Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sat 07 Jan

The Vessel was in Valparaiso, Chile making preparation for Tours and VIP's to visit the vessel on the 8th and 9th. All science systems were brought on-line and test. Clean of Science Spaces continued.

Daily Comment Summaries - Plan for Tomorrow

Sat 07 Jan

Vessel will remain in Valparaiso, Chile, continuing preparation for Tours and VIP's to visit the vessel on the 8th and 9th. Mobilization for MGL1701 will begin.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
At Anchor	MB_AA	Sat 7. Jan 00:00	Sat 7. Jan 10:00	10.000
Mobilising, vessel at anchor				
Mob Ashore	MB_MA	Sat 7. Jan 10:00	Sat 7. Jan 24:00	14.000
Mobilising Ashore.				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

7-Jan	Hours	% Percent
Mobilisation	**24.000**	**100.000**
At Anchor	10.000	41.667
Mob Ashore	14.000	58.333
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**24.000**	**100.000**
At Anchor	10.000	41.667
Mob Ashore	14.000	58.333
Total	24.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 07 Jan

Navigation:
No Major Issues toReport

Information Technology (IT):
No Major Issues toReport

Acquisition (OBS):
Old Seisnet One has had a processor failure.

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

General PurposeScience:
No Major Issues to Report

Miscellaneous:
No MajorIssues to Report

Daily Comment Summaries - Personnel Onboard

Sat 07 Jan

Technical Staff On-board the Langseth
Robert SteinhausL-DEO OMOChief Science Officer
David MartinsonL-DEO OMOScience Officer – Nav/IT
Todd JensvoldL-DEO OMOScience Officer - Acq
Alan ThompsonL-DEO OMOMarine Science Technician (Nav)

Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sun 08 Jan

The Vessel remained alongside Pier #7 Valparaiso, Chile Mobilizing for MGL1701. During the day a number of tours of the vessel took place. Preparations for VIP visitors continued throughout the day.

Daily Comment Summaries - Plan for Tomorrow

Sun 08 Jan

The Vessel will continue alongside Pier #7 Valparaiso, Chile mobilizing for MGL1701. Today there will be a number of tours including the VIP tours will take place. Remainder of Science Crew should arrive. as well as all Science Party.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Mob Ashore	MB_MA	Sun 8. Jan 00:00	Sun 8. Jan 24:00	24.000
Mobilising Ashore for MGL1701 - Alongside Pier 7 - Valparaiso, Chile				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

8-Jan	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, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**48.000**	**100.000**
At Anchor	10.000	20.833
Mob Ashore	38.000	79.167
Total	48.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 08 Jan

Navigation:
No Major Issues toReport

Information Technology (IT):
No Major Issues toReport

Acquisition (OBS):
Old Seisnet One has had a processor failure.

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

General PurposeScience:
No Major Issues to Report

Miscellaneous:
No MajorIssues to Report

Daily Comment Summaries - Personnel Onboard

Sun 08 Jan

Technical Staff On-board the Langseth
Robert SteinhausL-DEO OMOChief Science Officer
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Todd JensvoldL-DEO OMOScience Officer - Acq
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Ambrose Mavor-ParkerL-DEO OMOMarine Science Technician (ACQ)
Andrej Smiscal Atlas PersonnelCompressor Mech - Contractor

PSO Staff On-board the Langseth
Amanda DubuqueRPSLead PSO
Laura BluthRPSPAM operator / PSO
Cassandra FreyRPSPSO
Belen Sharon TorresRPSPSO
Yessica VincencioRPSPSO

Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Mon 09 Jan

The Vessel remained alongside Pier #7 Valparaiso, Chile Mobilizing for MGL1701. During the morning a number of tours where given of the vessel and in the afternoon the President of Chile and US Ambassador to Chile Visited the vessel. Continued preparing for MGL1701

Daily Comment Summaries - Plan for Tomorrow

Mon 09 Jan

The Vessel will continue alongside Pier #7 Valparaiso, Chile mobilizing for MGL1701 until ~12:00 UTC when the vessel will move to the Anchorage to take on Fuel. Once Fueling is complete the vessel will get underway for the prospect area.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Mob Ashore	MB_MA	Mon 9. Jan 00:00	Mon 9. Jan 24:00	24.000
Mobilising Ashore for MGL1701 - Alongside Pier 7 - Valparaiso, Chile				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

9-Jan	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, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**72.000**	**100.000**
At Anchor	10.000	13.889
Mob Ashore	62.000	86.111
Total	72.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 09 Jan

Navigation:
No Major Issues toReport

Information Technology (IT):
Jetstore #2 (NAS) is having issues being mounted to FSERVE

Acquisition (OBS):
Old Seisnet One has had a processor failure.

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

General PurposeScience:
No Major Issues to Report

Miscellaneous:
No MajorIssues to Report

Daily Comment Summaries - Personnel Onboard

Mon 09 Jan

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Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Tue 10 Jan

The Vessel began the day alongside Pier #7 Valparaiso, Chile Mobilizing for MGL1701. At 12:50 UTC the vessel got underway for the Anchorage to conduct fueling operations. At 17:00 UTC fueling operations were aborted due to Safety Concerns. The wind had picked up in the afternoon an their were concerns the Fueling Vessel would make contact with the Langseth's Paravane deck on the port side of the ship. Refueling was re-scheduled for tomorrow morning. The vessel remained at Anchor for the remainder of the day.

Daily Comment Summaries - Plan for Tomorrow

Tue 10 Jan

The Vessel will start the day at anchor at Valparaiso, Chile mobilizing for MGL1701. At ~09:30 the vessel will retrieve the anchor and meet up with the fueling vessel. It is hoped that fueling can begin at ~12:00 UTC and be completed by ~19:00 UTC. The vessel will then get underway for the prospect area, which it will continue in transit for the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Mob Ashore	MB_MA	Tue 10. Jan 00:00	Tue 10. Jan 12:50	12.833
Mobilising Ashore for MGL1701 - Alongside Pier 7 - Valparaiso, Chile				
At Anchor	MB_AA	Tue 10. Jan 12:50	Tue 10. Jan 17:00	4.167
Mobilising, vessel at anchor, Working on getting the fuel vessel alongside.				
Weather	SB_WX	Tue 10. Jan 17:00	Tue 10. Jan 24:00	7.000
Fueling operations aborted due to winds and configuration of the fueling vessel. Safety concerns about it hitting the port side paravane well during the operations. Re-scheduled for next morning.				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

10-Jan	Hours	% Percent
Chargeable Standby	**7.000**	**29.167**
Weather	7.000	29.167
Mobilisation	**17.000**	**70.833**
At Anchor	4.167	17.361
Mob Ashore	12.833	53.472
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**89.000**	**92.708**
At Anchor	14.167	14.757
Mob Ashore	74.833	77.951
Chargeable Standby	**7.000**	**7.292**
Weather	7.000	7.292
Total	96.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 10 Jan

Navigation:
No Major Issues toReport

Information Technology (IT):
Jetstore #2 (NAS) is having issues being mounted to FSERVE

Acquisition (OBS):
Old Seisnet One has had a processor failure.

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

General PurposeScience:
No Major Issues to Report

Miscellaneous:
No Majorlssues to Report

Daily Comment Summaries - Personnel Onboard

Tue 10 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
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Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Wed 11 Jan

The Vessel started the day at anchor in Valparaiso, Chile mobilizing for MGL1701. At ~09:30 the vessel retrieved the anchor and meet up with the fueling vessel. Fueling began at 11:18 and continued until 18:15 UTC. At that time the vessel made is way back to Anchorage awaiting Custom and Immigration Clearance. At 23:00 UTC the vessel had received it clearances and was transiting towards the deployment area. This continued throughout the rest of the day.

Daily Comment Summaries - Plan for Tomorrow

Wed 11 Jan

The Vessel will start the day transiting towards the prospect area. At ~05:50 the vessel will slow down and start deploying streamer, which is expected to continue throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Weather	SB_WX	Wed 11. Jan 00:00	Wed 11. Jan 10:50	10.833
Fueling operations aborted due to winds and configuration of the fueling vessel. Safety concerns about it hitting the port side paravane well during the operations.				
At Anchor	MB_AA	Wed 11. Jan 10:50	Wed 11. Jan 18:15	7.417
Secured Alongside fueling vessel				
At Anchor	MB_AA	Wed 11. Jan 18:15	Wed 11. Jan 23:09	4.900
Mobilising, vessel at anchorage waiting on Custom/Imagration Clearance.				
Transit to Prospect	MB_TT	Wed 11. Jan 23:09	Wed 11. Jan 24:00	0.850
In transit to prospect, for mobilising deployment.				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

11-Jan	Hours	% Percent
Chargeable Standby	**10.833**	**45.139**
Weather	10.833	45.139
Mobilisation	**13.167**	**54.861**
At Anchor	12.317	51.319
Transit to Prospect	0.850	3.542
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**102.167**	**85.139**
At Anchor	26.483	22.069
Mob Ashore	74.833	62.361
Transit to Prospect	0.850	0.708
Chargeable Standby	**17.833**	**14.861**
Weather	17.833	14.861
Total	120.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 11 Jan

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 11 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
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Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

0%

Prime Lines Completed

0%

Preplot Lines	Complete	Incomplete	Pending
36	0	0	0

Percentages Charged	
Prime	0.00% of 6661.24 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

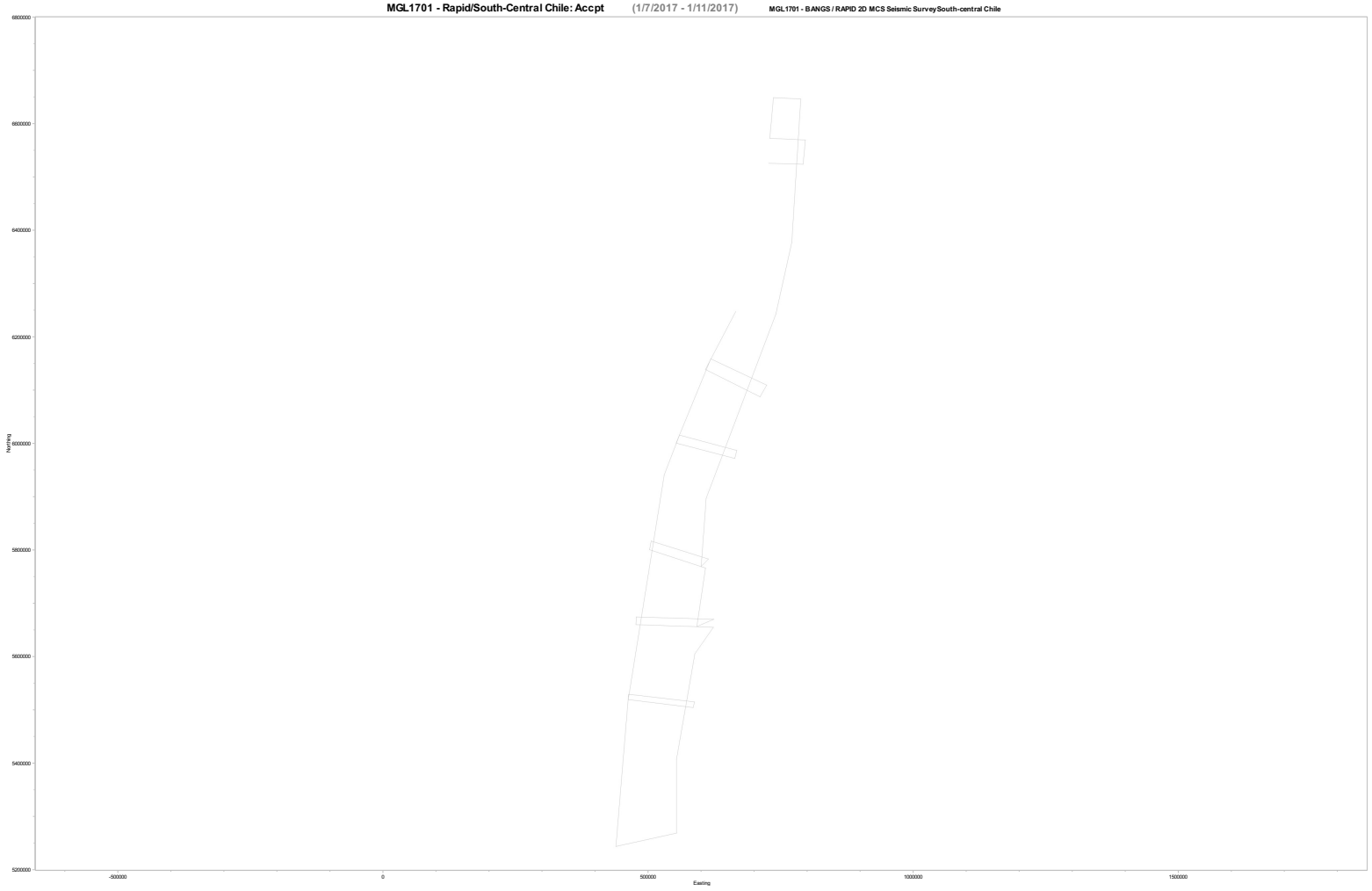
Date	Vessel	First - Last Sequence	Production

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

MGL1701 - Rapid/South-Central Chile: Accpt (1/7/2017 - 1/11/2017) MGL1701 - BANGS / RAPID 2D MCS Seismic SurveySouth-central Chile



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Thu 12 Jan

The Vessel started the day Transiting towards the Survey Area. At 05:50 UTC the vessel started Deploying streamer. There was a slight delay in Deployment from 09:34 UTC to 11:46 UTC because of an issue with the Hydraulics on Streamer Reel #2. The Streamer was deployed at 19:20 UTC and at 20:01 Deployment of PAM, Maggie and the Source Commenced. Source was fully deployed at 21:40 UTC and ramp up up commenced. Ramp up was completed at 22:12 UTC and the vessel continued transit towards the line throughout the remainder of the day.

Daily Comment Summaries - Plan for Tomorrow

Thu 12 Jan

The Vessel will start the day transiting towards Line MCS01. At ~00:06 UTC this line will start and continue to ~12:16 UTC. At that time the vessel will make a line change to Line MCS02. It is expected that production on Line MCS02 at ~18:00 UTC and continue throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Transit to Prospect	MB_TT	Thu 12. Jan 00:00	Thu 12. Jan 05:45	5.750
In transit to prospect, for mobilising deployment.				
Deployment	MB_DP	Thu 12. Jan 05:45	Thu 12. Jan 07:49	2.067
Deploy tailbuoy and streamer from Reel #3				
Deployment	MB_DP	Thu 12. Jan 07:49	Thu 12. Jan 09:34	1.750
Deploy streamer from Reel #2				
Vessel	DT_VE	Thu 12. Jan 09:34	Thu 12. Jan 11:46	2.200
Hydraulic leak on Reel #2 brake. Replaced hose.				
Deployment	MB_DP	Thu 12. Jan 11:46	Thu 12. Jan 14:29	2.717
Continue deployment from Reel #2				
Deployment	MB_DP	Thu 12. Jan 14:29	Thu 12. Jan 19:08	4.650
Deploy streamer from Reel #1				
Deployment	MB_DP	Thu 12. Jan 19:08	Thu 12. Jan 20:30	1.367
Deploy head float, lead-in onto soft-tow, Magnetometer and PAM cable.				
Deployment	MB_DP	Thu 12. Jan 20:30	Thu 12. Jan 21:39	1.150
Deploy source array's 1-4				
Cetacean	SB_CT	Thu 12. Jan 21:39	Thu 12. Jan 22:12	0.550
Ramp up of source array				
Transit	SB_TRT	Thu 12. Jan 22:12	Thu 12. Jan 24:00	1.800
Mitigation array operating while transiting to FSP of survey on Line MGL1701MC01				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

12-Jan	Hours	% Percent
Chargeable Standby	**2.350**	**9.792**
Cetacean	0.550	2.292
Transit	1.800	7.500
DownTime	**2.200**	**9.167**
Vessel	2.200	9.167
Mobilisation	**19.450**	**81.042**
Deployment	13.700	57.083
Transit to Prospect	5.750	23.958
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**84.456**
At Anchor	26.483	18.391
Deployment	13.700	9.514
Mob Ashore	74.833	51.968
Transit to Prospect	6.600	4.583
Chargeable Standby	**20.183**	**14.016**
Cetacean	0.550	0.382
Transit	1.800	1.250
Weather	17.833	12.384
DownTime	**2.200**	**1.528**

Daily Science Report

Category	Hours	% Percent
Vessel	2.200	1.528
Total	144.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 12 Jan

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

Thu 12 Jan

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Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

0%

Prime Lines Completed

0%

Preplot Lines	Complete	Incomplete	Pending
36	0	0	0

Percentages Charged	
Prime	0.00% of 4555.35 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

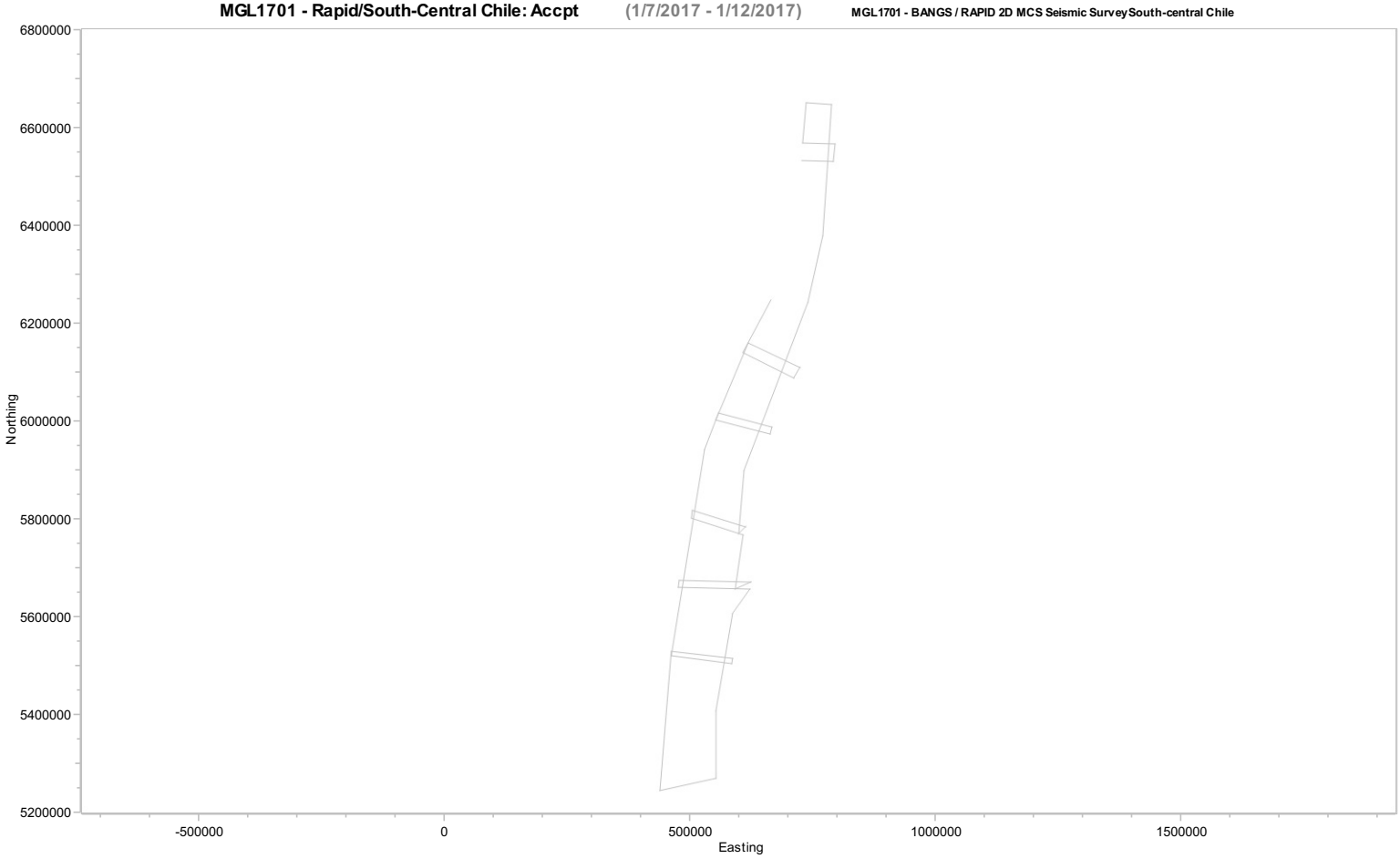
Production Totals (Chgd km) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	0.00	0.00	0.00	0.00
Infill	0.00	0.00	0.00	0.00

Daily Science Report

Charged km	Day	Week	Month	Project
Combined	0.00	0.00	0.00	0.00
Marcus G Langseth				
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
Total				
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**

MGL1701 - Rapid/South-Central Chile: Accpt (1/7/2017 - 1/12/2017)



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Fri 13 Jan

The vessel started the day transiting to the start of Line MCS01. At 00:06 UTC the vessel commenced production on line MCS01, which continued until 12:46 UTC. At this time the vessel started a line change to Line MCS02.. At 19:44 UTC production began on Line MCS02 and continued throughout the rest of the day.

Daily Comment Summaries - Plan for Tomorrow

Fri 13 Jan

The vessel will start the day in production on Line MCS02. This line is expected to be completed at ~02:42 UTC. At that time the vessel will make a line change to Line MCS03. Line MCS03 is expected to begin at ~07:30 UTC and continue through ~16:00 UTC. The vessel will make another line change to Line MCS04 and is expected to begin production at ~22:00 UTC. It should remain in production on line MCS04 through out the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Transit	SB_TRT	Fri 13. Jan 00:00	Fri 13. Jan 00:06	0.100
Mitigation array operating while transiting to FSP of survey on Line MGL1701MC01				
Production Prime	AC_PP	Fri 13. Jan 00:06	Fri 13. Jan 12:46	12.667
SOL Seq 1 MGL1701MCS01 FGSP=601 FCSP=601 Hdg=91.4° Prime EOL Seq 1 MGL1701MCS01 LGSP=2943 LCSP=2943 Complete				
Prime Line Change	AC_PLC	Fri 13. Jan 12:46	Fri 13. Jan 19:44	6.967
Nominal Prime line change.				
Production Prime	AC_PP	Fri 13. Jan 19:44	Fri 13. Jan 24:00	4.267
SOL Seq 2 MGL1701MCS02 FGSP=763 FCSP=763 Hdg=5.9° Prime MSP Seq 2 MGL1701MCS02 LGSP=1595 LCSP=1595 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

13-Jan	Hours	% Percent
Acquisition	**23.900**	**99.583**
Prime Line Change	6.967	29.028
Production Prime	16.933	70.556
Chargeable Standby	**0.100**	**0.417**
Transit	0.100	0.417
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**72.391**
At Anchor	26.483	15.764
Deployment	13.700	8.155
Mob Ashore	74.833	44.544
Transit to Prospect	6.600	3.929
Chargeable Standby	**20.283**	**12.073**
Cetacean	0.550	0.327
Transit	1.900	1.131
Weather	17.833	10.615
Acquisition	**23.900**	**14.226**
Prime Line Change	6.967	4.147
Production Prime	16.933	10.079
DownTime	**2.200**	**1.310**
Vessel	2.200	1.310
Total	168.000	

Daily Science Report

Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 13 Jan

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

Fri 13 Jan

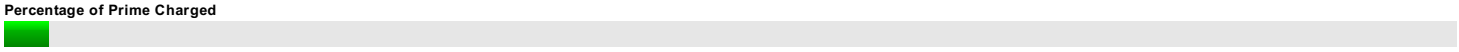
Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
Gilles Guerin L-DEO OMO Marine Science Technician (IT)
Tina Thomas UNOLS-Tech Pool Marine Science Technician (ACQ)

PSO Staff On-board the Langseth
Amanda Dubuque RPS Lead PSO
Laura Bluth RPS PAM operator / PSO
Cassandra Frey RPS PSO
Belen Sharon Torres RPS PSO
Yessica Vincencio RPS PSO

Science Party On-board the Langseth
Nathan Bangs UTIG Chief Scientist
Anne Trehu OSU Co-Chief Scientist
Eduardo Contreras-Reyes University of Chile, Santiago Data processing
Adrien Arnulf UTIG Data processing
Shuoshuo Han UTIG Data processing
Ben Phrampus OSU Data processing
Sebastián Bahamondes University of Chile, Santiago Watchstander
Brooklyn Gose UTIG Watchstander
Kelly Olsen UTIG Watchstander
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

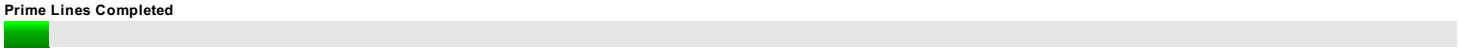
Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged



3%

Prime Lines Completed



3%

Preplot Lines	Complete	Incomplete	Pending
36	1	0	0

Percentages Charged	
Prime	2.61% of 4555.35 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	119.03 km
Average Charged Daily Production	119.03 km

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

Date	Vessel	First - Last Sequence	Production
Fri 13 Jan	Marcus G Langseth	1 - 2	119.03
Total Production:			**119.03**

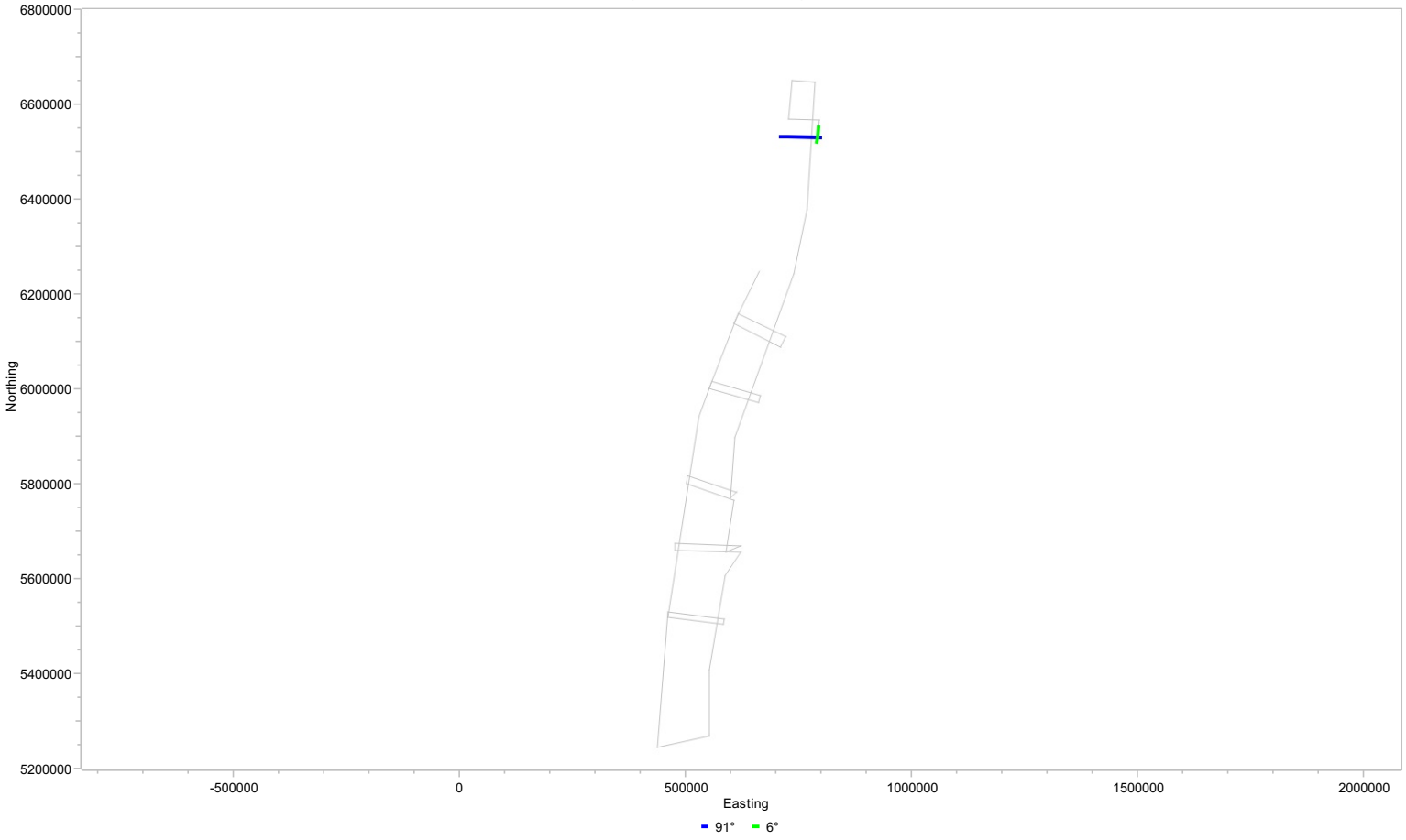
Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	119.03	119.03	119.03	119.03
Infill	0.00	0.00	0.00	0.00
Combined	119.03	119.03	119.03	119.03

Daily Science Report

Charged km	Day	Week	Month	Project
Total				
Prime	119.03	119.03	119.03	119.03
Infill	0.00	0.00	0.00	0.00
Combined	**119.03**	**119.03**	**119.03**	**119.03**

MGL1701 - Rapid/South-Central Chile: Accpt (1/7/2017 - 1/13/2017)



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sat 14 Jan

The vessel started the day in production on Line MCS02. At 02:42 UTC the vessel completed the line and began a line change to MCS03. At that time the vessel will make a line change to Line MCS03. Line MCS03 began at 07:42 UTC and continue through ~18:14 UTC. The vessel will make another line change to Line MCS04 and began production at 23:10 UTC. It remain in production on line MCS04 through out the remainder of the day.

Daily Comment Summaries - Plan for Tomorrow

Sat 14 Jan

The vessel will start the day in production on Line MCS04. Production on Line MCS04 will be completed at ~11:31 UTC and the vessel will begin a line change to MCS05. This line is expected to begin at ~16:00 UTC and continue throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sat 14. Jan 00:00	Sat 14. Jan 02:46	2.767
SOL Seq 2 MGL1701MCS02 FGSP=1596 FCSP=1596 Hdg=5.9° Prime EOL Seq 2 MGL1701MCS02 LGSP=2192 LCSP=2192 Complete EOL Feather=9.4° EOL Water Depth=1305.2m				
Prime Line Change	AC_PLC	Sat 14. Jan 02:46	Sat 14. Jan 07:42	4.933
Nominal Prime line change.				
Production Prime	AC_PP	Sat 14. Jan 07:42	Sat 14. Jan 18:14	10.533
SOL Seq 3 MGL1701MCS03 FGSP=998 FCSP=998 Hdg=271.4° Prime EOL Seq 3 MGL1701MCS03 LGSP=2990 LCSP=2990 Complete SOL Feather=35.9° SOL Water Depth=1305m				
Prime Line Change	AC_PLC	Sat 14. Jan 18:14	Sat 14. Jan 23:10	4.933
Nominal Prime line change.				
Production Prime	AC_PP	Sat 14. Jan 23:10	Sat 14. Jan 24:00	0.833
SOL Seq 4 MGL1701MCS04 FGSP=914 FCSP=914 Hdg=4.7° Prime MSP Seq 4 MGL1701MCS04 LGSP=1092 LCSP=1092 Midnight SOL Feather=-18° SOL Water Depth=6261m				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

14-Jan	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	9.867	41.111
Production Prime	14.133	58.889
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**63.342**
At Anchor	26.483	13.793
Deployment	13.700	7.135
Mob Ashore	74.833	38.976
Transit to Prospect	6.600	3.438
Chargeable Standby	**20.283**	**10.564**
Cetacean	0.550	0.286
Transit	1.900	0.990
Weather	17.833	9.288
Acquisition	**47.900**	**24.948**
Prime Line Change	16.833	8.767
Production Prime	31.067	16.181
DownTime	**2.200**	**1.146**
Vessel	2.200	1.146
Total	192.000	

Daily Science Report

Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 14 Jan

Navigation:
No Major Issues toReport

Information Technology (IT):
No Major Issues toReport

Acquisition (OBS):
No Major Issues toReport

Towing and Handling (Source):
Elements S2G7 Disabled, Intermittent Sync Error on S3G1 and S4G2

General PurposeScience:
No Major Issues to Report

Miscellaneous:
FBB Non-operational due to Antenna motor error.

Daily Comment Summaries - Personnel Onboard

Sat 14 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
Gilles Guerin L-DEO OMO Marine Science Technician (IT)
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Amanda Dubuque RPS Lead PSO
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Yessica Vincencio RPS PSO

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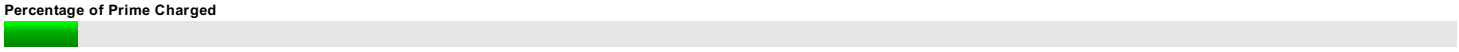
Kelly Olsen UTIG Watchstander
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

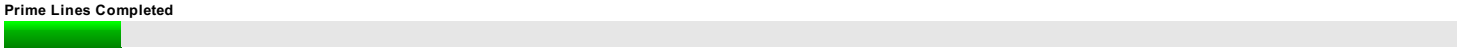
Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged



5%

Prime Lines Completed



8%

Preplot Lines	Complete	Incomplete	Pending
36	3	1	0

Percentages Charged	
Prime	4.89% of 4555.35 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	111.39 km
Average Charged Daily Production	111.39 km

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

Date	Vessel	First - Last Sequence	Production
Sat 14 Jan	Marcus G Langseth	2 - 4	103.76
Total Production:			**103.76**

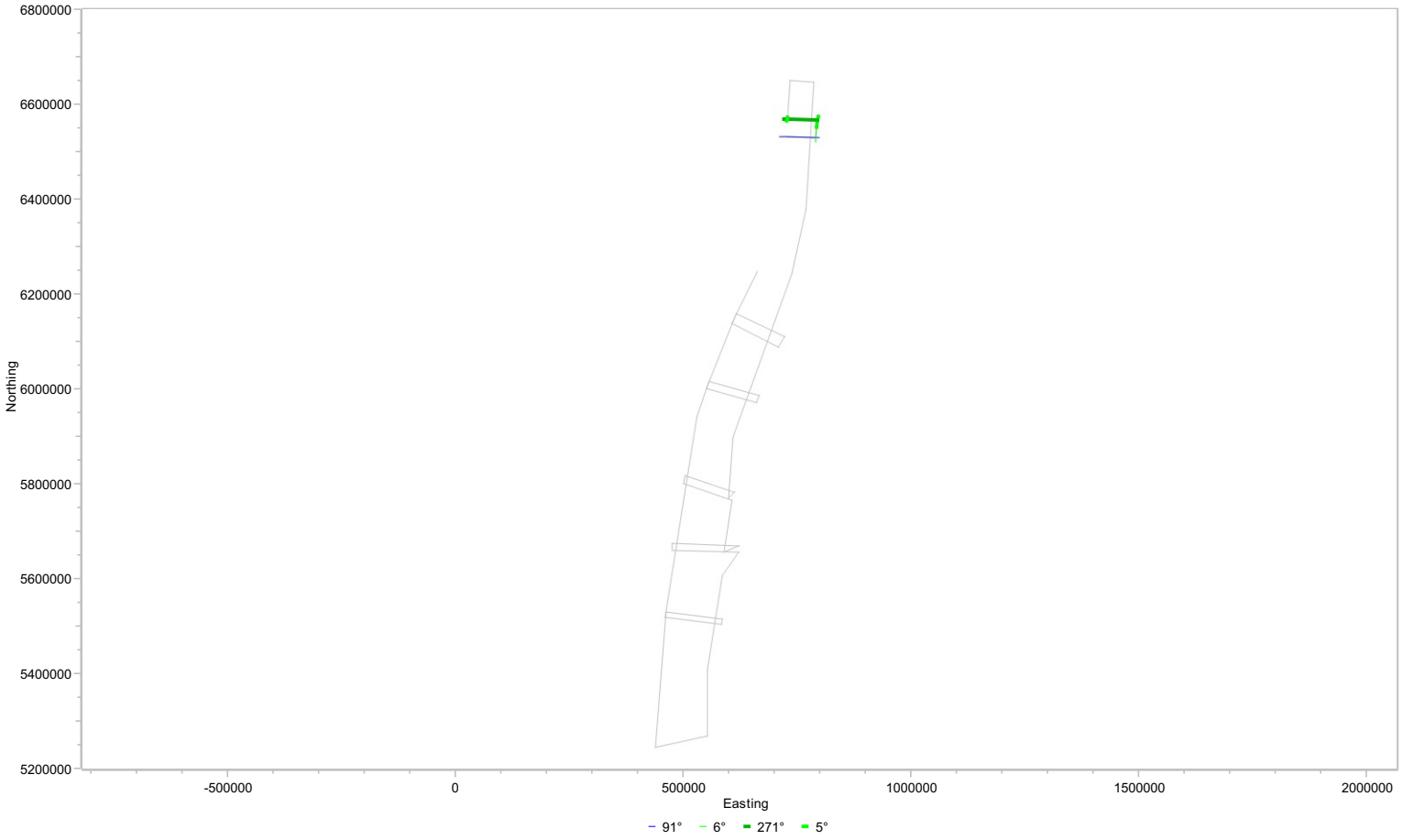
Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	103.76	222.79	222.79	222.79
Infill	0.00	0.00	0.00	0.00
Combined	103.76	222.79	222.79	222.79

Daily Science Report

Charged km	Day	Week	Month	Project
Total				
Prime	103.76	222.79	222.79	222.79
Infill	0.00	0.00	0.00	0.00
Combined	**103.76**	**222.79**	**222.79**	**222.79**

MGL1701 - Rapid/South-Central Chile: Accpt (1/7/2017 - 1/14/2017)



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sun 15 Jan

The vessel started the day In Production on Line MCS04, which continued until 11:31 UTC. At that time the vessel made a line change to MCS05. This line started at 15:53 UTC and continued throughout the rest of the day.

There was one mitigation for a PSO sighting during Line MCS04.

Daily Comment Summaries - Plan for Tomorrow

Sun 15 Jan

The Vessel will start the Day in production on MCS05. Shortly after Day change the vessel will make a line change to MCS06. During this line change the vessel will preform some maintenance on Sub-Array #2. The vessel will begin Production on MCS06 at ~04:00 UTC and continue on it throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sun 15. Jan 00:00	Sun 15. Jan 00:03	0.050
SOL Seq 4 MGL1701MCS04 FGSP=1093 FCSP=1093 Hdg=4.7° Prime EOL Seq 4 MGL1701MCS04 LGSP=1100 LCSP=1100 Incomplete				
Cetacean	DT_CT	Sun 15. Jan 00:03	Sun 15. Jan 00:18	0.250
NTBP Seq 4 MCS04 FSP=1101 LSP=1155				
Production Prime	AC_PP	Sun 15. Jan 00:18	Sun 15. Jan 11:31	11.217
SOL Seq 4 MGL1701MCS04 FGSP=1156 FCSP=1156 Hdg=4.7° Prime EOL Seq 4 MGL1701MCS04 LGSP=3372 LCSP=3372 Complete				
Prime Line Change	AC_PLC	Sun 15. Jan 11:31	Sun 15. Jan 15:53	4.367
Nominal Prime line change.				
Production Prime	AC_PP	Sun 15. Jan 15:53	Sun 15. Jan 24:00	8.117
SOL Seq 5 MGL1701MCS05 FGSP=927 FCSP=927 Hdg=92.7° Prime MSP Seq 5 MGL1701MCS05 LGSP=2576 LCSP=2576 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

15-Jan	Hours	% Percent
Acquisition	**23.750**	**98.958**
Prime Line Change	4.367	18.194
Production Prime	19.383	80.764
DownTime	**0.250**	**1.042**
Cetacean	0.250	1.042
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**56.304**
At Anchor	26.483	12.261
Deployment	13.700	6.343
Mob Ashore	74.833	34.645
Transit to Prospect	6.600	3.056
DownTime	**2.450**	**1.134**
Cetacean	0.250	0.116
Vessel	2.200	1.019
Chargeable Standby	**20.283**	**9.390**
Cetacean	0.550	0.255
Transit	1.900	0.880
Weather	17.833	8.256
Acquisition	**71.650**	**33.171**
Prime Line Change	21.200	9.815
Production Prime	50.450	23.356
Total	216.000	

Daily Science Report

Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 15 Jan

Navigation:
No Major Issues toReport

Information Technology (IT):
No Major Issues toReport

Acquisition (OBS):
No Major Issues toReport

Towing and Handling (Source):
Intermittent Sync Error on S3G1 and S4G2

General PurposeScience:
No Major Issues to Report

Miscellaneous:
FBB Non-operational due to Antenna motor error.

