOL Seq 25 Line:MGL1708MC50 Preplot:Line50 LGSP=3287 LCSP=3287 Incomplete				
Cetacean	DT_CT	Wed 22. Nov 23:41	Wed 22. Nov 24:00	0.317
Downtime due to close proximity of Cetaceans.				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

22-Nov	Hours	% Percent
Acquisition	**23.683**	**98.681**
Prime Line Change	2.267	9.444
Production Prime	21.417	89.236

22-Nov	Hours	% Percent
DownTime	**0.317**	**1.319**
Cetacean	0.317	1.319
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**17.317**	**2.886**
Cetacean	9.850	1.642
Recording	0.617	0.103
Source	0.600	0.100
Streamers	1.167	0.194
Vessel	5.083	0.847
Mobilisation	**95.000**	**15.833**
Deployment	21.850	3.642
Mob Ashore	60.583	10.097
Transit to Prospect	12.567	2.094
Chargeable Standby	**49.467**	**8.244**
Field Operations	3.717	0.619
Transit	23.217	3.869
Weather	22.533	3.756
Acquisition	**438.217**	**73.036**
Prime Line Change	16.667	2.778
Production Infill	0.267	0.044
Production Prime	421.283	70.214
Total	600.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 22 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Wed 22 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
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Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

60%

Prime Lines Completed

39%

Preplot Lines	Complete	Incomplete	Pending
62	24	0	0

Percentages Charged	
Prime	60.36% of 5680.30 km (Sail Line)

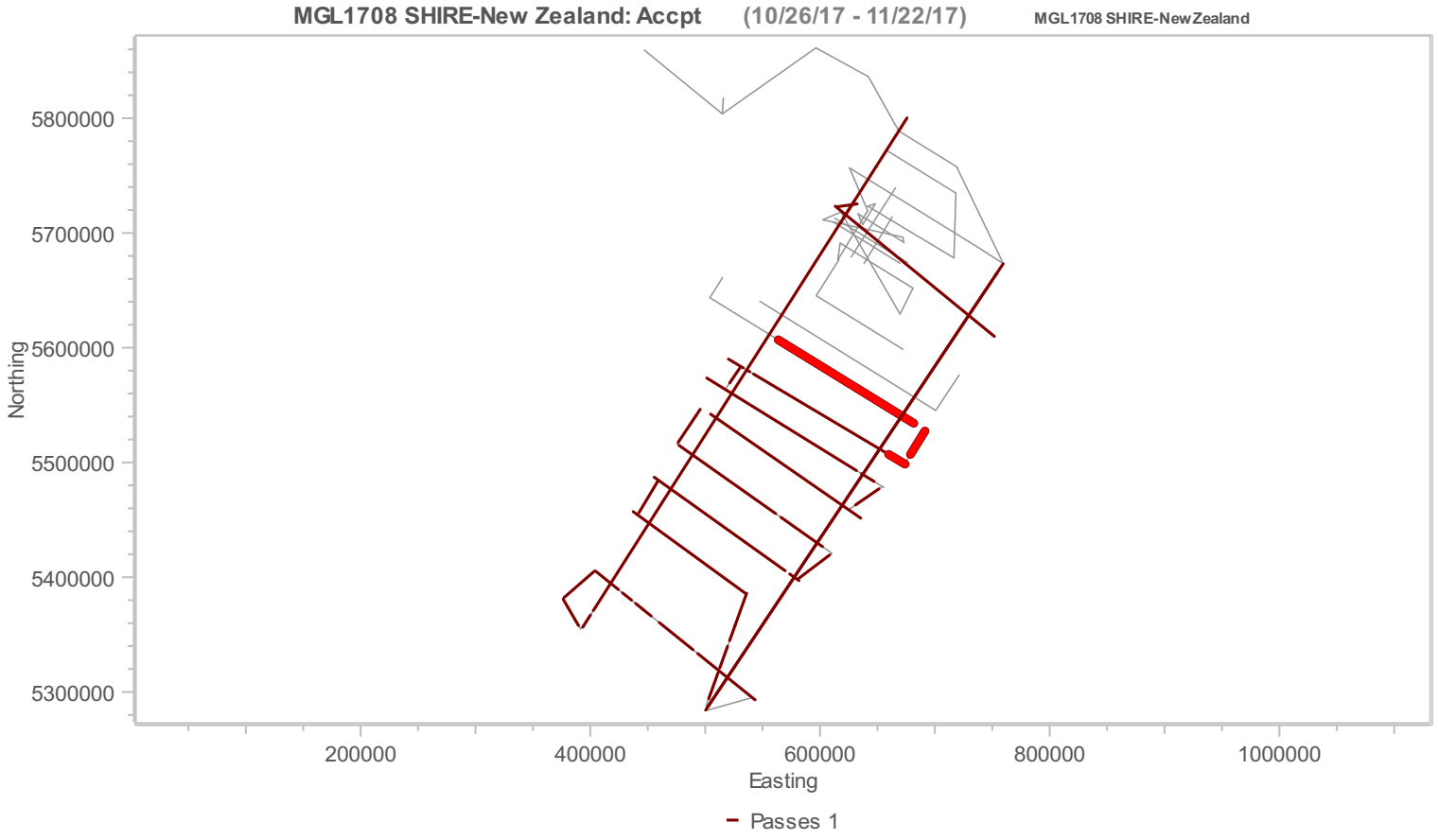
Average Daily Production	
Average Accepted Daily Production	155.85 km
Average Charged Daily Production	155.85 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Wed 22 Nov	Marcus G Langseth	23 - 25	179.20
Total Production:			**179.20**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	179.20	536.60	3428.65	3428.65
Infill	0.00	0.00	0.00	0.00
Combined	**179.20**	**536.60**	**3428.65**	**3428.65**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Thu 23 Nov

The Vessel started the day continuing production on Line MBL1708MC50 heading to the NW and completed at 05:41 UTC. The vessel will make a turn to the Stbd an acquire data on Line MGL1708MC52 to the NE until about 08:01 UTC. At that time the vessel made another Stbd turn towards the SE and acquire data on Line MGL1708MC53 starting at 09:15 UTC and continuing throughout the remainder of the day.

Daily Comment Summaries - Plan for Tomorrow

Thu 23 Nov

The Vessel will start the day continuing production on Line MBL1708MC53 heading to the SE and is expected to complete the line at 07:30 UTC. The vessel will make a turn to the Stbd an acquire data on Line MGL1708MC54 to the NE until about 11:00 UTC. At that time the vessel will make another Stbd turn towards the NW and acquire data on Line MGL1708MC55 throughout the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Cetacean	DT_CT	Thu 23. Nov 00:00	Thu 23. Nov 00:18	0.300
NTBP Seq 25 FSP=3341 LSP=3392				
Production Prime	AC_PP	Thu 23. Nov 00:18	Thu 23. Nov 05:41	5.383
SOL Seq 25 Line:MGL1708MC50 Preplot:Line50 FGSP=3393 FCSP=3393 Hdg=301.6° Prime EOL Seq 25 Line:MGL1708MC50 Preplot:Line50 LGSP=4316 LCSP=4316 Complete				
Prime Line Change	AC_PLC	Thu 23. Nov 05:41	Thu 23. Nov 06:44	1.050
Nominal Prime line change.				
Production Prime	AC_PP	Thu 23. Nov 06:44	Thu 23. Nov 08:01	1.283
SOL Seq 26 Line:MGL1708MC52 Preplot:Line52 FGSP=1069 FCSP=1069 Hdg=31.9° Prime EOL Seq 26 Line:MGL1708MC52 Preplot:Line52 LGSP=1291 LCSP=1291 Complete				
Prime Line Change	AC_PLC	Thu 23. Nov 08:01	Thu 23. Nov 09:15	1.233
Nominal Prime line change.				
Production Prime	AC_PP	Thu 23. Nov 09:15	Thu 23. Nov 24:00	14.750
SOL Seq 27 Line:MGl1708MC53 Preplot:Line53 FGSP=815 FCSP=815 Hdg=121.8° Prime MSP Seq 27 Line:MGl1708MC53 Preplot:Line53 LGSP=3349 LCSP=3349 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

23-Nov	Hours	% Percent
Acquisition	**23.700**	**98.750**
Prime Line Change	2.283	9.514
Production Prime	21.417	89.236
DownTime	**0.300**	**1.250**

23-Nov	Hours	% Percent
Cetacean	0.300	1.250
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**17.617**	**2.823**
Cetacean	10.150	1.627
Recording	0.617	0.099
Source	0.600	0.096
Streamers	1.167	0.187
Vessel	5.083	0.815
Mobilisation	**95.000**	**15.224**
Deployment	21.850	3.502
Mob Ashore	60.583	9.709
Transit to Prospect	12.567	2.014
Chargeable Standby	**49.467**	**7.927**
Field Operations	3.717	0.596
Transit	23.217	3.721
Weather	22.533	3.611
Acquisition	**461.917**	**74.025**
Prime Line Change	18.950	3.037
Production Infill	0.267	0.043
Production Prime	442.700	70.946
Total	624.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 23 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Thu 23 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
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Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

64%

Prime Lines Completed

42%

Preplot Lines	Complete	Incomplete	Pending
62	26	0	0

Percentages Charged	
Prime	63.60% of 5680.30 km (Sail Line)

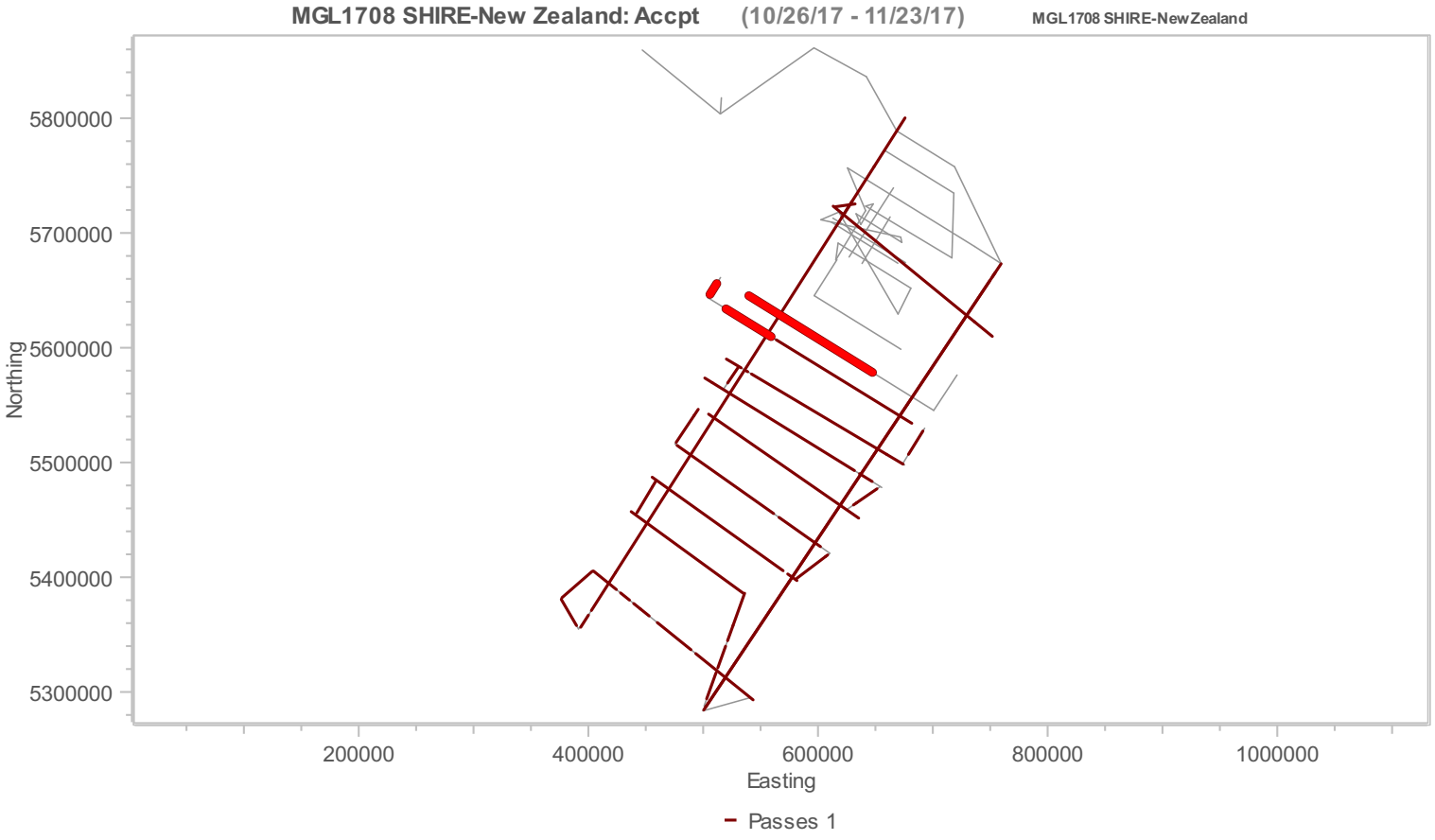
Average Daily Production	
Average Accepted Daily Production	157.07 km
Average Charged Daily Production	157.07 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Thu 23 Nov	Marcus G Langseth	25 - 27	184.00
Total Production:			**184.00**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	184.00	720.60	3612.65	3612.65
Infill	0.00	0.00	0.00	0.00
Combined	**184.00**	**720.60**	**3612.65**	**3612.65**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Fri 24 Nov

The Vessel started the day continuing production on Line MBL1708MC53 heading to the SE and completed it at 07:05 UTC. The vessel made a turn to the Stbd an acquire data on Line MGL1708MC54 to the NE until 10:22 UTC. At that time the vessel made another Stbd turn towards the NW and acquire data on Line MGL1708MC55 starting at 11:22 UTC, throughout the remainder of the day.