Daily Comment Summaries - Personnel Onboard

Sun 15 Jan

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Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
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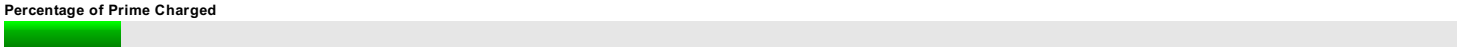
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

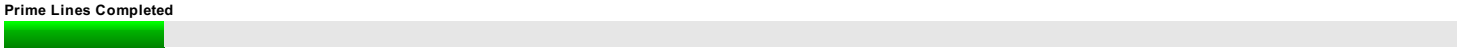
Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged



8%

Prime Lines Completed



11%

Preplot Lines	Complete	Incomplete	Pending
36	4	1	0

Percentages Charged	
Prime	8.08% of 4555.35 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	122.69 km
Average Charged Daily Production	122.69 km

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

Date	Vessel	First - Last Sequence	Production
Sun 15 Jan	Marcus G Langseth	4 - 5	145.28
Total Production:			**145.28**

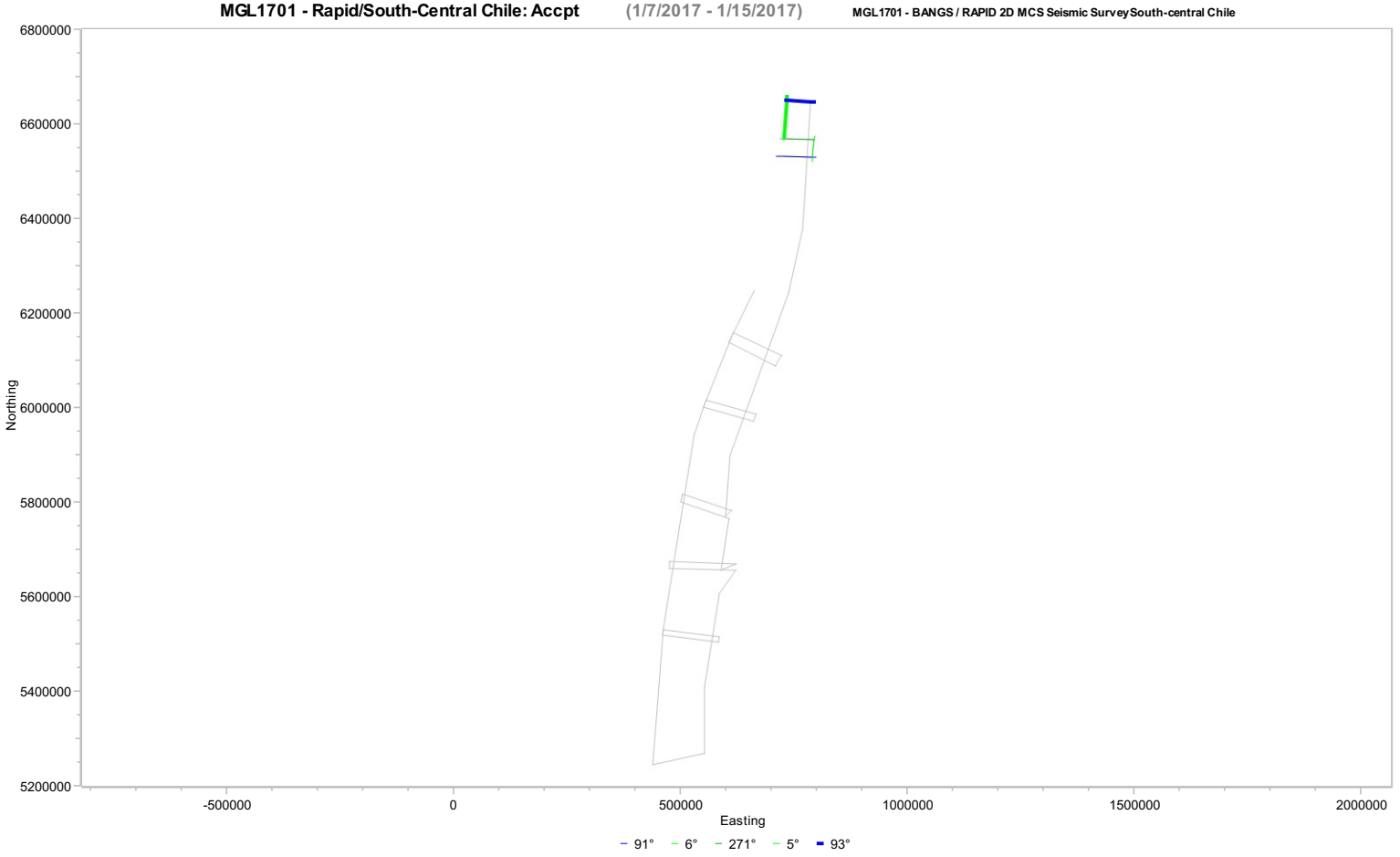
Production Totals (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	145.28	368.06	368.06	368.06
Infill	0.00	0.00	0.00	0.00
Combined	145.28	368.06	368.06	368.06

Daily Science Report

Charged km	Day	Week	Month	Project
Total				
Prime	145.28	368.06	368.06	368.06
Infill	0.00	0.00	0.00	0.00
Combined	**145.28**	**368.06**	**368.06**	**368.06**

MGL1701 - Rapid/South-Central Chile: Accpt (1/7/2017 - 1/15/2017)



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Mon 16 Jan

The vessel started the day On Line MCS05. At 00:02 UTC Line MCS05 ended and a line change to MCS06 took place. Line MCS06 Started at 05:20 UTC and continued throughout the rest of the day.
There was two power downs on Line MCS06 for PSO Sightings.

Daily Comment Summaries - Plan for Tomorrow

Mon 16 Jan

The vessel will start the day in production on Line MCS06. At ~02:30 UTC Line MCS06 will end. The Vessel will acquire data a new line MCS06A while it start re-configuring the towed equipment for the next phase of the survey. Once the vessel has completed all the reconfiguration changes and preformed maintenance on the Source Line MCS06A will be end and a new line MCS06B will be stated and should run to ~19:30 UTC. A very short line change will take place and the vessel will begin production on Line MCS07, which will continue throughout the day rest of the day.

Changes to the Configuration are as follows.
1. Change from 37.5m shot spacing to 50m shot spacing.
2. Change from 16sec records to 20sec records.
3. Change Source Depth from 7m to 9m port depth
4. Change Streamer Depth from 8m to 10m tow depth.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Mon 16. Jan 00:00	Mon 16. Jan 00:02	0.033
SOL Seq 5 MGL1701MCS05 FGSP=2577 FCSP=2577 Hdg=92.7° Prime EOL Seq 5 MGL1701MCS05 LGSP=2584 LCSP=2584 Complete				
Prime Line Change	AC_PLC	Mon 16. Jan 00:02	Mon 16. Jan 05:20	5.300
Nominal Prime line change.				
Production Prime	AC_PP	Mon 16. Jan 05:20	Mon 16. Jan 11:38	6.300
SOL Seq 6 MGL1701MCS06 FGSP=946 FCSP=946 Hdg=183.6° Prime EOL Seq 6 MGL1701MCS06 LGSP=2190 LCSP=2190 Incomplete SOL Feather=94.6° SOL Water Depth=3218m				
Cetacean	DT_CT	Mon 16. Jan 11:38	Mon 16. Jan 11:56	0.300
NTBP Seq 6 MCS06 FSP=2191 LSP=2248 Power Down for PSO Sighting				
Production Prime	AC_PP	Mon 16. Jan 11:56	Mon 16. Jan 22:28	10.533
SOL Seq 6 MGL1701MCS06 FGSP=2249 FCSP=2249 Hdg=183.6° Prime EOL Seq 6 MGL1701MCS06 LGSP=4283 LCSP=4283 Incomplete				
Cetacean	DT_CT	Mon 16. Jan 22:28	Mon 16. Jan 22:39	0.183
NTBP Seq 6 MCS06 FSP=4284 LSP=4315 Power down for PSO Sighting				
Production Prime	AC_PP	Mon 16. Jan 22:39	Mon 16. Jan 24:00	1.350
SOL Seq 6 MGL1701MCS06 FGSP=4316 FCSP=4316 Hdg=183.6° Prime MSP Seq 6 MGL1701MCS06 LGSP=4554 LCSP=4554 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

16-Jan	Hours	% Percent
Acquisition	**23.517**	**97.986**
Prime Line Change	5.300	22.083
Production Prime	18.217	75.903
DownTime	**0.483**	**2.014**
Cetacean	0.483	2.014
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**50.674**
At Anchor	26.483	11.035
Deployment	13.700	5.708
Mob Ashore	74.833	31.181
Transit to Prospect	6.600	2.750
DownTime	**2.933**	**1.222**
Cetacean	0.733	0.306

Daily Science Report

Category	Hours	% Percent
Vessel	2.200	0.917
Chargeable Standby	**20.283**	**8.451**
Cetacean	0.550	0.229
Transit	1.900	0.792
Weather	17.833	7.431
Acquisition	**95.167**	**39.653**
Prime Line Change	26.500	11.042
Production Prime	68.667	28.611
Total	240.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 16 Jan

Navigation:
No Major Issues toReport

Information Technology (IT):
No Major Issues toReport

Acquisition (OBS):
No Major Issues toReport

Towing and Handling (Source):
Intermittent Sync Error on S3G1 and S4G2, Element - S2G2, S3G2, & S3G5 all disabled for Transducer or Air-Leak Issues.

General PurposeScience:
No Major Issues to Report

Miscellaneous:
FBB serviced today and found that Belt for Vertical Drive Motor had failed. Temporary repair was carried out with misc parts on-board. New Belts need to be ordered and delivered for next port call.

Daily Comment Summaries - Personnel Onboard

Mon 16 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
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Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
Gilles Guerin L-DEO OMO Marine Science Technician (IT)
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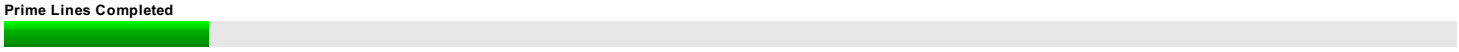
Kelly Olsen UTIG Watchstander
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

11%

Prime Lines Completed



14%

Preplot Lines	Complete	Incomplete	Pending
36	5	0	0

Percentages Charged	
Prime	10.98% of 4555.35 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	125.07 km
Average Charged Daily Production	125.07 km

Daily Science Report

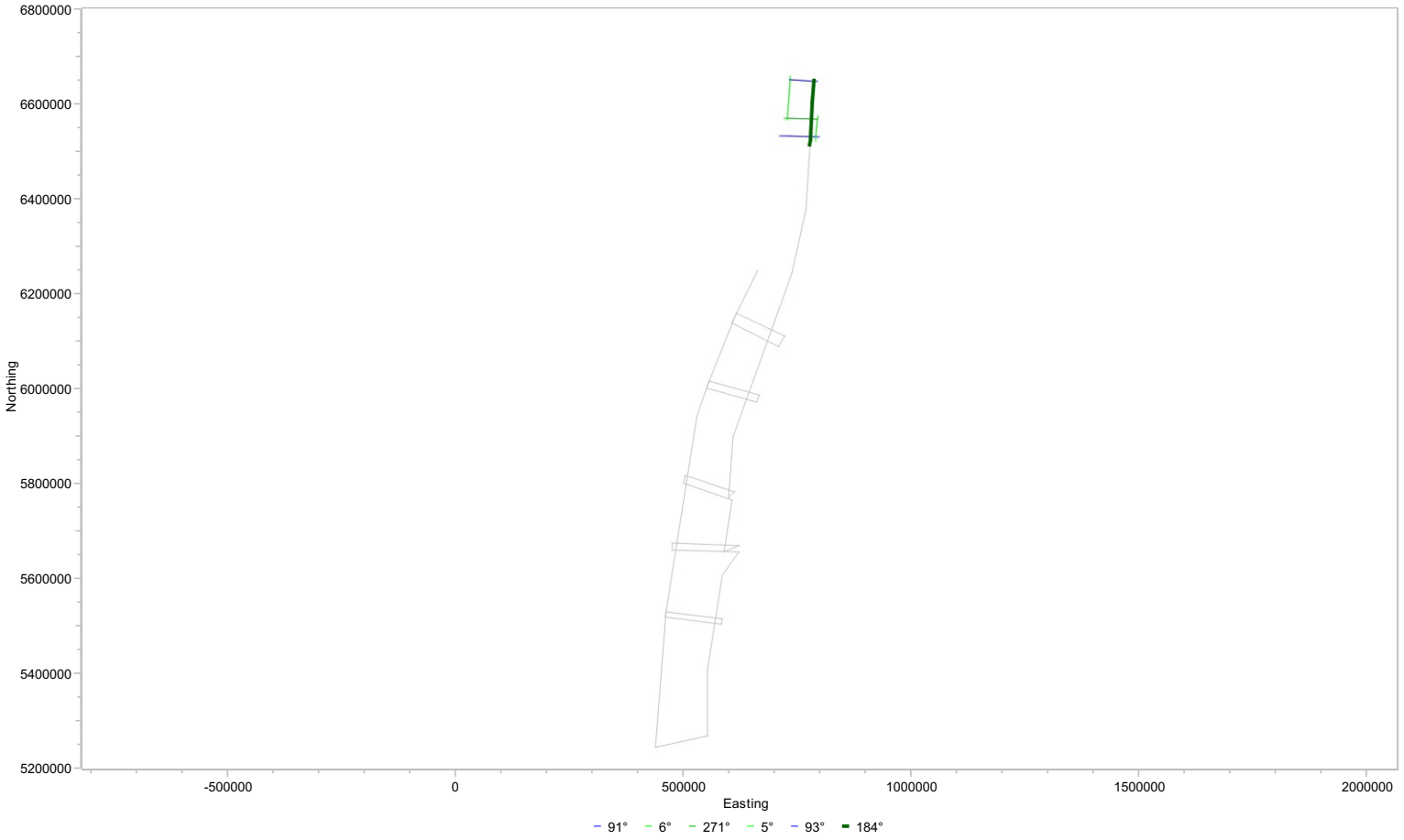
Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Mon 16 Jan	Marcus G Langseth	5 - 6	132.23
Total Production:			**132.23**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	132.23	132.23	500.29	500.29
Infill	0.00	0.00	0.00	0.00
Combined	132.23	132.23	500.29	500.29
Total				
Prime	132.23	132.23	500.29	500.29
Infill	0.00	0.00	0.00	0.00
Combined	**132.23**	**132.23**	**500.29**	**500.29**

MGL1701 - Rapid/South-Central Chile: Accpt (1/7/2017 - 1/16/2017) MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Tue 17 Jan

The vessel started the day in production on Line MCS06. At 02:29 UTC Line MCS06 will end. At 02:44 UTC the vessel started acquiring data a new line MCS06A while re-configuring the towed equipment for the next phase of the survey. At 06:25 UTC all re-configuration was completed and the vessel started a new line MCS06B. This line ran to 18:45 UTC at which time the vessel made a very short line change to Line MCS07. LIne MCS07 Started at 18:47 UTC and continued throughout the rest of the day.

Changes to the Configuration are as follows.
1. Change from 37.5m shot spacing to 50m shot spacing.
2. Change from 16sec records to 20sec records.
3. Change Source Depth from 7m to 9m port depth
4. Change Streamer Depth from 8m to 10m tow depth.

Daily Comment Summaries - Plan for Tomorrow

Tue 17 Jan

The Vessel will start the day in production on Line MCS07. This line will conclude at ~16:10 UTC, at which time a short line change will take place and the vessel will begin Line MCS08 at ~16:12 UTC. Line MCS08 will continue throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Tue 17. Jan 00:00	Tue 17. Jan 02:29	2.483
SOL Seq 6 MGL1701MCS06 FGSP=4555 FCSP=4555 Hdg=183.6° Prime EOL Seq 6 MGL1701MCS06 LGSP=5040 LCSP=5040 Complete EOL Feather=8.6° EOL Water Depth=2975m				
Source Reconfig	SB_REC_SC	Tue 17. Jan 02:29	Tue 17. Jan 02:44	0.250
Recover source array's 1 and 2 for depth reconfiguration.				
Production Prime	AC_PP	Tue 17. Jan 02:44	Tue 17. Jan 06:22	3.633
SOL Seq 7 MGL1701MCS06A FGSP=5088 FCSP=5088 Hdg=183.6° Prime EOL Seq 7 MGL1701MCS06A LGSP=5768 LCSP=5768 Complete SOL Feather=8.6° SOL Water Depth=2997m				
Client Request	SB_CR	Tue 17. Jan 06:22	Tue 17. Jan 06:25	0.050
Chargeable standby due to client request. Reconfigure SEAL, Digicourse and Spectra. (record length, sp spacing and cable depth)				
Production Prime	AC_PP	Tue 17. Jan 06:25	Tue 17. Jan 18:31	12.100
SOL Seq 8 MGL1701MCS06B FGSP=5775 FCSP=5775 Hdg=183.6° Prime EOL Seq 8 MGL1701MCS06B LGSP=8150 LCSP=8150 Complete SOL Feather=11.1° SOL Water Depth=3041m				
Cetacean	DT_CT	Tue 17. Jan 18:31	Tue 17. Jan 18:45	0.233
NTBP Seq 8 FSP=8151 LSP=8200				
Prime Line Change	AC_PLC	Tue 17. Jan 18:45	Tue 17. Jan 18:47	0.033
Nominal Prime line change.				
Production Prime	AC_PP	Tue 17. Jan 18:47	Tue 17. Jan 24:00	5.217
SOL Seq 9 MGL1701MCS07 FGSP=1005 FCSP=1005 Hdg=192.5° Prime MSP Seq 9 MGL1701MCS07 LGSP=1840 LCSP=1840 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

17-Jan	Hours	% Percent
Acquisition	**23.467**	**97.778**
Prime Line Change	0.033	0.139
Production Prime	23.433	97.639
Chargeable Standby	**0.300**	**1.250**
Client Request	0.050	0.208
Reconfiguration	0.250	1.042
Source Reconfig	0.250	1.042
DownTime	**0.233**	**0.972**
Cetacean	0.233	0.972
Day's Total	**24.000**	**100.000**

Daily Science Report

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**46.067**
At Anchor	26.483	10.032
Deployment	13.700	5.189
Mob Ashore	74.833	28.346
Transit to Prospect	6.600	2.500
DownTime	**3.167**	**1.199**
Cetacean	0.967	0.366
Vessel	2.200	0.833
Chargeable Standby	**20.583**	**7.797**
Cetacean	0.550	0.208
Client Request	0.050	0.019
Reconfiguration	0.250	0.095
Source Reconfig	0.250	0.095
Transit	1.900	0.720
Weather	17.833	6.755
Acquisition	**118.633**	**44.937**
Prime Line Change	26.533	10.051
Production Prime	92.100	34.886
Total	264.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 17 Jan

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues toReport

Acquisition (OBS):
No Major Issues to Report

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

General PurposeScience:
No Major Issues to Report

Miscellaneous:
No Major Issues to Report

Daily Comment Summaries - Personnel Onboard

Tue 17 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
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Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

15%

Prime Lines Completed

17%

Preplot Lines	Complete	Incomplete	Pending
36	6	0	0

Percentages Charged	
Prime	14.58% of 4555.35 km (Sail Line)

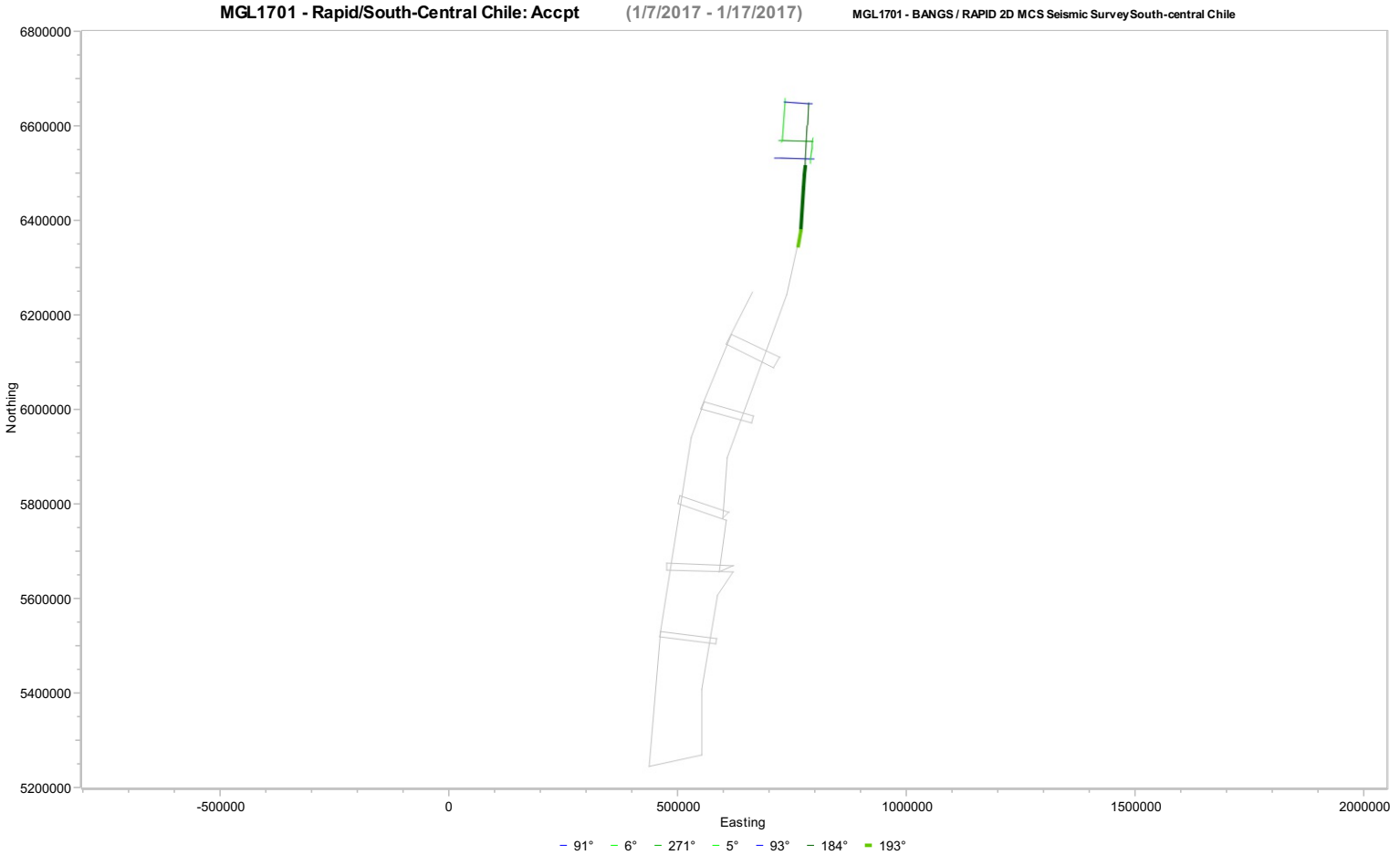
Average Daily Production	
Average Accepted Daily Production	132.88 km
Average Charged Daily Production	132.88 km

Production Day By Day (Chgd km by interval) - Sail Line

Date	Vessel	First - Last Sequence	Production
Tue 17 Jan	Marcus G Langseth	6 - 9	164.10
Total Production:			**164.10**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	164.10	296.33	664.39	664.39
Infill	0.00	0.00	0.00	0.00
Combined	164.10	296.33	664.39	664.39
Total				
Prime	164.10	296.33	664.39	664.39
Infill	0.00	0.00	0.00	0.00
Combined	**164.10**	**296.33**	**664.39**	**664.39**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Wed 18 Jan

The vessel started the day continuing production on Line MCS07. At 16:32 UTC line MCS07 Ended and a short line change to Line MCS08 took place. At 16:34 UTC Line MCS08 began, however shortly after the start it was noticed that the PAM cable was tangled in the towed equipment. After a number of attempts to get is freed, Line MCS08 was ended at 17:17 UTC, so the recovery of the source and lead-in could take place. During the Circle back around to the start of line the source was recovered, followed by the Lead-in which the PAM streamer was tangled on. There was minor damage to the outer jacket of the PAM streamer but it was still functional. The Lead-in and Source were redeployed and the vessel re-started Line MCS08R at 23:47 UTC and continued on it throughout the rest of the day. PAM and Maggie will remain on-board until the weather subsides some to avoid further tangling with the towed streamer equipment.

There was a Power down for PSO sighting on Line MCS07 from 14:28 to 14:45 UTC.

Daily Comment Summaries - Plan for Tomorrow

Wed 18 Jan

The vessel will start the day on Line MCS08 and continue on it throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Wed 18. Jan 00:00	Wed 18. Jan 14:28	14.467
SOL Seq 9 MGL1701MCS07 FGSP=1841 FCSP=1841 Hdg=192.5° Prime EOL Seq 9 MGL1701MCS07 LGSP=4285 LCSP=4285 Incomplete				
Cetacean	DT_CT	Wed 18. Jan 14:28	Wed 18. Jan 14:45	0.283
NTBP Seq 9 MCS07 FSP=4286 LSP=4339				
Production Prime	AC_PP	Wed 18. Jan 14:45	Wed 18. Jan 16:32	1.783
SOL Seq 9 MGL1701MCS07 FGSP=4340 FCSP=4340 Hdg=192.5° Prime EOL Seq 9 MGL1701MCS07 LGSP=4688 LCSP=4688 Complete				
Infill Line Change	AC_ILC	Wed 18. Jan 16:32	Wed 18. Jan 16:34	0.033
Nominal Infill line change.				
Cetacean	DT_CT	Wed 18. Jan 16:34	Wed 18. Jan 17:17	0.717
NTBP Seq 10 MCS08 FSP=1009 LSP=1150 Line Rejected due to Attempting to Un-tangle PAM and multiple Source Volume changes to move Sub-Arrays.				
Cetacean	DT_CT	Wed 18. Jan 17:17	Wed 18. Jan 23:47	6.500
Circle due PAM Cable tangled up with the Lead-in. The Tangling was caused due to the large swell 3-4m. Winds at the time were blowing from the SSW at 20-25 kts.				
Production Prime	AC_PP	Wed 18. Jan 23:47	Wed 18. Jan 24:00	0.217
SOL Seq 11 MGL1701MCS08R FGSP=969 FCSP=969 Hdg=200.8° Prime MSP Seq 11 MGL1701MCS08R LGSP=1008 LCSP=1008 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

18-Jan	Hours	% Percent
Acquisition	**16.500**	**68.750**
Infill Line Change	0.033	0.139
Production Prime	16.467	68.611
DownTime	**7.500**	**31.250**
Cetacean	7.500	31.250
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**42.228**
At Anchor	26.483	9.196
Deployment	13.700	4.757
Mob Ashore	74.833	25.984
Transit to Prospect	6.600	2.292
DownTime	**10.667**	**3.704**
Cetacean	8.467	2.940
Vessel	2.200	0.764
Chargeable Standby	**20.583**	**7.147**
Cetacean	0.550	0.191
Client Request	0.050	0.017
Reconfiguration	0.250	0.087
Source Reconfig	0.250	0.087
Transit	1.900	0.660

Daily Science Report

Category	Hours	% Percent
Weather	17.833	6.192
Acquisition	**135.133**	**46.921**
Infill Line Change	0.033	0.012
Prime Line Change	26.533	9.213
Production Prime	108.567	37.697
Total	288.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 18 Jan

Navigation:
No Major Issues toReport

Information Technology (IT):
No Major Issues toReport

Acquisition (OBS):
No Major Issues toReport

Towing and Handling (Source):
Auto Fire on Element 4 Sub-Array 2 During the Power down for a PSO sighting on Line MCS07.

General PurposeScience:
Maggie on-board to avoid tangling with Towed Streamer Equipment due to Weather.

Miscellaneous:
PAM on-board at end of day due to weather and tangling with Streamer Cable Lead-in.

Daily Comment Summaries - Personnel Onboard

Wed 18 Jan

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Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
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Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

17%

Prime Lines Completed

19%

Preplot Lines	Complete	Incomplete	Pending
36	7	0	0

Percentages Charged	
Prime	16.94% of 4550.48 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	128.44 km
Average Charged Daily Production	128.44 km

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

Date	Vessel	First - Last Sequence	Production
Wed 18 Jan	Marcus G Langseth	9 - 11	106.24
Total Production:			**106.24**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	106.24	402.56	770.62	770.62
Infill	0.00	0.00	0.00	0.00
Combined	106.24	402.56	770.62	770.62
Total				
Prime	106.24	402.56	770.62	770.62
Infill	0.00	0.00	0.00	0.00
Combined	**106.24**	**402.56**	**770.62**	**770.62**

Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Thu 19 Jan

The vessel started the day in production on Line MCS08 and continued that way throughout the day. The was a number of Power downs for PSO Sightings throughout the day. The Maggie and PAM where deployed at ~13:13 UTC when the weather dropped but where again retrieved at ~19:00 due to the winds and seas increasing (Wind 25-30 kts Seas 2-3m).

Daily Comment Summaries - Plan for Tomorrow

Thu 19 Jan

The vessel will start the day on Line MCS08 and continue on it throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Thu 19. Jan 00:00	Thu 19. Jan 00:46	0.767
SOL Seq 11 MGL1701MCS08R FGSP=1009 FCSP=1009 Hdg=200.8° Reshoot EOL Seq 11 MGL1701MCS08R LGSP=1150 LCSP=1150 Complete				
Production Prime	AC_PP	Thu 19. Jan 00:46	Thu 19. Jan 14:18	13.533
SOL Seq 11 MGL1701MCS08R FGSP=1151 FCSP=1151 Hdg=200.8° Prime EOL Seq 11 MGL1701MCS08R LGSP=3852 LCSP=3852 Incomplete				
Cetacean	DT_CT	Thu 19. Jan 14:18	Thu 19. Jan 14:25	0.117
NTBP Seq 11 FSP=3853 LSP=3874 Power down for PSO Sighting				
Production Prime	AC_PP	Thu 19. Jan 14:25	Thu 19. Jan 16:48	2.383
SOL Seq 11 MGL1701MCS08R FGSP=3875 FCSP=3875 Hdg=200.8° Prime EOL Seq 11 MGL1701MCS08R LGSP=4340 LCSP=4340 Incomplete				
Cetacean	DT_CT	Thu 19. Jan 16:48	Thu 19. Jan 16:53	0.083
NTBP Seq 11 FSP=4341 LSP=4356 Power down for PSO Sighting				
Production Prime	AC_PP	Thu 19. Jan 16:53	Thu 19. Jan 17:27	0.567
SOL Seq 11 MGL1701MCS08R FGSP=4357 FCSP=4357 Hdg=200.8° Prime EOL Seq 11 MGL1701MCS08R LGSP=4462 LCSP=4462 Incomplete				
Cetacean	DT_CT	Thu 19. Jan 17:27	Thu 19. Jan 17:44	0.283
NTBP Seq 11 FSP=4463 LSP=4516				
Production Prime	AC_PP	Thu 19. Jan 17:44	Thu 19. Jan 18:33	0.817
SOL Seq 11 MGL1701MCS08R FGSP=4517 FCSP=4517 Hdg=200.8° Prime EOL Seq 11 MGL1701MCS08R LGSP=4670 LCSP=4670 Incomplete				
Cetacean	DT_CT	Thu 19. Jan 18:33	Thu 19. Jan 18:51	0.300
NTBP Seq 11 FSP=4671 LSP=4725 Power down for PSO Sighting				
Production Prime	AC_PP	Thu 19. Jan 18:51	Thu 19. Jan 20:59	2.133
SOL Seq 11 MGL1701MCS08R FGSP=4726 FCSP=4726 Hdg=200.8° Prime EOL Seq 11 MGL1701MCS08R LGSP=5113 LCSP=5113 Incomplete				
Cetacean	DT_CT	Thu 19. Jan 20:59	Thu 19. Jan 21:17	0.300
NTBP Seq 11 FSP=5114 LSP=5168 Power down for PSO Sighting				
Production Prime	AC_PP	Thu 19. Jan 21:17	Thu 19. Jan 24:00	2.717
SOL Seq 11 MGL1701MCS08R FGSP=5169 FCSP=5169 Hdg=200.8° Prime MSP Seq 11 MGL1701MCS08R LGSP=5664 LCSP=5664 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

19-Jan	Hours	% Percent
Acquisition	**22.917**	**95.486**
Production Prime	22.917	95.486
DownTime	**1.083**	**4.514**
Cetacean	1.083	4.514
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**38.980**
At Anchor	26.483	8.488
Deployment	13.700	4.391
Mob Ashore	74.833	23.985

Daily Science Report

Category	Hours	% Percent
Transit to Prospect	6.600	2.115
DownTime	**11.750**	**3.766**
Cetacean	9.550	3.061
Vessel	2.200	0.705
Chargeable Standby	**20.583**	**6.597**
Cetacean	0.550	0.176
Client Request	0.050	0.016
Reconfiguration	0.250	0.080
Source Reconfig	0.250	0.080
Transit	1.900	0.609
Weather	17.833	5.716
Acquisition	**158.050**	**50.657**
Infill Line Change	0.033	0.011
Prime Line Change	26.533	8.504
Production Prime	131.483	42.142
Total	312.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 19 Jan

Navigation:
rGPS Strings 2, 3, & 4 Not operational

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
Sub-Array #2 recovered during Line MCS08 to re-pair Air Leak on S2G2

General PurposeScience:
Maggie re-deployed in the morning hours after the weather dropped down.

Miscellaneous:
PAM re-deployed in the morning hours after the weather dropped down.

Daily Comment Summaries - Personnel Onboard

Thu 19 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
Gilles Guerin L-DEO OMO Marine Science Technician (IT)
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Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

21%

Prime Lines Completed

22%

Preplot Lines	Complete	Incomplete	Pending
36	8	0	0

Daily Science Report

Percentages Charged	
Prime	20.60% of 4550.48 km (Sail Line)

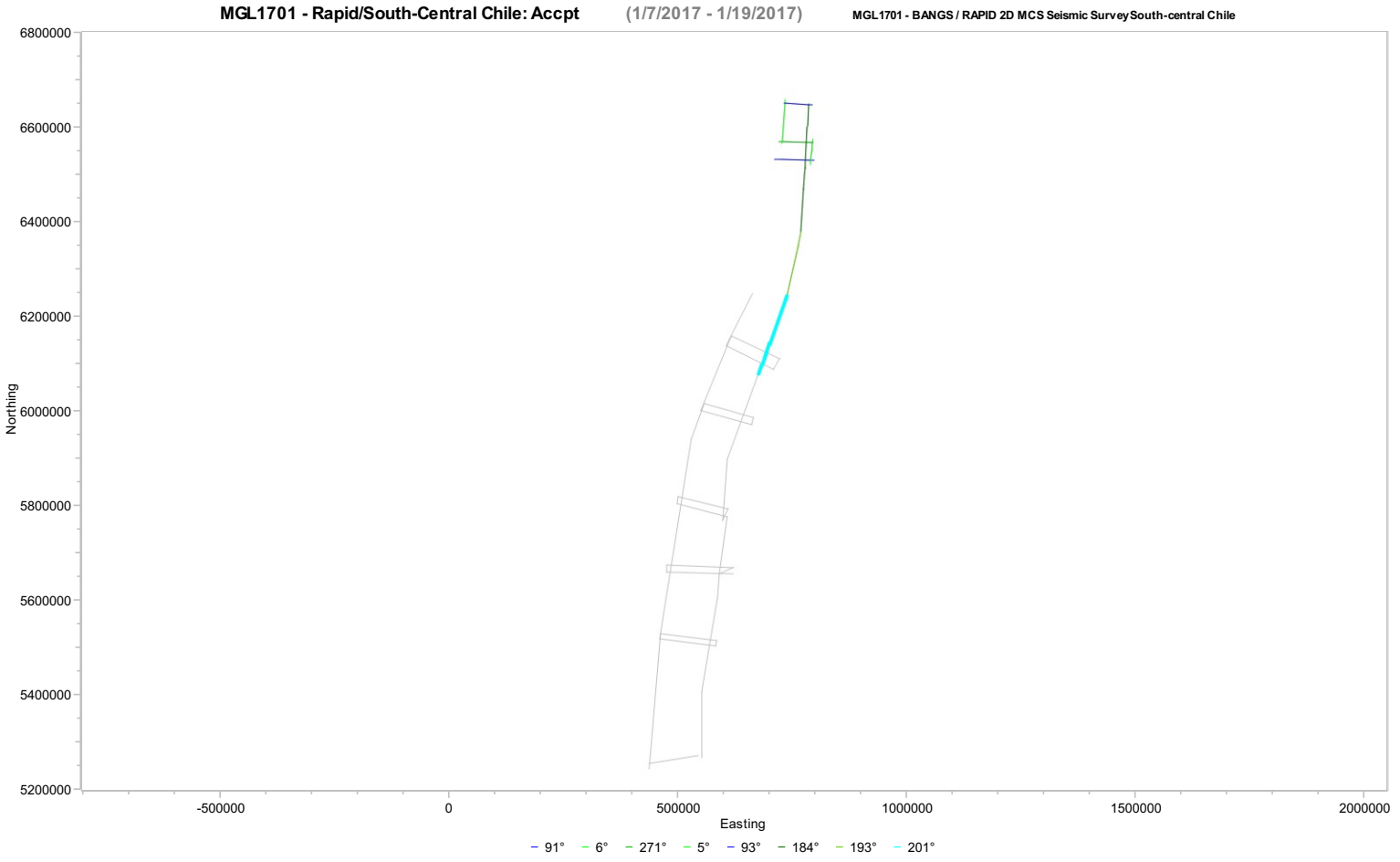
Average Daily Production	
Average Accepted Daily Production	133.94 km
Average Charged Daily Production	133.94 km

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

Date	Vessel	First - Last Sequence	Production
Thu 19 Jan	Marcus G Langseth	11 - 11	166.95
Total Production:			**166.95**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	161.66	564.23	932.29	932.29
Infill	0.00	0.00	0.00	0.00
Prime, Reshoot	5.29	5.29	5.29	5.29
Combined	166.95	569.51	937.58	937.58
Total				
Prime	161.66	564.23	932.29	932.29
Infill	0.00	0.00	0.00	0.00
Prime, Reshoot	5.29	5.29	5.29	5.29
Combined	**166.95**	**569.51**	**937.58**	**937.58**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Fri 20 Jan

The Vessel started the day in Production on Line MCS08 and continued that way throughout the day.

Daily Comment Summaries - Plan for Tomorrow

Fri 20 Jan

The Vessel will begin the day in production on Line MCS08 and at ~06:00 UTC will make a short line change to Line MCS09. Once Line MCS09 starts it is planned that the vessel will remain in production throughout the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Fri 20. Jan 00:00	Fri 20. Jan 24:00	24.000
SOL Seq 11 MGL1701MCS08R FGSP=5665 FCSP=5665 Hdg=200.8° Prime MSP Seq 11 MGL1701MCS08R LGSP=10031 LCSP=10031 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

20-Jan	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, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**36.195**
At Anchor	26.483	7.882
Deployment	13.700	4.077
Mob Ashore	74.833	22.272
Transit to Prospect	6.600	1.964
DownTime	**11.750**	**3.497**
Cetacean	9.550	2.842
Vessel	2.200	0.655
Chargeable Standby	**20.583**	**6.126**
Cetacean	0.550	0.164
Client Request	0.050	0.015
Reconfiguration	0.250	0.074
Source Reconfig	0.250	0.074
Transit	1.900	0.565
Weather	17.833	5.308
Acquisition	**182.050**	**54.182**
Infill Line Change	0.033	0.010
Prime Line Change	26.533	7.897
Production Prime	155.483	46.275
Total	336.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 20 Jan

Navigation:
rGPS Strings 2, 3, & 4 Not operational

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 PurposeScience:
Maggie re-deployed in the morning hours after the weather dropped down.

Miscellaneous:
PAM re-deployed in the morning hours after the weather dropped down.

Daily Comment Summaries - Personnel Onboard

Fri 20 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
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Josh Kasinger L-DEO OMO Source Mechanic
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Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
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Tina Thomas UNOLS-Tech Pool Marine Science Technician (ACQ)

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Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

24%

Prime Lines Completed

22%

Preplot Lines	Complete	Incomplete	Pending
36	8	0	0

Percentages Charged	
Prime	24.20% of 4550.48 km (Sail Line)

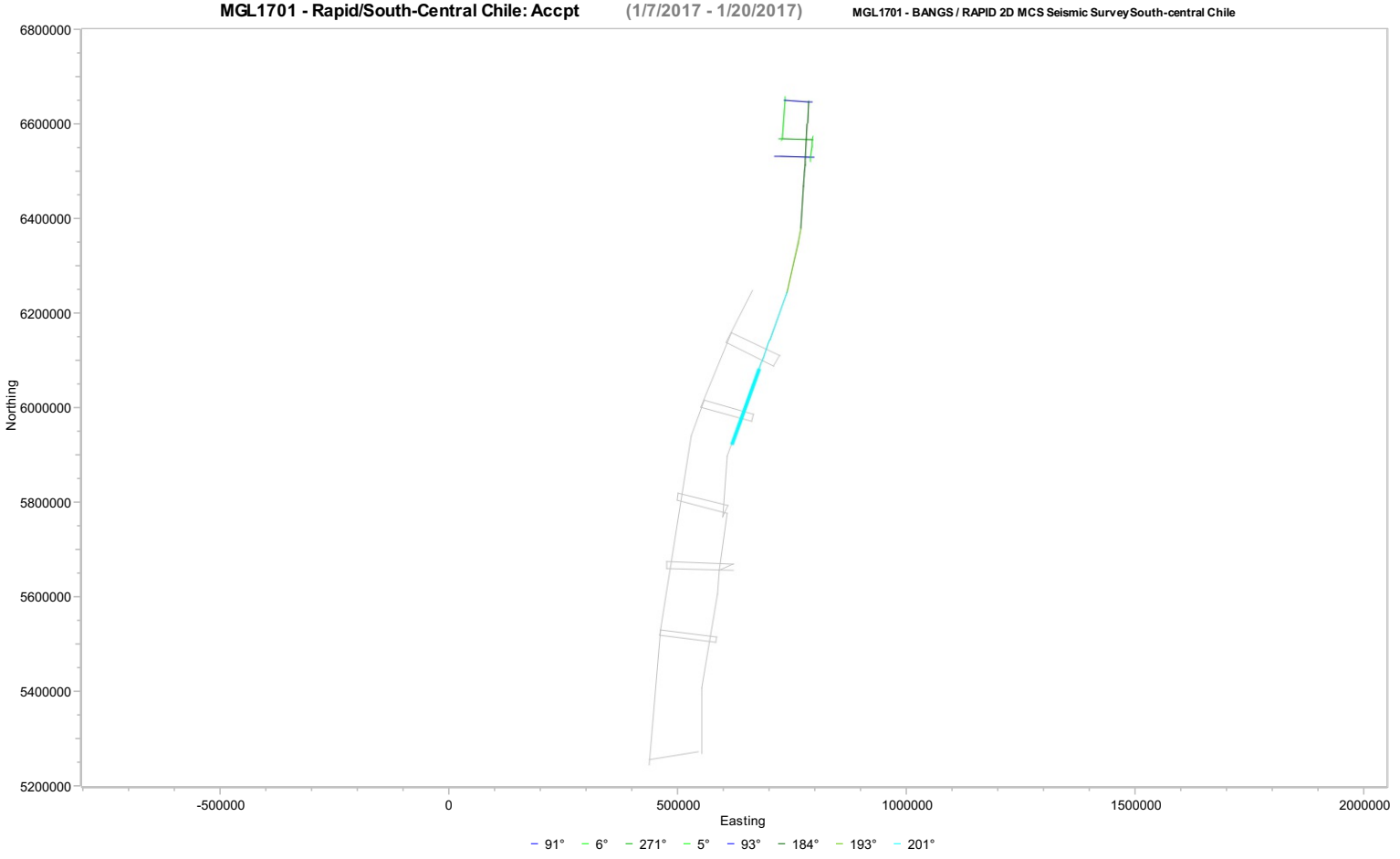
Average Daily Production	
Average Accepted Daily Production	137.67 km
Average Charged Daily Production	137.67 km

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

Date	Vessel	First - Last Sequence	Production
Fri 20 Jan	Marcus G Langseth	11	163.76
Total Production:			**163.76**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	163.76	727.99	1096.05	1096.05
Infill	0.00	0.00	0.00	0.00
Prime, Reshoot	0.00	5.29	5.29	5.29
Combined	163.76	733.27	1101.34	1101.34
Total				
Prime	163.76	727.99	1096.05	1096.05
Infill	0.00	0.00	0.00	0.00
Prime, Reshoot	0.00	5.29	5.29	5.29
Combined	**163.76**	**733.27**	**1101.34**	**1101.34**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sat 21 Jan

The vessel started the day in production on Line MCS08R, which concluded at 04:48 UTC. A short line change was made and the vessel began production on line MCS09 at 04:50 UTC. Line MCS09 Continued throughout the rest of the day. There was one power down for PSO sighting on Line MCS09

Daily Comment Summaries - Plan for Tomorrow

Sat 21 Jan

The Vessel will start the day in production on Line MCS09. Once complete the vessel will make a line change to Line MCS10 and once this line is complete will make another line change to MCS11 which will continue throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sat 21. Jan 00:00	Sat 21. Jan 04:48	4.800
SOL Seq 11 MGL1701MCS08R FGSP=10032 FCSP=10032 Hdg=200.8° Prime EOL Seq 11 MGL1701MCS08R LGSP=10842 LCSP=10842 Complete EOL Feather=14° EOL Water Depth=321.6m				
Prime Line Change	AC_PLC	Sat 21. Jan 04:48	Sat 21. Jan 04:50	0.033
Nominal Prime line change.				
Production Prime	AC_PP	Sat 21. Jan 04:50	Sat 21. Jan 21:52	17.033
SOL Seq 12 MGL1701MCS09 FGSP=1007 FCSP=1007 Hdg=184.2° Prime EOL Seq 12 MGL1701MCS09 LGSP=3990 LCSP=3990 Incomplete SOL Feather=-2.7° SOL Water Depth=253.4m				
Cetacean	DT_CT	Sat 21. Jan 21:52	Sat 21. Jan 22:07	0.250
NTBP Seq 12 MCS09 FSP=3991 LSP=4041 Power down for PSO sighting				
Production Prime	AC_PP	Sat 21. Jan 22:07	Sat 21. Jan 24:00	1.883
SOL Seq 12 MGL1701MCS09 FGSP=4042 FCSP=4042 Hdg=184.2° Prime MSP Seq 12 MGL1701MCS09 LGSP=4417 LCSP=4417 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

21-Jan	Hours	% Percent
Acquisition	**23.750**	**98.958**
Prime Line Change	0.033	0.139
Production Prime	23.717	98.819
DownTime	**0.250**	**1.042**
Cetacean	0.250	1.042
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**33.782**
At Anchor	26.483	7.356
Deployment	13.700	3.806
Mob Ashore	74.833	20.787
Transit to Prospect	6.600	1.833
DownTime	**12.000**	**3.333**
Cetacean	9.800	2.722
Vessel	2.200	0.611
Chargeable Standby	**20.583**	**5.718**
Cetacean	0.550	0.153
Client Request	0.050	0.014
Reconfiguration	0.250	0.069
Source Reconfig	0.250	0.069
Transit	1.900	0.528
Weather	17.833	4.954
Acquisition	**205.800**	**57.167**
Infill Line Change	0.033	0.009
Prime Line Change	26.567	7.380

Daily Science Report

Category	Hours	% Percent
Production Prime	179.200	49.778
Total	360.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 21 Jan

Navigation:
rGPS Strings 2, 3, & 4 Not operational

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 PurposeScience:
Maggie re-deployed in the morning hours after the weather dropped down.

Miscellaneous:
PAM re-deployed in the morning hours after the weather dropped down.

Daily Comment Summaries - Personnel Onboard

Sat 21 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
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Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

28%

Prime Lines Completed

22%

Preplot Lines	Complete	Incomplete	Pending
36	8	1	0

Percentages Charged	
Prime	27.64% of 4550.48 km (Sail Line)

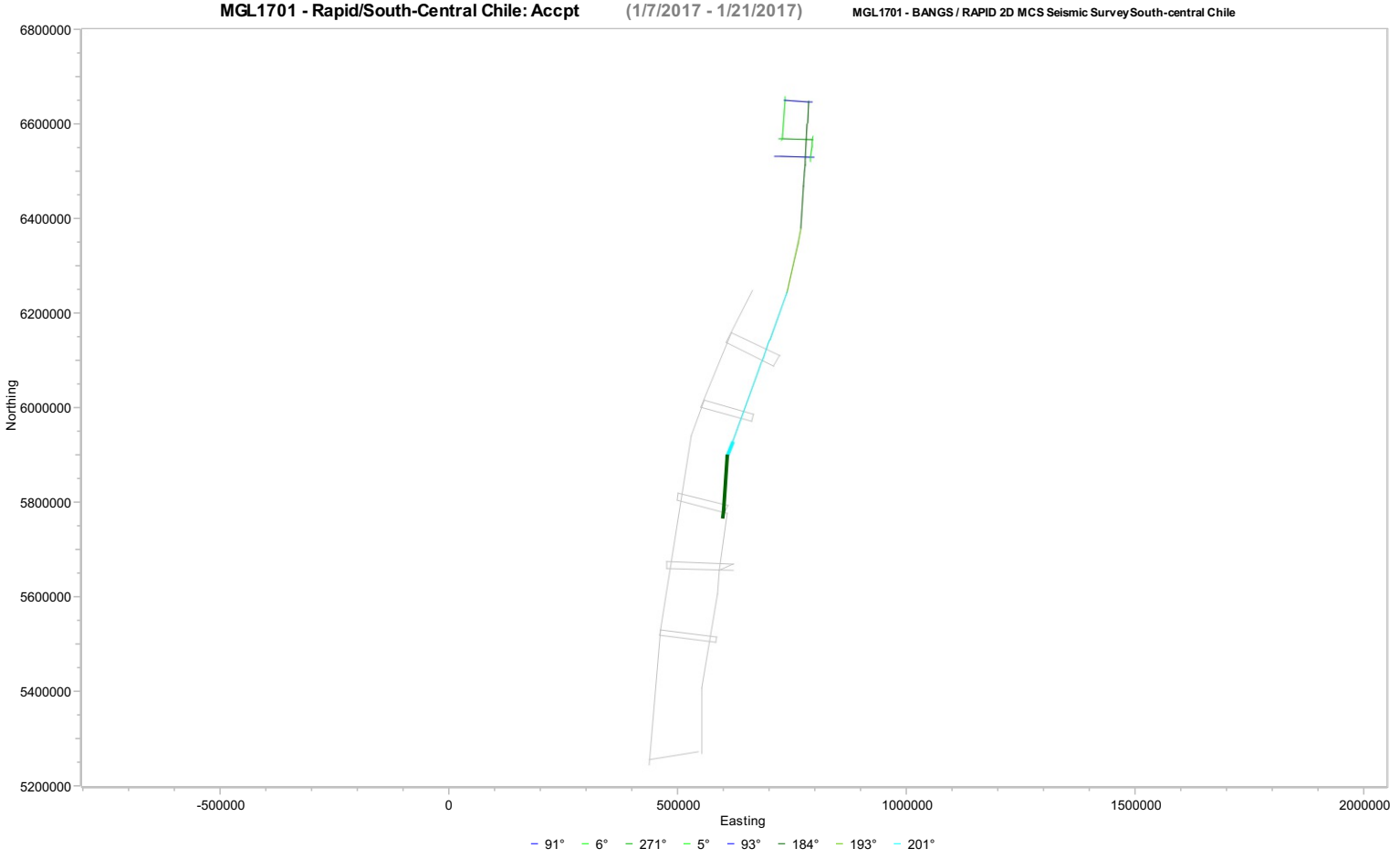
Average Daily Production	
Average Accepted Daily Production	139.75 km
Average Charged Daily Production	139.75 km

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

Date	Vessel	First - Last Sequence	Production
Sat 21 Jan	Marcus G Langseth	11 - 12	156.38
Total Production:			**156.38**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	156.38	884.36	1252.43	1252.43
Infill	0.00	0.00	0.00	0.00
Prime, Reshoot	0.00	5.29	5.29	5.29
Combined	156.38	889.65	1257.71	1257.71
Total				
Prime	156.38	884.36	1252.43	1252.43
Infill	0.00	0.00	0.00	0.00
Prime, Reshoot	0.00	5.29	5.29	5.29
Combined	**156.38**	**889.65**	**1257.71**	**1257.71**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sun 22 Jan

The vessel start the Day on Line MCS09, which completed at 00:02 UTC. The vessel made a line change to MCS10, which started at 03:02 UTC and continued until 06:02 UTC. At which time the vessel made another line change to Line MCS11. MCS11 started at 08:15 UTC and continued throughout the rest of the day.

Two power downs for PSO sightings during the day on Line MCS11.

Daily Comment Summaries - Plan for Tomorrow

Sun 22 Jan

The Vessel will start the day on Line MCS11. At ~00:55 UTC line MCS11 will end and a line change to Line MCS13 will begain. It is expected that Line MCS 13 will begin at ~4:30 UTC and continue to ~20:00 UTC. At that time the vessel will begin a line change to MCS14 which will continue throughout the rest of the day.

During the line change between Lines MCS11 and MCS13 Sub-Arrays 3 and 4 will be recovered for maintenance.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sun 22. Jan 00:00	Sun 22. Jan 00:02	0.033
SOL Seq 12 MGL1701MCS09 FGSP=4418 FCSP=4418 Hdg=184.2° Prime EOL Seq 12 MGL1701MCS09 LGSP=4420 LCSP=4420 Complete				
Prime Line Change	AC_PLC	Sun 22. Jan 00:02	Sun 22. Jan 03:02	3.000
Nominal Prime line change.				
Production Prime	AC_PP	Sun 22. Jan 03:02	Sun 22. Jan 06:02	3.000
SOL Seq 13 MGL1701MCS10 FGSP=1130 FCSP=1130 Hdg=37.6° Prime EOL Seq 13 MGL1701MCS10 LGSP=1735 LCSP=1735 Complete SOL Feather=-37.2° SOL Water Depth=154.3m EOL Feather=0.4° EOL Water Depth=114.2m				
Prime Line Change	AC_PLC	Sun 22. Jan 06:02	Sun 22. Jan 08:15	2.217
Nominal Prime line change.				
Production Prime	AC_PP	Sun 22. Jan 08:15	Sun 22. Jan 14:57	6.700
SOL Seq 14 MGL1701MCS11 FGSP=961 FCSP=961 Hdg=283.7° Prime EOL Seq 14 MGL1701MCS11 LGSP=2349 LCSP=2349 Incomplete SOL Feather=-10.7° SOL Water Depth=114.2m				
Cetacean	DT_CT	Sun 22. Jan 14:57	Sun 22. Jan 15:17	0.333
NTBP Seq 14 MCS11 FSP=2350 LSP=2415				
Production Prime	AC_PP	Sun 22. Jan 15:17	Sun 22. Jan 15:40	0.383
SOL Seq 14 MGL1701MCS11 FGSP=2416 FCSP=2416 Hdg=283.7° Prime EOL Seq 14 MGL1701MCS11 LGSP=2491 LCSP=2491 Incomplete				
Cetacean	DT_CT	Sun 22. Jan 15:40	Sun 22. Jan 15:56	0.267
NTBP Seq 14 MCS11 FSP=2492 LSP=2545				
Production Prime	AC_PP	Sun 22. Jan 15:56	Sun 22. Jan 24:00	8.067
SOL Seq 14 MGL1701MCS11 FGSP=2546 FCSP=2546 Hdg=283.7° Prime MSP Seq 14 MGL1701MCS11 LGSP=4170 LCSP=4170 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

22-Jan	Hours	% Percent
Acquisition	**23.400**	**97.500**
Prime Line Change	5.217	21.736
Production Prime	18.183	75.764
DownTime	**0.600**	**2.500**
Cetacean	0.600	2.500
Day's Total	**24.000**	**100.000**

Daily Science Report

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**31.671**
At Anchor	26.483	6.897
Deployment	13.700	3.568
Mob Ashore	74.833	19.488
Transit to Prospect	6.600	1.719
DownTime	**12.600**	**3.281**
Cetacean	10.400	2.708
Vessel	2.200	0.573
Chargeable Standby	**20.583**	**5.360**
Cetacean	0.550	0.143
Client Request	0.050	0.013
Reconfiguration	0.250	0.065
Source Reconfig	0.250	0.065
Transit	1.900	0.495
Weather	17.833	4.644
Acquisition	**229.200**	**59.688**
Infill Line Change	0.033	0.009
Prime Line Change	31.783	8.277
Production Prime	197.383	51.402
Total	384.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 22 Jan

Navigation:
rGPS Strings 2, 3, & 4 Not operational

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 PurposeScience:
No Major Issues to Report

Miscellaneous:
PAM recovered in the afternoon hours due to increasing weather.

Daily Comment Summaries - Personnel Onboard

Sun 22 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
Gilles Guerin L-DEO OMO Marine Science Technician (IT)
Tina Thomas UNOLS-Tech Pool Marine Science Technician (ACQ)

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Amanda Dubuque RPS Lead PSO
Laura Bluth RPS PAM operator / PSO
Cassandra Frey RPS PSO
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Yessica Vincencio RPS PSO

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Shuoshuo Han UTIG Data processing
Ben Phrampus OSU Data processing
Sebastián Bahamondes University of Chile, Santiago Watchstander
Brooklyn Gose UTIG Watchstander
Kelly Olsen UTIG Watchstander
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

28%

Prime Lines Completed

26%

Preplot Lines	Complete	Incomplete	Pending
39	10	1	0

Percentages Charged	
Prime	27.50% of 5078.40 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	139.64 km
Average Charged Daily Production	139.64 km

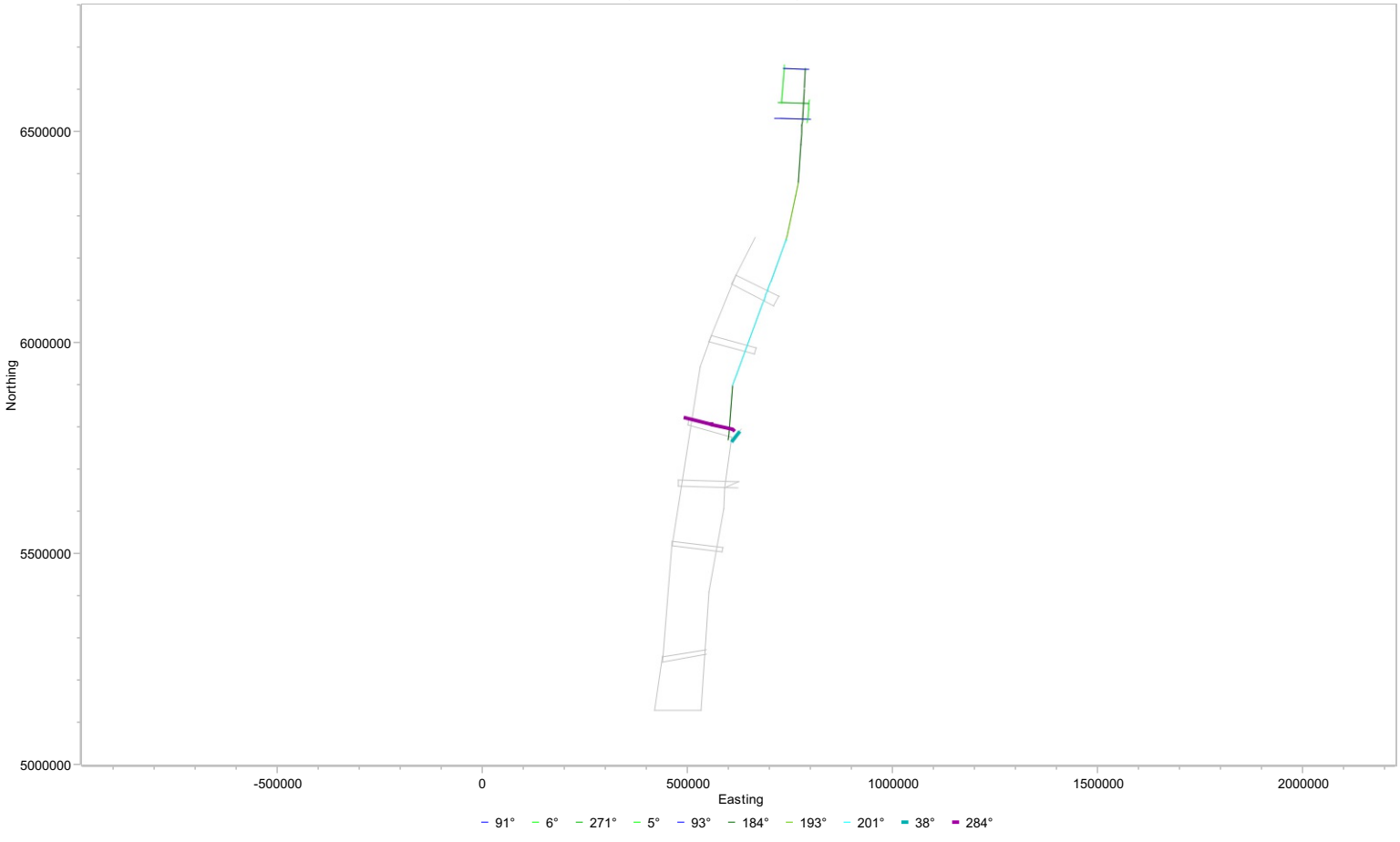
Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Sun 22 Jan	Marcus G Langseth	12 - 14	138.64
Total Production:			**138.64**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	138.64	1023.00	1391.06	1391.06
Infill	0.00	0.00	0.00	0.00
Prime, Reshoot	0.00	5.29	5.29	5.29
Combined	138.64	1028.29	1396.35	1396.35
Total				
Prime	138.64	1023.00	1391.06	1391.06
Infill	0.00	0.00	0.00	0.00
Prime, Reshoot	0.00	5.29	5.29	5.29
Combined	**138.64**	**1028.29**	**1396.35**	**1396.35**

MGL1701 - Rapid/South-Central Chile: Accpt (1/7/2017 - 1/22/2017) MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Mon 23 Jan

The Vessel started the day on Line MCS11. At 00:55 UTC line MCS11 will end and a line change to Line MCS13 began. At 04:55 UTC Line MCS 13 began and continued 21:44 UTC. The vessel then made a line change to Line MCS14.

During the line change between Lines MCS11 and MCS13 Sub-Arrays 3 and 4 were recovered for maintenance.

Daily Comment Summaries - Plan for Tomorrow

Mon 23 Jan

The vessel will start the day continuing the line change between MCS13 and MCS14. Line MCS14 is expected to start at ~02:00 UTC and continue throughout the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Mon 23. Jan 00:00	Mon 23. Jan 00:54	0.900
SOL Seq 14 MGL1701MCS11 FGSP=4171 FCSP=4171 Hdg=283.7° Prime EOL Seq 14 MGL1701MCS11 LGSP=4355 LCSP=4355 Complete				
Prime Line Change	AC_PLC	Mon 23. Jan 00:54	Mon 23. Jan 04:55	4.017
Nominal Prime line change.				
Production Prime	AC_PP	Mon 23. Jan 04:55	Mon 23. Jan 13:25	8.500
SOL Seq 15 MGL1701MCS13 FGSP=878 FCSP=878 Hdg=105.2° Prime EOL Seq 15 MGL1701MCS13 LGSP=2582 LCSP=2582 Incomplete SOL Feather=-11.9° SOL Water Depth=4515m				
Cetacean	DT_CT	Mon 23. Jan 13:25	Mon 23. Jan 13:31	0.100
NTBP Seq 15 MCS13 FSP=2583 LSP=2602				
Production Prime	AC_PP	Mon 23. Jan 13:31	Mon 23. Jan 15:11	1.667
SOL Seq 15 MGL1701MCS13 FGSP=2603 FCSP=2603 Hdg=105.2° Prime EOL Seq 15 MGL1701MCS13 LGSP=2970 LCSP=2970 Incomplete				
Cetacean	DT_CT	Mon 23. Jan 15:11	Mon 23. Jan 15:27	0.267
NTBP Seq 15 MCS13 FSP=2971 LSP=3025				
Production Prime	AC_PP	Mon 23. Jan 15:27	Mon 23. Jan 15:35	0.133
SOL Seq 15 MGL1701MCS13 FGSP=3026 FCSP=3026 Hdg=105.2° Prime EOL Seq 15 MGL1701MCS13 LGSP=3055 LCSP=3055 Incomplete				
Cetacean	DT_CT	Mon 23. Jan 15:35	Mon 23. Jan 15:41	0.100
NTBP Seq 15 MCS13 FSP=3056 LSP=3073				
Production Prime	AC_PP	Mon 23. Jan 15:41	Mon 23. Jan 17:45	2.067
SOL Seq 15 MGL1701MCS13 FGSP=3074 FCSP=3074 Hdg=105.2° Prime EOL Seq 15 MGL1701MCS13 LGSP=3509 LCSP=3509 Incomplete				
Cetacean	DT_CT	Mon 23. Jan 17:45	Mon 23. Jan 17:51	0.100
NTBP Seq 15 MCS13 FSP=3510 LSP=3528				
Production Prime	AC_PP	Mon 23. Jan 17:51	Mon 23. Jan 21:44	3.883
SOL Seq 15 MGL1701MCS13 FGSP=3529 FCSP=3529 Hdg=105.2° Prime EOL Seq 15 MGL1701MCS13 LGSP=4346 LCSP=4346 Complete EOL Feather=5.2° EOL Water Depth=85m				
Prime Line Change	AC_PLC	Mon 23. Jan 21:44	Mon 23. Jan 24:00	2.267
Nominal Prime line change.				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

23-Jan	Hours	% Percent
Acquisition	**23.433**	**97.639**
Prime Line Change	6.283	26.181
Production Prime	17.150	71.458
DownTime	**0.567**	**2.361**
Cetacean	0.567	2.361
Day's Total	**24.000**	**100.000**

Daily Science Report

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**29.808**
At Anchor	26.483	6.491
Deployment	13.700	3.358
Mob Ashore	74.833	18.342
Transit to Prospect	6.600	1.618
DownTime	**13.167**	**3.227**
Cetacean	10.967	2.688
Vessel	2.200	0.539
Chargeable Standby	**20.583**	**5.045**
Cetacean	0.550	0.135
Client Request	0.050	0.012
Reconfiguration	0.250	0.061
Source Reconfig	0.250	0.061
Transit	1.900	0.466
Weather	17.833	4.371
Acquisition	**252.633**	**61.920**
Infill Line Change	0.033	0.008
Prime Line Change	38.067	9.330
Production Prime	214.533	52.582
Total	408.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 23 Jan

Navigation:
rGPS String 3 Not operational due to Wire pair failure in the bundle

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:
Maggie recovered in the evening hours due to vessel maneuvering in shallow water

Miscellaneous:
PAM recovered in the evening hours due to vessel maneuvering in shallow water

Daily Comment Summaries - Personnel Onboard

Mon 23 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
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Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

30%

Prime Lines Completed

31%

Preplot Lines	Complete	Incomplete	Pending
39	12	0	0

Percentages Charged	
Prime	30.11% of 5078.40 km (Sail Line)

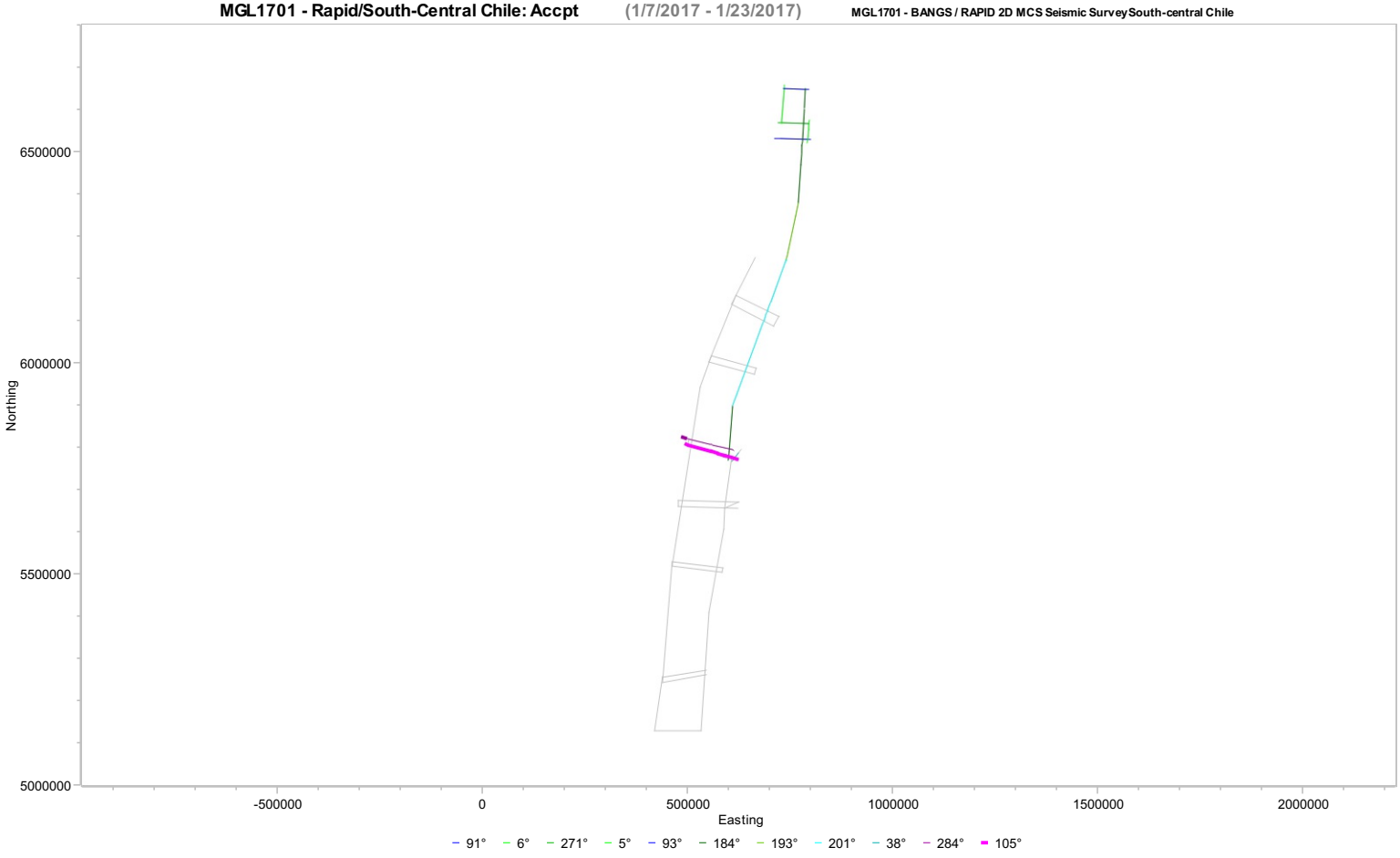
Average Daily Production	
Average Accepted Daily Production	139.01 km
Average Charged Daily Production	139.01 km

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

Date	Vessel	First - Last Sequence	Production
Mon 23 Jan	Marcus G Langseth	14 - 15	132.79
Total Production:			**132.79**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	132.79	132.79	1523.85	1523.85
Infill	0.00	0.00	0.00	0.00
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	132.79	132.79	1529.14	1529.14
Total				
Prime	132.79	132.79	1523.85	1523.85
Infill	0.00	0.00	0.00	0.00
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	**132.79**	**132.79**	**1529.14**	**1529.14**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Tue 24 Jan

The Vessel started the day on Line Change between Line MCS13 and MCS14. At 03:22 the vessel started Line MCS14, which continued till 21:30 UTC. At that time the vessel made another line change to Line MCS15, which started at 23:39 UTC and continued throughout the rest of the day.

There was a number of Power downs for PSO sightings on Line MCS14.

Daily Comment Summaries - Plan for Tomorrow

Tue 24 Jan

The Vessel will start the day on Line MCS15, until ~03:15 UTC. At that time it will make a line change to Line MCS16. Line MCS16 is expected to start at 05:33 UTC and continue throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Prime Line Change	AC_PLC	Tue 24. Jan 00:00	Tue 24. Jan 03:22	3.367
Nominal Prime line change.				
Production Prime	AC_PP	Tue 24. Jan 03:22	Tue 24. Jan 10:27	7.083
SOL Seq 16 MGL1701MCS14 FGSP=928 FCSP=928 Hdg=188.1° Prime EOL Seq 16 MGL1701MCS14 LGSP=2386 LCSP=2386 Incomplete SOL Feather=-2° SOL Water Depth=256m				
Cetacean	DT_CT	Tue 24. Jan 10:27	Tue 24. Jan 10:42	0.250
NTBP Seq 16 MCS14 FSP=2387 LSP=2436				
Production Prime	AC_PP	Tue 24. Jan 10:42	Tue 24. Jan 12:51	2.150
SOL Seq 16 MGL1701MCS14 FGSP=2437 FCSP=2437 Hdg=188.1° Prime EOL Seq 16 MGL1701MCS14 LGSP=2857 LCSP=2857 Incomplete				
Cetacean	DT_CT	Tue 24. Jan 12:51	Tue 24. Jan 13:20	0.483
NTBP Seq 16 MCS14 FSP=2858 LSP=2947				
Production Prime	AC_PP	Tue 24. Jan 13:20	Tue 24. Jan 16:08	2.800
SOL Seq 16 MGL1701MCS14 FGSP=2948 FCSP=2948 Hdg=188.1° Prime EOL Seq 16 MGL1701MCS14 LGSP=3435 LCSP=3435 Incomplete				
Cetacean	DT_CT	Tue 24. Jan 16:08	Tue 24. Jan 16:15	0.117
NTBP Seq 16 MCS14 FSP=3436 LSP=3454				
Production Prime	AC_PP	Tue 24. Jan 16:15	Tue 24. Jan 16:28	0.217
SOL Seq 16 MGL1701MCS14 FGSP=3455 FCSP=3455 Hdg=188.1° Prime EOL Seq 16 MGL1701MCS14 LGSP=3492 LCSP=3492 Incomplete				
Cetacean	DT_CT	Tue 24. Jan 16:28	Tue 24. Jan 16:48	0.333
NTBP Seq 16 MCS14 FSP=3493 LSP=3544				
Production Prime	AC_PP	Tue 24. Jan 16:48	Tue 24. Jan 18:24	1.600
SOL Seq 16 MGL1701MCS14 FGSP=3545 FCSP=3545 Hdg=188.1° Prime EOL Seq 16 MGL1701MCS14 LGSP=3822 LCSP=3822 Incomplete				
Cetacean	DT_CT	Tue 24. Jan 18:24	Tue 24. Jan 18:55	0.517
NTBP Seq 16 MCS14 FSP=3823 LSP=3870				
Production Prime	AC_PP	Tue 24. Jan 18:55	Tue 24. Jan 19:19	0.400
SOL Seq 16 MGL1701MCS14 FGSP=3871 FCSP=3871 Hdg=188.1° Prime EOL Seq 16 MGL1701MCS14 LGSP=3946 LCSP=3946 Incomplete				
Cetacean	DT_CT	Tue 24. Jan 19:19	Tue 24. Jan 20:08	0.817
NTBP Seq 16 MCS14 FSP=3947 LSP=4104				
Production Prime	AC_PP	Tue 24. Jan 20:08	Tue 24. Jan 21:30	1.367
SOL Seq 16 MGL1701MCS14 FGSP=4105 FCSP=4105 Hdg=188.1° Prime EOL Seq 16 MGL1701MCS14 LGSP=4361 LCSP=4361 Complete				
Prime Line Change	AC_PLC	Tue 24. Jan 21:30	Tue 24. Jan 24:00	2.500
Nominal Prime line change.				

Daily Science Report

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

24-Jan	Hours	% Percent
Acquisition	**21.483**	**89.514**
Prime Line Change	5.867	24.444
Production Prime	15.617	65.069
DownTime	**2.517**	**10.486**
Cetacean	2.517	10.486
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**28.152**
At Anchor	26.483	6.130
Deployment	13.700	3.171
Mob Ashore	74.833	17.323
Transit to Prospect	6.600	1.528
DownTime	**15.683**	**3.630**
Cetacean	13.483	3.121
Vessel	2.200	0.509
Chargeable Standby	**20.583**	**4.765**
Cetacean	0.550	0.127
Client Request	0.050	0.012
Reconfiguration	0.250	0.058
Source Reconfig	0.250	0.058
Transit	1.900	0.440
Weather	17.833	4.128
Acquisition	**274.117**	**63.453**
Infill Line Change	0.033	0.008
Prime Line Change	43.933	10.170
Production Prime	230.150	53.275
Total	432.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 24 Jan

Navigation:
rGPS String 3 Not operational due to Wire pair failure in the bundle. String #2 intermittent.

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

Tue 24 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
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Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
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Daily Science Report

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Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

32%

Prime Lines Completed

33%

Preplot Lines	Complete	Incomplete	Pending
39	13	1	0

Percentages Charged	
Prime	32.40% of 5078.40 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	137.10 km
Average Charged Daily Production	137.10 km

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

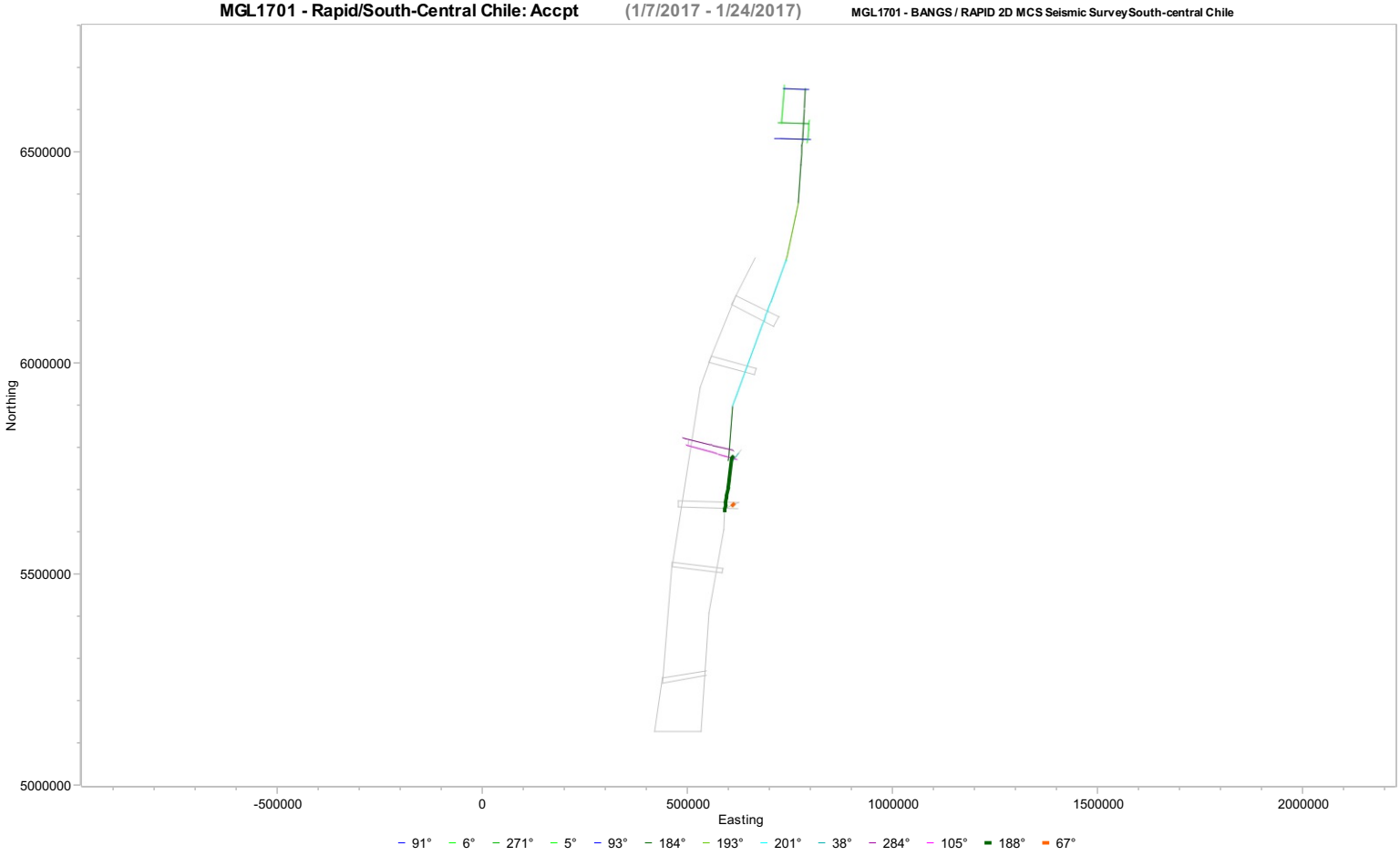
Date	Vessel	First - Last Sequence	Production
Tue 24 Jan	Marcus G Langseth	16 - 17	116.06
Total Production:			**116.06**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	116.06	248.85	1639.91	1639.91
Infill	0.00	0.00	0.00	0.00
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	116.06	248.85	1645.20	1645.20
Total				
Prime	116.06	248.85	1639.91	1639.91
Infill	0.00	0.00	0.00	0.00
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	**116.06**	**248.85**	**1645.20**	**1645.20**

Daily Science Report

MGL1701 - Rapid/South-Central Chile: Accpt (1/7/2017 - 1/24/2017)



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Wed 25 Jan

The Vessel started the Day in production on Line MCS15 and continue on it until 03:12 UTC. At that time the vessel made a line change to Line MCS16, which started at 05:33 UTC and continued until 21:17 UTC. At that time the line had been ended early, as the vessel started receiving a distress beacon on the radar and maneuvered towards it. The Vessel was still heading towards the last location of the Beacon was seen at the end of Day.