Daily Comment Summaries - Plan for Tomorrow

Fri 24 Nov

The Vessel will start the day continuing production on Line MBL1708MC55 heading to the NW and is expected to complete the line at 04:00 UTC. Will then work on collecting data on Lines, 56, 63, and 64 throughout the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Fri 24. Nov 00:00	Fri 24. Nov 07:05	7.083
SOL Seq 27 Line:MGl1708MC53 Preplot:Line53 FGSP=3350 FCSP=3350 Hdg=121.8° Prime EOL Seq 27 Line:MGl1708MC53 Preplot:Line53 LGSP=4578 LCSP=4578 Complete				
Prime Line Change	AC_PLC	Fri 24. Nov 07:05	Fri 24. Nov 08:11	1.100
Nominal Prime line change.				
Production Prime	AC_PP	Fri 24. Nov 08:11	Fri 24. Nov 10:22	2.183
SOL Seq 28 Line:MGL1708MC54 Preplot:Line54 FGSP=1186 FCSP=1186 Hdg=33.4° Prime EOL Seq 28 Line:MGL1708MC54 Preplot:Line54 LGSP=1561 LCSP=1561 Complete				
Prime Line Change	AC_PLC	Fri 24. Nov 10:22	Fri 24. Nov 11:22	1.000
Nominal Prime line change.				
Production Prime	AC_PP	Fri 24. Nov 11:22	Fri 24. Nov 24:00	12.633
SOL Seq 29 Line:MGL1708MC55 Preplot:Line55 FGSP=113 FCSP=113 Hdg=301.7° Prime MSP Seq 29 Line:MGL1708MC55 Preplot:Line55 LGSP=2220 LCSP=2220 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

24-Nov	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	2.100	8.750
Production Prime	21.900	91.250
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**17.617**	**2.719**
Cetacean	10.150	1.566
Recording	0.617	0.095
Source	0.600	0.093
Streamers	1.167	0.180
Vessel	5.083	0.784
Mobilisation	**95.000**	**14.660**
Deployment	21.850	3.372
Mob Ashore	60.583	9.349
Transit to Prospect	12.567	1.939
Chargeable Standby	**49.467**	**7.634**
Field Operations	3.717	0.574
Transit	23.217	3.583
Weather	22.533	3.477
Acquisition	**485.917**	**74.987**
Prime Line Change	21.050	3.248
Production Infill	0.267	0.041
Production Prime	464.600	71.698
Total	648.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 24 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Fri 24 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
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Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
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Luis Gonclaves RPS PSO
James Wills RPS PSO
Mary Jane Waru RPS PSO

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Adrien Arnulf UTIG Scientist
Steffen Saustrup UTIG Technician
Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

67%

Prime Lines Completed

45%

Preplot Lines	Complete	Incomplete	Pending
62	28	0	0

Percentages Charged	
Prime	66.87% of 5680.30 km (Sail Line)

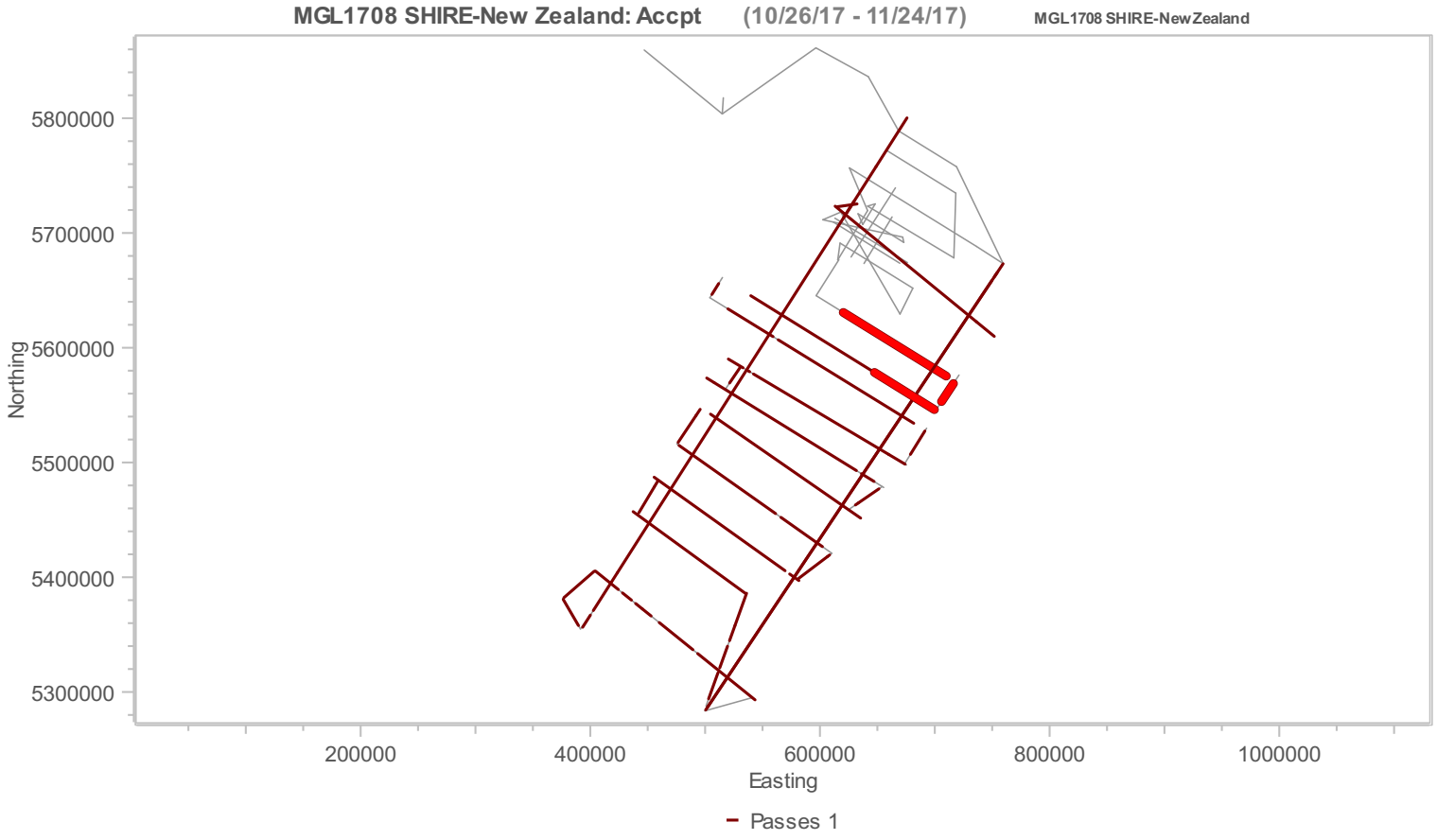
Average Daily Production	
Average Accepted Daily Production	158.26 km
Average Charged Daily Production	158.26 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Fri 24 Nov	Marcus G Langseth	27 - 29	185.55
Total Production:			**185.55**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	185.55	906.15	3798.20	3798.20
Infill	0.00	0.00	0.00	0.00
Combined	**185.55**	**906.15**	**3798.20**	**3798.20**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sat 25 Nov

The Vessel started the day continuing production on Line MBL1708MC55 and completed it at 02:58 UTC. The vessel made a turn an acquire data on Line MGL1708MC56 from 04:03 to 07:03 UTC. At that time the vessel made another turn towards and acquire data on Line MGL1708MH63 from 07:21 UTC to 18:24 UTC. The vessel then made yet another turn to Line MGL1708MH64 which started at 20:29 UTC UTC and continued throughout the remainder of the day.

Daily Comment Summaries - Plan for Tomorrow

Sat 25 Nov

The Vessel will start the day continuing production on Line MBL1708MH64. It will then work on acquiring data also on Lines 36 & 26 before the end of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sat 25. Nov 00:00	Sat 25. Nov 02:58	2.967
SOL Seq 29 Line:MGL1708MC55 Preplot:Line55 FGSP=2221 FCSP=2221 Hdg=301.7° Prime EOL Seq 29 Line:MGL1708MC55 Preplot:Line55 LGSP=2728 LCSP=2728 Complete				
Prime Line Change	AC_PLC	Sat 25. Nov 02:58	Sat 25. Nov 04:03	1.083
Nominal Prime line change.				
Production Prime	AC_PP	Sat 25. Nov 04:03	Sat 25. Nov 07:03	3.000
SOL Seq 30 Line:MGL1708MC56 Preplot:Line56 FGSP=1169 FCSP=1169 Hdg=32.3° Prime EOL Seq 30 Line:MGL1708MC56 Preplot:Line56 LGSP=1654 LCSP=1654 Complete				
Prime Line Change	AC_PLC	Sat 25. Nov 07:03	Sat 25. Nov 07:21	0.300
Nominal Prime line change.				
Production Prime	AC_PP	Sat 25. Nov 07:21	Sat 25. Nov 18:24	11.050
SOL Seq 31 Line:MGL1708MH63 Preplot:Line63 FGSP=792 FCSP=792 Hdg=32.7° Prime EOL Seq 31 Line:MGL1708MH63 Preplot:Line63 LGSP=2594 LCSP=2594 Complete				
Prime Line Change	AC_PLC	Sat 25. Nov 18:24	Sat 25. Nov 20:29	2.083
Nominal Prime line change.				
Production Prime	AC_PP	Sat 25. Nov 20:29	Sat 25. Nov 24:00	3.517
SOL Seq 32 Line:Line64 FGSP=525 FCSP=525 Hdg=211.1° Prime MSP Seq 32 Line:Line64 LGSP=1114 LCSP=1114 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

25-Nov	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	3.467	14.444
Production Prime	20.533	85.556
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**17.617**	**2.622**
Cetacean	10.150	1.510
Recording	0.617	0.092
Source	0.600	0.089
Streamers	1.167	0.174
Vessel	5.083	0.756
Mobilisation	**95.000**	**14.137**
Deployment	21.850	3.251
Mob Ashore	60.583	9.015
Transit to Prospect	12.567	1.870
Chargeable Standby	**49.467**	**7.361**
Field Operations	3.717	0.553
Transit	23.217	3.455
Weather	22.533	3.353
Acquisition	**509.917**	**75.880**
Prime Line Change	24.517	3.648
Production Infill	0.267	0.040
Production Prime	485.133	72.192
Total	672.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 25 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Sat 25 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

70%

Prime Lines Completed

50%

Preplot Lines	Complete	Incomplete	Pending
62	31	0	0

Percentages Charged	
Prime	69.84% of 5680.30 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	158.70 km
Average Charged Daily Production	158.70 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Sat 25 Nov	Marcus G Langseth	29 - 32	169.20
Total Production:			**169.20**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	169.20	1075.35	3967.40	3967.40
Infill	0.00	0.00	0.00	0.00
Combined	**169.20**	**1075.35**	**3967.40**	**3967.40**

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sun 26 Nov

The Vessel started the day continuing production on Line MBL1708MC64 and completed it at 05:46 UTC. The vessel made a turn an acquire data on Line MGL1708MC36 from 09:07 UTC to 15:50 UTC. At that time the vessel made another turn and acquire data on Line MGL1708MH26 from 19:17 UTC to 23:30 UTC. The vessel then made yet another turn towards MGL1708MH24 and remained on Line Change throughout the remainder of the day.