There were 2 Power downs for PSO sighting during the day on Line MCS16.

Daily Comment Summaries - Plan for Tomorrow

Wed 25 Jan

The Vessel will start the day heading towards the last location of the Distress Beacon. It is hope that the vessel can make it way back up to Line MCS16 by ~11:00 UTC and restart the line. If this is possible the vessel should finish Line MCS16 at ~17:00 UTC before making a Line Change and starting Line MSC18 before end of the Day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Wed 25. Jan 00:00	Wed 25. Jan 03:12	3.200
SOL Seq 17 MGL1701MCS15 FGSP=1585 FCSP=1585 Hdg=67° Prime EOL Seq 17 MGL1701MCS15 LGSP=2289 LCSP=2289 Complete				
Prime Line Change	AC_PLC	Wed 25. Jan 03:12	Wed 25. Jan 05:33	2.350
Nominal Prime line change.				
Production Prime	AC_PP	Wed 25. Jan 05:33	Wed 25. Jan 13:08	7.583
SOL Seq 18 MGL1701MCS16 FGSP=976 FCSP=976 Hdg=271.9° Prime EOL Seq 18 MGL1701MCS16 LGSP=2572 LCSP=2572 Incomplete SOL Feather=-21.1° SOL Water Depth=77.8m				
Cetacean	DT_CT	Wed 25. Jan 13:08	Wed 25. Jan 13:25	0.283
NTBP Seq 18 MCS16 FSP=2573 LSP=2631				
Production Prime	AC_PP	Wed 25. Jan 13:25	Wed 25. Jan 17:34	4.150
SOL Seq 18 MGL1701MCS16 FGSP=2632 FCSP=2632 Hdg=271.9° Prime EOL Seq 18 MGL1701MCS16 LGSP=3548 LCSP=3548 Incomplete				
Cetacean	DT_CT	Wed 25. Jan 17:34	Wed 25. Jan 17:49	0.250
NTBP Seq 18 MCS16 FSP=3549 LSP=3603				
Production Prime	AC_PP	Wed 25. Jan 17:49	Wed 25. Jan 21:17	3.467
SOL Seq 18 MGL1701MCS16 FGSP=3604 FCSP=3604 Hdg=271.9° Prime EOL Seq 18 MGL1701MCS16 LGSP=4345 LCSP=4345 Complete EOL Feather=0.7° EOL Water Depth=4402m				
Health and Safety	SB_HS	Wed 25. Jan 21:17	Wed 25. Jan 24:00	2.717
Vessel Transiting to Distress Beacon's Location visible on Radar.				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

25-Jan	Hours	% Percent
Acquisition	**20.750**	**86.458**
Prime Line Change	2.350	9.792
Production Prime	18.400	76.667
Chargeable Standby	**2.717**	**11.319**
Health and Safety	2.717	11.319
DownTime	**0.533**	**2.222**
Cetacean	0.533	2.222
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**26.670**
At Anchor	26.483	5.808
Deployment	13.700	3.004
Mob Ashore	74.833	16.411
Transit to Prospect	6.600	1.447
DownTime	**16.217**	**3.556**

Daily Science Report

Category	Hours	% Percent
Cetacean	14.017	3.074
Vessel	2.200	0.482
Chargeable Standby	**23.300**	**5.110**
Cetacean	0.550	0.121
Client Request	0.050	0.011
Health and Safety	2.717	0.596
Reconfiguration	0.250	0.055
Source Reconfig	0.250	0.055
Transit	1.900	0.417
Weather	17.833	3.911
Acquisition	**294.867**	**64.664**
Infill Line Change	0.033	0.007
Prime Line Change	45.933	10.073
Production Prime	248.900	54.583
Total	456.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 25 Jan

Navigation:
rGPS String 3 Not operational due to Wire pair failure in the bundle. String #2 intermittent.

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 25 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
Gilles Guerin L-DEO OMO Marine Science Technician (IT)
Tina Thomas UNOLS-Tech Pool Marine Science Technician (ACQ)

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Amanda Dubuque RPS Lead PSO
Laura Bluth RPS PAM operator / PSO
Cassandra Frey RPS PSO
Belen Sharon Torres RPS PSO
Yessica Vincencio RPS PSO

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Adrien Arnulf UTIG Data processing
Shuoshuo Han UTIG Data processing
Ben Phrampus OSU Data processing
Sebastián Bahamondes University of Chile, Santiago Watchstander
Brooklyn Gose UTIG Watchstander
Kelly Olsen UTIG Watchstander
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

35%

Prime Lines Completed

38%

Preplot Lines	Complete	Incomplete	Pending
39	15	0	0

Percentages Charged	
Prime	35.32% of 5078.40 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	137.98 km
Average Charged Daily Production	137.98 km

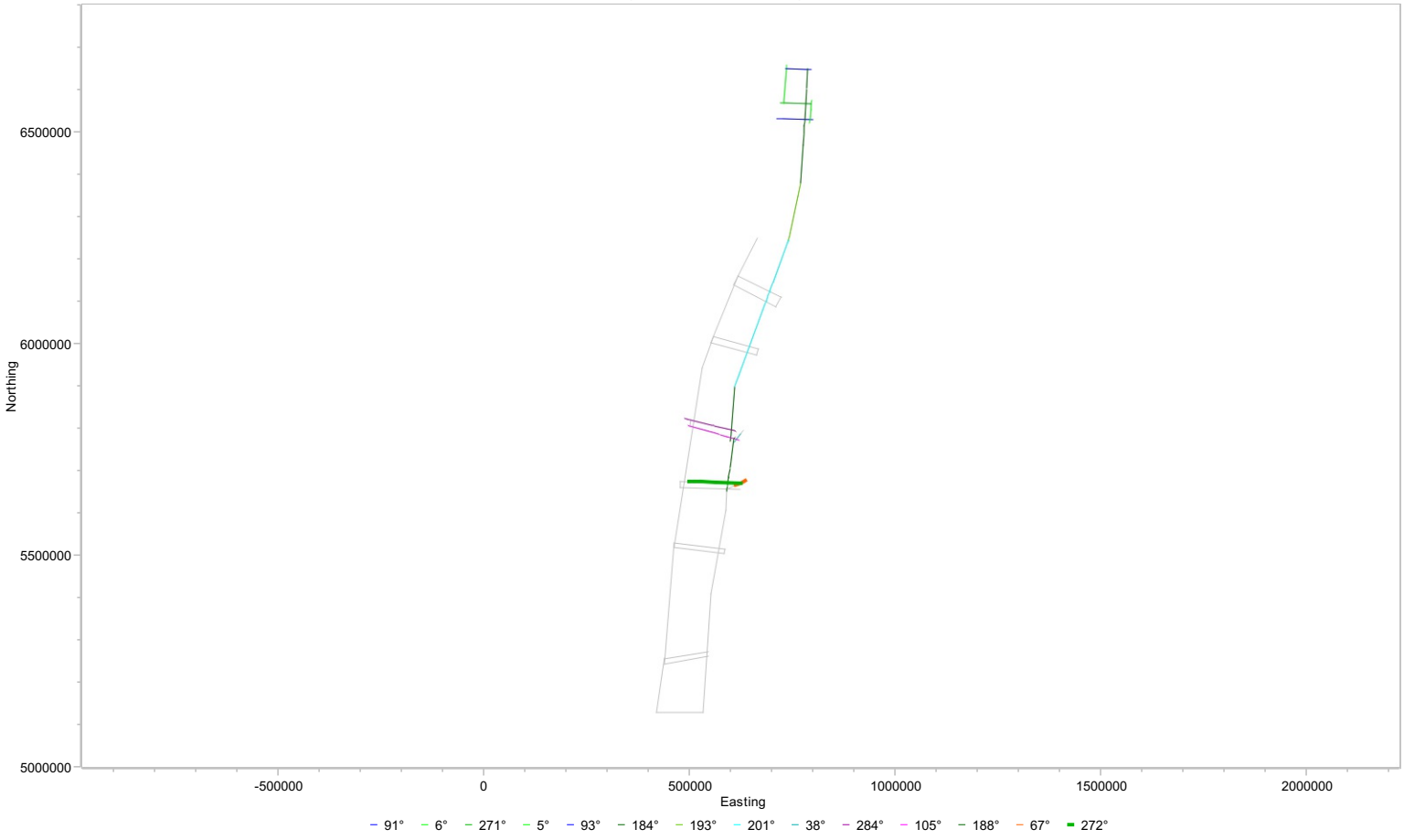
Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Wed 25 Jan	Marcus G Langseth	17 - 18	148.50
Total Production:			**148.50**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	148.50	397.35	1788.41	1788.41
Infill	0.00	0.00	0.00	0.00
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	148.50	397.35	1793.70	1793.70
Total				
Prime	148.50	397.35	1788.41	1788.41
Infill	0.00	0.00	0.00	0.00
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	**148.50**	**397.35**	**1793.70**	**1793.70**

MGL1701 - Rapid/South-Central Chile: Accpt (1/7/2017 - 1/25/2017) MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Thu 26 Jan

The Vessel started the day heading towards the last location of the Distress Beacon. The search was called off at 01:20 UTC and the vessel started making its way back to line MCS16A. During the run back the crew completed repairs / maintenance to the Energy source. At 10:41 UTC the vessel resumed production on line MCS16A, which was completed at 17:31 UTC. A normal line change was made to Line MCS18, which started at 21:13 UTC. It continued throughout the rest of the day

Daily Comment Summaries - Plan for Tomorrow

Thu 26 Jan

The vessel will start the day continuing production on Line MCS18, which is expected to conclude at ~18:00 UTC. The vessel will make a short line change to Line MCS18A, which will be acquired while running back for the start of Line MCS19 to the west.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
HSE	DT_HSE	Thu 26. Jan 00:00	Thu 26. Jan 10:41	10.683
Vessel Transiting to Distress Beacon's Location visible on Radar.				
Production Infill	AC_PI	Thu 26. Jan 10:41	Thu 26. Jan 13:03	2.367
SOL Seq 19 MGL1701MCS16A FGSP=3812 FCSP=3812 Hdg=271.9° Infill EOL Seq 19 MGL1701MCS16A LGSP=4344 LCSP=4344 Complete SOL Feather=4.6° SOL Water Depth=3297.5m				
Cetacean	DT_CT	Thu 26. Jan 13:03	Thu 26. Jan 13:19	0.267
Downtime due to close proximity of Cetaceans.				
Production Prime	AC_PP	Thu 26. Jan 13:19	Thu 26. Jan 17:31	4.200
SOL Seq 19 MGL1701MCS16A FGSP=4403 FCSP=4403 Hdg=271.9° Prime EOL Seq 19 MGL1701MCS16A LGSP=5306 LCSP=5306 Complete EOL Feather=3.8° EOL Water Depth=3680.6m				
Prime Line Change	AC_PLC	Thu 26. Jan 17:31	Thu 26. Jan 21:13	3.700
Nominal Prime line change.				
Production Prime	AC_PP	Thu 26. Jan 21:13	Thu 26. Jan 24:00	2.783
SOL Seq 20 MGL1701MCS18 FGSP=977 FCSP=977 Hdg=91.9° Prime MSP Seq 20 MGL1701MCS18 LGSP=1545 LCSP=1545 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

26-Jan	Hours	% Percent
Acquisition	**13.050**	**54.375**
Prime Line Change	3.700	15.417
Production Infill	2.367	9.861
Production Prime	6.983	29.097
DownTime	**10.950**	**45.625**
Cetacean	0.267	1.111
HSE	10.683	44.514
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**25.337**
At Anchor	26.483	5.517
Deployment	13.700	2.854
Mob Ashore	74.833	15.590
Transit to Prospect	6.600	1.375
DownTime	**29.883**	**6.226**
Cetacean	14.283	2.976
HSE	13.400	2.792
Vessel	2.200	0.458
Chargeable Standby	**20.583**	**4.288**
Cetacean	0.550	0.115
Client Request	0.050	0.010
Reconfiguration	0.250	0.052

Daily Science Report

Category	Hours	% Percent
Source Reconfig	0.250	0.052
Transit	1.900	0.396
Weather	17.833	3.715
Acquisition	**307.917**	**64.149**
Infill Line Change	0.033	0.007
Prime Line Change	49.633	10.340
Production Infill	2.367	0.493
Production Prime	255.883	53.309
Total	480.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 26 Jan

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

Thu 26 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
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Belen Sharon Torres RPS PSO
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Brooklyn Gose UTIG Watchstander
Kelly Olsen UTIG Watchstander
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

36%

Prime Lines Completed

38%

Preplot Lines	Complete	Incomplete	Pending
39	15	0	0

Percentages Charged	
Prime	36.41% of 5078.40 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	132.06 km
Average Charged Daily Production	132.06 km

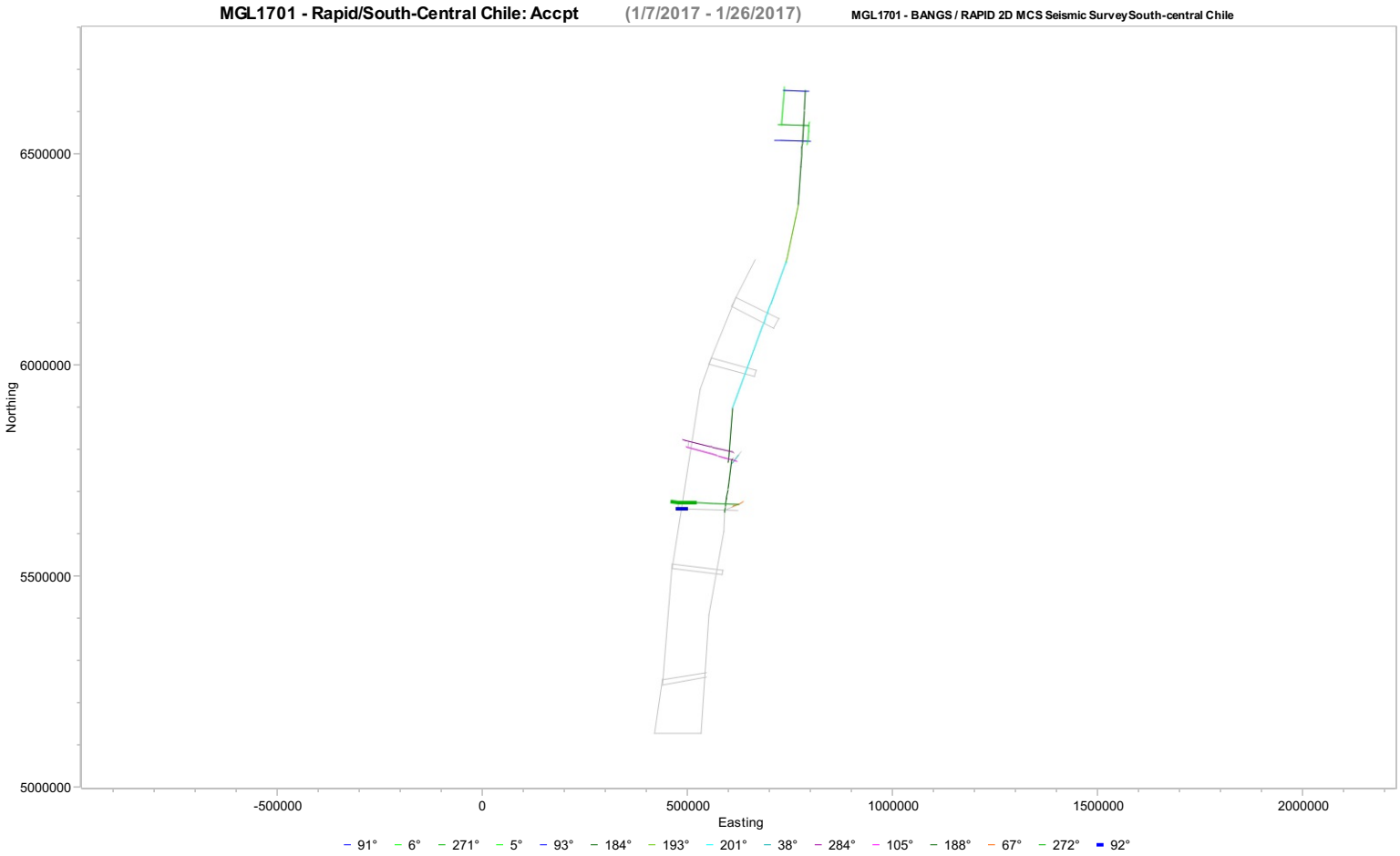
Daily Science Report

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

Date	Vessel	First - Last Sequence	Production
Thu 26 Jan	Marcus G Langseth	19 - 20	75.11
Total Production:			**75.11**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	55.16	452.51	1843.58	1843.58
Infill	19.95	19.95	19.95	19.95
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	75.11	472.46	1868.81	1868.81
Total				
Prime	55.16	452.51	1843.58	1843.58
Infill	19.95	19.95	19.95	19.95
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	**75.11**	**472.46**	**1868.81**	**1868.81**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Fri 27 Jan

The Vessel started the day in production on line MCS18. At 17:38 UTC the line was completed and a line change to line MCS18T was undertaken. Line MCS18T started at 20:25 UTC and would continue to 23:30 UTC. At which time the vessel would make another line change to MCS19. This finial line change would continue throughout the rest of the day.

There was a number of Power Downs due to PSO sighting on both Lines MCS18 and MCS18T

Daily Comment Summaries - Plan for Tomorrow

Fri 27 Jan

The vessel will start the day on line change to Line MCS19. The vessel will start MCS19 ~02:00 UTC. At the end of Line MCS19 there will be a short line change to MCS20, which once start will continue throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Cetacean	DT_CT	Fri 27. Jan 00:00	Fri 27. Jan 00:17	0.283
NTBP Seq 20 MCS18 FSP=1546 LSP=1601				
Production Prime	AC_PP	Fri 27. Jan 00:17	Fri 27. Jan 12:31	12.233
SOL Seq 20 MGL1701MCS18 FGSP=1602 FCSP=1602 Hdg=91.9° Prime EOL Seq 20 MGL1701MCS18 LGSP=3998 LCSP=3998 Incomplete				
Cetacean	DT_CT	Fri 27. Jan 12:31	Fri 27. Jan 12:46	0.250
NTBP Seq 20 MCS18 FSP=3999 LSP=4053				
Production Prime	AC_PP	Fri 27. Jan 12:46	Fri 27. Jan 12:53	0.117
SOL Seq 20 MGL1701MCS18 FGSP=4054 FCSP=4054 Hdg=91.9° Prime EOL Seq 20 MGL1701MCS18 LGSP=4082 LCSP=4082 Incomplete				
Cetacean	DT_CT	Fri 27. Jan 12:53	Fri 27. Jan 13:12	0.317
NTBP Seq 20 MCS18 FSP=4083 LSP=4150				
Production Prime	AC_PP	Fri 27. Jan 13:12	Fri 27. Jan 17:38	4.433
SOL Seq 20 MGL1701MCS18 FGSP=4151 FCSP=4151 Hdg=91.9° Prime EOL Seq 20 MGL1701MCS18 LGSP=5110 LCSP=5110 Complete				
Prime Line Change	AC_PLC	Fri 27. Jan 17:38	Fri 27. Jan 20:25	2.783
Nominal Prime line change.				
Production Prime	AC_PP	Fri 27. Jan 20:25	Fri 27. Jan 22:44	2.317
SOL Seq 21 MGL1701MCT18 FGSP=1281 FCSP=1281 Hdg=280.9° Prime EOL Seq 21 MGL1701MCT18 LGSP=1774 LCSP=1774 Incomplete				
Cetacean	DT_CT	Fri 27. Jan 22:44	Fri 27. Jan 23:07	0.383
NTBP Seq 21 MCT18 FSP=1775 LSP=1856				
Production Prime	AC_PP	Fri 27. Jan 23:07	Fri 27. Jan 23:52	0.750
SOL Seq 21 MGL1701MCT18 FGSP=1857 FCSP=1857 Hdg=280.9° Prime EOL Seq 21 MGL1701MCT18 LGSP=2013 LCSP=2013 Complete EOL Feather=14.4° EOL Water Depth=216m				
Prime Line Change	AC_PLC	Fri 27. Jan 23:52	Fri 27. Jan 24:00	0.133
Nominal Prime line change.				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

27-Jan	Hours	% Percent
Acquisition	**22.767**	**94.861**
Prime Line Change	2.917	12.153
Production Prime	19.850	82.708
DownTime	**1.233**	**5.139**
Cetacean	1.233	5.139
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**24.130**
At Anchor	26.483	5.255
Deployment	13.700	2.718
Mob Ashore	74.833	14.848

Daily Science Report

Category	Hours	% Percent
Transit to Prospect	6.600	1.310
DownTime	**31.117**	**6.174**
Cetacean	15.517	3.079
HSE	13.400	2.659
Vessel	2.200	0.437
Chargeable Standby	**20.583**	**4.084**
Cetacean	0.550	0.109
Client Request	0.050	0.010
Reconfiguration	0.250	0.050
Source Reconfig	0.250	0.050
Transit	1.900	0.377
Weather	17.833	3.538
Acquisition	**330.683**	**65.612**
Infill Line Change	0.033	0.007
Prime Line Change	52.550	10.427
Production Infill	2.367	0.470
Production Prime	275.733	54.709
Total	504.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 27 Jan

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

Fri 27 Jan

Technical Staff On-board the Langseth
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Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

39%

Prime Lines Completed

43%

Preplot Lines	Complete	Incomplete	Pending
40	17	0	0

Percentages Charged	
Prime	39.03% of 5124.34 km (Sail Line)

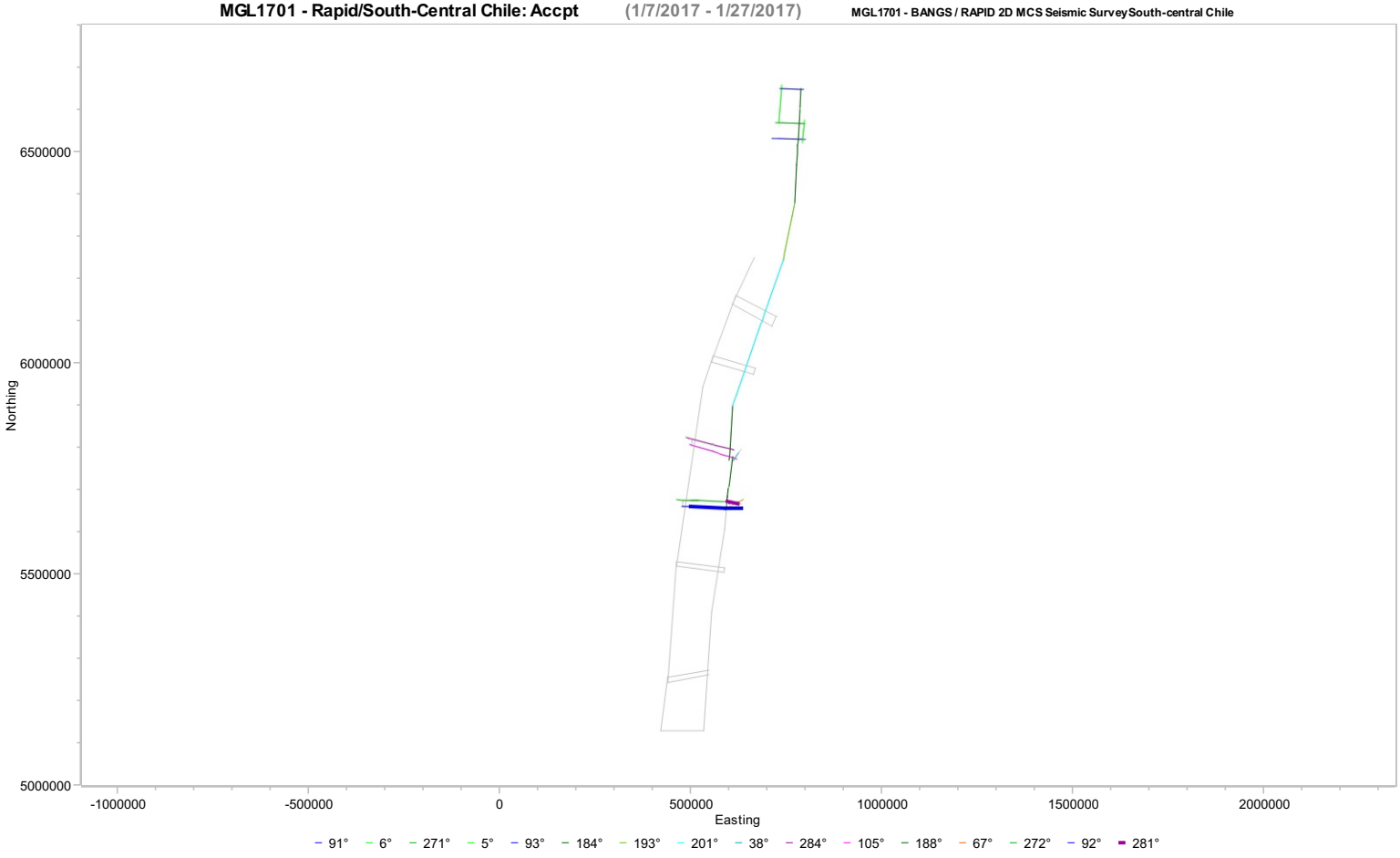
Average Daily Production	
Average Accepted Daily Production	133.35 km
Average Charged Daily Production	133.35 km

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

Date	Vessel	First - Last Sequence	Production
Fri 27 Jan	Marcus G Langseth	20 - 21	151.35
Total Production:			**151.35**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	151.35	603.86	1994.93	1994.93
Infill	0.00	19.95	19.95	19.95
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	151.35	623.81	2020.16	2020.16
Total				
Prime	151.35	603.86	1994.93	1994.93
Infill	0.00	19.95	19.95	19.95
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	**151.35**	**623.81**	**2020.16**	**2020.16**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sat 28 Jan

The Day start with the vessel on line change from MCS18T to Line MCS19, which started at 01:53 UTC. The Vessel remained in production on Line MCS19 until 09:35 UTC. A short line change to Line MCS20 was done and production began at 09:35 UTC. At ~10:15 UTC the PSO sighted a very large Pod of Dusky Dolphins (~1000 Animals) enter in the exclusion zone. The Source was powered down and further shut down at 11:45 UTC. At 12:00 UTC Line MCS20 was aborted, due the amount of time the source was secured. At 12:26 UTC the Exclusion Zone was cleared and the vessel began ramping up the source and at 12:59 UTC resumed production on Line MCS20A, which continued throughout the rest of the day. There was only one futher power down for a PSO sighting of whales last ~10 min.

Daily Comment Summaries - Plan for Tomorrow

Sat 28 Jan

The vessel will start the day continuing production on Line MCS20A until ~03:00 UTC. The vessel will then make a line change to Line MCS30, which is expected to continue throughout the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Prime Line Change	AC_PLC	Sat 28. Jan 00:00	Sat 28. Jan 02:52	2.867
Nominal Prime line change.				
Production Prime	AC_PP	Sat 28. Jan 02:52	Sat 28. Jan 09:53	7.017
SOL Seq 22 MGL1701MCS19 FGSP=894 FCSP=894 Hdg=184.3° Prime EOL Seq 22 MGL1701MCS19 LGSP=2364 LCSP=2364 Complete SOL Feather=-2.6° SOL Water Depth=428m				
Prime Line Change	AC_PLC	Sat 28. Jan 09:53	Sat 28. Jan 09:55	0.033
Nominal Prime line change.				
Production Prime	AC_PP	Sat 28. Jan 09:55	Sat 28. Jan 10:15	0.333
SOL Seq 23 MGL1701MCS20 FGSP=1006 FCSP=1006 Hdg=189.9° Prime EOL Seq 23 MGL1701MCS20 LGSP=1069 LCSP=1069 Incomplete SOL Feather=13.5° SOL Water Depth=128.6m				
Cetacean	DT_CT	Sat 28. Jan 10:15	Sat 28. Jan 10:45	0.500
NTBP Seq 23 MCS20 FSP=1070 LSP=1161				
Production Prime	AC_PP	Sat 28. Jan 10:45	Sat 28. Jan 10:55	0.167
SOL Seq 23 MGL1701MCS20 FGSP=1162 FCSP=1162 Hdg=189.9° Prime EOL Seq 23 MGL1701MCS20 LGSP=1194 LCSP=1194 Complete				
Cetacean	DT_CT	Sat 28. Jan 10:55	Sat 28. Jan 12:00	1.083
NTBP Seq 23 MCS20 FSP=1195 LSP=1285				
Cetacean	DT_CT	Sat 28. Jan 12:00	Sat 28. Jan 12:59	0.983
Downtime due to close proximity of Cetaceans.				
Production Prime	AC_PP	Sat 28. Jan 12:59	Sat 28. Jan 19:34	6.583
SOL Seq 24 MGL1701MCS20A FGSP=1529 FCSP=1529 Hdg=189.9° Prime EOL Seq 24 MGL1701MCS20A LGSP=2830 LCSP=2830 Incomplete				
Cetacean	DT_CT	Sat 28. Jan 19:34	Sat 28. Jan 19:43	0.150
NTBP Seq 24 FSP=2831 LSP=2860				
Production Prime	AC_PP	Sat 28. Jan 19:43	Sat 28. Jan 24:00	4.283
SOL Seq 24 MGL1701MCS20A FGSP=2861 FCSP=2861 Hdg=189.9° Prime MSP Seq 24 MGL1701MCS20A LGSP=3598 LCSP=3598 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

28-Jan	Hours	% Percent
Acquisition	**21.283**	**88.681**
Prime Line Change	2.900	12.083
Production Prime	18.383	76.597
DownTime	**2.717**	**11.319**
Cetacean	2.717	11.319
Day's Total	**24.000**	**100.000**

Daily Science Report

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**23.033**
At Anchor	26.483	5.016
Deployment	13.700	2.595
Mob Ashore	74.833	14.173
Transit to Prospect	6.600	1.250
DownTime	**33.833**	**6.408**
Cetacean	18.233	3.453
HSE	13.400	2.538
Vessel	2.200	0.417
Chargeable Standby	**20.583**	**3.898**
Cetacean	0.550	0.104
Client Request	0.050	0.009
Reconfiguration	0.250	0.047
Source Reconfig	0.250	0.047
Transit	1.900	0.360
Weather	17.833	3.378
Acquisition	**351.967**	**66.660**
Infill Line Change	0.033	0.006
Prime Line Change	55.450	10.502
Production Infill	2.367	0.448
Production Prime	294.117	55.704
Total	528.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 28 Jan

Navigation:
rGPS String 1, 2, & 3 Not operational

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:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.

Daily Comment Summaries - Personnel Onboard

Sat 28 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
Gilles Guerin L-DEO OMO Marine Science Technician (IT)
Tina Thomas UNOLS-Tech Pool Marine Science Technician (ACQ)

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Ben Phrampus OSU Data processing
Sebastián Bahamondes University of Chile, Santiago Watchstander
Brooklyn Gose UTIG Watchstander
Kelly Olsen UTIG Watchstander
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

42%

Prime Lines Completed

48%

Preplot Lines	Complete	Incomplete	Pending
40	19	0	0

Percentages Charged	
Prime	41.67% of 5124.34 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	133.46 km
Average Charged Daily Production	133.46 km

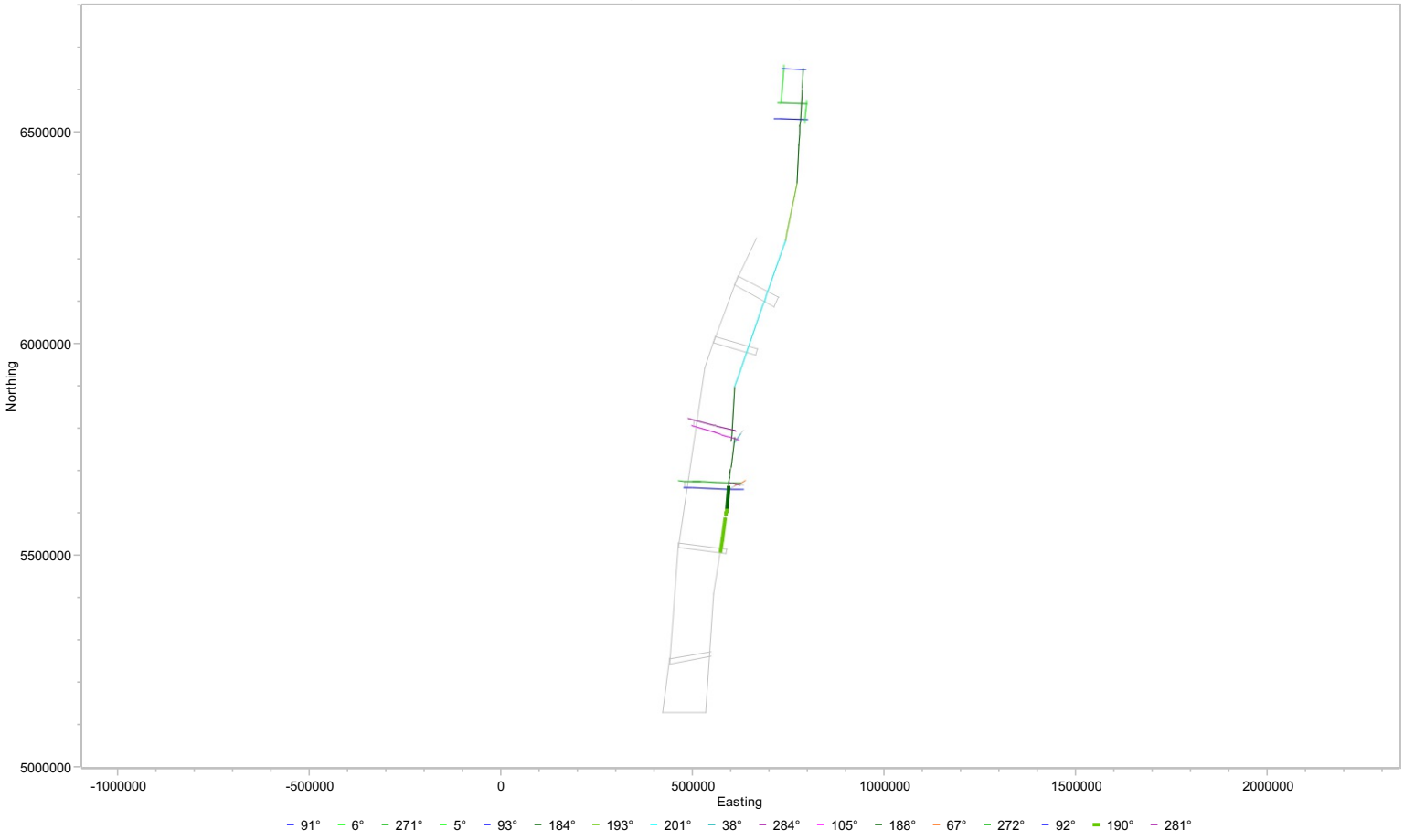
Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Sat 28 Jan	Marcus G Langseth	22 - 24	135.19
Total Production:			**135.19**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	135.19	739.05	2130.11	2130.11
Infill	0.00	19.95	19.95	19.95
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	135.19	759.00	2155.35	2155.35
Total				
Prime	135.19	739.05	2130.11	2130.11
Infill	0.00	19.95	19.95	19.95
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	**135.19**	**759.00**	**2155.35**	**2155.35**

MGL1701 - Rapid/South-Central Chile: Accpt (1/7/2017 - 1/28/2017) MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sun 29 Jan

The vessel started the day in Production on MCS20A and at 02:45 UTC completed the line. The vessel made a line change to Line MCS30, which started at 07:57 UTC and continued throughout the days.

Daily Comment Summaries - Plan for Tomorrow

Sun 29 Jan

The Vessel will start the day on Line MCS30. At ~03:00 UTC the vessel will make a line change to MCS28, which should start ~07:00 UTC and continue throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sun 29. Jan 00:00	Sun 29. Jan 02:45	2.750
SOL Seq 24 MGL1701MCS20A FGSP=3599 FCSP=3599 Hdg=189.9° Prime EOL Seq 24 MGL1701MCS20A LGSP=4053 LCSP=4053 Complete EOL Feather=12.1° EOL Water Depth=174m				
Prime Line Change	AC_PLC	Sun 29. Jan 02:45	Sun 29. Jan 07:57	5.200
Nominal Prime line change.				
Production Prime	AC_PP	Sun 29. Jan 07:57	Sun 29. Jan 24:00	16.050
SOL Seq 25 MGL1701MCS30 FGSP=993 FCSP=993 Hdg=276.9° Prime MSP Seq 25 MGL1701MCS30 LGSP=4150 LCSP=4150 Midnight SOL Feather=-72.3° SOL Water Depth=155m				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

29-Jan	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	5.200	21.667
Production Prime	18.800	78.333
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**22.032**
At Anchor	26.483	4.798
Deployment	13.700	2.482
Mob Ashore	74.833	13.557
Transit to Prospect	6.600	1.196
DownTime	**33.833**	**6.129**
Cetacean	18.233	3.303
HSE	13.400	2.428
Vessel	2.200	0.399
Chargeable Standby	**20.583**	**3.729**
Cetacean	0.550	0.100
Client Request	0.050	0.009
Reconfiguration	0.250	0.045
Source Reconfig	0.250	0.045
Transit	1.900	0.344
Weather	17.833	3.231
Acquisition	**375.967**	**68.110**
Infill Line Change	0.033	0.006
Prime Line Change	60.650	10.987
Production Infill	2.367	0.429
Production Prime	312.917	56.688
Total	552.000	

Daily Science Report

Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 29 Jan

Navigation:
rGPS String 1, 2, & 3 Not operational

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
S2G2, S4G4, and S4G5 disabled due to Sync Errors

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.

Daily Comment Summaries - Personnel Onboard

Sun 29 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
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Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

44%

Prime Lines Completed

48%

Preplot Lines	Complete	Incomplete	Pending
40	19	0	0

Percentages Charged	
Prime	44.31% of 5124.34 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	133.58 km
Average Charged Daily Production	133.58 km

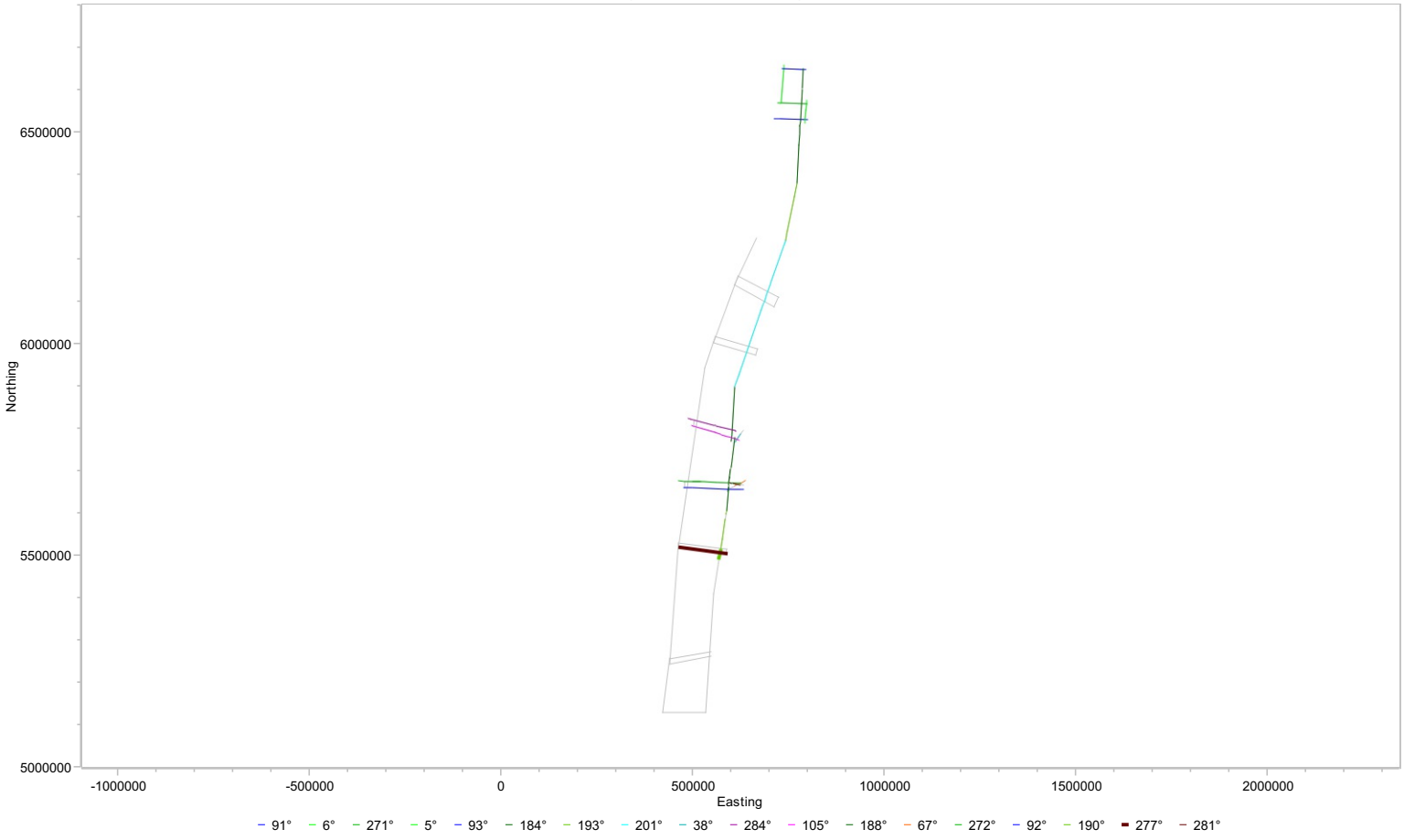
Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Sun 29 Jan	Marcus G Langseth	24 - 25	135.45
Total Production:			**135.45**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	135.45	874.50	2265.56	2265.56
Infill	0.00	19.95	19.95	19.95
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	135.45	894.45	2290.80	2290.80
Total				
Prime	135.45	874.50	2265.56	2265.56
Infill	0.00	19.95	19.95	19.95
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	**135.45**	**894.45**	**2290.80**	**2290.80**

MGL1701 - Rapid/South-Central Chile: Accpt (1/7/2017 - 1/29/2017) MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Mon 30 Jan

The vessel started the day in Production on Line MCS30. At 02:48 UTC Line MCS30 was completed and a Line Change was made to Line MCS28. Durign this line chagne Sub-Arrays 3 & 4 were recovered for maintenance. At 06:13 UTC Line MCS28 began and continued throughout the rest of the day.

One power down for PSO Sighting on Line MCS28

Daily Comment Summaries - Plan for Tomorrow

Mon 30 Jan

The Vessel will start the line in production on line MCS28. At ~02:00 UTC the vessel will complete this line and start a line change to rejoin line MCS20B. This line is expected to start at ~08:00 UTC and to continue throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Mon 30. Jan 00:00	Mon 30. Jan 02:48	2.800
SOL Seq 25 MGL1701MCS30 FGSP=4151 FCSP=4151 Hdg=276.9° Prime EOL Seq 25 MGL1701MCS30 LGSP=4691 LCSP=4691 Complete EOL Feather=11.7° EOL Water Depth=3959m				
Prime Line Change	AC_PLC	Mon 30. Jan 02:48	Mon 30. Jan 06:13	3.417
Nominal Prime line change.				
Production Prime	AC_PP	Mon 30. Jan 06:13	Mon 30. Jan 23:21	17.133
SOL Seq 26 MGL1701MCS28 FGSP=966 FCSP=966 Hdg=96.5° Prime EOL Seq 26 MGL1701MCS28 LGSP=4097 LCSP=4097 Incomplete SOL Feather=12° SOL Water Depth=4050m				
Cetacean	DT_CT	Mon 30. Jan 23:21	Mon 30. Jan 23:58	0.617
NTBP Seq 26 MCS28 FSP=4098 LSP=4227				
Production Prime	AC_PP	Mon 30. Jan 23:58	Mon 30. Jan 24:00	0.033
SOL Seq 26 MGL1701MCS28 FGSP=4228 FCSP=4228 Hdg=96.5° Prime MSP Seq 26 MGL1701MCS28 LGSP=4232 LCSP=4232 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

30-Jan	Hours	% Percent
Acquisition	**23.383**	**97.431**
Prime Line Change	3.417	14.236
Production Prime	19.967	83.194
DownTime	**0.617**	**2.569**
Cetacean	0.617	2.569
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**21.114**
At Anchor	26.483	4.598
Deployment	13.700	2.378
Mob Ashore	74.833	12.992
Transit to Prospect	6.600	1.146
DownTime	**34.450**	**5.981**
Cetacean	18.850	3.273
HSE	13.400	2.326
Vessel	2.200	0.382
Chargeable Standby	**20.583**	**3.573**
Cetacean	0.550	0.095
Client Request	0.050	0.009
Reconfiguration	0.250	0.043
Source Reconfig	0.250	0.043
Transit	1.900	0.330
Weather	17.833	3.096
Acquisition	**399.350**	**69.332**

Daily Science Report

Category	Hours	% Percent
Infill Line Change	0.033	0.006
Prime Line Change	64.067	11.123
Production Infill	2.367	0.411
Production Prime	332.883	57.792
Total	576.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 30 Jan

Navigation:
rGPS String 1, 2, & 3 Not operational

Information Technology (IT):
No Major Issues to Report

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
S2G2, disabled due to Sync Errors

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.

Daily Comment Summaries - Personnel Onboard

Mon 30 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
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Kelly Olsen UTIG Watchstander
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Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

47%

Prime Lines Completed

50%

Preplot Lines	Complete	Incomplete	Pending
40	20	0	0

Percentages Charged	
Prime	47.01% of 5124.34 km (Sail Line)

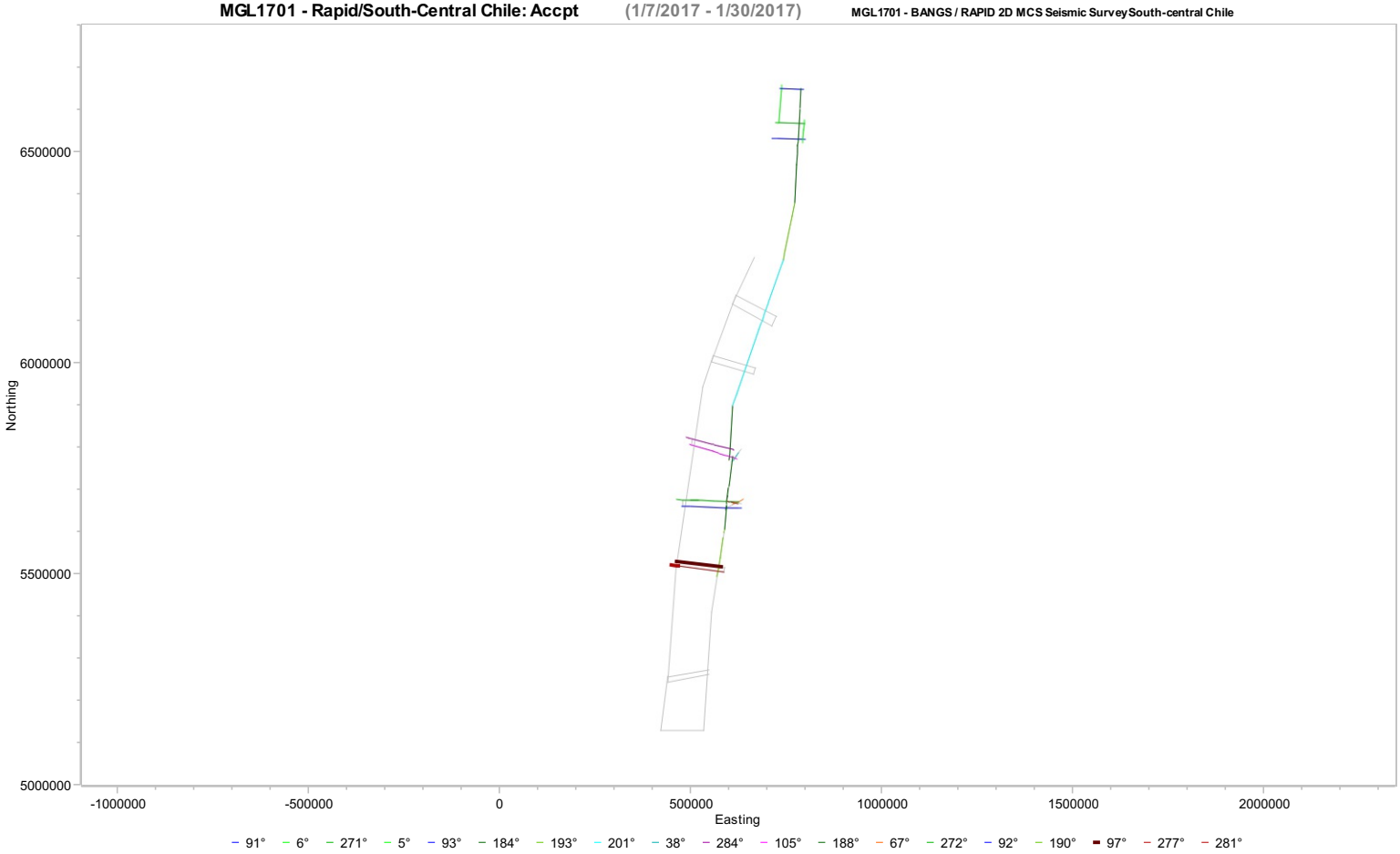
Average Daily Production	
Average Accepted Daily Production	133.82 km
Average Charged Daily Production	133.82 km

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

Date	Vessel	First - Last Sequence	Production
Mon 30 Jan	Marcus G Langseth	25 - 26	137.89
Total Production:			**137.89**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	137.89	137.89	2403.45	2403.45
Infill	0.00	0.00	19.95	19.95
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	137.89	137.89	2428.69	2428.69
Total				
Prime	137.89	137.89	2403.45	2403.45
Infill	0.00	0.00	19.95	19.95
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	**137.89**	**137.89**	**2428.69**	**2428.69**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Tue 31 Jan

The Vessel started the day continuing production on line MCS28. At 01:06 UTC Line MCS28 end and the vessel began a line change to MCS20B. During this line change the vessel preformed preventive maintenance on Source Sub-Arrays 1 and 2. The Line Changes was completed at 10:19 UTC and the vessel began production on Line MCS20B until 23:27 UTC. At that time a short line change to Line MCS21 was made and production commenced at 23:30 UTC and continued throughout the day.

Daily Comment Summaries - Plan for Tomorrow

Tue 31 Jan

The Vessel will start the day in production on Line MCS21 and this is expected to continue throughout the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Tue 31. Jan 00:00	Tue 31. Jan 00:39	0.650
SOL Seq 26 MGL1701MCS28 FGSP=4233 FCSP=4233 Hdg=96.5° Prime EOL Seq 26 MGL1701MCS28 LGSP=4368 LCSP=4368 Complete				
Cetacean	DT_CT	Tue 31. Jan 00:39	Tue 31. Jan 01:06	0.450
NTBP Seq 26 MCS28 FSP=4369 LSP=4465				
Prime Line Change	AC_PLC	Tue 31. Jan 01:06	Tue 31. Jan 07:06	6.000
Nominal Prime line change.				
Prime Line Change	AC_PLC	Tue 31. Jan 07:06	Tue 31. Jan 10:19	3.217
Nominal Prime line change.				
Production Infill	AC_PI	Tue 31. Jan 10:19	Tue 31. Jan 11:01	0.700
SOL Seq 27 MGL1701MCS20B FGSP=3201 FCSP=3201 Hdg=189.9° Infill EOL Seq 27 MGL1701MCS20B LGSP=3290 LCSP=3290 Complete				
Production Prime	AC_PP	Tue 31. Jan 11:01	Tue 31. Jan 23:27	12.433
SOL Seq 27 MGL1701MCS20B FGSP=3291 FCSP=3291 Hdg=189.9° Prime EOL Seq 27 MGL1701MCS20B LGSP=6357 LCSP=6357 Complete EOL Feather=6.5° EOL Water Depth=1127m				
Infill Line Change	AC_ILC	Tue 31. Jan 23:27	Tue 31. Jan 23:30	0.050
Nominal Infill line change.				
Production Prime	AC_PP	Tue 31. Jan 23:30	Tue 31. Jan 24:00	0.500
SOL Seq 28 MGL1701MCS21 FGSP=1012 FCSP=1012 Hdg=184.1° Prime MSP Seq 28 MGL1701MCS21 LGSP=1080 LCSP=1080 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

31-Jan	Hours	% Percent
Acquisition	**23.550**	**98.125**
Infill Line Change	0.050	0.208
Prime Line Change	9.217	38.403
Production Infill	0.700	2.917
Production Prime	13.583	56.597
DownTime	**0.450**	**1.875**
Cetacean	0.450	1.875
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**20.269**
At Anchor	26.483	4.414
Deployment	13.700	2.283
Mob Ashore	74.833	12.472
Transit to Prospect	6.600	1.100
DownTime	**34.900**	**5.817**
Cetacean	19.300	3.217
HSE	13.400	2.233
Vessel	2.200	0.367
Chargeable Standby	**20.583**	**3.431**
Cetacean	0.550	0.092

Daily Science Report

Category	Hours	% Percent
Client Request	0.050	0.008
Reconfiguration	0.250	0.042
Source Reconfig	0.250	0.042
Transit	1.900	0.317
Weather	17.833	2.972
Acquisition	**422.900**	**70.483**
Infill Line Change	0.083	0.014
Prime Line Change	73.283	12.214
Production Infill	3.067	0.511
Production Prime	346.467	57.744
Total	600.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 31 Jan

Navigation:
rGPS String 3 Not operational

Information Technology (IT):
HSN is having intermittent drop out issues. Tech Staff have been working with shore support at SIO throughout the day.

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:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Part numbers have been sent to the Chandler/Agent in Valparaiso, Chile to check on part availability for vessels arrival back in port mid-Feb.

Daily Comment Summaries - Personnel Onboard

Tue 31 Jan

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
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Anne Trehu OSU Co-Chief Scientist
Eduardo Contreras-Reyes University of Chile, Santiago Data processing
Adrien Arnulf UTIG Data processing
Shuoshuo Han UTIG Data processing
Ben Phrampus OSU Data processing
Sebastián Bahamondes University of Chile, Santiago Watchstander
Brooklyn Gose UTIG Watchstander
Kelly Olsen UTIG Watchstander
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

49%

Prime Lines Completed

53%

Preplot Lines	Complete	Incomplete	Pending
40	21	0	0

Percentages Charged	
Prime	49.40% of 5124.34 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	133.23 km
Average Charged Daily Production	133.23 km

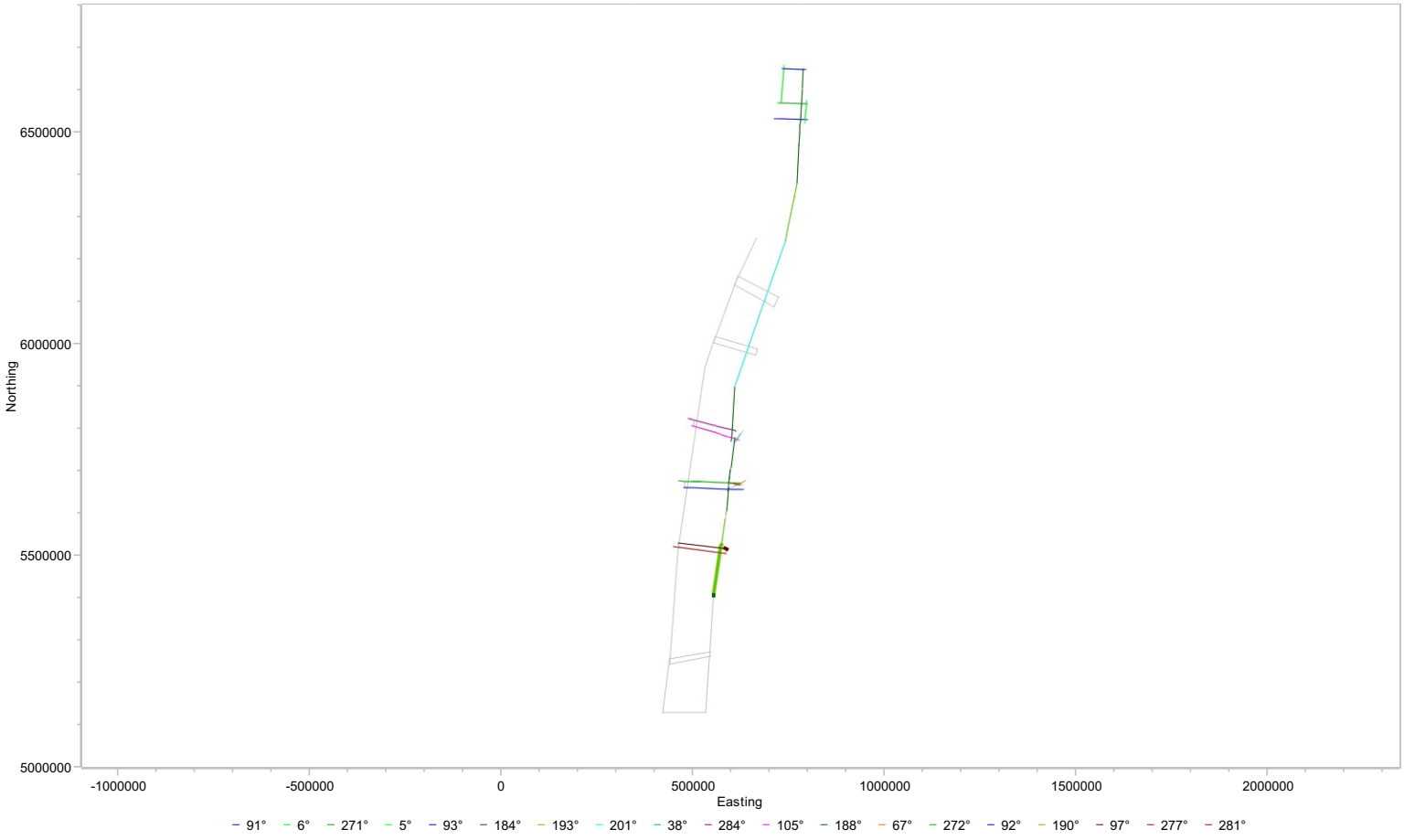
Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Tue 31 Jan	Marcus G Langseth	26 - 28	125.96
Total Production:			**125.96**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	122.62	260.51	2526.08	2526.08
Infill	3.34	3.34	23.29	23.29
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	125.96	263.85	2554.65	2554.65
Total				
Prime	122.62	260.51	2526.08	2526.08
Infill	3.34	3.34	23.29	23.29
Prime, Reshoot	0.00	0.00	5.29	5.29
Combined	**125.96**	**263.85**	**2554.65**	**2554.65**

MGL1701 - Rapid/South-Central Chile: Accpt (1/7/2017 - 1/31/2017) MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Vessel Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Wed 01 Feb

The Vessel started the day continuing production on Line MCS21 and continued this way throughout the rest of the day. There were three power downs for PSO sightings during the day and the Front end of Sub-Array 4 was recovered to remove finishing gear from the Soft-Tow Point.

Daily Comment Summaries - Plan for Tomorrow

Wed 01 Feb

The Vessel will start the day continuing production on Line MCS21 and at 09:00 UTC will start to maneuver around Isla Guafo on the southern end of the survey area. It is expected that the vessel will complete line MCS21 ~17:00 UTC and make a short line change to Line MCS22.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Wed 1. Feb 00:00	Wed 1. Feb 12:35	12.583
SOL Seq 28 MGL1701MCS21 FGSP=1081 FCSP=1081 Hdg=184.1° Prime EOL Seq 28 MGL1701MCS21 LGSP=3362 LCSP=3362 Incomplete				
Cetacean	DT_CT	Wed 1. Feb 12:35	Wed 1. Feb 12:52	0.283
NTBP Seq 28 MCS21 FSP=3363 LSP=3409				
Production Prime	AC_PP	Wed 1. Feb 12:52	Wed 1. Feb 13:41	0.817
SOL Seq 28 MGL1701MCS21 FGSP=3410 FCSP=3410 Hdg=184.1° Prime EOL Seq 28 MGL1701MCS21 LGSP=3610 LCSP=3610 Incomplete				
Cetacean	DT_CT	Wed 1. Feb 13:41	Wed 1. Feb 13:56	0.250
NTBP Seq 28 MCS21 FSP=3611 LSP=3653				
Production Prime	AC_PP	Wed 1. Feb 13:56	Wed 1. Feb 17:20	3.400
SOL Seq 28 MGL1701MCS21 FGSP=3654 FCSP=3654 Hdg=184.1° Prime EOL Seq 28 MGL1701MCS21 LGSP=4274 LCSP=4274 Incomplete				
Cetacean	DT_CT	Wed 1. Feb 17:20	Wed 1. Feb 17:43	0.383
NTBP Seq 28 MCS21 FSP=4275 LSP=4346				
Production Prime	AC_PP	Wed 1. Feb 17:43	Wed 1. Feb 24:00	6.283
SOL Seq 28 MGL1701MCS21 FGSP=4347 FCSP=4347 Hdg=184.1° Prime MSP Seq 28 MGL1701MCS21 LGSP=5527 LCSP=5527 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

1-Feb	Hours	% Percent
Acquisition	**23.083**	**96.181**
Production Prime	23.083	96.181
DownTime	**0.917**	**3.819**
Cetacean	0.917	3.819
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**19.490**
At Anchor	26.483	4.244
Deployment	13.700	2.196
Mob Ashore	74.833	11.993
Transit to Prospect	6.600	1.058
DownTime	**35.817**	**5.740**
Cetacean	20.217	3.240
HSE	13.400	2.147
Vessel	2.200	0.353
Chargeable Standby	**20.583**	**3.299**
Cetacean	0.550	0.088
Client Request	0.050	0.008
Reconfiguration	0.250	0.040
Source Reconfig	0.250	0.040
Transit	1.900	0.304
Weather	17.833	2.858
Acquisition	**445.983**	**71.472**
Infill Line Change	0.083	0.013
Prime Line Change	73.283	11.744
Production Infill	3.067	0.491

Daily Science Report

Category	Hours	% Percent
Production Prime	369.550	59.223
Total	624.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 01 Feb

Navigation:
rGPS String 3 Not operational

Information Technology (IT):
HSN is having intermittent drop out issues. Tech Staff have been working with shore support at SIO throughout the day.

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
Fishing Gear hung on Sub-Array #4's Soft Tow point. Picked up and removed, no damage.

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Part numbers have been sent to the Chandler/Agent in Valparaiso, Chile to check on part availability for vessels arrival back in port mid-Feb.

Daily Comment Summaries - Personnel Onboard

Wed 01 Feb

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
Gilles Guerin L-DEO OMO Marine Science Technician (IT)
Tina Thomas UNOLS-Tech Pool Marine Science Technician (ACQ)

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Amanda Dubuque RPS Lead PSO
Laura Bluth RPS PAM operator / PSO
Cassandra Frey RPS PSO
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Yessica Vincencio RPS PSO

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Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

53%

Prime Lines Completed

53%

Preplot Lines	Complete	Incomplete	Pending
40	21	0	0

Percentages Charged	
Prime	53.24% of 5056.16 km (Sail Line)

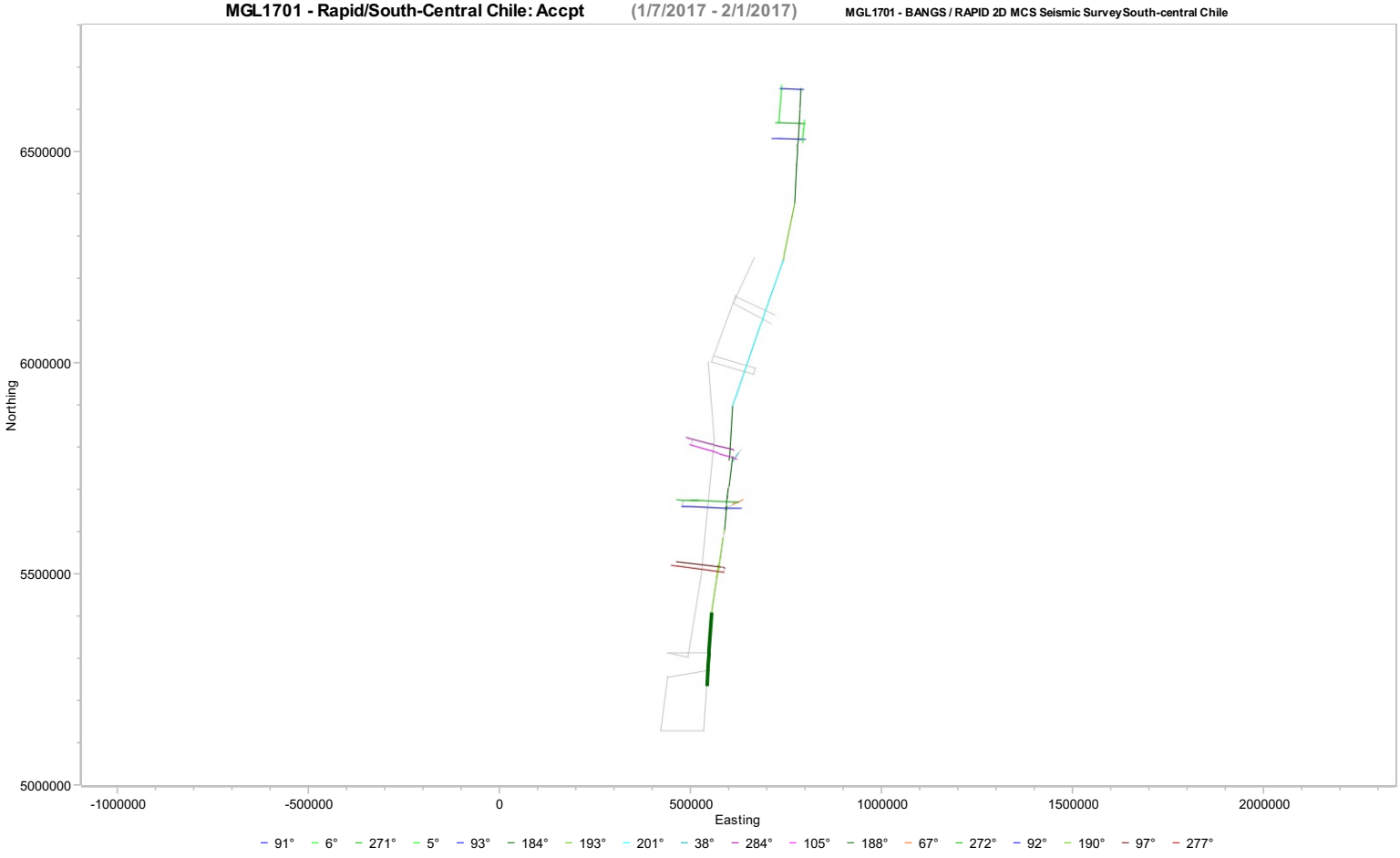
Average Daily Production	
Average Accepted Daily Production	134.60 km
Average Charged Daily Production	134.60 km

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

Date	Vessel	First - Last Sequence	Production
Wed 1 Feb	Marcus G Langseth	28	160.69
Total Production:			**160.69**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	160.69	421.20	160.69	2686.76
Infill	0.00	3.34	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	160.69	424.54	160.69	2715.34
Total				
Prime	160.69	421.20	160.69	2686.76
Infill	0.00	3.34	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	**160.69**	**424.54**	**160.69**	**2715.34**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Thu 02 Feb

The Vessel started the Day in production on Line MCS21. At 15:31 UTC Line MCS21 ended and a Line change to MCS22 began. At 17:10 UTC the vessel started production on Line MCS22, which continued throughout the rest of the day.

There was one Power down for PSO sighting on line MCS21

Daily Comment Summaries - Plan for Tomorrow

Thu 02 Feb

The Vessel will begin the day in production on Line MCS22. At 10:45 UTC the vessel will end line MCS22 and began a line change to MCS23. Line MCS23 is expected to start ~12:00 UTC and continue throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Thu 2. Feb 00:00	Thu 2. Feb 10:56	10.933
SOL Seq 28 MGL1701MCS21 FGSP=5528 FCSP=5528 Hdg=184.1° Prime EOL Seq 28 MGL1701MCS21 LGSP=7500 LCSP=7500 Incomplete				
Cetacean	DT_CT	Thu 2. Feb 10:56	Thu 2. Feb 11:11	0.250
NTBP Seq 28 MCS21 FSP=7501 LSP=7547				
Production Prime	AC_PP	Thu 2. Feb 11:11	Thu 2. Feb 15:31	4.333
SOL Seq 28 MGL1701MCS21 FGSP=7548 FCSP=7548 Hdg=184.1° Prime EOL Seq 28 MGL1701MCS21 LGSP=8476 LCSP=8476 Complete EOL Feather=12.1° EOL Water Depth=146m				
Prime Line Change	AC_PLC	Thu 2. Feb 15:31	Thu 2. Feb 17:10	1.650
Nominal Prime line change.				
Production Prime	AC_PP	Thu 2. Feb 17:10	Thu 2. Feb 24:00	6.833
SOL Seq 29 MGL1701MCS22 FGSP=948 FCSP=948 Hdg=269.8° Prime MSP Seq 29 MGL1701MCS22 LGSP=2198 LCSP=2198 Midnight SOL Feather=33.8° SOL Water Depth=110.4m				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

2-Feb	Hours	% Percent
Acquisition	**23.750**	**98.958**
Prime Line Change	1.650	6.875
Production Prime	22.100	92.083
DownTime	**0.250**	**1.042**
Cetacean	0.250	1.042
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**18.768**
At Anchor	26.483	4.087
Deployment	13.700	2.114
Mob Ashore	74.833	11.548
Transit to Prospect	6.600	1.019
DownTime	**36.067**	**5.566**
Cetacean	20.467	3.158
HSE	13.400	2.068
Vessel	2.200	0.340
Chargeable Standby	**20.583**	**3.176**
Cetacean	0.550	0.085
Client Request	0.050	0.008
Reconfiguration	0.250	0.039
Source Reconfig	0.250	0.039
Transit	1.900	0.293
Weather	17.833	2.752
Acquisition	**469.733**	**72.490**
Infill Line Change	0.083	0.013

Daily Science Report

Category	Hours	% Percent
Prime Line Change	74.933	11.564
Production Infill	3.067	0.473
Production Prime	391.650	60.440
Total	648.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 02 Feb

Navigation:
rGPS String 3 Not operational

Information Technology (IT):
HSN is having intermittent drop out issues. Tech Staff have been working with shore support at SIO throughout the day.

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:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Part numbers have been sent to the Chandler/Agent in Valparaiso, Chile to check on part availability for vessels arrival back in port mid-Feb.

Daily Comment Summaries - Personnel Onboard

Thu 02 Feb

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
Josh Kasinger L-DEO OMO Source Mechanic
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Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

56%

Prime Lines Completed

55%

Preplot Lines	Complete	Incomplete	Pending
40	22	0	0

Percentages Charged	
Prime	56.32% of 5056.16 km (Sail Line)

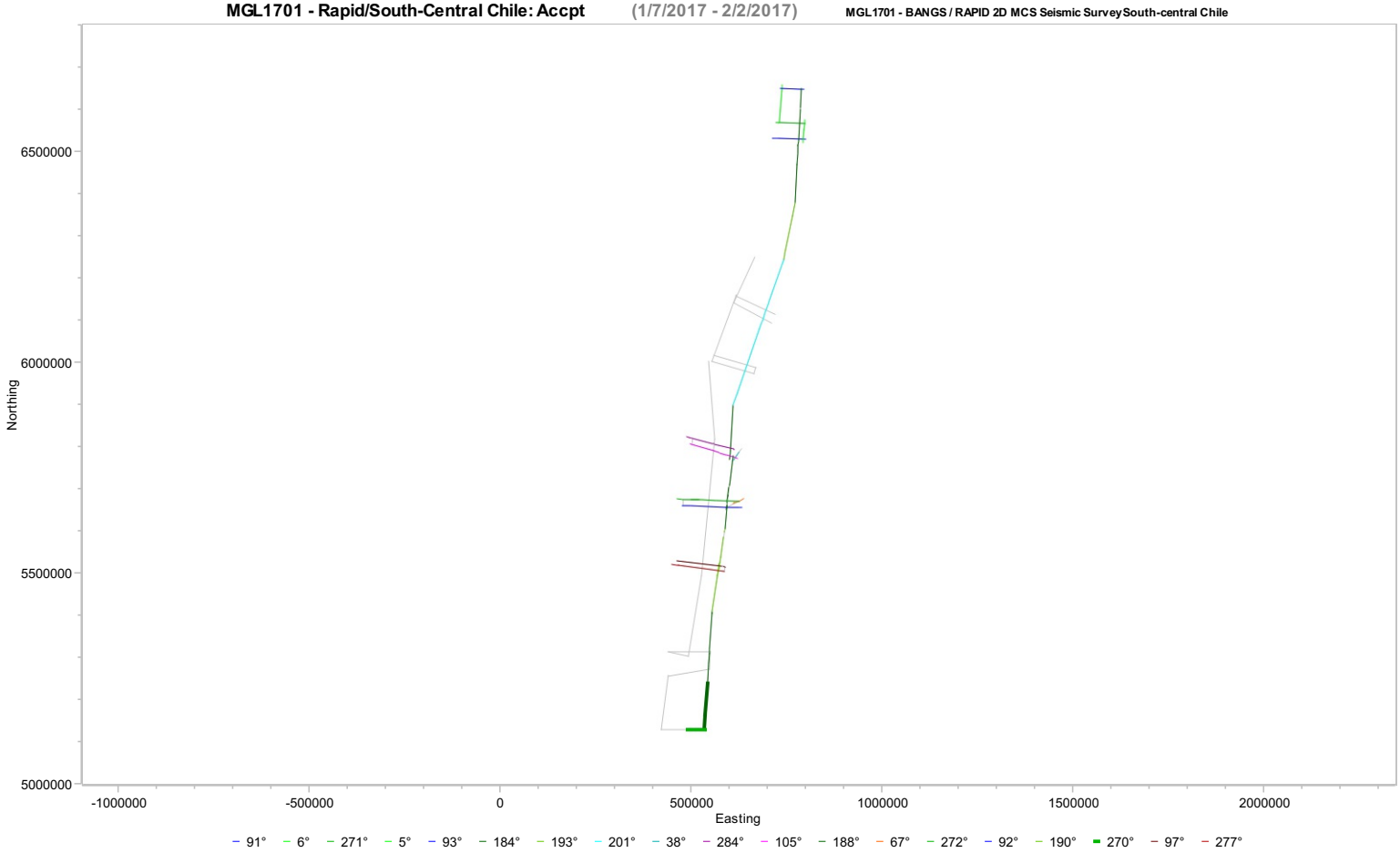
Average Daily Production	
Average Accepted Daily Production	135.61 km
Average Charged Daily Production	135.61 km

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

Date	Vessel	First - Last Sequence	Production
Thu 2 Feb	Marcus G Langseth	28 - 29	155.70
Total Production:			**155.70**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	155.70	576.90	316.39	2842.46
Infill	0.00	3.34	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	155.70	580.24	316.39	2871.04
Total				
Prime	155.70	576.90	316.39	2842.46
Infill	0.00	3.34	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	**155.70**	**580.24**	**316.39**	**2871.04**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Fri 03 Feb

The Vessel started the day continuing production on Line MCS22. At 10:52 UTC Line MCS22 Concluded and the vessel commenced a line change to MCS23. At 12:47 UTC the vessel began production on MCS23, which continued throughout the rest of the day.

Daily Comment Summaries - Plan for Tomorrow

Fri 03 Feb

The Vessel will start the day continuing production on line MCS23 and at ~03:30 UTC will begin a line change to Line MCS26. This line is expected to begin at ~06:00 UTC and continue throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Fri 3. Feb 00:00	Fri 3. Feb 10:52	10.867
SOL Seq 29 MGL1701MCS22 FGSP=2199 FCSP=2199 Hdg=269.8° Prime EOL Seq 29 MGL1701MCS22 LGSP=4455 LCSP=4455 Complete				
Prime Line Change	AC_PLC	Fri 3. Feb 10:52	Fri 3. Feb 12:47	1.917
Nominal Prime line change.				
Production Prime	AC_PP	Fri 3. Feb 12:47	Fri 3. Feb 24:00	11.217
SOL Seq 30 MGL1701MCS23 FGSP=1388 FCSP=1388 Hdg=9° Prime MSP Seq 30 MGL1701MCS23 LGSP=3668 LCSP=3668 Midnight SOL Feather=30.7° SOL Water Depth=344.7m				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

3-Feb	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	1.917	7.986
Production Prime	22.083	92.014
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**18.098**
At Anchor	26.483	3.941
Deployment	13.700	2.039
Mob Ashore	74.833	11.136
Transit to Prospect	6.600	0.982
DownTime	**36.067**	**5.367**
Cetacean	20.467	3.046
HSE	13.400	1.994
Vessel	2.200	0.327
Chargeable Standby	**20.583**	**3.063**
Cetacean	0.550	0.082
Client Request	0.050	0.007
Reconfiguration	0.250	0.037
Source Reconfig	0.250	0.037
Transit	1.900	0.283
Weather	17.833	2.654
Acquisition	**493.733**	**73.472**
Infill Line Change	0.083	0.012
Prime Line Change	76.850	11.436
Production Infill	3.067	0.456
Production Prime	413.733	61.567
Total	672.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 03 Feb

Navigation:
rGPS String 3 Not operational

Information Technology (IT):
HSN is having intermittent drop out issues. Tech Staff have been working with shore support at SIO throughout the day.

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:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Part numbers have been sent to the Chandler/Agent in Valparaiso, Chile to check on part availability for vessels arrival back in port mid-Feb.

Daily Comment Summaries - Personnel Onboard

Fri 03 Feb

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
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Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

60%

Prime Lines Completed

57%

Preplot Lines	Complete	Incomplete	Pending
40	23	0	0

Percentages Charged	
Prime	59.69% of 5056.16 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	137.18 km
Average Charged Daily Production	137.18 km

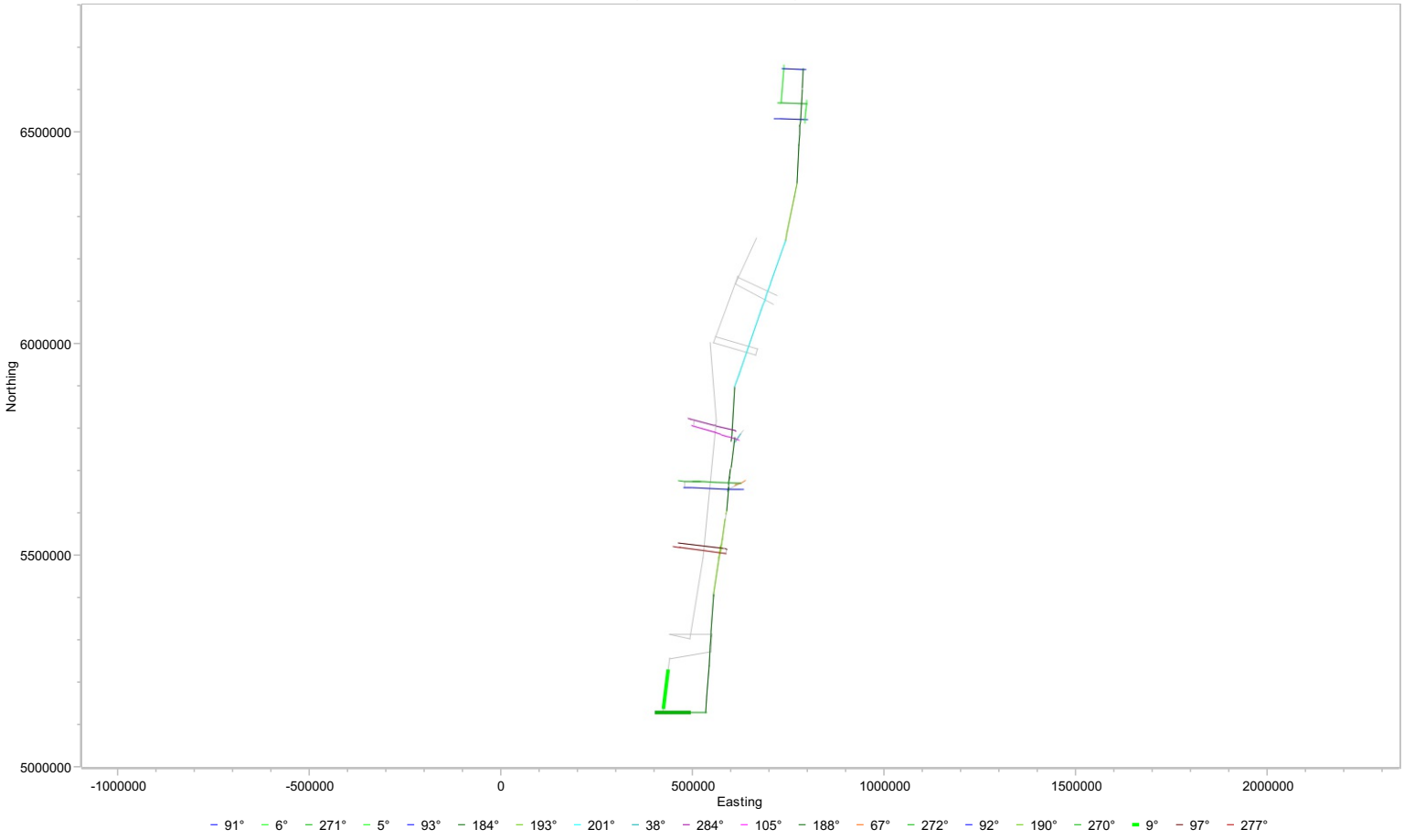
Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Fri 3 Feb	Marcus G Langseth	29 - 30	170.14
Total Production:			**170.14**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	170.14	747.04	486.52	3012.60
Infill	0.00	3.34	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	170.14	750.37	486.52	3041.17
Total				
Prime	170.14	747.04	486.52	3012.60
Infill	0.00	3.34	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	**170.14**	**750.37**	**486.52**	**3041.17**

MGL1701 - Rapid/South-Central Chile: Accpt (1/7/2017 - 2/3/2017) MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sat 04 Feb

The Vessel started the day continuing production on line MCS23 and at 03:32 UTC began a line change to Line MCS26. Line MCS26 continued until 22:02 UTC, at which time the vessels began a line change to MCS42. During this line change which continue throughout the rest of the day, maintenance was preformed on Sub-Arrays 3 and 4.