Daily Comment Summaries - Plan for Tomorrow

Sun 26 Nov

The Vessel will start the day continuing Line change to MBL1708MH24. It is expected to begin this line at ~04:30 UTC and continue throughout the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sun 26. Nov 00:00	Sun 26. Nov 05:46	5.767
SOL Seq 32 Line:MGL1708MH64 Preplot:Line64 FGSP=1115 FCSP=1115 Hdg=211.1° Prime EOL Seq 32 Line:MGL1708MH64 Preplot:Line64 LGSP=2086 LCSP=2086 Complete				
Prime Line Change	AC_PLC	Sun 26. Nov 05:46	Sun 26. Nov 09:07	3.350
Nominal Prime line change.				
Production Prime	AC_PP	Sun 26. Nov 09:07	Sun 26. Nov 15:30	6.383
SOL Seq 33 Line:MGL1708MC36 Preplot:Line36 FGSP=1001 FCSP=1001 Hdg=31.2° Prime EOL Seq 33 Line:MGL1708MC36 Preplot:Line36 LGSP=2169 LCSP=2169 Complete				
Prime Line Change	AC_PLC	Sun 26. Nov 15:30	Sun 26. Nov 19:17	3.783
Nominal Prime line change.				
Production Prime	AC_PP	Sun 26. Nov 19:17	Sun 26. Nov 23:35	4.300
SOL Seq 34 Line:Line26 FGSP=840 FCSP=840 Hdg=211.2° Prime EOL Seq 34 Line:Line26 LGSP=1553 LCSP=1553 Complete				
Prime Line Change	AC_PLC	Sun 26. Nov 23:35	Sun 26. Nov 24:00	0.417
Nominal Prime line change.				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

26-Nov	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	7.550	31.458
Production Prime	16.450	68.542
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**17.617**	**2.531**
Cetacean	10.150	1.458
Recording	0.617	0.089
Source	0.600	0.086
Streamers	1.167	0.168
Vessel	5.083	0.730
Mobilisation	**95.000**	**13.649**
Deployment	21.850	3.139
Mob Ashore	60.583	8.705
Transit to Prospect	12.567	1.806
Chargeable Standby	**49.467**	**7.107**
Field Operations	3.717	0.534
Transit	23.217	3.336
Weather	22.533	3.238
Acquisition	**533.917**	**76.712**
Prime Line Change	32.067	4.607
Production Infill	0.267	0.038
Production Prime	501.583	72.067
Total	696.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 26 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Sun 26 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

72%

Prime Lines Completed

55%

Preplot Lines	Complete	Incomplete	Pending
62	34	0	0

Percentages Charged	
Prime	72.36% of 5680.30 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	158.08 km
Average Charged Daily Production	158.08 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Sun 26 Nov	Marcus G Langseth	32 - 34	142.65
Total Production:			**142.65**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	142.65	1218.00	4110.05	4110.05
Infill	0.00	0.00	0.00	0.00
Combined	**142.65**	**1218.00**	**4110.05**	**4110.05**

MGL1708 SHIRE-New Zealand: Accpt (10/26/17 - 11/26/17)

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Mon 27 Nov

The Vessel started the day continuing Line Change to Line MBL1708MC27 which was acquired from 01:39 UTC to 03:37 UTC. The vessel made a turn an acquire data on Line MGL1708MH24 from 05:23 UTC to 21:03 UTC. At that time the vessel made another turn toward MGL1708MH38 and at the end of the day the vessel was still on Line Change. During the line change at the end of the day the vessel recovered Sub-Arrays 1 & 2 to preform maintenance.

Daily Comment Summaries - Plan for Tomorrow

Mon 27 Nov

The Vessel will start the day continuing Line change to MGL1708MH38. It is expected to begin this line at ~01:00 UTC and continue until ~21:00 UTC. At that time the vessel will make a line change towards line MGL1708MH28.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Prime Line Change	AC_PLC	Mon 27. Nov 00:00	Mon 27. Nov 01:39	1.650
Nominal Prime line change.				
Production Prime	AC_PP	Mon 27. Nov 01:39	Mon 27. Nov 03:37	1.967
SOL Seq 35 Line:MGL1708MC1708 Preplot:Line27 FGSP=1079 FCSP=1079 Hdg=336.2° Prime EOL Seq 35 Line:MGL1708MC1708 Preplot:Line27 LGSP=1406 LCSP=1406 Complete				
Prime Line Change	AC_PLC	Mon 27. Nov 03:37	Mon 27. Nov 05:23	1.767
Nominal Prime line change.				
Production Prime	AC_PP	Mon 27. Nov 05:23	Mon 27. Nov 21:03	15.667
SOL Seq 36 Line:MGL1708MH24 Preplot:Line24 FGSP=2769 FCSP=2769 Hdg=121° Prime EOL Seq 36 Line:MGL1708MH24 Preplot:Line24 LGSP=204 LCSP=204 Complete				
Prime Line Change	AC_PLC	Mon 27. Nov 21:03	Mon 27. Nov 24:00	2.950
Nominal Prime line change.				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

27-Nov	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	6.367	26.528
Production Prime	17.633	73.472
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**17.617**	**2.447**
Cetacean	10.150	1.410

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Hours	% Percent
Recording	0.617	0.086
Source	0.600	0.083
Streamers	1.167	0.162
Vessel	5.083	0.706
Mobilisation	**95.000**	**13.194**
Deployment	21.850	3.035
Mob Ashore	60.583	8.414
Transit to Prospect	12.567	1.745
Chargeable Standby	**49.467**	**6.870**
Field Operations	3.717	0.516
Transit	23.217	3.225
Weather	22.533	3.130
Acquisition	**557.917**	**77.488**
Prime Line Change	38.433	5.338
Production Infill	0.267	0.037
Production Prime	519.217	72.113
Total	720.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 27 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Primary PAM streamer had 1 of the 4 Hydrophones failing. It had been replaced by the spare.

Daily Comment Summaries - Personnel Onboard

Mon 27 Nov

Technical Staff On-board the Langseth
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Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
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Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

75%

Prime Lines Completed

58%

Preplot Lines	Complete	Incomplete	Pending
62	36	0	0

Percentages Charged	
Prime	74.90% of 5680.30 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	157.58 km
Average Charged Daily Production	157.58 km

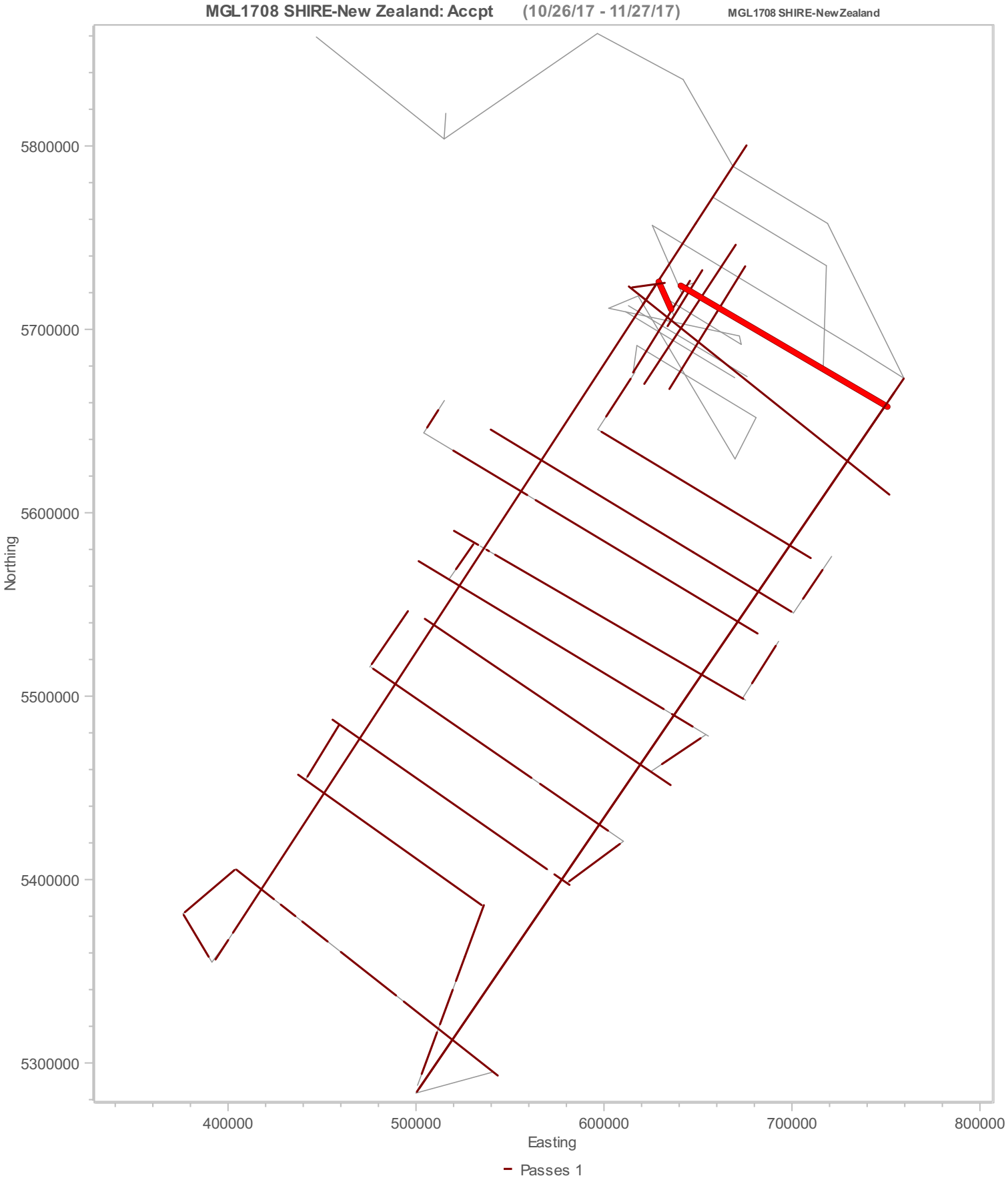
Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Mon 27 Nov	Marcus G Langseth	35 - 36	144.60
Total Production:			**144.60**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	144.60	144.60	4254.65	4254.65
Infill	0.00	0.00	0.00	0.00
Combined	**144.60**	**144.60**	**4254.65**	**4254.65**

MGL1708 SHIRE-New Zealand: Accpt (10/26/17 - 11/27/17)



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Tue 28 Nov

The Vessel started the day continuing Line Change to Line MBL1708MC38 which was acquired from 00:32 UTC to 18:07 UTC. The vessel made a turn an acquire data on Line MGL1708MC37 from 18:51 UTC to 21:37 UTC. At that time the vessel made another turn toward MGL1708MH28 and started it at 21:47 UTC. The vessel remained in production throughout the remainder of the day.

The PAM streamer starting having issues on one of its Hydrophones near the beginning of the day and this continued throughout.

Daily Comment Summaries - Plan for Tomorrow

Tue 28 Nov

The Vessel will start the day continuing Line change to MGL1708MH28. It is expected to continue until ~07:00 UTC. At that time the vessel will make a line change towards line MGL1708MH30, before ending the day in production on Line MGL1708MH62..

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Prime Line Change	AC_PLC	Tue 28. Nov 00:00	Tue 28. Nov 00:32	0.533
Nominal Prime line change.				
Production Prime	AC_PP	Tue 28. Nov 00:32	Tue 28. Nov 18:07	17.583
SOL Seq 37 Line:MGL1708MH38 Preplot:Line38 FGSP=3947 FCSP=3947 Hdg=301.7° Prime EOL Seq 37 Line:MGL1708MH38 Preplot:Line38 LGSP=1050 LCSP=1050 Complete				
Prime Line Change	AC_PLC	Tue 28. Nov 18:07	Tue 28. Nov 18:51	0.733
Nominal Prime line change.				
Production Prime	AC_PP	Tue 28. Nov 18:51	Tue 28. Nov 21:37	2.767
SOL Seq 38 Line:MGL1708MC37 Preplot:Line37 FGSP=1671 FCSP=1671 Hdg=157° Prime EOL Seq 38 Line:MGL1708MC37 Preplot:Line37 LGSP=1159 LCSP=1159 Complete				
Prime Line Change	AC_PLC	Tue 28. Nov 21:37	Tue 28. Nov 21:47	0.167
Nominal Prime line change.				
Production Prime	AC_PP	Tue 28. Nov 21:47	Tue 28. Nov 24:00	2.217
SOL Seq 39 Line:MGL1708MH28 Preplot:Line28 FGSP=753 FCSP=753 Hdg=122.1° Prime MSP Seq 39 Line:MGL1708MH28 Preplot:Line28 LGSP=1125 LCSP=1125 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

28-Nov	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	1.433	5.972
Production Prime	22.567	94.028
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**17.617**	**2.368**
Cetacean	10.150	1.364
Recording	0.617	0.083
Source	0.600	0.081
Streamers	1.167	0.157
Vessel	5.083	0.683
Mobilisation	**95.000**	**12.769**
Deployment	21.850	2.937
Mob Ashore	60.583	8.143
Transit to Prospect	12.567	1.689
Chargeable Standby	**49.467**	**6.649**
Field Operations	3.717	0.500
Transit	23.217	3.121
Weather	22.533	3.029
Acquisition	**581.917**	**78.215**
Prime Line Change	39.867	5.358
Production Infill	0.267	0.036
Production Prime	541.783	72.820
Total	744.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 28 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report

General Purpose Science:
No Major Issues to Report

Miscellaneous:
At 00:38 UTC, the PAM operator on duty noted that something was wrong with one of the hydrophones in the PAM cable. Investigating into the problem revealed that the second hydrophone from the end of the cable with the depth gauge had some signal loss and static sounds, and whenever the static sounds increased, the excess noise would overload the system and Pamguard would freeze and crash. The situation did not improve throughout the afternoon, and the decision was made to pick up the cable for inspection to see if there was any external damage. Acoustic monitoring was suspended at 04:55 UTC, and then the cable was retrieved at 05:05 UTC and thoroughly inspected. No damage was discovered, so extra tape and scotchlote was applied to the ends of all four hydrophone pods as a precaution and the cable was re-deployed by 05:33 UTC. Acoustic monitoring resumed at 05:36 UTC and the situation was re-assessed. Unfortunately, there continues to be an issue with some signal loss and static on that hydrophone. We decided that it wasn't worth switching back to the other damaged hydrophone cable we have on board at this point unless the situation deteriorates enough to make the switch necessary before the end of the survey next week.