Daily Comment Summaries - Plan for Tomorrow

Sat 04 Feb

The Vessel will start the day continuing the line change to MCS42, while preforming maintenance on Sub-Arrays 3 & 4. Line MCS42 is expected at 00:18 UTC and continue to ~03:00 UTC at which time the vessel will make a line change to MCS41. Line MCS41 is expected to start at ~05:00 and continue throughout the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sat 4. Feb 00:00	Sat 4. Feb 03:32	3.533
SOL Seq 30 MGL1701MCS23 FGSP=3669 FCSP=3669 Hdg=9° Prime EOL Seq 30 MGL1701MCS23 LGSP=4333 LCSP=4333 Complete EOL Feather=12.9° EOL Water Depth=3720m				
Prime Line Change	AC_PLC	Sat 4. Feb 03:32	Sat 4. Feb 06:07	2.583
Nominal Prime line change.				
Production Prime	AC_PP	Sat 4. Feb 06:07	Sat 4. Feb 16:11	10.067
SOL Seq 31 MGL1701MCS26 FGSP=950 FCSP=950 Hdg=80.9° Prime EOL Seq 31 MGL1701MCS26 LGSP=2952 LCSP=2952 Incomplete SOL Feather=16.6° SOL Water Depth=3729m				
Cetacean	DT_CT	Sat 4. Feb 16:11	Sat 4. Feb 16:50	0.650
NTBP Seq 31 MCS26 FSP=2953 LSP=3080				
Production Prime	AC_PP	Sat 4. Feb 16:50	Sat 4. Feb 22:02	5.200
SOL Seq 31 MGL1701MCS26 FGSP=3081 FCSP=3081 Hdg=80.9° Prime EOL Seq 31 MGL1701MCS26 LGSP=4146 LCSP=4146 Complete				
Prime Line Change	AC_PLC	Sat 4. Feb 22:02	Sat 4. Feb 24:00	1.967
Nominal Prime line change.				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

4-Feb	Hours	% Percent
Acquisition	**23.350**	**97.292**
Prime Line Change	4.550	18.958
Production Prime	18.800	78.333
DownTime	**0.650**	**2.708**
Cetacean	0.650	2.708
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**17.474**
At Anchor	26.483	3.805
Deployment	13.700	1.968
Mob Ashore	74.833	10.752
Transit to Prospect	6.600	0.948
DownTime	**36.717**	**5.275**
Cetacean	21.117	3.034
HSE	13.400	1.925
Vessel	2.200	0.316
Chargeable Standby	**20.583**	**2.957**
Cetacean	0.550	0.079
Client Request	0.050	0.007
Reconfiguration	0.250	0.036
Source Reconfig	0.250	0.036
Transit	1.900	0.273

Daily Science Report

Category	Hours	% Percent
Weather	17.833	2.562
Acquisition	**517.083**	**74.294**
Infill Line Change	0.083	0.012
Prime Line Change	81.400	11.695
Production Infill	3.067	0.441
Production Prime	432.533	62.146
Total	696.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 04 Feb

Navigation:
rGPS String 3 Not operational

Information Technology (IT):
HSN is having intermittent drop out issues. Tech Staff have been working with shore support at SIO throughout the day.

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:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Order for part has been submitted to the office.

Daily Comment Summaries - Personnel Onboard

Sat 04 Feb

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
Gilles Guerin L-DEO OMO Marine Science Technician (IT)
Tina Thomas UNOLS-Tech Pool Marine Science Technician (ACQ)

PSO Staff On-board the Langseth
Amanda Dubuque RPS Lead PSO
Laura Bluth RPS PAM operator / PSO
Cassandra Frey RPS PSO
Belen Sharon Torres RPS PSO
Yessica Vincencio RPS PSO

Science Party On-board the Langseth
Nathan Bangs UTIG Chief Scientist
Anne Trehu OSU Co-Chief Scientist
Eduardo Contreras-Reyes University of Chile, Santiago Data processing
Adrien Arnulf UTIG Data processing
Shuoshuo Han UTIG Data processing
Ben Phrampus OSU Data processing
Sebastián Bahamondes University of Chile, Santiago Watchstander
Brooklyn Gose UTIG Watchstander
Kelly Olsen UTIG Watchstander
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

62%

Prime Lines Completed

63%

Preplot Lines	Complete	Incomplete	Pending
40	25	0	0

Percentages Charged	
Prime	62.46% of 5056.16 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	137.30 km
Average Charged Daily Production	137.30 km

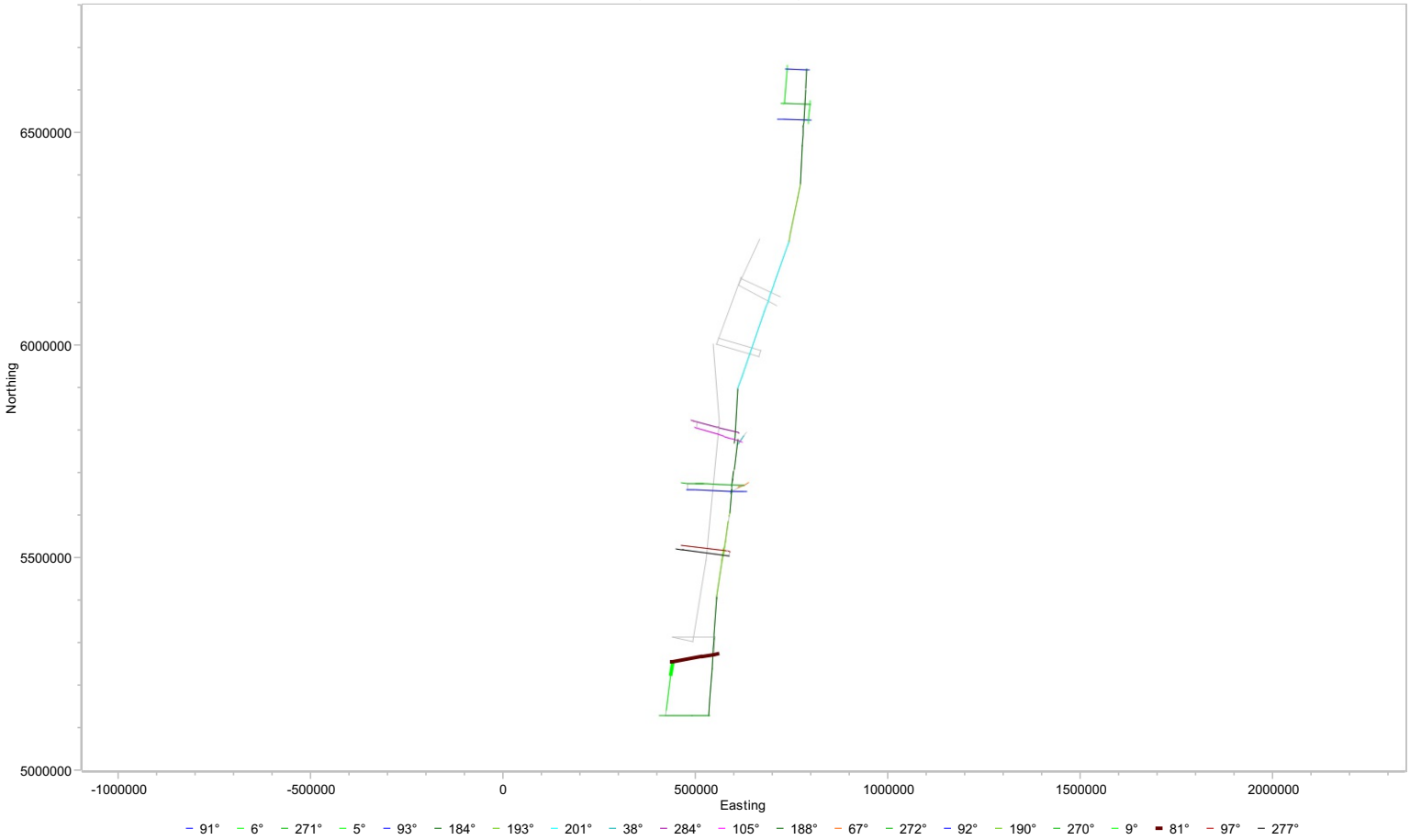
Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Sat 4 Feb	Marcus G Langseth	30 - 31	139.99
Total Production:			**139.99**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	139.99	887.02	626.51	3152.59
Infill	0.00	3.34	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	139.99	890.36	626.51	3181.16
Total				
Prime	139.99	887.02	626.51	3152.59
Infill	0.00	3.34	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	**139.99**	**890.36**	**626.51**	**3181.16**

MGL1701 - Rapid/South-Central Chile: Accpt (1/7/2017 - 2/4/2017) MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sun 05 Feb

The vessel started the Day on Line Change doing Source Maintenance on Sub-Arrays 3 & 4. At 00:18 Line MCS42 was started and continued until 02:42 UTC. The vessel then made a line change to Line MCS41 which started at 04:04 UTC. Line MCS41 Continued until 20:43 UTC, at which time the vessel made another line change to MCS43, during which time Source Maintenance was preformed on Sub-Arrays 1 & 2. At 23:11 UTC the vessel began production on MCS43 and continued in this mode throughout the rest of the day.

Daily Comment Summaries - Plan for Tomorrow

Sun 05 Feb

The Vessel will start the day continuing production on line MCS43. At ~06:15 UTC the vessel will make a line change to Line MCS27 which is expected to start at ~08:00 UTC and continue throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Prime Line Change	AC_PLC	Sun 5. Feb 00:00	Sun 5. Feb 00:18	0.300
Nominal Prime line change.				
Production Prime	AC_PP	Sun 5. Feb 00:18	Sun 5. Feb 02:42	2.400
SOL Seq 32 MGL1701MCS42 FGSP=1505 FCSP=1505 Hdg=4.1° Prime EOL Seq 32 MGL1701MCS42 LGSP=2001 LCSP=2001 Complete				
Prime Line Change	AC_PLC	Sun 5. Feb 02:42	Sun 5. Feb 04:04	1.367
Nominal Prime line change.				
Production Prime	AC_PP	Sun 5. Feb 04:04	Sun 5. Feb 20:43	16.650
SOL Seq 33 MGL1701MCS41 FGSP=977 FCSP=977 Hdg=269.9° Prime EOL Seq 33 MGL1701MCS41 LGSP=4317 LCSP=4317 Complete				
Prime Line Change	AC_PLC	Sun 5. Feb 20:43	Sun 5. Feb 23:11	2.467
Nominal Prime line change.				
Production Prime	AC_PP	Sun 5. Feb 23:11	Sun 5. Feb 24:00	0.817
SOL Seq 34 MGL1701MCS43 FGSP=1153 FCSP=1153 Hdg=101.4° Prime MSP Seq 34 MGL1701MCS43 LGSP=1321 LCSP=1321 Midnight SOL Feather=34.5° SOL Water Depth=3780m				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

5-Feb	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	4.133	17.222
Production Prime	19.867	82.778
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**16.891**
At Anchor	26.483	3.678
Deployment	13.700	1.903
Mob Ashore	74.833	10.394
Transit to Prospect	6.600	0.917
DownTime	**36.717**	**5.100**
Cetacean	21.117	2.933
HSE	13.400	1.861
Vessel	2.200	0.306
Chargeable Standby	**20.583**	**2.859**
Cetacean	0.550	0.076
Client Request	0.050	0.007
Reconfiguration	0.250	0.035
Source Reconfig	0.250	0.035
Transit	1.900	0.264
Weather	17.833	2.477
Acquisition	**541.083**	**75.150**
Infill Line Change	0.083	0.012

Daily Science Report

Category	Hours	% Percent
Prime Line Change	85.533	11.880
Production Infill	3.067	0.426
Production Prime	452.400	62.833
Total	720.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 05 Feb

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

Sun 05 Feb

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
Gilles Guerin L-DEO OMO Marine Science Technician (IT)
Tina Thomas UNOLS-Tech Pool Marine Science Technician (ACQ)

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Amanda Dubuque RPS Lead PSO
Laura Bluth RPS PAM operator / PSO
Cassandra Frey RPS PSO
Belen Sharon Torres RPS PSO
Yessica Vincencio RPS PSO

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Shuoshuo Han UTIG Data processing
Ben Phrampus OSU Data processing
Sebastián Bahamondes University of Chile, Santiago Watchstander
Brooklyn Gose UTIG Watchstander
Kelly Olsen UTIG Watchstander
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Daily Science Report

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

65%

Prime Lines Completed

68%

Preplot Lines	Complete	Incomplete	Pending
40	27	1	0

Percentages Charged	
Prime	65.43% of 5056.16 km (Sail Line)

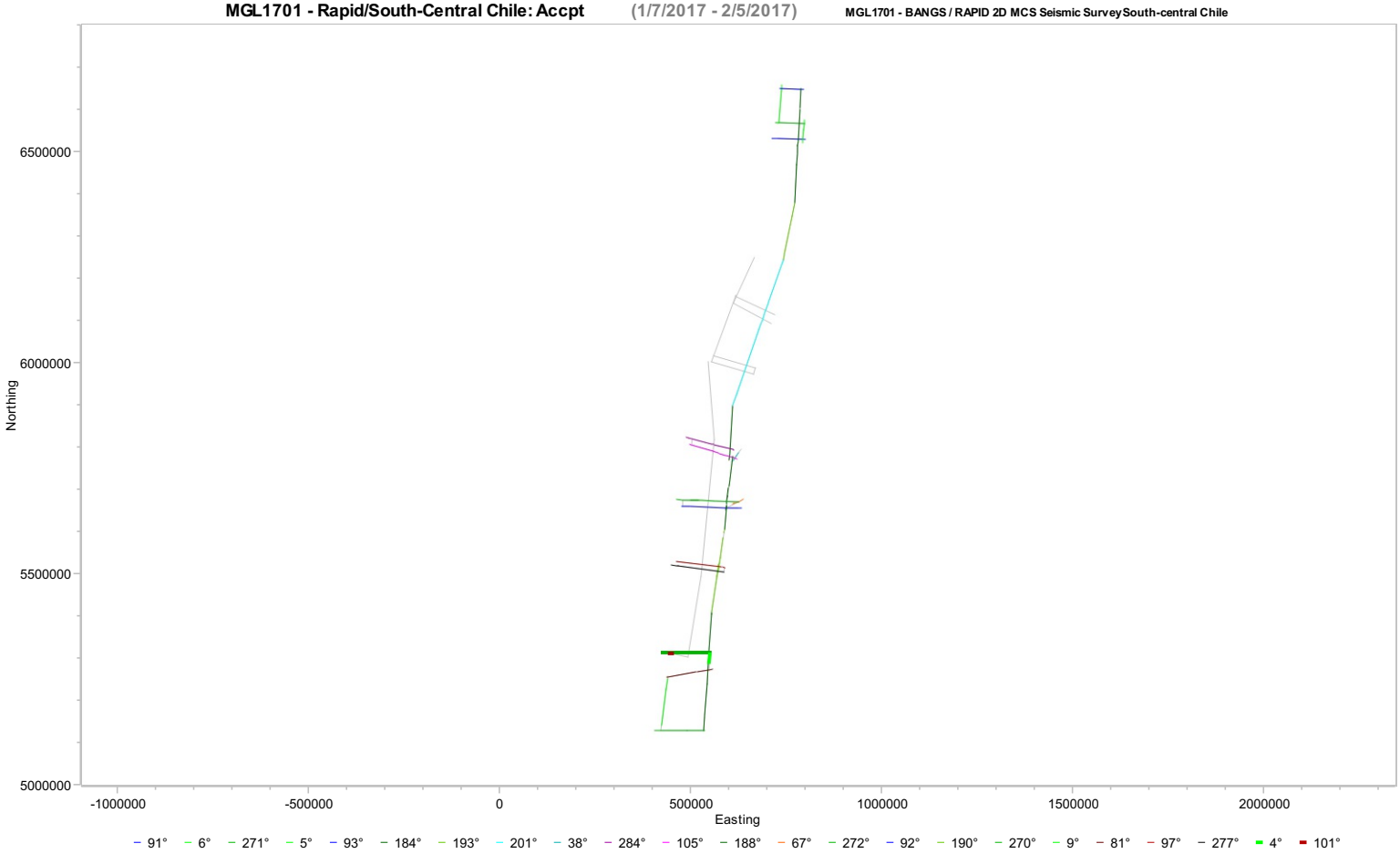
Average Daily Production	
Average Accepted Daily Production	137.83 km
Average Charged Daily Production	137.83 km

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

Date	Vessel	First - Last Sequence	Production
Sun 5 Feb	Marcus G Langseth	32 - 34	150.15
Total Production:			**150.15**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	150.15	1037.17	776.66	3302.74
Infill	0.00	3.34	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	150.15	1040.51	776.66	3331.31
Total				
Prime	150.15	1037.17	776.66	3302.74
Infill	0.00	3.34	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	**150.15**	**1040.51**	**776.66**	**3331.31**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Mon 06 Feb

The Vessel started the day continuing production on Line MCS43. This line ended at 06:14 UTC and the next line, MCS27, began at 07:58 UTC. Line MCS27 continued through the end of the day.

Daily Comment Summaries - Plan for Tomorrow

Mon 06 Feb

The Vessel will start the day continuing production on Line MCS27, which is expected to end at ~09:45 UTC. The vessel will then make a short line change to MCS31, which is expected to continue throughout the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Mon 6. Feb 00:00	Mon 6. Feb 06:14	6.233
SOL Seq 34 MGL1701MCS43 FGSP=1322 FCSP=1322 Hdg=101.4° Prime EOL Seq 34 MGL1701MCS43 LGSP=2602 LCSP=2602 Complete EOL Feather=-2.4° EOL Water Depth=1327m				
Prime Line Change	AC_PLC	Mon 6. Feb 06:14	Mon 6. Feb 07:58	1.733
Nominal Prime line change.				
Production Prime	AC_PP	Mon 6. Feb 07:58	Mon 6. Feb 24:00	16.033
SOL Seq 35 MGL1701MCS27 FGSP=897 FCSP=897 Hdg=9.9° Prime MSP Seq 35 MGL1701MCS27 LGSP=4142 LCSP=4142 Midnight SOL Feather=-27.9° SOL Water Depth=1528m				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

6-Feb	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	1.733	7.222
Production Prime	22.267	92.778
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**16.346**
At Anchor	26.483	3.560
Deployment	13.700	1.841
Mob Ashore	74.833	10.058
Transit to Prospect	6.600	0.887
DownTime	**36.717**	**4.935**
Cetacean	21.117	2.838
HSE	13.400	1.801

Daily Science Report

Category	Hours	% Percent
Vessel	2.200	0.296
Chargeable Standby	**20.583**	**2.767**
Cetacean	0.550	0.074
Client Request	0.050	0.007
Reconfiguration	0.250	0.034
Source Reconfig	0.250	0.034
Transit	1.900	0.255
Weather	17.833	2.397
Acquisition	**565.083**	**75.952**
Infill Line Change	0.083	0.011
Prime Line Change	87.267	11.729
Production Infill	3.067	0.412
Production Prime	474.667	63.799
Total	744.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 06 Feb

Navigation:
rGPS String 3 Not operational and String #2 is intermittent, both issues seem to be located in the bundle.

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:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Order for part has been submitted.

Daily Comment Summaries - Personnel Onboard

Mon 06 Feb

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
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Amanda Dubuque RPS Lead PSO
Laura Bluth RPS PAM operator / PSO
Cassandra Frey RPS PSO
Belen Sharon Torres RPS PSO
Yessica Vincencio RPS PSO

Science Party On-board the Langseth

Daily Science Report

Nathan Bangs UTIG Chief Scientist
Anne Trehu OSU Co-Chief Scientist
Eduardo Contreras-Reyes University of Chile, Santiago Data processing
Adrien Arnulf UTIG Data processing
Shuoshuo Han UTIG Data processing
Ben Phrampus OSU Data processing
Sebastián Bahamondes University of Chile, Santiago Watchstander
Brooklyn Gose UTIG Watchstander
Kelly Olsen UTIG Watchstander
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

69%

Prime Lines Completed

70%

Preplot Lines	Complete	Incomplete	Pending
40	28	0	0

Percentages Charged	
Prime	68.78% of 5056.16 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	139.11 km
Average Charged Daily Production	139.11 km

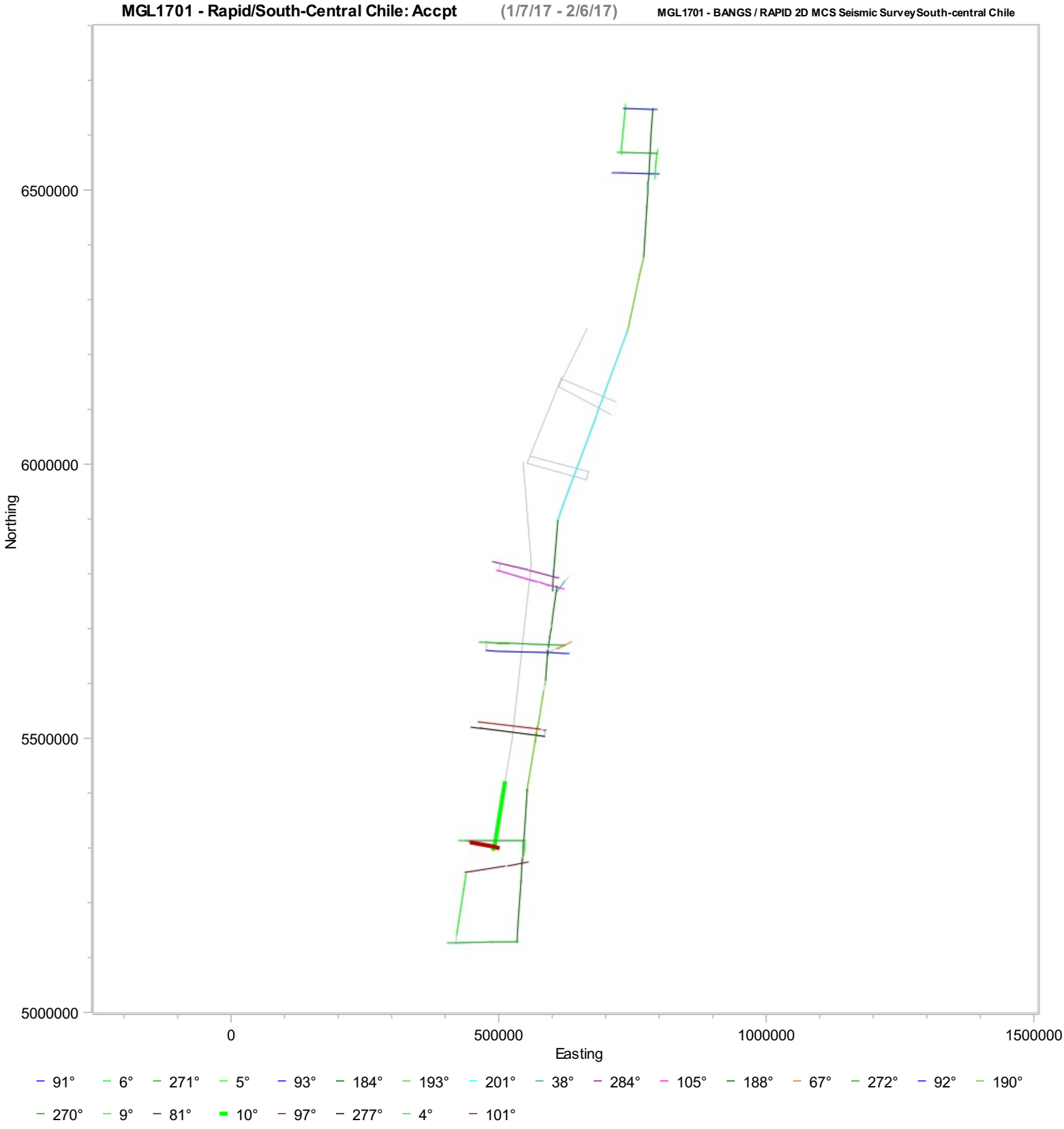
Production Day By Day (Chgd km by interval) - Prime: Sail Line, Infill: Full Fold

Date	Vessel	First - Last Sequence	Production
Mon 6 Feb	Marcus G Langseth	34 - 35	169.72
Total Production:			**169.72**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	169.72	169.72	946.39	3472.46
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	169.72	169.72	946.39	3501.04
Total				
Prime	169.72	169.72	946.39	3472.46
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	**169.72**	**169.72**	**946.39**	**3501.04**

Daily Science Report



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Tue 07 Feb

The Vessel started the day continuing production on Line MCS27, which ended at 09:28 UTC. The vessel then made a short line change to MCS31, which started at 09:30 UTC and continued throughout the remainder of the day.

Daily Comment Summaries - Plan for Tomorrow

Tue 07 Feb

The Vessel will start the day continuing production on Line MCS31, which is expected to continue throughout the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Tue 7. Feb 00:00	Tue 7. Feb 09:28	9.467
SOL Seq 35 MGL1701MCS27 FGSP=4143 FCSP=4143 Hdg=9.9° Prime EOL Seq 35 MGL1701MCS27 LGSP=6211 LCSP=6211 Complete EOL Feather=-3.8° EOL Water Depth=1398m				
Prime Line Change	AC_PLC	Tue 7. Feb 09:28	Tue 7. Feb 09:30	0.033
Nominal Prime line change.				
Production Prime	AC_PP	Tue 7. Feb 09:30	Tue 7. Feb 24:00	14.500
SOL Seq 36 MGL1701MCS31 FGSP=1008 FCSP=1008 Hdg=6.4° Prime MSP Seq 36 MGL1701MCS31 LGSP=4048 LCSP=4048 Midnight SOL Feather=-7.2° SOL Water Depth=1399m				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

7-Feb	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	0.033	0.139
Production Prime	23.967	99.861
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**15.836**
At Anchor	26.483	3.448
Deployment	13.700	1.784
Mob Ashore	74.833	9.744
Transit to Prospect	6.600	0.859
DownTime	**36.717**	**4.781**
Cetacean	21.117	2.750
HSE	13.400	1.745
Vessel	2.200	0.286
Chargeable Standby	**20.583**	**2.680**
Cetacean	0.550	0.072
Client Request	0.050	0.007

Daily Science Report

Category	Hours	% Percent
Reconfiguration	0.250	0.033
Source Reconfig	0.250	0.033
Transit	1.900	0.247
Weather	17.833	2.322
Acquisition	**589.083**	**76.704**
Infill Line Change	0.083	0.011
Prime Line Change	87.300	11.367
Production Infill	3.067	0.399
Production Prime	498.633	64.926
Total	768.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 07 Feb

Navigation:
rGPS String 3 Not operational and String #2 is intermittent, both issues seem to be located in the bundle.

Information Technology (IT):
FBB - Dome elevation motor belt still using Temporary fix. HSN - Has intermittent issues related to it's Slip Ring failing and is worse when the ship is moving more in the big swells.

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:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Order for part has been submitted.

Daily Science Report

Daily Comment Summaries - Personnel Onboard

Tue 07 Feb

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
Gilles Guerin L-DEO OMO Marine Science Technician (IT)
Tina Thomas UNOLS-Tech Pool Marine Science Technician (ACQ)

PSO Staff On-board the Langseth
Amanda Dubuque RPS Lead PSO
Laura Bluth RPS PAM operator / PSO
Cassandra Frey RPS PSO
Belen Sharon Torres RPS PSO
Yessica Vincencio RPS PSO

Science Party On-board the Langseth
Nathan Bangs UTIG Chief Scientist
Anne Trehu OSU Co-Chief Scientist
Eduardo Contreras-Reyes University of Chile, Santiago Data processing
Adrien Amulf UTIG Data processing
Shuoshuo Han UTIG Data processing
Ben Phrampus OSU Data processing
Sebastián Bahamondes University of Chile, Santiago Watchstander
Brooklyn Gose UTIG Watchstander
Kelly Olsen UTIG Watchstander
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

73%

Prime Lines Completed

71%

Preplot Lines	Complete	Incomplete	Pending
41	29	0	0

Percentages Charged	
Prime	72.97% of 5028.22 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	141.13 km
Average Charged Daily Production	141.13 km

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

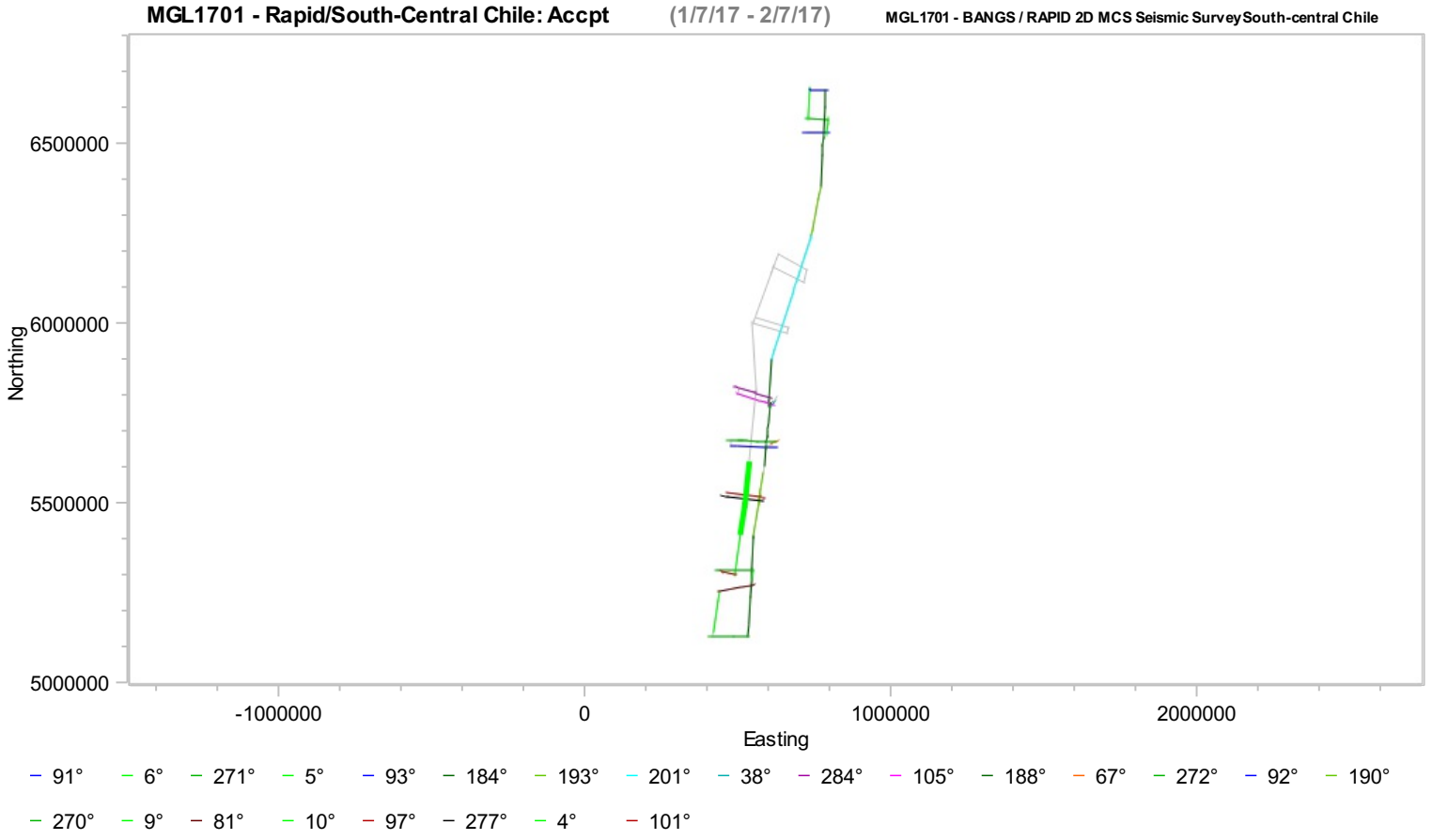
Date	Vessel	First - Last Sequence	Production
Tue 7 Feb	Marcus G Langseth	35 - 36	191.59
Total Production:			**191.59**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	191.59	361.31	1137.97	3664.05
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	191.59	361.31	1137.97	3692.62

Daily Science Report

Charged km	Day	Week	Month	Project
Total				
Prime	191.59	361.31	1137.97	3664.05
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	**191.59**	**361.31**	**1137.97**	**3692.62**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Wed 08 Feb

The Vessel began the day continuing Production on Line MCS31, which continued throughout the remainder of the day. There was 13 separate power down / shut downs for PSO sightings during the day.

Daily Comment Summaries - Plan for Tomorrow

Wed 08 Feb

The Vessel will start the day continuing production on Line MCS31. At ~03:30 UTC Line MCS31 will be concluded and a short line change to Line MCS32 will take place. At 03:32 UTC Line MCS32 will commence and continue throughout the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Wed 8. Feb 00:00	Wed 8. Feb 14:41	14.683
SOL Seq 36 MGL1701MCS31 FGSP=4049 FCSP=4049 Hdg=6.4° Prime EOL Seq 36 MGL1701MCS31 LGSP=7079 LCSP=7079 Incomplete				
Cetacean	DT_CT	Wed 8. Feb 14:41	Wed 8. Feb 14:50	0.150
NTBP Seq 36 MCS31 FSP=7080 LSP=7106				
Production Prime	AC_PP	Wed 8. Feb 14:50	Wed 8. Feb 16:01	1.183
SOL Seq 36 MGL1701MCS31 FGSP=7107 FCSP=7107 Hdg=6.4° Prime EOL Seq 36 MGL1701MCS31 LGSP=7327 LCSP=7327 Incomplete				
Cetacean	DT_CT	Wed 8. Feb 16:01	Wed 8. Feb 16:06	0.083
NTBP Seq 36 MCS31 FSP=7328 LSP=7345				
Production Prime	AC_PP	Wed 8. Feb 16:06	Wed 8. Feb 16:25	0.317
SOL Seq 36 MGL1701MCS31 FGSP=7346 FCSP=7346 Hdg=6.4° Prime EOL Seq 36 MGL1701MCS31 LGSP=7406 LCSP=7406 Incomplete				
Cetacean	DT_CT	Wed 8. Feb 16:25	Wed 8. Feb 16:40	0.250
NTBP Seq 36 MCS31 FSP=7407 LSP=7458				
Production Prime	AC_PP	Wed 8. Feb 16:40	Wed 8. Feb 17:48	1.133
SOL Seq 36 MGL1701MCS31 FGSP=7459 FCSP=7459 Hdg=6.4° Prime EOL Seq 36 MGL1701MCS31 LGSP=7695 LCSP=7695 Incomplete				
Cetacean	DT_CT	Wed 8. Feb 17:48	Wed 8. Feb 17:57	0.150
NTBP Seq 36 MCS31 FSP=7696 LSP=7726				
Production Prime	AC_PP	Wed 8. Feb 17:57	Wed 8. Feb 18:30	0.550
SOL Seq 36 MGL1701MCS31 FGSP=7727 FCSP=7727 Hdg=6.4° Prime EOL Seq 36 MGL1701MCS31 LGSP=7840 LCSP=7840 Incomplete				
Cetacean	DT_CT	Wed 8. Feb 18:30	Wed 8. Feb 18:36	0.100
NTBP Seq 36 MCS31 FSP=7841 LSP=7859				
Production Prime	AC_PP	Wed 8. Feb 18:36	Wed 8. Feb 18:54	0.300
SOL Seq 36 MGL1701MCS31 FGSP=7860 FCSP=7860 Hdg=6.4° Prime EOL Seq 36 MGL1701MCS31 LGSP=7924 LCSP=7924 Incomplete				
Cetacean	DT_CT	Wed 8. Feb 18:54	Wed 8. Feb 18:59	0.083
NTBP Seq 36 MCS31 FSP=7925 LSP=7940				
Production Prime	AC_PP	Wed 8. Feb 18:59	Wed 8. Feb 19:07	0.133
SOL Seq 36 MGL1701MCS31 FGSP=7941 FCSP=7941 Hdg=6.4° Prime				

Daily Science Report

Category	Code	Start	End	Duration
EOL Seq 36 MGL1701MCS31 LGSP=7970 LCSP=7970 Incomplete				
Cetacean	DT_CT	Wed 8. Feb 19:07	Wed 8. Feb 19:09	0.033
NTBP Seq 36 MCS31 FSP=7971 LSP=7978				
Production Prime	AC_PP	Wed 8. Feb 19:09	Wed 8. Feb 19:16	0.117
SOL Seq 36 MGL1701MCS31 FGSP=7979 FCSP=7979 Hdg=6.4° Prime EOL Seq 36 MGL1701MCS31 LGSP=8002 LCSP=8002 Incomplete				
Cetacean	DT_CT	Wed 8. Feb 19:16	Wed 8. Feb 19:19	0.050
NTBP Seq 36 MCS31 FSP=8003 LSP=8010				
Production Prime	AC_PP	Wed 8. Feb 19:19	Wed 8. Feb 19:20	0.017
SOL Seq 36 MGL1701MCS31 FGSP=8011 FCSP=8011 Hdg=6.4° Prime EOL Seq 36 MGL1701MCS31 LGSP=8015 LCSP=8015 Incomplete				
Cetacean	DT_CT	Wed 8. Feb 19:20	Wed 8. Feb 19:35	0.250
NTBP Seq 36 MCS31 FSP=8016 LSP=8066				
Production Prime	AC_PP	Wed 8. Feb 19:35	Wed 8. Feb 20:08	0.550
SOL Seq 36 MGL1701MCS31 FGSP=8067 FCSP=8067 Hdg=6.4° Prime EOL Seq 36 MGL1701MCS31 LGSP=8182 LCSP=8182 Incomplete				
Cetacean	DT_CT	Wed 8. Feb 20:08	Wed 8. Feb 20:12	0.067
NTBP Seq 36 MCS31 FSP=8183 LSP=8296				
Production Prime	AC_PP	Wed 8. Feb 20:12	Wed 8. Feb 20:26	0.233
SOL Seq 36 MGL1701MCS31 FGSP=8297 FCSP=8297 Hdg=6.4° Prime EOL Seq 36 MGL1701MCS31 LGSP=8311 LCSP=8311 Incomplete				
Cetacean	DT_CT	Wed 8. Feb 20:26	Wed 8. Feb 21:02	0.600
NTBP Seq 36 MCS31 FSP=8312 LSP=8356				
Production Prime	AC_PP	Wed 8. Feb 21:02	Wed 8. Feb 22:16	1.233
SOL Seq 36 MGL1701MCS31 FGSP=8357 FCSP=8357 Hdg=6.4° Prime EOL Seq 36 MGL1701MCS31 LGSP=8608 LCSP=8608 Incomplete				
Cetacean	DT_CT	Wed 8. Feb 22:16	Wed 8. Feb 22:34	0.300
NTBP Seq 36 MCS31 FSP=8609 LSP=8666				
Production Prime	AC_PP	Wed 8. Feb 22:34	Wed 8. Feb 23:39	1.083
SOL Seq 36 MGL1701MCS31 FGSP=8667 FCSP=8667 Hdg=6.4° Prime EOL Seq 36 MGL1701MCS31 LGSP=8880 LCSP=8880 Incomplete				
Cetacean	DT_CT	Wed 8. Feb 23:39	Wed 8. Feb 24:00	0.350
NTBP Seq 36 MCS31 FSP=8881 LSP=8945				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

8-Feb	Hours	% Percent
Acquisition	**21.533**	**89.722**
Production Prime	21.533	89.722
DownTime	**2.467**	**10.278**
Cetacean	2.467	10.278
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**15.356**
At Anchor	26.483	3.344
Deployment	13.700	1.730
Mob Ashore	74.833	9.449
Transit to Prospect	6.600	0.833
DownTime	**39.183**	**4.947**
Cetacean	23.583	2.978
HSE	13.400	1.692

Daily Science Report

Category	Hours	% Percent
Vessel	2.200	0.278
Chargeable Standby	**20.583**	**2.599**
Cetacean	0.550	0.069
Client Request	0.050	0.006
Reconfiguration	0.250	0.032
Source Reconfig	0.250	0.032
Transit	1.900	0.240
Weather	17.833	2.252
Acquisition	**610.617**	**77.098**
Infill Line Change	0.083	0.011
Prime Line Change	87.300	11.023
Production Infill	3.067	0.387
Production Prime	520.167	65.678
Total	792.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 08 Feb

Navigation:
rGPS String 3 Not operational and String #2 is intermittent, both issues seem to be located in the bundle.

Information Technology (IT):
FBB - Dome elevation motor belt still using Temporary fix. HSN - Has intermittent issues related to it's Slip Ring failing and is worse when the ship is moving more in the big swells.

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:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Order for part has been submitted.

Daily Comment Summaries - Personnel Onboard

Wed 08 Feb

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Daily Science Report

Shuoshuo Han UTIG Data processing
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Kelly Olsen UTIG Watchstander
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

75%

Prime Lines Completed

69%

Preplot Lines	Complete	Incomplete	Pending
42	29	1	0

Percentages Charged	
Prime	74.54% of 5143.42 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	141.99 km
Average Charged Daily Production	141.99 km

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

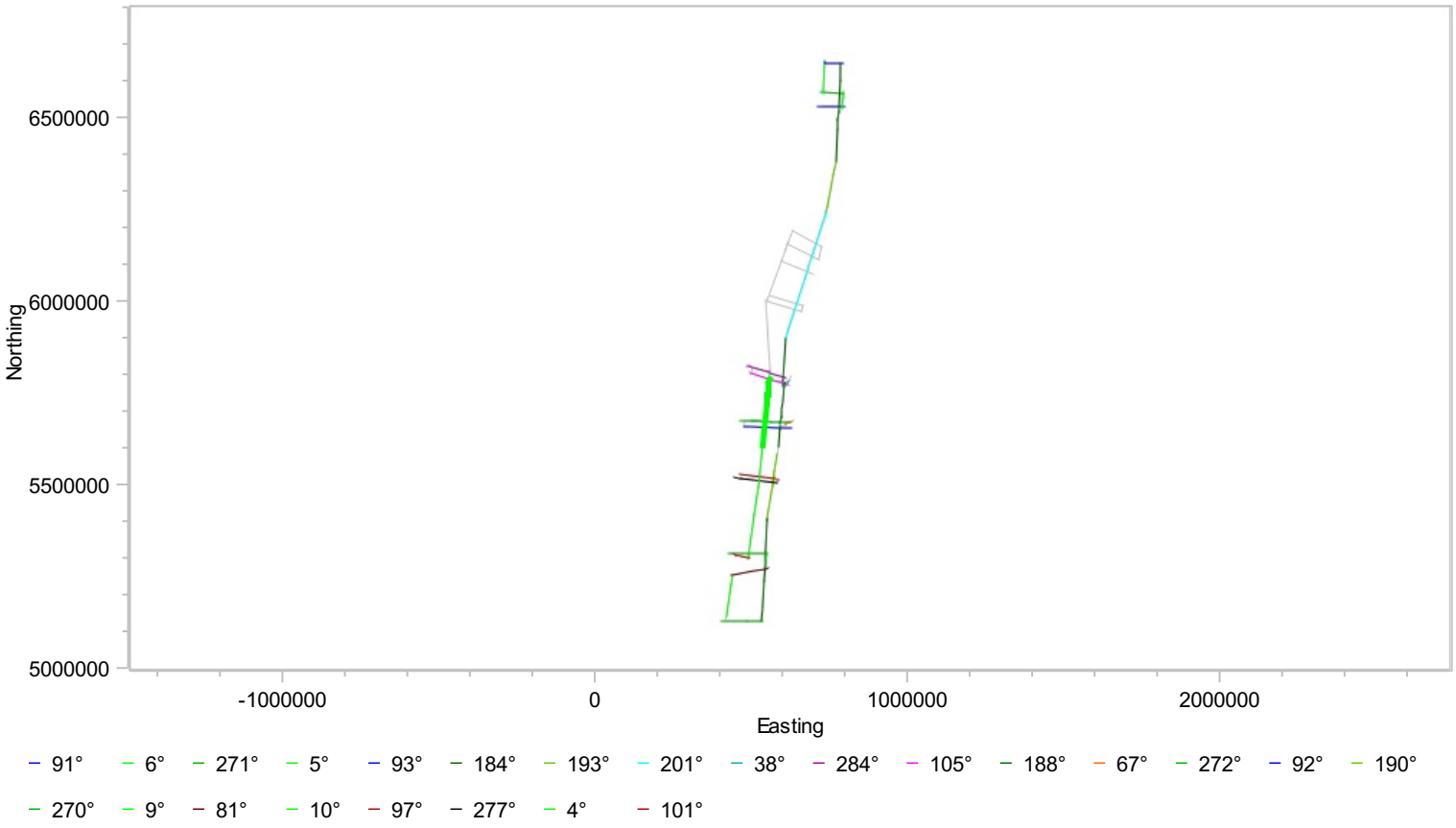
Date	Vessel	First - Last Sequence	Production
Wed 8 Feb	Marcus G Langseth	36	164.44
Total Production:			**164.44**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	164.44	525.75	1302.41	3828.49
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	164.44	525.75	1302.41	3857.06
Total				
Prime	164.44	525.75	1302.41	3828.49
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	**164.44**	**525.75**	**1302.41**	**3857.06**

Daily Science Report

MGL1701 - Rapid/South-Central Chile: Accpt (1/7/17 - 2/8/17) MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Thu 09 Feb

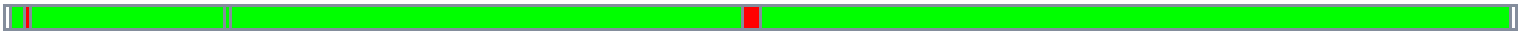
The vessel started the day continuing production on Line MGL31. At 03:30 UTC Line MGL31 ending and shortly after at 03:32 UTC Line MGL32 began. Line MGL32 Continued throughout the day. There was a couple of Power downs for PSO Sightings earlier in the day.

Daily Comment Summaries - Plan for Tomorrow

Thu 09 Feb

The Vessel will start the day continuing production on LIne MGL32. At ~04:00 UTC Line MGL32 will end and the vessel will make a line change to line MGL33, Line MGL33 should start at ~07:00 UTC and continue throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)



Category	Code	Start	End	Duration
Production Prime	AC_PP	Thu 9. Feb 00:04	Thu 9. Feb 00:21	0.283
SOL Seq 36 MGL1701MCS31 FGSP=8958 FCSP=8958 Hdg=6.4° Prime EOL Seq 36 MGL1701MCS31 LGSP=9011 LCSP=9011 Incomplete				
Cetacean	DT_CT	Thu 9. Feb 00:21	Thu 9. Feb 00:25	0.067
NTBP Seq 36 MCS31 FSP=9012 LSP=9025				
Production Prime	AC_PP	Thu 9. Feb 00:25	Thu 9. Feb 03:30	3.083
SOL Seq 36 MGL1701MCS31 FGSP=9026 FCSP=9026 Hdg=6.4° Prime EOL Seq 36 MGL1701MCS31 LGSP=9615 LCSP=9615 Complete EOL Feather=-1.1° EOL Water Depth=1864m				
Prime Line Change	AC_PLC	Thu 9. Feb 03:30	Thu 9. Feb 03:32	0.033
Nominal Prime line change.				
Production Prime	AC_PP	Thu 9. Feb 03:32	Thu 9. Feb 11:43	8.183
SOL Seq 37 MGL1701MCS32 FGSP=1004 FCSP=1004 Hdg=354.9° Prime EOL Seq 37 MGL1701MCS32 LGSP=2695 LCSP=2695 Incomplete SOL Feather=-12.3° SOL Water Depth=1847m				
Cetacean	DT_CT	Thu 9. Feb 11:43	Thu 9. Feb 12:01	0.300
NTBP Seq 37 MCS32 FSP=2696 LSP=2761				
Production Prime	AC_PP	Thu 9. Feb 12:01	Thu 9. Feb 24:00	11.983
SOL Seq 37 MGL1701MCS32 FGSP=2762 FCSP=2762 Hdg=354.9° Prime MSP Seq 37 MGL1701MCS32 LGSP=5447 LCSP=5447 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

9-Feb	Hours	% Percent
Acquisition	**23.567**	**98.194**
Prime Line Change	0.033	0.139
Production Prime	23.533	98.056
DownTime	**0.367**	**1.528**
Cetacean	0.367	1.528
Day's Total	**23.933**	**99.722**

Daily Science Report

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**14.905**
At Anchor	26.483	3.246
Deployment	13.700	1.679
Mob Ashore	74.833	9.172
Transit to Prospect	6.600	0.809
DownTime	**39.550**	**4.847**
Cetacean	23.950	2.935
HSE	13.400	1.642
Vessel	2.200	0.270
Chargeable Standby	**20.583**	**2.523**
Cetacean	0.550	0.067
Client Request	0.050	0.006
Reconfiguration	0.250	0.031
Source Reconfig	0.250	0.031
Transit	1.900	0.233
Weather	17.833	2.186
Acquisition	**634.183**	**77.725**
Infill Line Change	0.083	0.010
Prime Line Change	87.333	10.703
Production Infill	3.067	0.376
Production Prime	543.700	66.635
Total	815.933	

Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 09 Feb

Navigation:
rGPS String 3 Not operational and String #2 is intermittent, both issues seem to be located in the bundle.

Information Technology (IT):
FBB - Dome elevation motor belt still using Temporary fix. HSN - Has intermittent issues related to it's Slip Ring failing and is worse when the ship is moving more in the big swells.

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
Air-Leak on Array #2

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Order for part has been submitted.

Daily Comment Summaries - Personnel Onboard

Thu 09 Feb

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Kelly Olsen UTIG Watchstander
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

78%

Prime Lines Completed

71%

Preplot Lines	Complete	Incomplete	Pending
42	30	0	0

Percentages Charged	
Prime	78.20% of 5143.42 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	143.65 km
Average Charged Daily Production	143.65 km

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

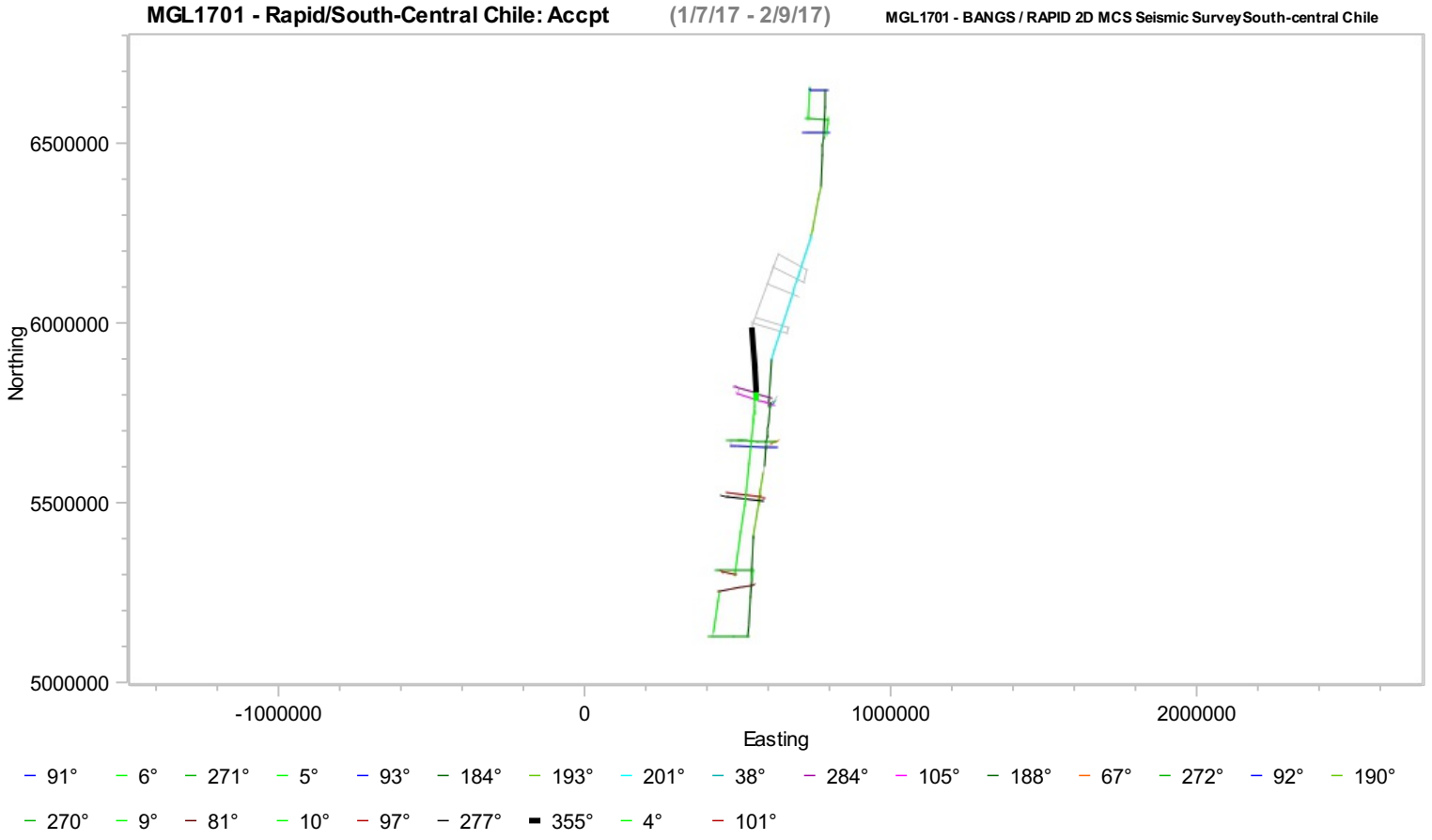
Date	Vessel	First - Last Sequence	Production
Thu 9 Feb	Marcus G Langseth	36 - 37	188.29
Total Production:			**188.29**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	188.29	714.04	1490.70	4016.78
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	188.29	714.04	1490.70	4045.35

Daily Science Report

Charged km	Day	Week	Month	Project
Total				
Prime	188.29	714.04	1490.70	4016.78
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	**188.29**	**714.04**	**1490.70**	**4045.35**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Fri 10 Feb

The vessel stared the day continuing production on Line MCS32. Line MCS32 ended at 04:20 and a line change began to Line MCS33. During this line change maintenance was preformed on Sub-Array #2 for an Air Leak on Element 1. Line MCS33 was started at 06:52 UTC and continued to 23:49 UTC. The vessel made a line change to MCS35 which continued through the end of the day. During the Line Change between MCS33 and MCS35 the vessel preformed maintenance on Sub-Arrays 3 and 4 for multiple Air leaks and failed elements.

Daily Comment Summaries - Plan for Tomorrow

Fri 10 Feb

The Vessel will start the day continuing line change between Lines MCS33 and MCS35, while preforming maintenance on Sub-Arrays 3 and 4. Once Sub-Arrays 3 & 4 are re-deployed the vessel will begin production on Line MCS35. At the end of Line MCS 35 the vessel will make a line change to MCS36. During this line change Maintenance will be preformed on Sub-Arrays 1 & 2.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Fri 10. Feb 00:00	Fri 10. Feb 04:20	4.333
SOL Seq 37 MGL1701MCS32 FGSP=5448 FCSP=5448 Hdg=354.9° Prime EOL Seq 37 MGL1701MCS32 LGSP=6362 LCSP=6362 Complete EOL Feather=-6.6° EOL Water Depth=4771m				
Prime Line Change	AC_PLC	Fri 10. Feb 04:20	Fri 10. Feb 06:52	2.533
Nominal Prime line change.				
Production Prime	AC_PP	Fri 10. Feb 06:52	Fri 10. Feb 23:49	16.950
SOL Seq 38 MGL1701MCS33 FGSP=986 FCSP=986 Hdg=104.8° Prime EOL Seq 38 MGL1701MCS33 LGSP=4308 LCSP=4308 Complete SOL Feather=12.3° SOL Water Depth=4935m				
Prime Line Change	AC_PLC	Fri 10. Feb 23:49	Fri 10. Feb 24:00	0.183
Nominal Prime line change.				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

10-Feb	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	2.717	11.319
Production Prime	21.283	88.681
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**14.478**
At Anchor	26.483	3.153
Deployment	13.700	1.631
Mob Ashore	74.833	8.909
Transit to Prospect	6.600	0.786

Daily Science Report

Category	Hours	% Percent
DownTime	**39.617**	**4.716**
Cetacean	24.017	2.859
HSE	13.400	1.595
Vessel	2.200	0.262
Chargeable Standby	**20.583**	**2.450**
Cetacean	0.550	0.065
Client Request	0.050	0.006
Reconfiguration	0.250	0.030
Source Reconfig	0.250	0.030
Transit	1.900	0.226
Weather	17.833	2.123
Acquisition	**658.183**	**78.355**
Infill Line Change	0.083	0.010
Prime Line Change	90.050	10.720
Production Infill	3.067	0.365
Production Prime	564.983	67.260
Total	840.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 10 Feb

Navigation:
rGPS String 3 Not operational and String #2 is intermittent, both issues seem to be located in the bundle.

Information Technology (IT):
FBB - Dome elevation motor belt still using Temporary fix. HSN - Has intermittent issues related to it's Slip Ring failing and is worse when the ship is moving more in the big swells.

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
Air-Leak on String #4 - Element #2 lost clamp between fire chamber and main housing. This caused the Element to split in two, at which time it lost some of the internal part. Bent all 4 spreader bars, and caused sever damage to the Fire Chamber. It looks like the Main Housing can be salvaged with some machining. Air leak on Sub-Array 3 Element 10 - damaged O-Ring.

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Order for part has been submitted.

Daily Comment Summaries - Personnel Onboard

Fri 10 Feb

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
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Shuoshuo Han UTIG Data processing
Ben Phrampus OSU Data processing
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Brooklyn Gose UTIG Watchstander
Kelly Olsen UTIG Watchstander
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

81%

Prime Lines Completed

76%

Preplot Lines	Complete	Incomplete	Pending
42	32	0	0

Percentages Charged	
Prime	81.29% of 5143.42 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	144.17 km
Average Charged Daily Production	144.17 km

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

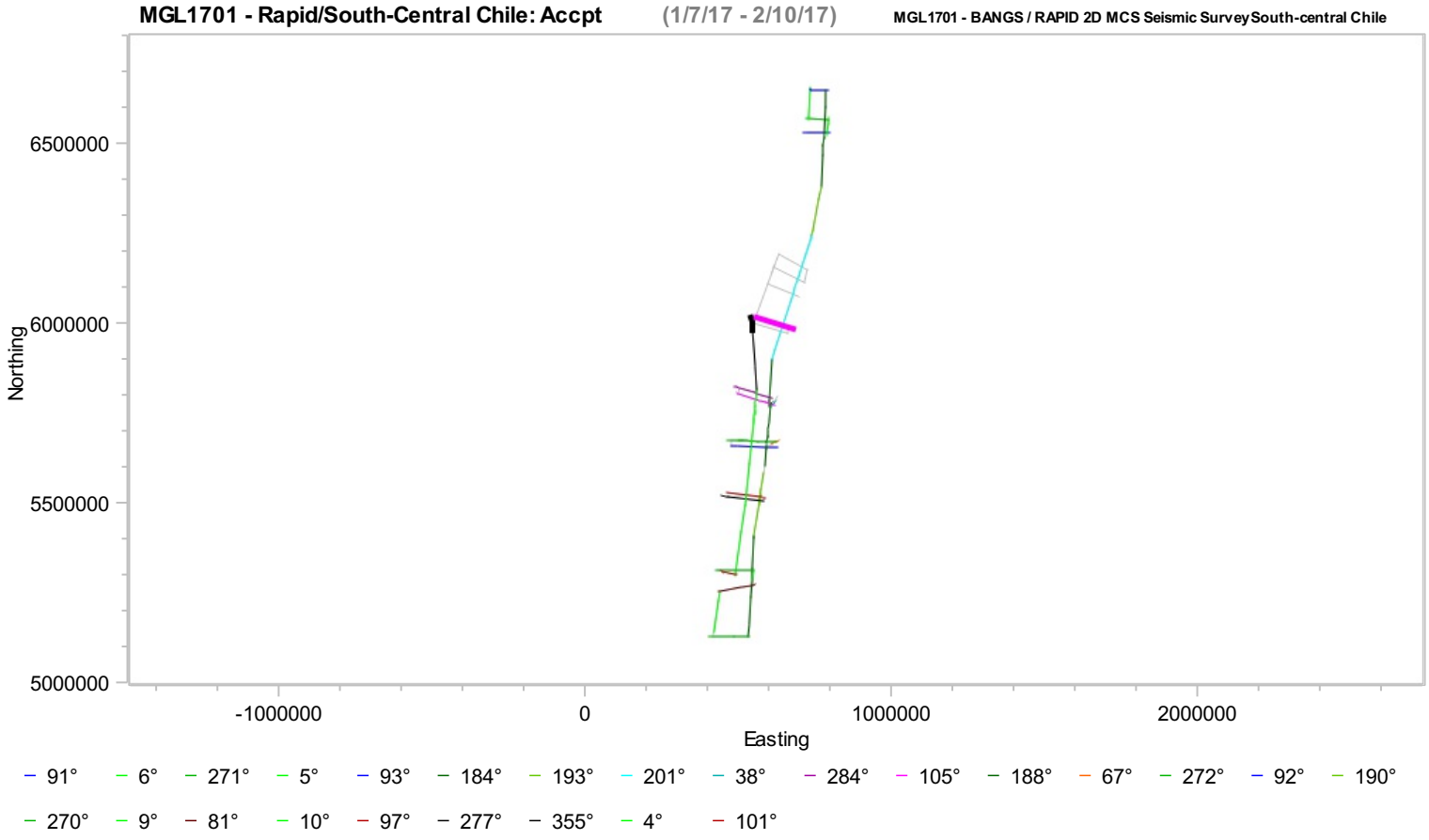
Date	Vessel	First - Last Sequence	Production
Fri 10 Feb	Marcus G Langseth	37 - 38	158.89
Total Production:			**158.89**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	158.89	872.92	1649.59	4175.66
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	158.89	872.92	1649.59	4204.24

Daily Science Report

Charged km	Day	Week	Month	Project
Total				
Prime	158.89	872.92	1649.59	4175.66
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	**158.89**	**872.92**	**1649.59**	**4204.24**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sat 11 Feb

The Vessel started the day on Line Change between Line MCS33 and MCS35, conducting repair work to Sub-Arrays 3 & 4. At 04:45 UTC Line MCS35 was started and ran until 20:09 UTC. At that time the vessel started a line change towards MCS36, whcih continued throughout the remainder of the day. During this line change Sub-Arrays 1 and 2 were recovered for maintenance.

Daily Comment Summaries - Plan for Tomorrow

Sat 11 Feb

The Vessel will start the day on Line change to MCS36. The Line is expected to begin at ~01:00 UTC and is expected to continue throughout the remainder of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Prime Line Change	AC_PLC	Sat 11. Feb 00:00	Sat 11. Feb 02:49	2.817
Nominal Prime line change.				
Source	DT_SC	Sat 11. Feb 02:49	Sat 11. Feb 04:45	1.933
Downtime due to source.				
Production Prime	AC_PP	Sat 11. Feb 04:45	Sat 11. Feb 12:30	7.750
SOL Seq 39 MGL1701MCS35 FGSP=1330 FCSP=1330 Hdg=284.6° Prime EOL Seq 39 MGL1701MCS35 LGSP=2899 LCSP=2899 Incomplete SOL Feather=-0.3° SOL Water Depth=114.2m				
Cetacean	DT_CT	Sat 11. Feb 12:30	Sat 11. Feb 12:58	0.467
NTBP Seq 39 MCS35 FSP=2900 LSP=2962				
Production Prime	AC_PP	Sat 11. Feb 12:58	Sat 11. Feb 13:27	0.483
SOL Seq 39 MGL1701MCS35 FGSP=2963 FCSP=2963 Hdg=284.6° Prime EOL Seq 39 MGL1701MCS35 LGSP=3066 LCSP=3066 Incomplete				
Cetacean	DT_CT	Sat 11. Feb 13:27	Sat 11. Feb 13:39	0.200
NTBP Seq 39 MCS35 FSP=3067 LSP=3118				
Production Prime	AC_PP	Sat 11. Feb 13:39	Sat 11. Feb 13:49	0.167
SOL Seq 39 MGL1701MCS35 FGSP=3119 FCSP=3119 Hdg=284.6° Prime EOL Seq 39 MGL1701MCS35 LGSP=3152 LCSP=3152 Incomplete				
Cetacean	DT_CT	Sat 11. Feb 13:49	Sat 11. Feb 14:05	0.267
NTBP Seq 39 MCS35 FSP=3153 LSP=3203				
Production Prime	AC_PP	Sat 11. Feb 14:05	Sat 11. Feb 14:08	0.050
SOL Seq 39 MGL1701MCS35 FGSP=3204 FCSP=3204 Hdg=284.6° Prime EOL Seq 39 MGL1701MCS35 LGSP=3213 LCSP=3213 Incomplete				
Cetacean	DT_CT	Sat 11. Feb 14:08	Sat 11. Feb 14:26	0.300
NTBP Seq 39 MCS35 FSP=3214 LSP=3265				
Production Prime	AC_PP	Sat 11. Feb 14:26	Sat 11. Feb 15:30	1.067
SOL Seq 39 MGL1701MCS35 FGSP=3266 FCSP=3266 Hdg=284.6° Prime EOL Seq 39 MGL1701MCS35 LGSP=3481 LCSP=3481 Incomplete				
Cetacean	DT_CT	Sat 11. Feb 15:30	Sat 11. Feb 15:36	0.100
NTBP Seq 39 MCS35 FSP=3482 LSP=3499				

Daily Science Report

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sat 11. Feb 15:36	Sat 11. Feb 16:04	0.467
SOL Seq 39 MGL1701MCS35 FGSP=3500 FCSP=3500 Hdg=284.6° Prime EOL Seq 39 MGL1701MCS35 LGSP=3596 LCSP=3596 Incomplete				
Cetacean	DT_CT	Sat 11. Feb 16:04	Sat 11. Feb 16:36	0.533
NTBP Seq 39 MCS35 FSP=3597 LSP=3706				
Production Prime	AC_PP	Sat 11. Feb 16:36	Sat 11. Feb 20:09	3.550
SOL Seq 39 MGL1701MCS35 FGSP=3707 FCSP=3707 Hdg=284.6° Prime EOL Seq 39 MGL1701MCS35 LGSP=4440 LCSP=4440 Complete EOL Feather=2.6° EOL Water Depth=4779m				
Prime Line Change	AC_PLC	Sat 11. Feb 20:09	Sat 11. Feb 24:00	3.850
Nominal Prime line change.				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

11-Feb	Hours	% Percent
Acquisition	**20.200**	**84.167**
Prime Line Change	6.667	27.778
Production Prime	13.533	56.389
DownTime	**3.800**	**15.833**
Cetacean	1.867	7.778
Source	1.933	8.056
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**14.076**
At Anchor	26.483	3.065
Deployment	13.700	1.586
Mob Ashore	74.833	8.661
Transit to Prospect	6.600	0.764
DownTime	**43.417**	**5.025**
Cetacean	25.883	2.996
HSE	13.400	1.551
Source	1.933	0.224
Vessel	2.200	0.255
Chargeable Standby	**20.583**	**2.382**
Cetacean	0.550	0.064
Client Request	0.050	0.006
Reconfiguration	0.250	0.029
Source Reconfig	0.250	0.029
Transit	1.900	0.220
Weather	17.833	2.064
Acquisition	**678.383**	**78.517**
Infill Line Change	0.083	0.010
Prime Line Change	96.717	11.194
Production Infill	3.067	0.355
Production Prime	578.517	66.958
Total	864.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 11 Feb

Navigation:
rGPS String 3 Not operational and String #2 is intermittent, both issues seem to be located in the bundle.

Information Technology (IT):
FBB - Dome elevation motor belt still using Temporary fix. HSN - Has intermittent issues related to it's Slip Ring failing and is worse when the ship is moving more in the big swells.

Acquisition (OBS):
No Major Issues to Report

Towing and Handling (Source):
Air-Leak on String #4 - Element #2 lost clamp between fire chamber and main housing. This caused the Element to split in two, at which time it lost some of the internal part. Bent all 4 spreader bars, and caused sever damage to the Fire Chamber. It looks like the Main Housing can be salvaged with some machining. Air leak on Sub-Array 3 Element 10 - damaged O-Ring.

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Order for part has been submitted.

Daily Comment Summaries - Personnel Onboard

Sat 11 Feb

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Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

83%

Prime Lines Completed

79%

Daily Science Report

Preplot Lines	Complete	Incomplete	Pending
42	33	0	0

Percentages Charged	
Prime	83.30% of 5143.42 km (Sail Line)

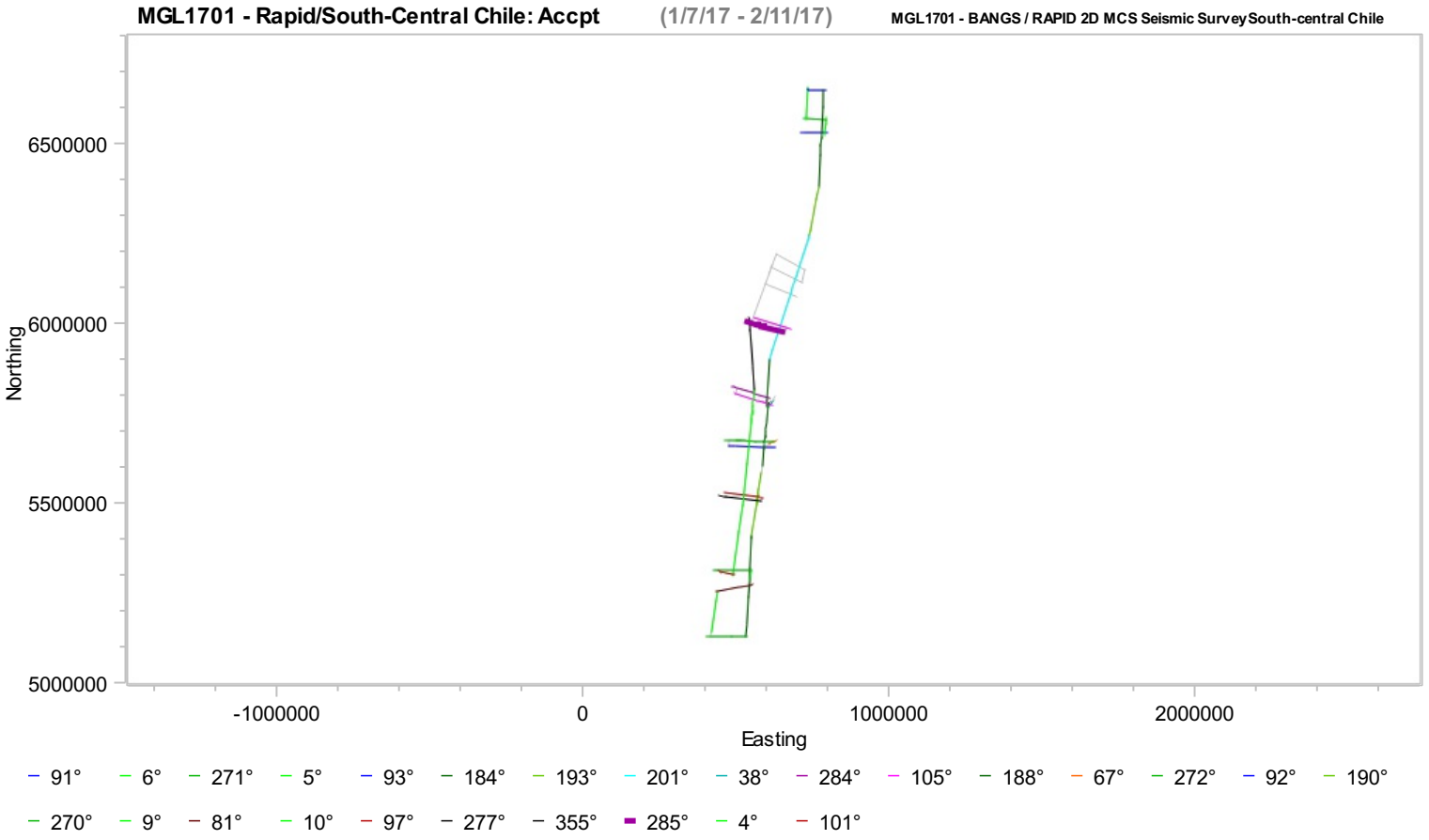
Average Daily Production	
Average Accepted Daily Production	142.82 km
Average Charged Daily Production	142.82 km

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

Date	Vessel	First - Last Sequence	Production
Sat 11 Feb	Marcus G Langseth	39	103.65
Total Production:			**103.65**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	103.65	976.57	1753.24	4279.31
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	103.65	976.57	1753.24	4307.89
Total				
Prime	103.65	976.57	1753.24	4279.31
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	**103.65**	**976.57**	**1753.24**	**4307.89**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Sun 12 Feb

The vessel started the day on Line Change to MCS36. At 01:38 UTC Line MCS36 began and continued throughout the day. There was 3 Power Downs for PSO sightings.

Daily Comment Summaries - Plan for Tomorrow

Sun 12 Feb

The Vessel will start the day continuing production on Line MCS36 until ~01:30 UTC. At that time the vessel will make line change to MCS37, which should start around 06:00 UTC and continue throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Prime Line Change	AC_PLC	Sun 12. Feb 00:00	Sun 12. Feb 01:38	1.633
Nominal Prime line change.				
Production Prime	AC_PP	Sun 12. Feb 01:38	Sun 12. Feb 17:54	16.267
SOL Seq 40 MGL1701MCS36 FGSP=962 FCSP=962 Hdg=22.5° Prime EOL Seq 40 MGL1701MCS36 LGSP=4152 LCSP=4152 Incomplete				
Cetacean	DT_CT	Sun 12. Feb 17:54	Sun 12. Feb 18:11	0.283
NTBP Seq 40 MCS36 FSP=4153 LSP=4212				
Production Prime	AC_PP	Sun 12. Feb 18:11	Sun 12. Feb 18:49	0.633
SOL Seq 40 MGL1701MCS36 FGSP=4213 FCSP=4213 Hdg=22.5° Prime EOL Seq 40 MGL1701MCS36 LGSP=4345 LCSP=4345 Incomplete				
Cetacean	DT_CT	Sun 12. Feb 18:49	Sun 12. Feb 19:20	0.517
NTBP Seq 40 MCS36 FSP=4346 LSP=4451				
Production Prime	AC_PP	Sun 12. Feb 19:20	Sun 12. Feb 22:29	3.150
SOL Seq 40 MGL1701MCS36 FGSP=4452 FCSP=4452 Hdg=22.5° Prime EOL Seq 40 MGL1701MCS36 LGSP=5116 LCSP=5116 Incomplete				
Cetacean	DT_CT	Sun 12. Feb 22:29	Sun 12. Feb 22:44	0.250
NTBP Seq 40 MCS36 FSP=5117 LSP=5170				
Production Prime	AC_PP	Sun 12. Feb 22:44	Sun 12. Feb 24:00	1.267
SOL Seq 40 MGL1701MCS36 FGSP=5171 FCSP=5171 Hdg=22.5° Prime MSP Seq 40 MGL1701MCS36 LGSP=5442 LCSP=5442 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

12-Feb	Hours	% Percent
Acquisition	**22.950**	**95.625**
Prime Line Change	1.633	6.806
Production Prime	21.317	88.819
DownTime	**1.050**	**4.375**
Cetacean	1.050	4.375
Day's Total	**24.000**	**100.000**

Daily Science Report

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**13.696**
At Anchor	26.483	2.982
Deployment	13.700	1.543
Mob Ashore	74.833	8.427
Transit to Prospect	6.600	0.743
DownTime	**44.467**	**5.008**
Cetacean	26.933	3.033
HSE	13.400	1.509
Source	1.933	0.218
Vessel	2.200	0.248
Chargeable Standby	**20.583**	**2.318**
Cetacean	0.550	0.062
Client Request	0.050	0.006
Reconfiguration	0.250	0.028
Source Reconfig	0.250	0.028
Transit	1.900	0.214
Weather	17.833	2.008
Acquisition	**701.333**	**78.979**
Infill Line Change	0.083	0.009
Prime Line Change	98.350	11.075
Production Infill	3.067	0.345
Production Prime	599.833	67.549
Total	888.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 12 Feb

Navigation:
rGPS String 3 Not operational and String #2 is intermittent, both issues seem to be located in the bundle.

Information Technology (IT):
FBB - Dome elevation motor belt still using Temporary fix. HSN - Has intermittent issues related to it's Slip Ring failing and is worse when the ship is moving more in the big swells.

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:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Order for part has been submitted.