Daily Comment Summaries - Personnel Onboard

Tue 28 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

PSO Staff On-board the Langseth
Amanda Dubuque RPS Lead PSO
Sara Davis RPS PAM operator / PSO
Luis Gonclaves RPS PSO
James Wills RPS PSO
Mary Jane Waru RPS PSO

Science Party On-board the Langseth
Dr. Nathan Bangs UTIG Chief Scientist
Adrien Arnulf UTIG Scientist
Steffen Saustrup UTIG Technician
Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

78%

Prime Lines Completed

61%

Preplot Lines	Complete	Incomplete	Pending
62	38	0	0

Percentages Charged	
Prime	78.23% of 5680.30 km (Sail Line)

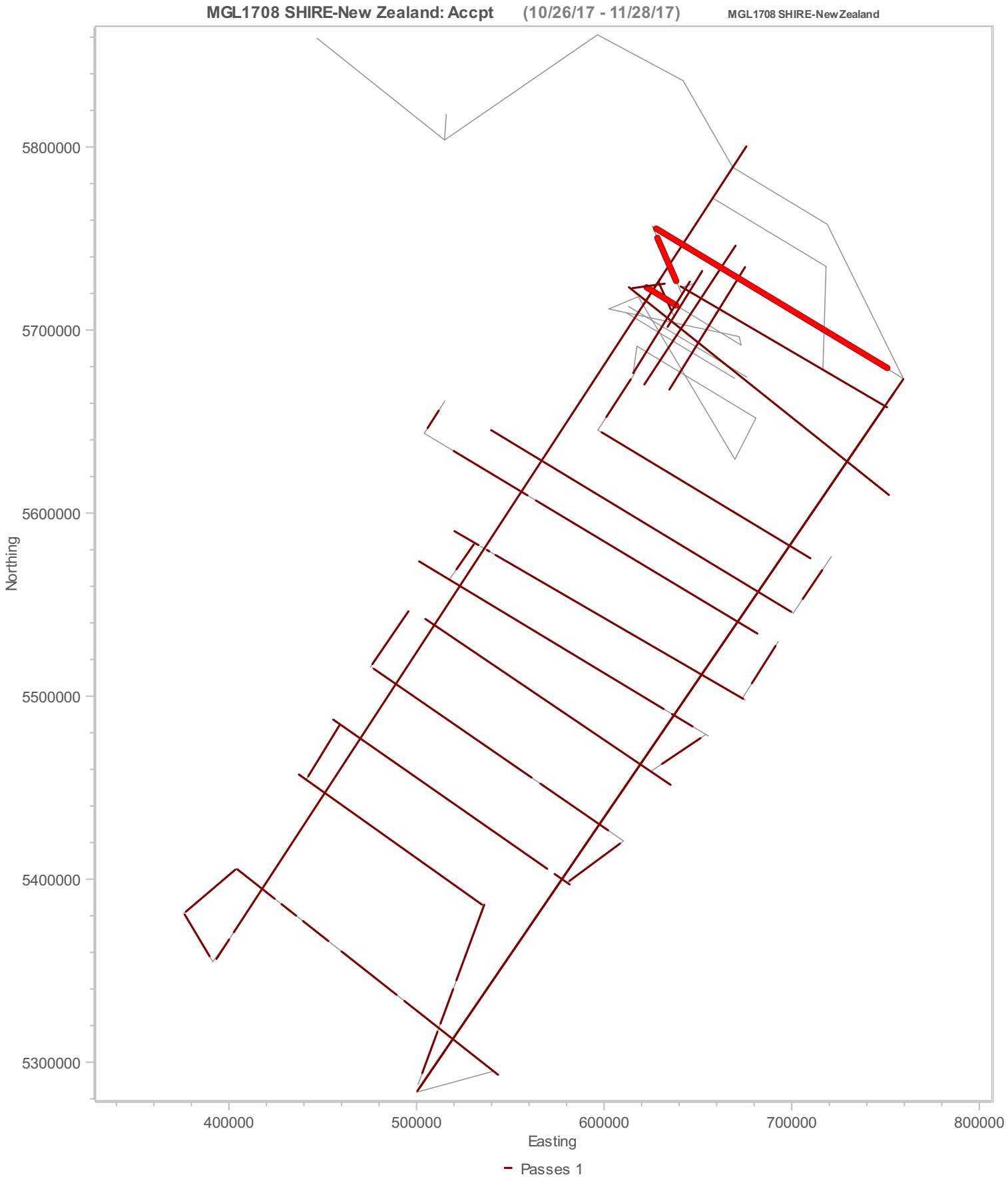
Average Daily Production	
Average Accepted Daily Production	158.70 km
Average Charged Daily Production	158.70 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Tue 28 Nov	Marcus G Langseth	37 - 39	189.05
Total Production:			**189.05**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	189.05	333.65	4443.70	4443.70
Infill	0.00	0.00	0.00	0.00
Combined	**189.05**	**333.65**	**4443.70**	**4443.70**


MGL1708 SHIRE-New Zealand: Accpt (10/26/17 - 11/28/17)
MGL1708 SHIRE-New Zealand
5800000
5700000
5600000
5500000
5400000
5300000
Northing
400000
500000
600000
700000
800000
Easting
Passes 1

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Wed 29 Nov

The Vessel started the day continuing Line MBL1708MC28 which concluded at 07:43 UTC. The vessel made a turn an acquire data on Line MGL1708MC30 from 10:39 UTC to 18:17 UTC. At that time the vessel made another turn toward MGL1708MH62 and started it at 22:34 UTC. The vessel remained in production throughout the remainder of the day.

During the Line change between Line 30 and Line 62, an air leak was noticed on Sub-Array #2 and it was recovered for Maintenance. It was found that Element #4 (S2G4) had a large crack in the Top Housing. The Element was replaced an the Sub-Array was re-deployed.

Daily Comment Summaries - Plan for Tomorrow

Wed 29 Nov

The Vessel will start the day continuing Line change to MGL1708MH62. It is expected to continue until ~07:00 UTC. At that time the vessel will make a line change towards line MGL1708MH61 before ending the day in production on Line MGL1708MH32..

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Wed 29. Nov 00:00	Wed 29. Nov 07:43	7.717
SOL Seq 39 Line:MGL1708MH28 Preplot:Line28 FGSP=1126 FCSP=1126 Hdg=122.1° Prime EOL Seq 39 Line:MGL1708MH28 Preplot:Line28 LGSP=2404 LCSP=2404 Complete				
Prime Line Change	AC_PLC	Wed 29. Nov 07:43	Wed 29. Nov 10:39	2.933
Nominal Prime line change.				
Production Prime	AC_PP	Wed 29. Nov 10:39	Wed 29. Nov 18:17	7.633
SOL Seq 40 Line:MGL1708MH30 Preplot:Line30 FGSP=816 FCSP=816 Hdg=282.2° Prime EOL Seq 40 Line:MGL1708MH30 Preplot:Line30 LGSP=2077 LCSP=2077 Complete				
Prime Line Change	AC_PLC	Wed 29. Nov 18:17	Wed 29. Nov 22:34	4.283
Nominal Prime line change.				
Production Prime	AC_PP	Wed 29. Nov 22:34	Wed 29. Nov 24:00	1.433
SOL Seq 41 Line:MGL1708MH62 Preplot:Line62 FGSP=2251 FCSP=2251 Hdg=121.5° Prime MSP Seq 41 Line:MGL1708MH62 Preplot:Line62 LGSP=2014 LCSP=2014 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

29-Nov	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	7.217	30.069
Production Prime	16.783	69.931
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**17.617**	**2.294**
Cetacean	10.150	1.322
Recording	0.617	0.080
Source	0.600	0.078
Streamers	1.167	0.152
Vessel	5.083	0.662
Mobilisation	**95.000**	**12.370**
Deployment	21.850	2.845
Mob Ashore	60.583	7.888
Transit to Prospect	12.567	1.636
Chargeable Standby	**49.467**	**6.441**
Field Operations	3.717	0.484
Transit	23.217	3.023
Weather	22.533	2.934
Acquisition	**605.917**	**78.895**
Prime Line Change	47.083	6.131
Production Infill	0.267	0.035
Production Prime	558.567	72.730
Total	768.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 29 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
Air leak on Sub-Array #2 which turned out to be a large crack in the Top housing of element #4 (S2G4). It was replaced with a spare and the broken piece was replaced an the Element was rebuilt an put in the spares inventory..

General Purpose Science:
No Major Issues to Report

Miscellaneous:
No Major Issues to Report

Daily Comment Summaries - Personnel Onboard

Wed 29 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

PSO Staff On-board the Langseth
Amanda Dubuque RPS Lead PSO
Sara Davis RPS PAM operator / PSO
Luis Gonclaves RPS PSO
James Wills RPS PSO
Mary Jane Waru RPS PSO

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Adrien Arnulf UTIG Scientist
Steffen Saustrup UTIG Technician
Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

81%

Prime Lines Completed

65%

Preplot Lines	Complete	Incomplete	Pending
62	40	0	0

Percentages Charged	
Prime	80.67% of 5680.30 km (Sail Line)

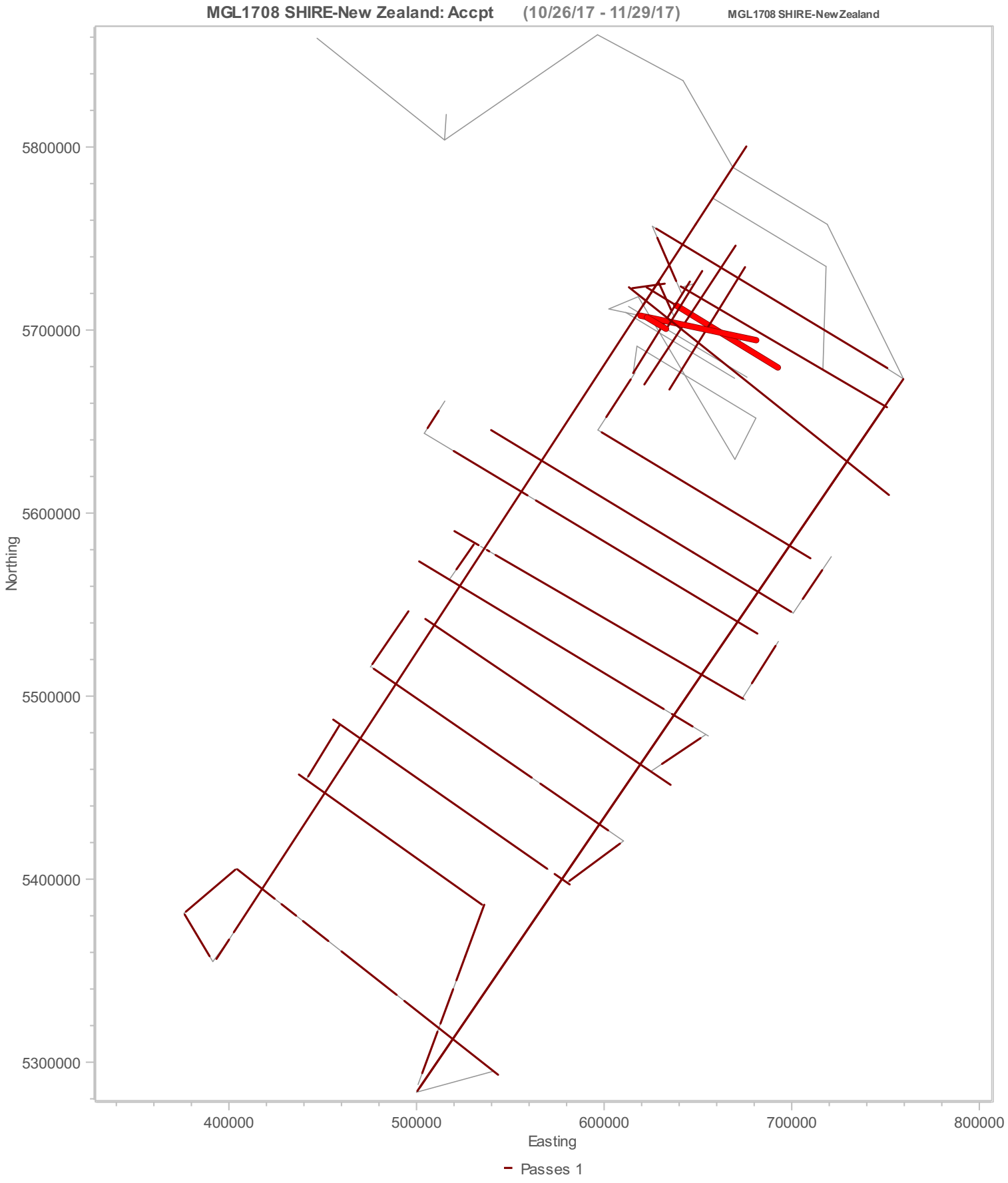
Average Daily Production	
Average Accepted Daily Production	158.02 km
Average Charged Daily Production	158.02 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Wed 29 Nov	Marcus G Langseth	39 - 41	138.85
Total Production:			**138.85**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	138.85	472.50	4582.55	4582.55
Infill	0.00	0.00	0.00	0.00
Combined	**138.85**	**472.50**	**4582.55**	**4582.55**


MGL1708 SHIRE-New Zealand: Accpt (10/26/17 - 11/29/17)
MGL1708 SHIRE-New Zealand
5800000
5700000
5600000
5500000
5400000
5300000
Northing
400000
500000
600000
700000
800000
Easting
Passes 1

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Thu 30 Nov

The Vessel started the day continuing Line MBL1708MC62 which concluded at 06:58 UTC. The vessel made a turn an acquire data on Line MGL1708MC61 from 11:11 UTC to 20:04 UTC. At that time the vessel made a line change towards MGL1708MH34. The Line change continued through the end of the day.

During the Line change between Line 61 and Line 34, Sub-Array's 3 & 4 were recovered for Maintenance. It was found that Element #4 (S4G4) had a crack in the Top Housing and was missing some bolts fromthe solenoid. The Lower forward cluster bar was broken on S4G9 and S4G10 at the aft end of the array.

Daily Comment Summaries - Plan for Tomorrow

Thu 30 Nov

The Vessel will start the day continuing Line change to MGL1708MH34. It is expected it will start that line ~00:20 and continue until ~10:00 UTC. At that time the vessel will make a line change towards line MGL1708MH32 before ending the day in production on Line MGL1708MH32..

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Thu 30. Nov 00:00	Thu 30. Nov 06:58	6.967
SOL Seq 41 Line:MGL1708MH62 Preplot:Line62 FGSP=2013 FCSP=2013 Hdg=121.5° Prime EOL Seq 41 Line:MGL1708MH62 Preplot:Line62 LGSP=858 LCSP=858 Complete				
Prime Line Change	AC_PLC	Thu 30. Nov 06:58	Thu 30. Nov 11:11	4.217
Nominal Prime line change.				
Production Prime	AC_PP	Thu 30. Nov 11:11	Thu 30. Nov 20:04	8.883
SOL Seq 42 Line:Line61 FGSP=2517 FCSP=2517 Hdg=301.8° Prime EOL Seq 42 Line:Line61 LGSP=1001 LCSP=1001 Complete				
Prime Line Change	AC_PLC	Thu 30. Nov 20:04	Thu 30. Nov 24:00	3.933
Nominal Prime line change.				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

30-Nov	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	8.150	33.958
Production Prime	15.850	66.042
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**17.617**	**2.224**
Cetacean	10.150	1.282
Recording	0.617	0.078

Category	Hours	% Percent
Source	0.600	0.076
Streamers	1.167	0.147
Vessel	5.083	0.642
Mobilisation	**95.000**	**11.995**
Deployment	21.850	2.759
Mob Ashore	60.583	7.649
Transit to Prospect	12.567	1.587
Chargeable Standby	**49.467**	**6.246**
Field Operations	3.717	0.469
Transit	23.217	2.931
Weather	22.533	2.845
Acquisition	**629.917**	**79.535**
Prime Line Change	55.233	6.974
Production Infill	0.267	0.034
Production Prime	574.417	72.527
Total	792.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 30 Nov

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
Air leak on Sub-Array #4 which turned out to be that (S4G4) had a crack in the Top Housing and was missing some bolts from the solenoid. The Lower forward cluster bar was broken on S4G9 and S4G10 at the aft end of the array.

General Purpose Science:
No Major Issues to Report

Miscellaneous:
No Major Issues to Report

Daily Comment Summaries - Personnel Onboard

Thu 30 Nov

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

83%

Prime Lines Completed

68%

Preplot Lines	Complete	Incomplete	Pending
62	42	0	0

Percentages Charged	
Prime	83.03% of 5680.30 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	157.21 km
Average Charged Daily Production	157.21 km

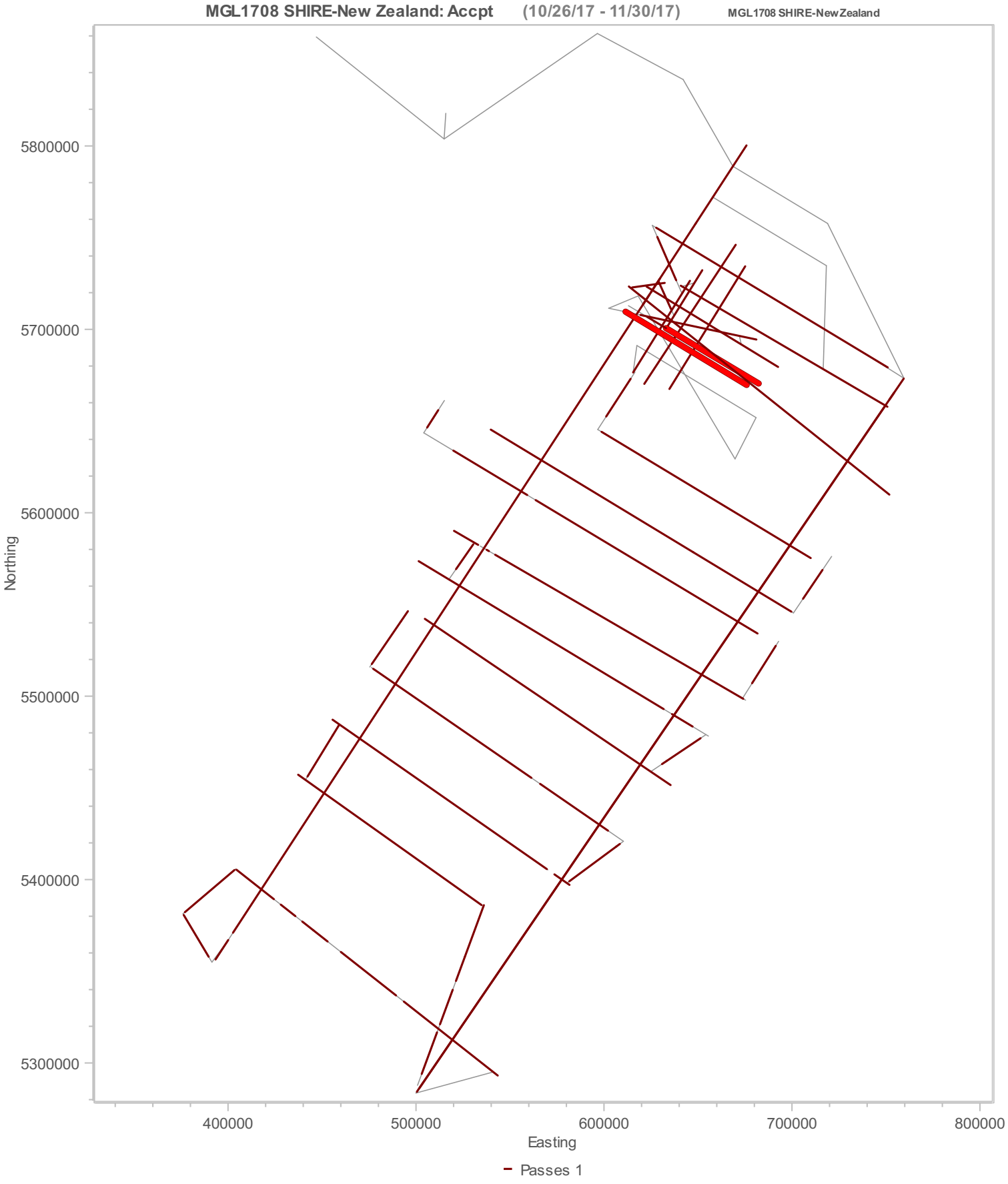
Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Thu 30 Nov	Marcus G Langseth	41 - 42	133.60
Total Production:			**133.60**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	133.60	606.10	4716.15	4716.15
Infill	0.00	0.00	0.00	0.00
Combined	**133.60**	**606.10**	**4716.15**	**4716.15**

MGL1708 SHIRE-New Zealand: Accpt (10/26/17 - 11/30/17)



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Fri 01 Dec

The Vessel started the day continuing Line Change to Line MBL1708MH34 which took place from 00:10 UTC to 12:19 UTC . The vessel made a turn an acquire data on Line MGL1708MC33 from 14:19 UTC to 15:34 UTC . The vessel made another turn an acquire data on Line MGL1708MH32 from 16:38 UTC through the end of the day.

During Line MGL1708MH34 there was a power down for a PSO Sighting, additionally right at the end of line Element #2 (S3G2) on Sub-Array #3 started auto-firing an had to be recovered.

Daily Comment Summaries - Plan for Tomorrow

Fri 01 Dec

The Vessel will start the day continuing Line MGL1708MH32. It is expected it will concluded at ~07:30 UTC At that time the vessel will make a line change towards line MGL1708MC07 heading to the NW that should continue throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Prime Line Change	AC_PLC	Fri 1. Dec 00:00	Fri 1. Dec 00:10	0.167
Nominal Prime line change.				
Production Prime	AC_PP	Fri 1. Dec 00:10	Fri 1. Dec 01:47	1.617
SOL Seq 43 Line:MGL1708MH34 Preplot:Line34 FGSP=2660 FCSP=2660 Hdg=121.8° Prime EOL Seq 43 Line:MGL1708MH34 Preplot:Line34 LGSP=2392 LCSP=2392 Incomplete				
Cetacean	DT_CT	Fri 1. Dec 01:47	Fri 1. Dec 02:15	0.467
NTBP Seq 43 FSP=2391 LSP=2315				
Production Prime	AC_PP	Fri 1. Dec 02:15	Fri 1. Dec 12:19	10.067
SOL Seq 43 Line:MGL1708MH34 Preplot:Line34 FGSP=2314 FCSP=2314 Hdg=121.8° Prime EOL Seq 43 Line:MGL1708MH34 Preplot:Line34 LGSP=655 LCSP=655 Complete				
Prime Line Change	AC_PLC	Fri 1. Dec 12:19	Fri 1. Dec 14:19	2.000
Nominal Prime line change.				
Production Prime	AC_PP	Fri 1. Dec 14:19	Fri 1. Dec 15:34	1.250
SOL Seq 44 Line:MGL1708MC33 Preplot:Line33 FGSP=1136 FCSP=1136 Hdg=206.4° Prime EOL Seq 44 Line:MGL1708MC33 Preplot:Line33 LGSP=899 LCSP=899 Complete				
Prime Line Change	AC_PLC	Fri 1. Dec 15:34	Fri 1. Dec 16:38	1.067
Nominal Prime line change.				
Production Prime	AC_PP	Fri 1. Dec 16:38	Fri 1. Dec 24:00	7.367
SOL Seq 45 Line:MGL1708MH32 Preplot:Line32 FGSP=3238 FCSP=3238 Hdg=329.9° Prime MSP Seq 45 Line:MGL1708MH32 Preplot:Line32 LGSP=2142 LCSP=2142 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

1-Dec	Hours	% Percent
Acquisition	**23.533**	**98.056**
Prime Line Change	3.233	13.472
Production Prime	20.300	84.583
DownTime	**0.467**	**1.944**
Cetacean	0.467	1.944
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**18.083**	**2.216**
Cetacean	10.617	1.301
Recording	0.617	0.076
Source	0.600	0.074
Streamers	1.167	0.143
Vessel	5.083	0.623
Mobilisation	**95.000**	**11.642**
Deployment	21.850	2.678
Mob Ashore	60.583	7.424
Transit to Prospect	12.567	1.540
Chargeable Standby	**49.467**	**6.062**
Field Operations	3.717	0.455
Transit	23.217	2.845
Weather	22.533	2.761
Acquisition	**653.450**	**80.080**
Prime Line Change	58.467	7.165
Production Infill	0.267	0.033
Production Prime	594.717	72.882
Total	816.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 01 Dec

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
Element #2 on Sub-Array 3 (S3G2) started auto-firing at the end of MGL1708MH34 an needed to be recovered for repairs.

General Purpose Science:
No Major Issues to Report

Miscellaneous:
No Major Issues to Report

Daily Comment Summaries - Personnel Onboard

Fri 01 Dec

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

86%

Prime Lines Completed

71%

Preplot Lines	Complete	Incomplete	Pending
62	44	0	0

Percentages Charged	
Prime	85.90% of 5680.30 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	157.39 km
Average Charged Daily Production	157.39 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Fri 1 Dec	Marcus G Langseth	43 - 45	163.05
Total Production:			**163.05**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	163.05	769.15	163.05	4879.20
Infill	0.00	0.00	0.00	0.00
Combined	**163.05**	**769.15**	**163.05**	**4879.20**

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sat 02 Dec

The Vessel started the day continuing Line MBL1708MH32 which which concluded at 06:46 UTC . The vessel made a turn an acquire data on Line MGL1708MC07 from 07:19 UTC to 18:34 UTC . The vessel made another turn an acquire data on Line MGL1708MH20 from 21:42 UTC through the end of the day.

Daily Comment Summaries - Plan for Tomorrow

Sat 02 Dec

The Vessel will start the day continuing Line MGL1708MC20. It is expected to concluded at ~06:30 UTC. At that time the vessel will make a line change towards line MGL1708MC22 heading to the NW and when finished will head to Line MGL1708MC06. That will continue through the end of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sat 2. Dec 00:00	Sat 2. Dec 06:46	6.767
SOL Seq 45 Line:MGL1708MH32 Preplot:Line32 FGSP=2141 FCSP=2141 Hdg=329.9° Prime EOL Seq 45 Line:MGL1708MH32 Preplot:Line32 LGSP=1135 LCSP=1135 Complete				
Prime Line Change	AC_PLC	Sat 2. Dec 06:46	Sat 2. Dec 07:19	0.550
Nominal Prime line change.				
Production Prime	AC_PP	Sat 2. Dec 07:19	Sat 2. Dec 18:34	11.250
SOL Seq 46 Line:MGL1708MC07 Preplot:Line7 FGSP=2722 FCSP=2722 Hdg=32.4° Prime EOL Seq 46 Line:MGL1708MC07 Preplot:Line7 LGSP=845 LCSP=845 Complete				
Prime Line Change	AC_PLC	Sat 2. Dec 18:34	Sat 2. Dec 21:42	3.133
Nominal Prime line change.				
Production Prime	AC_PP	Sat 2. Dec 21:42	Sat 2. Dec 24:00	2.300
SOL Seq 47 Line:MGL1708MC20 Preplot:Line20 FGSP=2400 FCSP=2400 Hdg=121.7° Prime MSP Seq 47 Line:MGL1708MC20 Preplot:Line20 LGSP=2004 LCSP=2004 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

2-Dec	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	3.683	15.347
Production Prime	20.317	84.653
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**18.083**	**2.153**
Cetacean	10.617	1.264
Recording	0.617	0.073
Source	0.600	0.071

Category	Hours	% Percent
Streamers	1.167	0.139
Vessel	5.083	0.605
Mobilisation	**95.000**	**11.310**
Deployment	21.850	2.601
Mob Ashore	60.583	7.212
Transit to Prospect	12.567	1.496
Chargeable Standby	**49.467**	**5.889**
Field Operations	3.717	0.442
Transit	23.217	2.764
Weather	22.533	2.683
Acquisition	**677.450**	**80.649**
Prime Line Change	62.150	7.399
Production Infill	0.267	0.032
Production Prime	615.033	73.218
Total	840.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 02 Dec

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational.

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report .

General Purpose Science:
No Major Issues to Report

Miscellaneous:
No Major Issues to Report

Daily Comment Summaries - Personnel Onboard

Sat 02 Dec

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

PSO Staff On-board the Langseth
Amanda Dubuque RPS Lead PSO
Sara Davis RPS PAM operator / PSO
Luis Gonclaves RPS PSO
James Wills RPS PSO
Mary Jane Waru RPS PSO

Science Party On-board the Langseth
Dr. Nathan Bangs UTIG Chief Scientist
Adrien Arnulf UTIG Scientist
Steffen Saustrup UTIG Technician
Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

89%

Prime Lines Completed

73%

Preplot Lines	Complete	Incomplete	Pending
62	45	0	0

Percentages Charged	
Prime	88.78% of 5680.30 km (Sail Line)

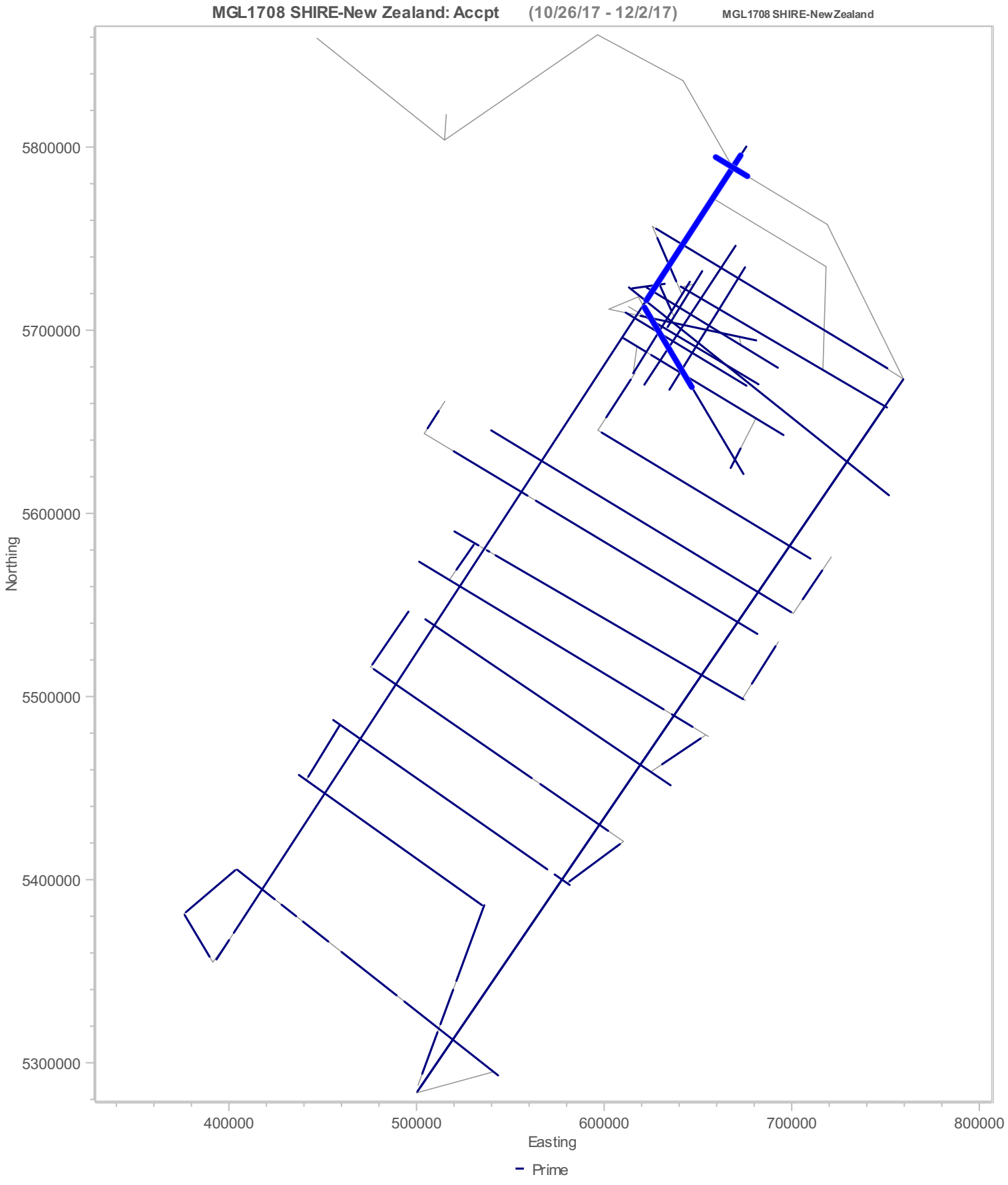
Average Daily Production	
Average Accepted Daily Production	157.60 km
Average Charged Daily Production	157.60 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Sat 2 Dec	Marcus G Langseth	45 - 47	164.00
Total Production:			**164.00**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	164.00	933.15	327.05	5043.20
Infill	0.00	0.00	0.00	0.00
Combined	**164.00**	**933.15**	**327.05**	**5043.20**


MGL1708 SHIRE-New Zealand: Accpt (10/26/17 - 12/2/17)
MGL1708 SHIRE-New Zealand
5800000
5700000
5600000
5500000
5400000
5300000
Northing
400000
500000
600000
700000
800000
Easting
Prime

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sun 03 Dec

The Vessel started the day continuing Line MBL1708MH20 which which concluded at 06:57 UTC . The vessel made a turn an acquire data on Line MGL1708MC19 from 07:11 UTC to 09:32 UTC . The vessel made another turn an acquire data on Line MGL1708MH22 from 11:04 UTC to 21:09 UTC. The remainder of the day was spent on Line change to MGL1708MC06.

Daily Comment Summaries - Plan for Tomorrow

Sun 03 Dec

The Vessel will start the day on line change to line MGL1708MC06. It is expected to start at ~01:30 UTC and continue until ~07:00. At that time the vessel will make a line change towards line MGL1708MC05 heading to the NW and when finished will head to Line MGL1708MC04 to the SW. Line04 will continue through the end of the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sun 3. Dec 00:00	Sun 3. Dec 06:57	6.950
SOL Seq 47 Line:MGL1708MC20 Preplot:Line20 FGSP=2003 FCSP=2003 Hdg=121.7° Prime EOL Seq 47 Line:MGL1708MC20 Preplot:Line20 LGSP=836 LCSP=836 Complete				
Prime Line Change	AC_PLC	Sun 3. Dec 06:57	Sun 3. Dec 07:11	0.233
Nominal Prime line change.				
Production Prime	AC_PP	Sun 3. Dec 07:11	Sun 3. Dec 09:32	2.350
SOL Seq 48 Line:MGL1708MC19 Preplot:Line19 FGSP=2833 FCSP=2833 Hdg=154.3° Prime EOL Seq 48 Line:MGL1708MC19 Preplot:Line19 LGSP=2405 LCSP=2405 Complete				
Prime Line Change	AC_PLC	Sun 3. Dec 09:32	Sun 3. Dec 11:04	1.533
Nominal Prime line change.				
Production Prime	AC_PP	Sun 3. Dec 11:04	Sun 3. Dec 21:09	10.083
SOL Seq 49 Line:MGL1708MC22 Preplot:Line22 FGSP=2569 FCSP=2569 Hdg=301.7° Prime EOL Seq 49 Line:MGL1708MC22 Preplot:Line22 LGSP=848 LCSP=848 Complete				
Prime Line Change	AC_PLC	Sun 3. Dec 21:09	Sun 3. Dec 24:00	2.850
Nominal Prime line change.				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

3-Dec	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	4.617	19.236
Production Prime	19.383	80.764
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**18.083**	**2.093**
Cetacean	10.617	1.229
Recording	0.617	0.071
Source	0.600	0.069
Streamers	1.167	0.135
Vessel	5.083	0.588
Mobilisation	**95.000**	**10.995**
Deployment	21.850	2.529
Mob Ashore	60.583	7.012
Transit to Prospect	12.567	1.454
Chargeable Standby	**49.467**	**5.725**
Field Operations	3.717	0.430
Transit	23.217	2.687
Weather	22.533	2.608
Acquisition	**701.450**	**81.186**
Prime Line Change	67.033	7.758
Production Prime	634.417	73.428
Total	864.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 03 Dec

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational. rGPS on Sub-Array #4 is intermittent

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report .

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Current PAM streamer is having issues with one of the High Freq Hydrophones.

Daily Comment Summaries - Personnel Onboard

Sun 03 Dec

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

PSO Staff On-board the Langseth
Amanda Dubuque RPS Lead PSO
Sara Davis RPS PAM operator / PSO
Luis Gonclaves RPS PSO
James Wills RPS PSO
Mary Jane Waru RPS PSO

Science Party On-board the Langseth
Dr. Nathan Bangs UTIG Chief Scientist
Adrien Arnulf UTIG Scientist
Steffen Saustrup UTIG Technician
Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

92%

Prime Lines Completed

77%

Preplot Lines	Complete	Incomplete	Pending
62	48	0	0

Percentages Charged	
Prime	91.70% of 5680.30 km (Sail Line)

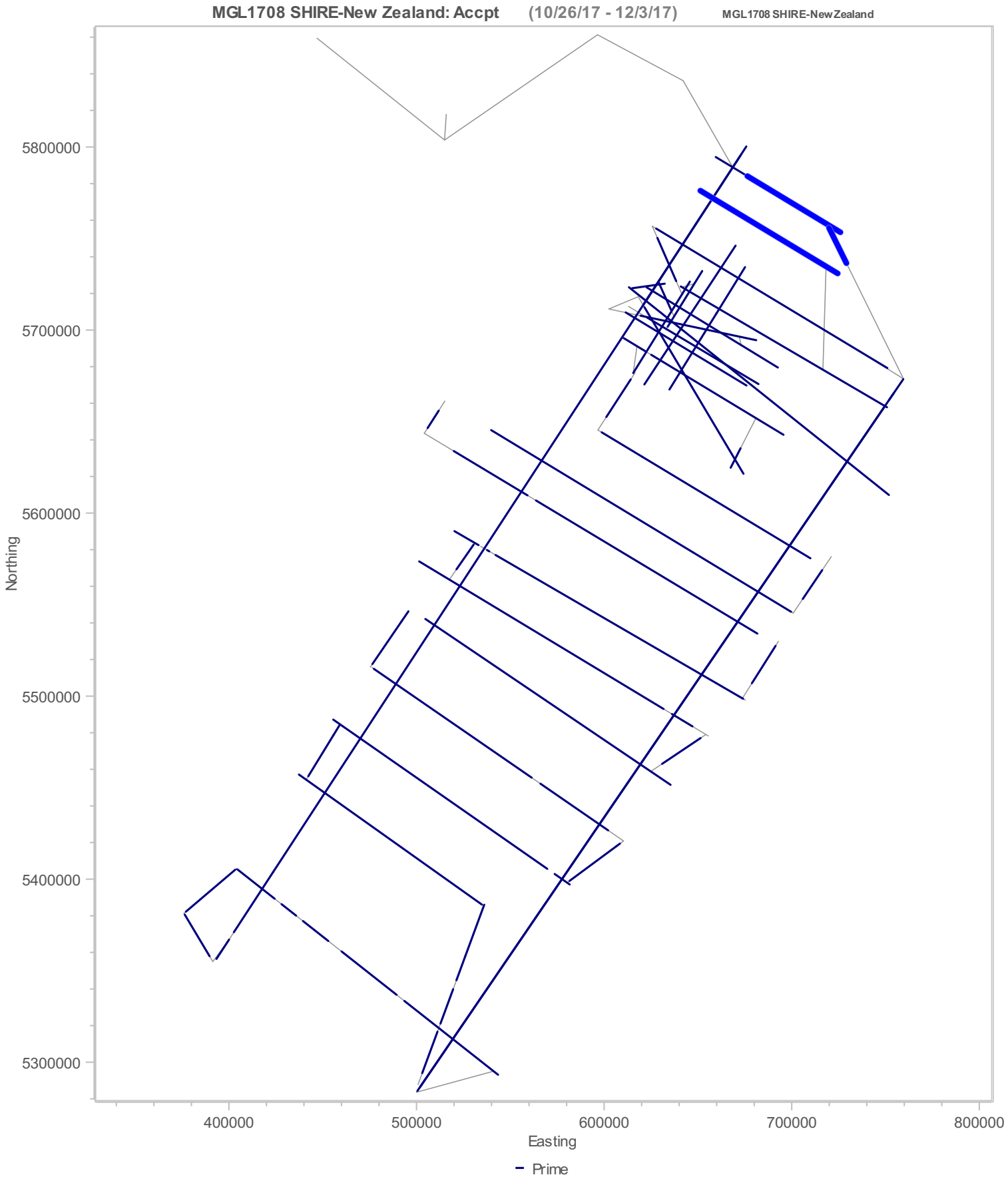
Average Daily Production	
Average Accepted Daily Production	157.85 km
Average Charged Daily Production	157.85 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Sun 3 Dec	Marcus G Langseth	47 - 49	165.85
Total Production:			**165.85**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	165.85	1099.00	492.90	5209.05
Infill	0.00	0.00	0.00	0.00
Combined	**165.85**	**1099.00**	**492.90**	**5209.05**


MGL1708 SHIRE-New Zealand: Accpt (10/26/17 - 12/3/17)
MGL1708 SHIRE-New Zealand
5800000
5700000
5600000
5500000
5400000
5300000
Northing
400000
500000
600000
700000
800000
Easting
Prime

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Mon 04 Dec

The Vessel started the day continuing Line Change to line MBL1708MH06 which took place from 02:00 to 08:30UTC . The vessel made a turn an acquire data on Line MGL1708MC04 from 08:37 to 16:24 UTC. The vessel made another turn an acquire data on Line MGL1708MC04 from 11:04 UTC throughout the remainder of the day.

There was one power-down during the day for a PSO sighting at 23:55 UTC while on line MGL1708MC04. This power-down continued into the next day.

Daily Comment Summaries - Plan for Tomorrow

Mon 04 Dec

The Vessel will start the day line MGL1708MC04. It is expected to continue on this line 04:55 UTC. At that time the vessel will make a line change towards line MGL1708MC03 heading to the NW, which is expected end at ~15:00 UTC. At that time the vessel will make a turn offshore and begin recovery of all towed equipment. During the recovery the streamer will be shifted around in preparation for the 3D survey in Jan 2018. Once the streamer is on-board the Port Barovane will be deployed to so as to test the Port Wide Tow winch and Deflector under Load. Once that is complete the vessel will make perpetration for arrival in Tauranga, NZ on the Morning of the 7th of Dec at ~10:00 NZDT (21:00 UTC).

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Prime Line Change	AC_PLC	Mon 4. Dec 00:00	Mon 4. Dec 02:00	2.000
Nominal Prime line change.				
Production Prime	AC_PP	Mon 4. Dec 02:00	Mon 4. Dec 08:30	6.500
SOL Seq 50 Line:Line6 FGSP=2118 FCSP=2118 Hdg=330.8° Prime EOL Seq 50 Line:Line6 LGSP=1001 LCSP=1001 Complete				
Prime Line Change	AC_PLC	Mon 4. Dec 08:30	Mon 4. Dec 08:37	0.117
Nominal Prime line change.				
Production Prime	AC_PP	Mon 4. Dec 08:37	Mon 4. Dec 16:24	7.783
SOL Seq 51 Line:Line5 FGSP=2021 FCSP=2021 Hdg=298.8° Prime EOL Seq 51 Line:Line5 LGSP=1027 LCSP=1027 Complete				
Prime Line Change	AC_PLC	Mon 4. Dec 16:24	Mon 4. Dec 16:27	0.050
Nominal Prime line change.				
Production Prime	AC_PP	Mon 4. Dec 16:27	Mon 4. Dec 23:55	7.467
SOL Seq 52 Line:Line4 FGSP=2983 FCSP=2983 Hdg=234.8° Prime EOL Seq 52 Line:Line4 LGSP=1764 LCSP=1764 Incomplete				
Cetacean	DT_CT	Mon 4. Dec 23:55	Mon 4. Dec 24:00	0.083
NTBP Seq 52 Line4 FSP=1763 LSP=1754 Power Down for PSO Sighting (SEAL)				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

4-Dec	Hours	% Percent
Acquisition	**23.917**	**99.653**
Prime Line Change	2.167	9.028
Production Prime	21.750	90.625
DownTime	**0.083**	**0.347**
Cetacean	0.083	0.347
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**18.167**	**2.046**
Cetacean	10.700	1.205
Recording	0.617	0.069
Source	0.600	0.068
Streamers	1.167	0.131
Vessel	5.083	0.572
Mobilisation	**95.000**	**10.698**
Deployment	21.850	2.461
Mob Ashore	60.583	6.822
Transit to Prospect	12.567	1.415
Chargeable Standby	**49.467**	**5.571**
Field Operations	3.717	0.419
Transit	23.217	2.614
Weather	22.533	2.538
Acquisition	**725.367**	**81.685**
Prime Line Change	69.200	7.793
Production Prime	656.167	73.893
Total	888.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 04 Dec

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational. rGPS on Sub-Array #4 is intermittent

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report .

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Current PAM streamer is having issues with one of the High Freq Hydrophones.

Daily Comment Summaries - Personnel Onboard

Mon 04 Dec

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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Sara Davis RPS PAM operator / PSO
Luis Gonclaves RPS PSO
James Wills RPS PSO
Mary Jane Waru RPS PSO

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Adrien Arnulf UTIG Scientist
Steffen Saustrup UTIG Technician
Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

95%

Prime Lines Completed

81%

Preplot Lines	Complete	Incomplete	Pending
62	50	0	0

Percentages Charged	
Prime	94.63% of 5680.30 km (Sail Line)

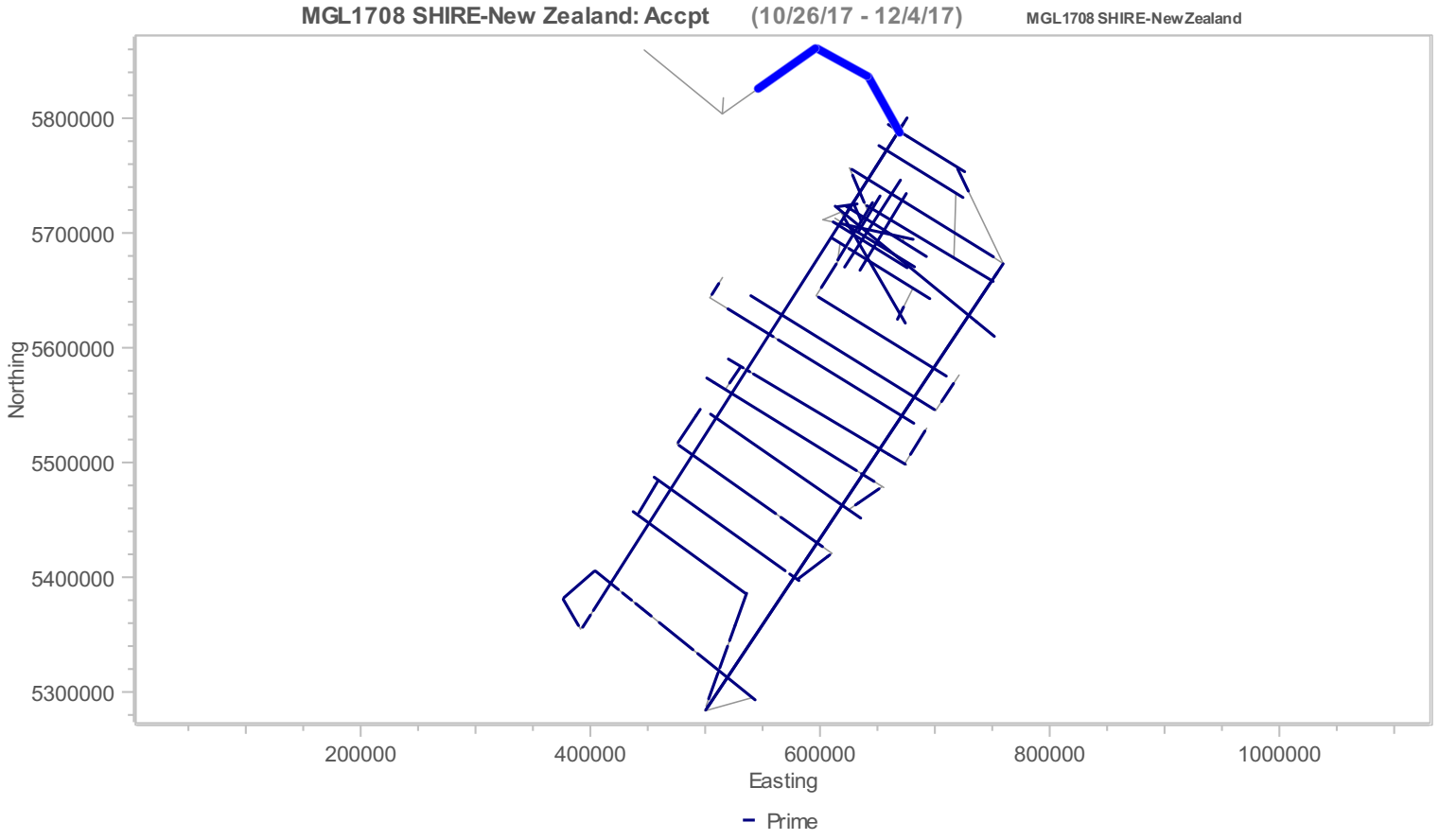
Average Daily Production	
Average Accepted Daily Production	158.10 km
Average Charged Daily Production	158.10 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Mon 4 Dec	Marcus G Langseth	50 - 52	166.50
Total Production:			**166.50**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	166.50	166.50	659.40	5375.55
Infill	0.00	0.00	0.00	0.00
Combined	**166.50**	**166.50**	**659.40**	**5375.55**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Tue 05 Dec

The Vessel started the day on line MGL1708MC04,which ended at 02:58 UTC. At that time the vessel made a line change towards line MGL1708MC03 heading to the NW. Acquisition on this line went from 05:59 UTC to 15:50 UTC. At that time the vessel will make a turn offshore and begin recovery of all towed equipment which continued throughout the remainder of the day .

During the recovery the streamer was shifted around in preparation for the 3D survey in Jan 2018.

Daily Comment Summaries - Plan for Tomorrow

Tue 05 Dec

The Vessel will start the day continuing recovery of the streamer. Once the streamer is on-board the Port Barovane will be deployed to test the Port Wide Tow winch and Deflector under Load. Once that is complete the vessel will make perpetration for arrival in Tauranga, NZ on the Morning of the 7th of Dec at ~10:00 NZDT (21:00 UTC).

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Cetacean	DT_CT	Tue 5. Dec 00:00	Tue 5. Dec 00:31	0.517
NTBP Seq 52 FSP=1752 LSP=1672 Power-down for PSO Sighting SEAL				
Production Prime	AC_PP	Tue 5. Dec 00:31	Tue 5. Dec 02:58	2.450
SOL Seq 52 Line:MGL1708MC04 Preplot:Line4 FGSP=1671 FCSP=1671 Hdg=234.8° Prime EOL Seq 52 Line:MGL1708MC04 Preplot:Line4 LGSP=1299 LCSP=1299 Complete				
Prime Line Change	AC_PLC	Tue 5. Dec 02:58	Tue 5. Dec 05:59	3.017
Nominal Prime line change.				
Production Prime	AC_PP	Tue 5. Dec 05:59	Tue 5. Dec 15:50	9.850
SOL Seq 53 Line:Line3 FGSP=2758 FCSP=2758 Hdg=309.3° Prime EOL Seq 53 Line:Line3 LGSP=857 LCSP=857 Complete				
Recovery	DM_RC	Tue 5. Dec 15:50	Tue 5. Dec 17:17	1.450
Demobilising offshore, recovering Source Array				
Recovery	DM_RC	Tue 5. Dec 17:17	Tue 5. Dec 18:54	1.617
Demobilising offshore, recovering Streamer				
Streamer Reconfig	SB_REC_SR	Tue 5. Dec 18:54	Tue 5. Dec 21:36	2.700
Chargeable standby due to re-configuring streamer. Re-tensioning Lead-in #1				
Recovery	DM_RC	Tue 5. Dec 21:36	Tue 5. Dec 24:00	2.400
Demobilising offshore, recovering of Streamer				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

5-Dec	Hours	% Percent
Acquisition	**15.317**	**63.819**
Prime Line Change	3.017	12.569
Production Prime	12.300	51.250

5-Dec	Hours	% Percent
Chargeable Standby	**2.700**	**11.250**
Reconfiguration	2.700	11.250
Streamer Reconfig	2.700	11.250
Demobilisation	**5.467**	**22.778**
Recovery	5.467	22.778
DownTime	**0.517**	**2.153**
Cetacean	0.517	2.153
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**18.683**	**2.049**
Cetacean	11.217	1.230
Recording	0.617	0.068
Source	0.600	0.066
Streamers	1.167	0.128
Vessel	5.083	0.557
Mobilisation	**95.000**	**10.417**
Deployment	21.850	2.396
Mob Ashore	60.583	6.643
Transit to Prospect	12.567	1.378
Chargeable Standby	**52.167**	**5.720**
Field Operations	3.717	0.408
Reconfiguration	2.700	0.296
Streamer Reconfig	2.700	0.296
Transit	23.217	2.546
Weather	22.533	2.471
Acquisition	**740.683**	**81.215**
Prime Line Change	72.217	7.918
Production Prime	668.467	73.297
Demobilisation	**5.467**	**0.599**
Recovery	5.467	0.599
Total	912.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 05 Dec

Navigation:
PosNet rGPS pod on Sub-Array number 1 and 3 are not Operational. rGPS on Sub-Array #4 is intermittent

DigiRange on Sub-arrays 1 and 4 not working.

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report .

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Current PAM streamer is having issues with one of the High Freq Hydrophones.

Daily Comment Summaries - Personnel Onboard

Tue 05 Dec

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
Dean Addison Atlas Personnel Marine Science Technician (Source)
Kevin Oneill Atlas Personnel Marine Science Technician (Source/Compressor)

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Amanda Dubuque RPS Lead PSO
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Andrew Gase UTIG PhD Student
Brandon Shuck UTIG PhD Student
Helen Lacey Imperial PhD Student
Bhavik Lodhia Imperial PhD Student
Danielle Fougere Otago MSc Student
Adnan Djeffal Auckland PhD Student
Duncan Stevens Southampton PhD Student
Jess Hillman GNS Postdoc

Survey Progress (MGL1708 SHIRE-New Zealand)

Percentage of Prime Charged

97%

Prime Lines Completed

84%

Preplot Lines	Complete	Incomplete	Pending
62	52	0	0

Percentages Charged	
Prime	96.64% of 5680.30 km (Sail Line)

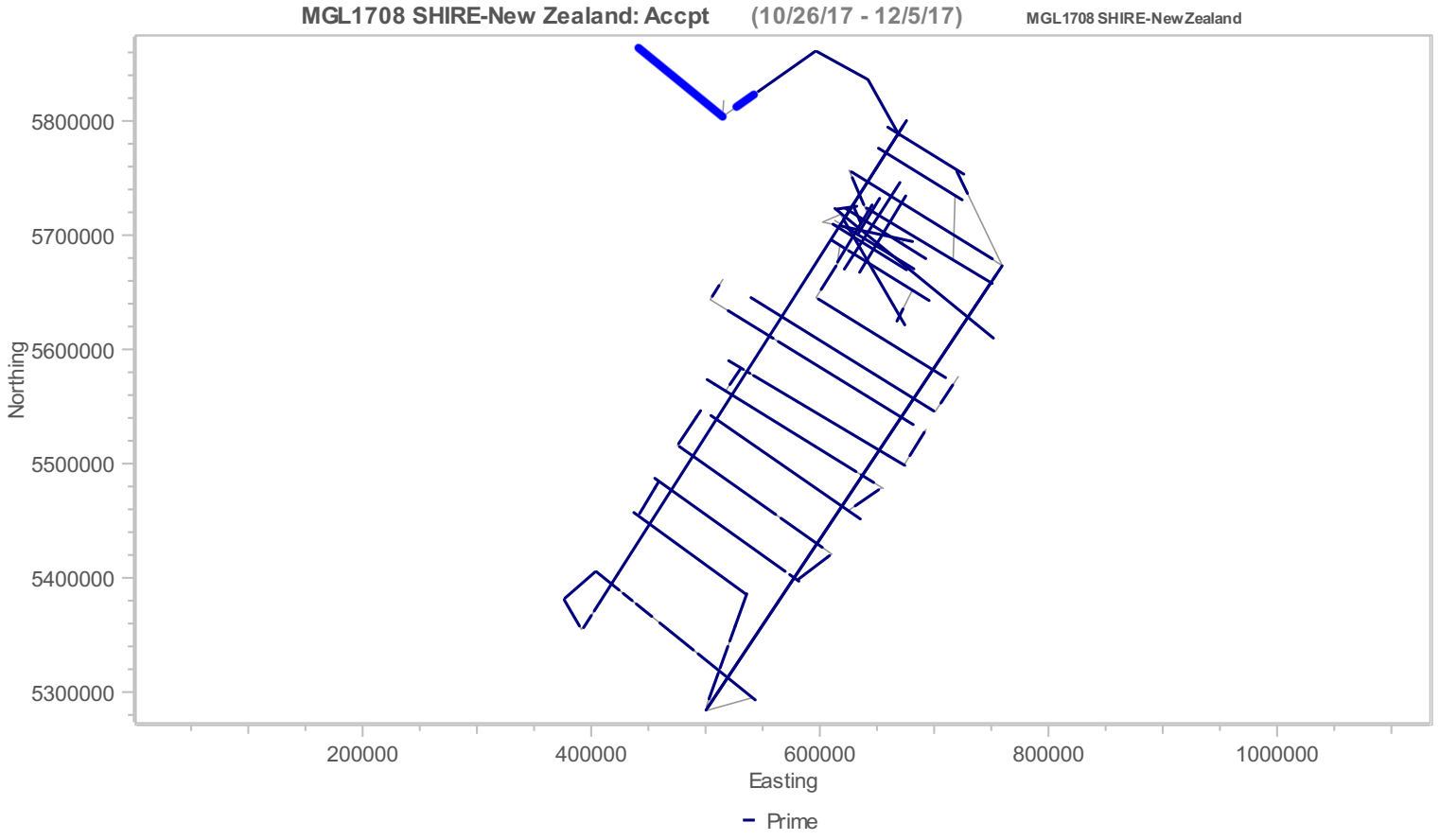
Average Daily Production	
Average Accepted Daily Production	156.84 km
Average Charged Daily Production	156.84 km

Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Tue 5 Dec	Marcus G Langseth	52 - 53	113.70
Total Production:			**113.70**

Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Prime	113.70	280.20	773.10	5489.25
Infill	0.00	0.00	0.00	0.00
Combined	**113.70**	**280.20**	**773.10**	**5489.25**



Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1708	**Job No:**	MGL1708
Block:	MGL1708 SHIRE-New Zealand	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Robert J Steinhaus/Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Wed 06 Dec

The Vessel started the day continuing streamer work. At 03:11 UTC all streamer work was completed and deployment of the Port Barovane took place to re-tension the wide tow rope and test the Winch.
At 06:30 UTC Barovane was back on-board an the vessel was transiting slow back towards Tauranga for a 21:00 UTC Pilot, At 22:04 UTC the vessel was secured alongside Tauranga, NZ Berth 5 and would remain that way throughout the remainder of the day demobilizing from MGL1708.

Daily Comment Summaries - Plan for Tomorrow

Wed 06 Dec

The Vessel will start the day continuing demobilization alongside Berth #5 Tauranga, NZ. It will remain this way throughout the day.

Timing Diary (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Code	Start	End	Duration
Recovery	DM_RC	Wed 6. Dec 00:00	Wed 6. Dec 02:02	2.033
Demobilising offshore, recovering of Streamer				
Streamer Reconfig	SB_REC_SR	Wed 6. Dec 02:02	Wed 6. Dec 03:11	1.150
Chargeable standby due to re-configuring streamer. Tensioning Lead-in #4				
Recovery	DM_RC	Wed 6. Dec 03:11	Wed 6. Dec 04:10	0.983
Demobilising offshore,Continue recovering Streamer				
Tests	SB_TE	Wed 6. Dec 04:10	Wed 6. Dec 06:30	2.333
Chargeable standby due to test of the Port Wide Winch and Barovane.				
Transit From Prospect	DM_TF	Wed 6. Dec 06:30	Wed 6. Dec 22:04	15.567
Demobilising, In Transit from prospect for demobilisation ashore.				
Demob Ashore	DM_DA	Wed 6. Dec 22:04	Wed 6. Dec 24:00	1.933
Demobilising ashore Vessel alongside Berth 5 - Tauranga, NZ				

Timing Day By Day (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

6-Dec	Hours	% Percent
Chargeable Standby	**3.483**	**14.514**
Reconfiguration	1.150	4.792
Streamer Reconfig	1.150	4.792
Tests	2.333	9.722
Demobilisation	**20.517**	**85.486**
Demob Ashore	1.933	8.056
Recovery	3.017	12.569
Transit From Prospect	15.567	64.861
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1708 SHIRE-New Zealand)

Category	Hours	% Percent
DownTime	**18.683**	**1.996**
Cetacean	11.217	1.198
Recording	0.617	0.066
Source	0.600	0.064
Streamers	1.167	0.125
Vessel	5.083	0.543
Demobilisation	**25.983**	**2.776**
Demob Ashore	1.933	0.207
Recovery	8.483	0.906
Transit From Prospect	15.567	1.663
Mobilisation	**95.000**	**10.150**
Deployment	21.850	2.334
Mob Ashore	60.583	6.473
Transit to Prospect	12.567	1.343
Chargeable Standby	**55.650**	**5.946**
Field Operations	3.717	0.397
Reconfiguration	3.850	0.411
Streamer Reconfig	3.850	0.411
Tests	2.333	0.249
Transit	23.217	2.480
Weather	22.533	2.407
Acquisition	**740.683**	**79.133**
Prime Line Change	72.217	7.715
Production Prime	668.467	71.417
Total	936.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 06 Dec

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report .

General Purpose Science:
No Major Issues to Report

Miscellaneous:
No Major Issues to Report

Daily Comment Summaries - Personnel Onboard

Wed 06 Dec

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMO Chief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - IT/Acq
Josh Kasinger L-DEO OMO Marine Sceince Technician - Source
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician -Nav
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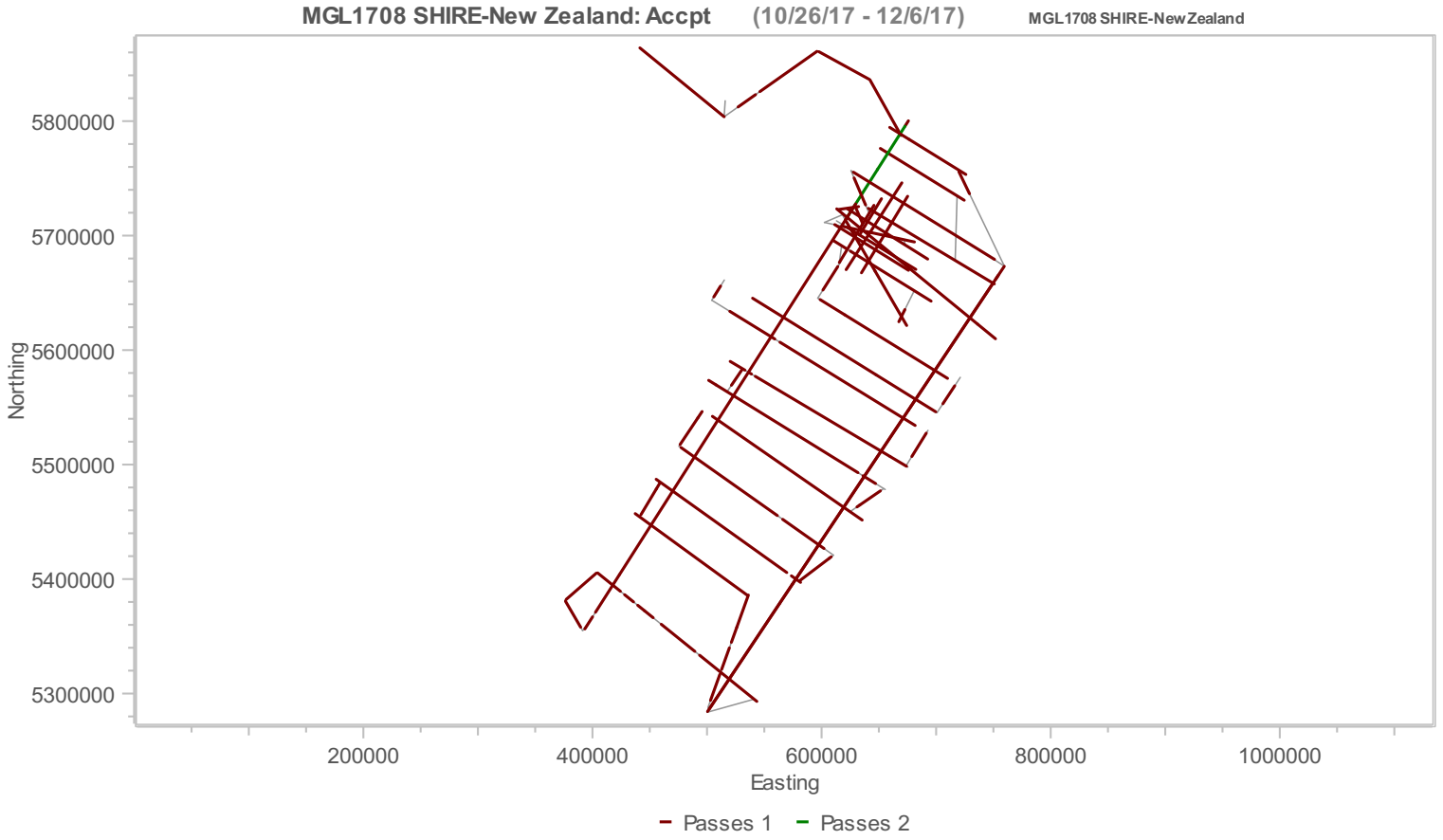
MGL1708 SHIRE-New Zealand: Accpt (10/26/17 - 12/6/17)
MGL1708 SHIRE-NewZealand
5800000
5700000
5600000
5500000
5400000
5300000
Northing
200000
400000
600000
800000
1000000
Easting
Passes 1
Passes 2