Daily Science Report

Daily Comment Summaries - Personnel Onboard

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Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

86%

Prime Lines Completed

79%

Preplot Lines	Complete	Incomplete	Pending
42	33	1	0

Percentages Charged	
Prime	86.41% of 5143.42 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	143.37 km
Average Charged Daily Production	143.37 km

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

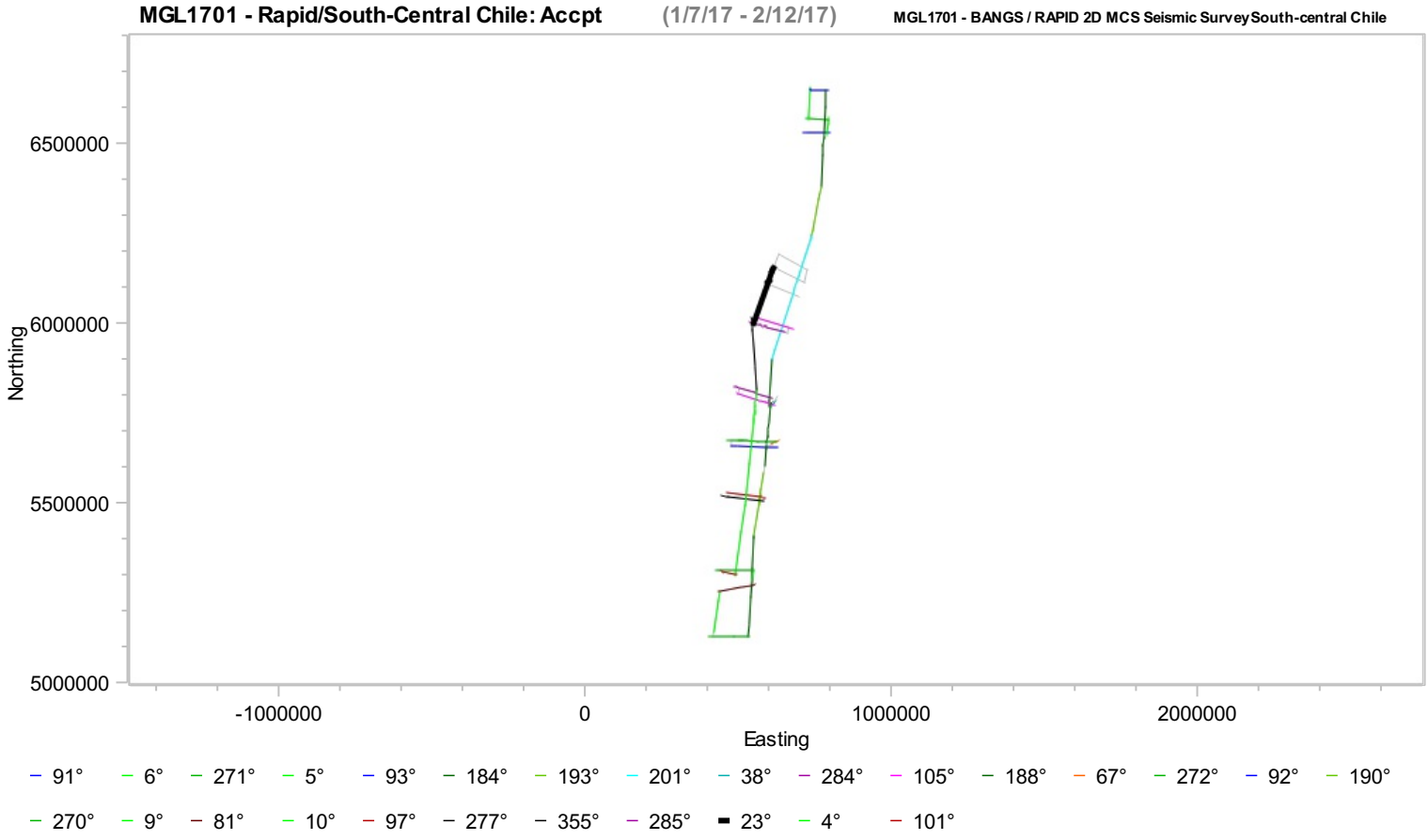
Date	Vessel	First - Last Sequence	Production
Sun 12 Feb	Marcus G Langseth	40	159.75
Total Production:			**159.75**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	159.75	1136.32	1912.99	4439.06
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	159.75	1136.32	1912.99	4467.64

Daily Science Report

Charged km	Day	Week	Month	Project
Total				
Prime	159.75	1136.32	1912.99	4439.06
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	**159.75**	**1136.32**	**1912.99**	**4467.64**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Mon 13 Feb

The Vessel started the day in production on Line MCS36 and at 01:35 UTC that line concluded. A line change to Line MCS37 was started and at 06:21 UTC production on Line MCS37 was began. Line MCS37 Concluded at 23:08, at which time a line change to MCS39 was started. This line change continued throughout the rest of the day, as the vessel tried to untangle Sub-Array 3 & 4 from the Lead-in.

During LIne MCS37 there was a number of power downs for PSO Sightings. In Addition during the latter part of the day there was a number of major current changes that effected the trip of the streamer causing it to range from 25m depth to the surface.

Daily Comment Summaries - Plan for Tomorrow

Mon 13 Feb

The vessel will begin the day on Line change between line MCS37 and MCS39 and is expected to resume production on MCS39 ~05:00 UTC. The Vessel is expected to remain in production on this line throughout the remainder of the day. During Line MCS39, the vessel will try to communicate with OBS CP05,at position -34.61964, -72.95682 in 2550 m of water. This OBS was left behind during a 2012 Mission in the area.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Mon 13. Feb 00:00	Mon 13. Feb 01:35	1.583
SOL Seq 40 MGL1701MCS36 FGSP=5443 FCSP=5443 Hdg=22.5° Prime EOL Seq 40 MGL1701MCS36 LGSP=5778 LCSP=5778 Complete				
Prime Line Change	AC_PLC	Mon 13. Feb 01:35	Mon 13. Feb 06:21	4.767
Nominal Prime line change.				
Production Prime	AC_PP	Mon 13. Feb 06:21	Mon 13. Feb 11:12	4.850
SOL Seq 41 MGL1701MCS37 FGSP=961 FCSP=961 Hdg=112.8° Prime EOL Seq 41 MGL1701MCS37 LGSP=1864 LCSP=1864 Incomplete SOL Feather=-5.8° SOL Water Depth=4997m				
Cetacean	DT_CT	Mon 13. Feb 11:12	Mon 13. Feb 11:35	0.383
NTBP Seq 41 MCS37 FSP=1865 LSP=1935				
Production Prime	AC_PP	Mon 13. Feb 11:35	Mon 13. Feb 11:41	0.100
SOL Seq 41 MGL1701MCS37 FGSP=1936 FCSP=1936 Hdg=112.8° Prime EOL Seq 41 MGL1701MCS37 LGSP=1955 LCSP=1955 Incomplete				
Cetacean	DT_CT	Mon 13. Feb 11:41	Mon 13. Feb 12:35	0.900
NTBP Seq 41 MCS37 FSP=1956 LSP=2125				
Production Prime	AC_PP	Mon 13. Feb 12:35	Mon 13. Feb 15:31	2.933
SOL Seq 41 MGL1701MCS37 FGSP=2126 FCSP=2126 Hdg=112.8° Prime EOL Seq 41 MGL1701MCS37 LGSP=2698 LCSP=2698 Incomplete				
Cetacean	DT_CT	Mon 13. Feb 15:31	Mon 13. Feb 16:01	0.500
NTBP Seq 41 MCS37 FSP=2699 LSP=2798				
Production Prime	AC_PP	Mon 13. Feb 16:01	Mon 13. Feb 20:42	4.683
SOL Seq 41 MGL1701MCS37 FGSP=2799 FCSP=2799 Hdg=112.8° Prime EOL Seq 41 MGL1701MCS37 LGSP=3835 LCSP=3835 Incomplete				
Cetacean	DT_CT	Mon 13. Feb 20:42	Mon 13. Feb 21:05	0.383

Daily Science Report

Category	Code	Start	End	Duration
NTBP Seq 41 MCS37 FSP=3836 LSP=3881				
Production Prime	AC_PP	Mon 13. Feb 21:05	Mon 13. Feb 23:08	2.050
SOL Seq 41 MGL1701MCS37 FGSP=3882 FCSP=3882 Hdg=112.8° Prime EOL Seq 41 MGL1701MCS37 LGSP=4318 LCSP=4318 Complete				
Prime Line Change	AC_PLC	Mon 13. Feb 23:08	Mon 13. Feb 24:00	0.867
Nominal Prime line change.				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

13-Feb	Hours	% Percent
Acquisition	**21.833**	**90.972**
Prime Line Change	5.633	23.472
Production Prime	16.200	67.500
DownTime	**2.167**	**9.028**
Cetacean	2.167	9.028
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**13.335**
At Anchor	26.483	2.904
Deployment	13.700	1.502
Mob Ashore	74.833	8.205
Transit to Prospect	6.600	0.724
DownTime	**46.633**	**5.113**
Cetacean	29.100	3.191
HSE	13.400	1.469
Source	1.933	0.212
Vessel	2.200	0.241
Chargeable Standby	**20.583**	**2.257**
Cetacean	0.550	0.060
Client Request	0.050	0.005
Reconfiguration	0.250	0.027
Source Reconfig	0.250	0.027
Transit	1.900	0.208
Weather	17.833	1.955
Acquisition	**723.167**	**79.295**
Infill Line Change	0.083	0.009
Prime Line Change	103.983	11.402
Production Infill	3.067	0.336
Production Prime	616.033	67.548
Total	912.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 13 Feb

Navigation:
rGPS String 3 Not operational and String #2 is intermittent, both issues seem to be located in the bundle.

Information Technology (IT):
FBB - Dome elevation motor belt still using Temporary fix. HSN - Has intermittent issues related to it's Slip Ring failing and is worse when the ship is moving more in the big swells.

Acquisition (OBS):
During the Latter part of the day the streamer was effected by some major current changes causing the depth of the streamer to very wildly from 25m to the surface in Depth.

Towing and Handling (Source):
During Line Change between MCS37 and MCS39 the Lead-in became entangled in Sub-Arrays 3 and 4. After some maneuvering of equipment and the vessel the Lead-in came free and no major damage was observed.

General Purpose Science:
No Major Issues to Report

Miscellaneous:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Order for part has been submitted.

Daily Comment Summaries - Personnel Onboard

Mon 13 Feb

Technical Staff On-board the Langseth
Robert Steinhaus L-DEO OMO Chief Science Officer
David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
Alan Thompson L-DEO OMO Marine Science Technician (Nav)
Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
Gilles Guerin L-DEO OMO Marine Science Technician (IT)
Tina Thomas UNOLS-Tech Pool Marine Science Technician (ACQ)

PSO Staff On-board the Langseth
Amanda Dubuque RPS Lead PSO
Laura Bluth RPS PAM operator / PSO
Cassandra Frey RPS PSO
Belen Sharon Torres RPS PSO
Yessica Vincencio RPS PSO

Science Party On-board the Langseth
Nathan Bangs UTIG Chief Scientist
Anne Trehu OSU Co-Chief Scientist
Eduardo Contreras-Reyes University of Chile, Santiago Data processing
Adrien Arnulf UTIG Data processing
Shuoshuo Han UTIG Data processing
Ben Phrampus OSU Data processing
Sebastián Bahamondes University of Chile, Santiago Watchstander
Brooklyn Gose UTIG Watchstander
Kelly Olsen UTIG Watchstander
Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

89%

Prime Lines Completed

83%

Daily Science Report

Preplot Lines	Complete	Incomplete	Pending
42	35	0	0

Percentages Charged	
Prime	88.82% of 5143.42 km (Sail Line)

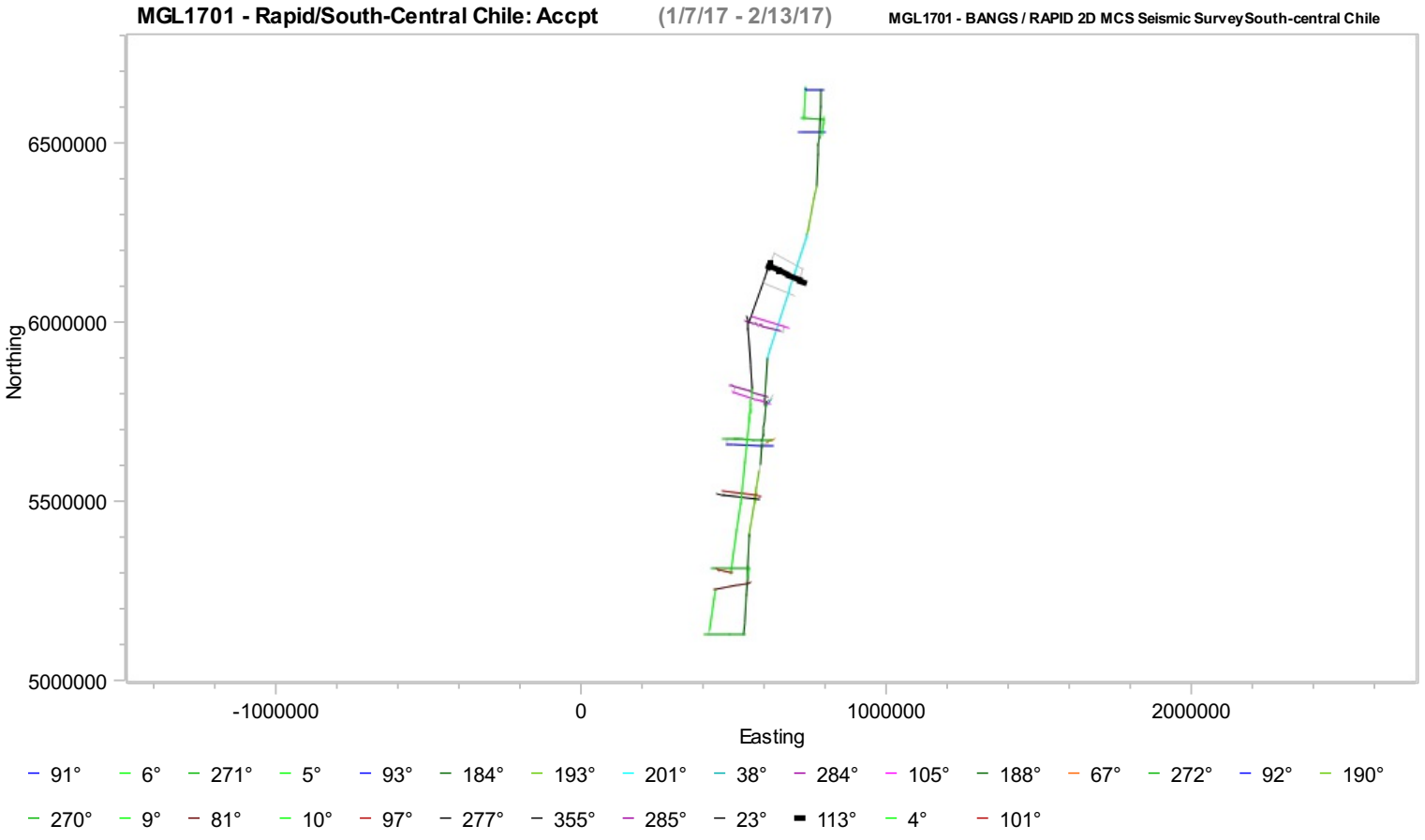
Average Daily Production	
Average Accepted Daily Production	142.76 km
Average Charged Daily Production	142.76 km

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

Date	Vessel	First - Last Sequence	Production
Mon 13 Feb	Marcus G Langseth	40 - 41	123.97
Total Production:			**123.97**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	123.97	123.97	2036.96	4563.04
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	123.97	123.97	2036.96	4591.61
Total				
Prime	123.97	123.97	2036.96	4563.04
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	**123.97**	**123.97**	**2036.96**	**4591.61**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Tue 14 Feb

The Vessel started the line change between lines MCS37 and MCS39.At 05:55 UTC the vessel began production on Line MCS39 and at 13:21 UTC the source was shut down for a PSO sighting. Line MCS39 was stopped at 13:34 UTC, so the source could be ramped back up. At 14:28 UTC production began on LIne MCS39A and end until 21:40 UTC. There were 3 more power downs for PSO SIghtings during the remainder of the line. The Vessel remained on Line change from Line MCS39A to MCS37R for the remainder of the day.

Daily Comment Summaries - Plan for Tomorrow

Tue 14 Feb

The Vessel will start the day continuing the line change between MCS39A and MCS37R. Line MCS37R is expected to start at ~04:30 UTC and run until ~14:30 UTC. At that time the vessel will make a line change to Reshoot some of line MCS39R and this will continue throughout the rest of the day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Prime Line Change	AC_PLC	Tue 14. Feb 00:00	Tue 14. Feb 05:55	5.917
Nominal Prime line change.				
Production Prime	AC_PP	Tue 14. Feb 05:55	Tue 14. Feb 13:21	7.433
SOL Seq 42 MGL1701MCS39 FGSP=957 FCSP=957 Hdg=293.3° Prime EOL Seq 42 MGL1701MCS39 LGSP=2492 LCSP=2492 Complete				
Cetacean	DT_CT	Tue 14. Feb 13:21	Tue 14. Feb 13:34	0.217
NTBP Seq 42 MCS39 FSP=2493 LSP=2535				
Cetacean	DT_CT	Tue 14. Feb 13:34	Tue 14. Feb 14:28	0.900
Downtime due to close proximity of Cetaceans.				
Production Prime	AC_PP	Tue 14. Feb 14:28	Tue 14. Feb 18:06	3.633
SOL Seq 43 MGL1701MCS39A FGSP=2706 FCSP=2706 Hdg=293.3° Prime EOL Seq 43 MGL1701MCS39A LGSP=3433 LCSP=3433 Incomplete				
Cetacean	DT_CT	Tue 14. Feb 18:06	Tue 14. Feb 18:23	0.283
NTBP Seq 43 FSP=3434 LSP=3489				
Production Prime	AC_PP	Tue 14. Feb 18:23	Tue 14. Feb 19:20	0.950
SOL Seq 43 MGL1701MCS39A FGSP=3490 FCSP=3490 Hdg=293.3° Prime EOL Seq 43 MGL1701MCS39A LGSP=3686 LCSP=3686 Incomplete				
Cetacean	DT_CT	Tue 14. Feb 19:20	Tue 14. Feb 19:52	0.533
NTBP Seq 43 FSP=3687 LSP=3794				
Production Prime	AC_PP	Tue 14. Feb 19:52	Tue 14. Feb 20:30	0.633
SOL Seq 43 MGL1701MCS39A FGSP=3795 FCSP=3795 Hdg=293.3° Prime EOL Seq 43 MGL1701MCS39A LGSP=3922 LCSP=3922 Incomplete				
Cetacean	DT_CT	Tue 14. Feb 20:30	Tue 14. Feb 20:51	0.350
NTBP Seq 43 FSP=3923 LSP=3992				
Production Prime	AC_PP	Tue 14. Feb 20:51	Tue 14. Feb 21:40	0.817
SOL Seq 43 MGL1701MCS39A FGSP=3993 FCSP=3993 Hdg=293.3° Prime EOL Seq 43 MGL1701MCS39A LGSP=4160 LCSP=4160 Complete				
Prime Line Change	AC_PLC	Tue 14. Feb 21:40	Tue 14. Feb 24:00	2.333
Nominal Prime line change.				

Daily Science Report

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

14-Feb	Hours	% Percent
Acquisition	**21.717**	**90.486**
Prime Line Change	8.250	34.375
Production Prime	13.467	56.111
DownTime	**2.283**	**9.514**
Cetacean	2.283	9.514
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**12.993**
At Anchor	26.483	2.829
Deployment	13.700	1.464
Mob Ashore	74.833	7.995
Transit to Prospect	6.600	0.705
DownTime	**48.917**	**5.226**
Cetacean	31.383	3.353
HSE	13.400	1.432
Source	1.933	0.207
Vessel	2.200	0.235
Chargeable Standby	**20.583**	**2.199**
Cetacean	0.550	0.059
Client Request	0.050	0.005
Reconfiguration	0.250	0.027
Source Reconfig	0.250	0.027
Transit	1.900	0.203
Weather	17.833	1.905
Acquisition	**744.883**	**79.582**
Infill Line Change	0.083	0.009
Prime Line Change	112.233	11.991
Production Infill	3.067	0.328
Production Prime	629.500	67.254
Total	936.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 14 Feb

Navigation:
rGPS String 3 Not operational and String #2 is intermittent, both issues seem to be located in the bundle.

Information Technology (IT):
FBB - Dome elevation motor belt still using Temporary fix. HSN - Has intermittent issues related to it's Slip Ring failing and is worse when the ship is moving more in the big swells.

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:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Order for part has been submitted.

Daily Comment Summaries - Personnel Onboard

Tue 14 Feb

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Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

97%

Prime Lines Completed

103%

Preplot Lines	Complete	Incomplete	Pending
35	36	0	0

Percentages Charged	
Prime	96.57% of 4837.80 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	141.56 km
Average Charged Daily Production	141.56 km

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

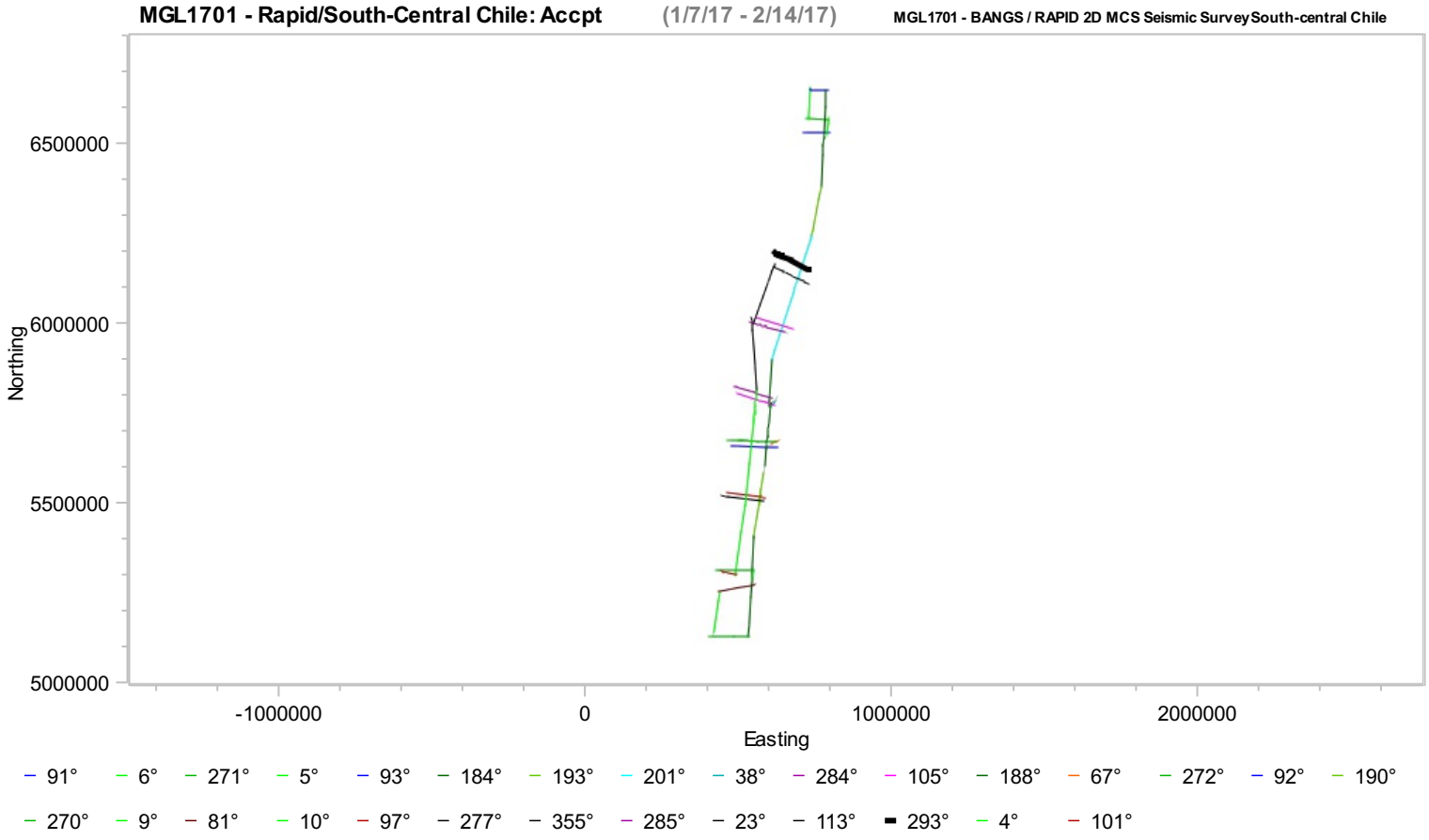
Date	Vessel	First - Last Sequence	Production
Tue 14 Feb	Marcus G Langseth	42 - 43	103.31
Total Production:			**103.31**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	103.31	227.29	2140.28	4666.35
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	103.31	227.29	2140.28	4694.93

Daily Science Report

Charged km	Day	Week	Month	Project
Total				
Prime	103.31	227.29	2140.28	4666.35
Infill	0.00	0.00	0.00	23.29
Prime, Reshoot	0.00	0.00	0.00	5.29
Combined	**103.31**	**227.29**	**2140.28**	**4694.93**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Wed 15 Feb

The Vessel started the day on Line change between MCS39A and MCS37R. At 04:37 UTC the vessel started production on line MCS37R. This continued until 14:33 UTC, at which time the vessel started at line change to Line MCS39R. Line MCS39R commenced at 21:40 UTC and continued throughout the rest of the day. There was multiple Power Downs / Shut Downs for PSO Sightings throughout the day.

Daily Comment Summaries - Plan for Tomorrow

Wed 15 Feb

The Vessel will start the day in production on line MCS39R, which is expected to conclude at 05:56 UTC. At that time recovery of the towed equipment will take place, this is expected to continue until ~19:00 UTC. At which time the vessel will transit over to OBS CP-05 location and trying to recover this instrument. This is expected to continue through end of day.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Prime Line Change	AC_PLC	Wed 15. Feb 00:00	Wed 15. Feb 04:37	4.617
Nominal Prime line change.				
Production Prime	AC_PP	Wed 15. Feb 04:37	Wed 15. Feb 04:52	0.250
SOL Seq 44 MGL1701MCS37R FGSP=896 FCSP=896 Hdg=112.8° Prime EOL Seq 44 MGL1701MCS37R LGSP=961 LCSP=961 Complete SOL Feather=-12° SOL Water Depth=4998m				
Production Infill	AC_PI	Wed 15. Feb 04:52	Wed 15. Feb 09:10	4.300
SOL Seq 44 MGL1701MCS37R FGSP=962 FCSP=962 Hdg=112.8° Infill EOL Seq 44 MGL1701MCS37R LGSP=1864 LCSP=1864 Complete				
Production Prime	AC_PP	Wed 15. Feb 09:10	Wed 15. Feb 09:30	0.333
SOL Seq 44 MGL1701MCS37R FGSP=1865 FCSP=1865 Hdg=112.8° Prime EOL Seq 44 MGL1701MCS37R LGSP=1935 LCSP=1935 Complete				
Production Infill	AC_PI	Wed 15. Feb 09:30	Wed 15. Feb 09:35	0.083
SOL Seq 44 MGL1701MCS37R FGSP=1936 FCSP=1936 Hdg=112.8° Infill EOL Seq 44 MGL1701MCS37R LGSP=1954 LCSP=1954 Complete				
Production Prime	AC_PP	Wed 15. Feb 09:35	Wed 15. Feb 10:22	0.783
SOL Seq 44 MGL1701MCS37R FGSP=1955 FCSP=1955 Hdg=112.8° Prime EOL Seq 44 MGL1701MCS37R LGSP=2126 LCSP=2126 Complete				
Production Infill	AC_PI	Wed 15. Feb 10:22	Wed 15. Feb 10:42	0.333
SOL Seq 44 MGL1701MCS37 FGSP=2127 FCSP=2127 Hdg=112.8° Infill EOL Seq 44 MGL1701MCS37 LGSP=2205 LCSP=2205 Incomplete				
Cetacean	DT_CT	Wed 15. Feb 10:42	Wed 15. Feb 11:11	0.483
NTBP Seq 44 MCS37 FSP=2206 LSP=2308				
Production Infill	AC_PI	Wed 15. Feb 11:11	Wed 15. Feb 12:42	1.517
SOL Seq 44 MGL1701MCS37 FGSP=2309 FCSP=2309 Hdg=112.8° Infill EOL Seq 44 MGL1701MCS37 LGSP=2644 LCSP=2644 Complete				
Cetacean	DT_CT	Wed 15. Feb 12:42	Wed 15. Feb 13:03	0.350
NTBP Seq 44 MCS37 FSP=2645 LSP=2724				
Production Prime	AC_PP	Wed 15. Feb 13:03	Wed 15. Feb 13:24	0.350

Daily Science Report

Category	Code	Start	End	Duration
SOL Seq 44 MGL1701MCS37R FGSP=2725 FCSP=2725 Hdg=112.8° Prime EOL Seq 44 MGL1701MCS37R LGSP=2799 LCSP=2799 Complete				
Production Infill	AC_PI	Wed 15. Feb 13:24	Wed 15. Feb 14:33	1.150
SOL Seq 44 MGL1701MCS33R FGSP=2800 FCSP=2800 Hdg=104.8° Infill EOL Seq 44 MGL1701MCS33R LGSP=3056 LCSP=3056 Complete				
Infill Line Change	AC_ILC	Wed 15. Feb 14:33	Wed 15. Feb 21:40	7.117
Nominal Infill line change.				
Production Infill	AC_PI	Wed 15. Feb 21:40	Wed 15. Feb 22:08	0.467
SOL Seq 45 MGL1701MCS39R FGSP=2256 FCSP=2256 Hdg=293.3° Infill EOL Seq 45 MGL1701MCS39R LGSP=2357 LCSP=2357 Incomplete				
Cetacean	DT_CT	Wed 15. Feb 22:08	Wed 15. Feb 22:26	0.300
NTBP Seq 45 FSP=2358 LSP=2417				
Production Infill	AC_PI	Wed 15. Feb 22:26	Wed 15. Feb 22:47	0.350
SOL Seq 45 MGL1701MCS39R FGSP=2418 FCSP=2418 Hdg=293.3° Infill EOL Seq 45 MGL1701MCS39R LGSP=2490 LCSP=2490 Complete				
Production Prime	AC_PP	Wed 15. Feb 22:47	Wed 15. Feb 22:56	0.150
SOL Seq 45 MGL1701MCS39R FGSP=2491 FCSP=2491 Hdg=293.3° Prime EOL Seq 45 MGL1701MCS39R LGSP=2523 LCSP=2523 Complete				
Cetacean	DT_CT	Wed 15. Feb 22:56	Wed 15. Feb 23:03	0.117
NTBP Seq 45 FSP=2524 LSP=2543				
Production Prime	AC_PP	Wed 15. Feb 23:03	Wed 15. Feb 23:05	0.033
SOL Seq 45 MGL1701MCS39R FGSP=2544 FCSP=2544 Hdg=293.3° Prime EOL Seq 45 MGL1701MCS39R LGSP=2553 LCSP=2553 Incomplete				
Cetacean	DT_CT	Wed 15. Feb 23:05	Wed 15. Feb 23:15	0.167
NTBP Seq 45 FSP=2554 LSP=2585				
Production Prime	AC_PP	Wed 15. Feb 23:15	Wed 15. Feb 23:41	0.433
SOL Seq 45 MGL1701MCS39R FGSP=2586 FCSP=2586 Hdg=293.3° Prime EOL Seq 45 MGL1701MCS39R LGSP=2677 LCSP=2677 Incomplete				
Cetacean	DT_CT	Wed 15. Feb 23:41	Wed 15. Feb 23:56	0.250
NTBP Seq 45 FSP=2678 LSP=2725				
Production Infill	AC_PI	Wed 15. Feb 23:56	Wed 15. Feb 24:00	0.067
SOL Seq 45 MGL1701MCS39R FGSP=2727 FCSP=2727 Hdg=293.3° Infill MSP Seq 45 MGL1701MCS39R LGSP=2740 LCSP=2740 Midnight				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

15-Feb	Hours	% Percent
Acquisition	**22.333**	**93.056**
Infill Line Change	7.117	29.653
Prime Line Change	4.617	19.236
Production Infill	8.267	34.444
Production Prime	2.333	9.722
DownTime	**1.667**	**6.944**
Cetacean	1.667	6.944
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**12.668**
At Anchor	26.483	2.759
Deployment	13.700	1.427
Mob Ashore	74.833	7.795
Transit to Prospect	6.600	0.688

Daily Science Report

Category	Hours	% Percent
DownTime	**50.583**	**5.269**
Cetacean	33.050	3.443
HSE	13.400	1.396
Source	1.933	0.201
Vessel	2.200	0.229
Chargeable Standby	**20.583**	**2.144**
Cetacean	0.550	0.057
Client Request	0.050	0.005
Reconfiguration	0.250	0.026
Source Reconfig	0.250	0.026
Transit	1.900	0.198
Weather	17.833	1.858
Acquisition	**767.217**	**79.918**
Infill Line Change	7.200	0.750
Prime Line Change	116.850	12.172
Production Infill	11.333	1.181
Production Prime	631.833	65.816
Total	960.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 15 Feb

Navigation:
rGPS String 3 Not operational and String #2 is intermittent, both issues seem to be located in the bundle.

Information Technology (IT):
FBB - Dome elevation motor belt still using Temporary fix. HSN - Has intermittent issues related to it's Slip Ring failing and is worse when the ship is moving more in the big swells.

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:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Order for part has been submitted.

Daily Comment Summaries - Personnel Onboard

Wed 15 Feb

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David Martinson L-DEO OMO Science Officer – Nav/IT
Todd Jensvold L-DEO OMO Science Officer - Acq
Tom Spoto L-DEO OMOChief Source Mechanic
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Josh Kasinger L-DEO OMO Source Mechanic
Ambrose Mavor-Parker L-DEO OMO Marine Science Technician (ACQ)
Andrej Smiscal Atlas Personnel Compressor Mech - Contractor
Gilles Guerin L-DEO OMO Marine Science Technician (IT)
Tina Thomas UNOLS-Tech Pool Marine Science Technician (ACQ)

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Amanda Dubuque RPS Lead PSO
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Carmina González University of Chile, Santiago Watchstander
Pamela Muñoz University of Chile, Santiago Watchstander
Edward Zhang University of California at Berkely Watchstander
Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

97%

Prime Lines Completed

103%

Preplot Lines	Complete	Incomplete	Pending
35	36	0	0

Percentages Charged	
Prime	96.96% of 4837.80 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	137.97 km
Average Charged Daily Production	137.97 km

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

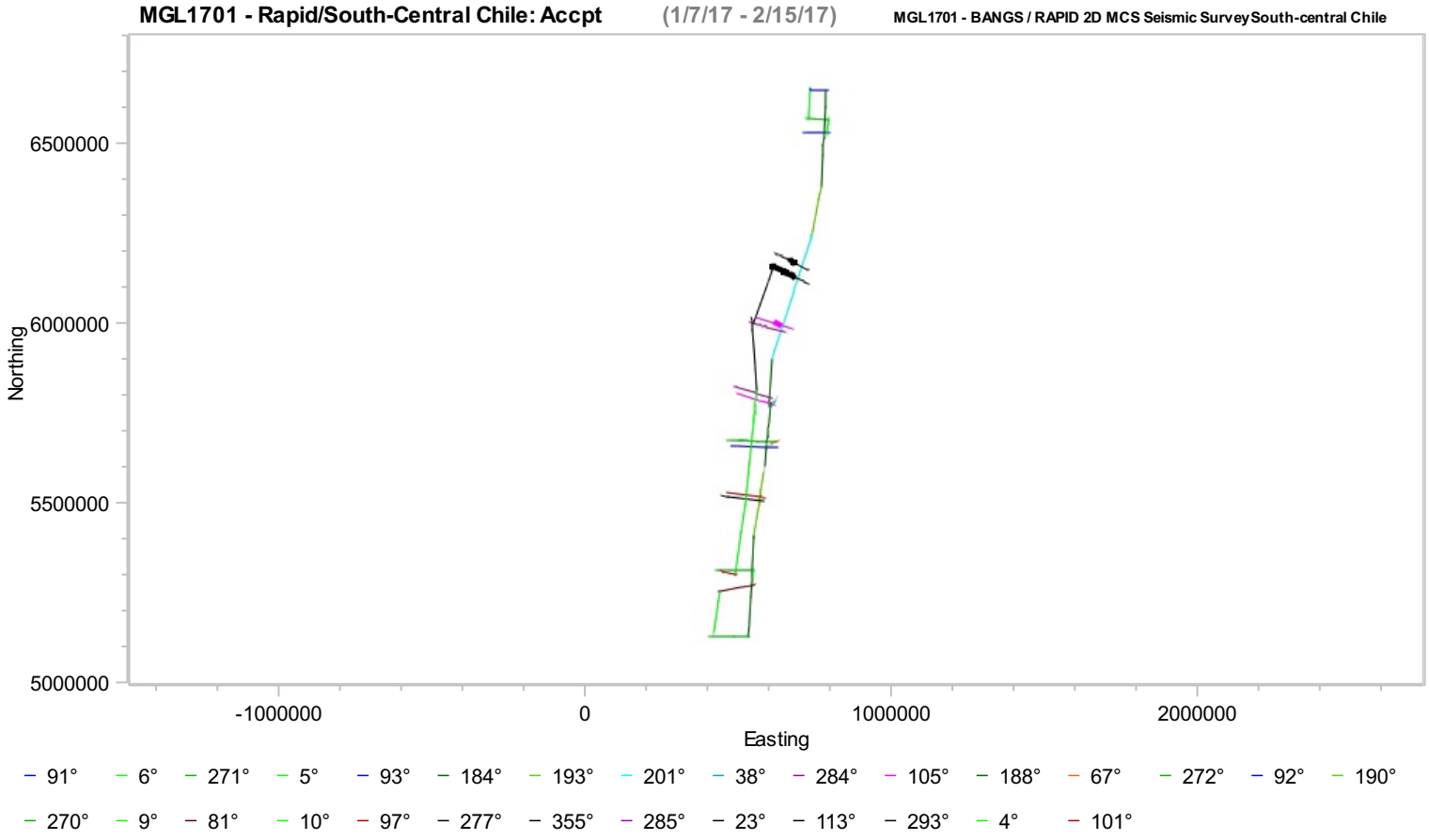
Date	Vessel	First - Last Sequence	Production
Wed 15 Feb	Marcus G Langseth	44 - 45	85.91
Total Production:			**85.91**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	6.26	233.55	2146.54	4672.61
Infill	66.64	66.64	66.64	89.92
Prime, Reshoot	13.01	13.01	13.01	18.30
Combined	85.91	313.20	2226.19	4780.84

Daily Science Report

Charged km	Day	Week	Month	Project
Total				
Prime	6.26	233.55	2146.54	4672.61
Infill	66.64	66.64	66.64	89.92
Prime, Reshoot	13.01	13.01	13.01	18.30
Combined	**85.91**	**313.20**	**2226.19**	**4780.84**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Thu 16 Feb

The vessel started the day continuing production on MCS39R. This line was concluded at 05:56 UTC, at which time the vessel maneuvered to the north to begin to recover the towed equipment. Recovery began at 06:22 UTC and by 14:34 UTC all towed equipment was on-board. During the Streamer recovery there was one Bird Missing, and a few other that had damage. There was a number of shark strikes observed and the students got a tooth or two. After all the gear was on-board and secure the vessel started transiting towards OBS CP-05 and at 17:50 UTC the first of 5 release commands was sent. There was very clear communication with the instrument, but at 19:30 UTC the instrument was disabled as it was clear it was again not going to come off the sea floor. The vessel then started transiting back to PORT, during which time a some calibration test of the POSMV system took place, throughout the remainder of the day.

Daily Comment Summaries - Plan for Tomorrow

Thu 16 Feb

The vessel will start the day transiting towards Valparaiso, Chile. It is expected to be at the Sea Buoy at ~11:00 UTC and be secured alongside by ~13:00 UTC. It will remain alongside for the remainder of the day de-mobilizing from MGL1701.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Production Infill	AC_PI	Thu 16. Feb 00:00	Thu 16. Feb 03:16	3.267
SOL Seq 45 MGL1701MCS39R FGSP=2741 FCSP=2741 Hdg=293.3° Infill EOL Seq 45 MGL1701MCS39R LGSP=3431 LCSP=3431 Complete				
Production Prime	AC_PP	Thu 16. Feb 03:16	Thu 16. Feb 03:32	0.267
SOL Seq 45 MGL1701MCS39 FGSP=3432 FCSP=3432 Hdg=293.3° Prime EOL Seq 45 MGL1701MCS39 LGSP=3488 LCSP=3488 Complete				
Production Infill	AC_PI	Thu 16. Feb 03:32	Thu 16. Feb 04:27	0.917
SOL Seq 45 MGL1701MCS39R FGSP=3487 FCSP=3487 Hdg=293.3° Infill EOL Seq 45 MGL1701MCS39R LGSP=3683 LCSP=3683 Complete				
Production Prime	AC_PP	Thu 16. Feb 04:27	Thu 16. Feb 04:59	0.533
SOL Seq 45 MGL1701MCS39R FGSP=3684 FCSP=3684 Hdg=293.3° Prime EOL Seq 45 MGL1701MCS39R LGSP=3794 LCSP=3794 Complete				
Production Infill	AC_PI	Thu 16. Feb 04:59	Thu 16. Feb 05:36	0.617
SOL Seq 45 MGL1701MCS39R FGSP=3795 FCSP=3795 Hdg=293.3° Infill EOL Seq 45 MGL1701MCS39R LGSP=3921 LCSP=3921 Complete				
Production Prime	AC_PP	Thu 16. Feb 05:36	Thu 16. Feb 05:56	0.333
SOL Seq 45 MGL1701MCS39R FGSP=3922 FCSP=3922 Hdg=293.3° Prime EOL Seq 45 MGL1701MCS39R LGSP=3993 LCSP=3993 Complete				
Recovery	DM_RC	Thu 16. Feb 05:56	Thu 16. Feb 06:22	0.433
Demobilising offshore,maneuvering to begin recovery of Towed Equipment				
Recovery	DM_RC	Thu 16. Feb 06:22	Thu 16. Feb 07:43	1.350
Demobilising offshore, recovering of Source Sub-Array				
Recovery	DM_RC	Thu 16. Feb 07:43	Thu 16. Feb 14:38	6.917
Demobilising offshore, recovering of Streamer Cable				
Client Request	SB_CR	Thu 16. Feb 14:38	Thu 16. Feb 17:50	3.200
Chargeable standby due to client request. In Transit to OBS CP-05 to attempt to recover it.				
Client Request	SB_CR	Thu 16. Feb 17:50	Thu 16. Feb 19:30	1.667
Chargeable standby due to client request. Trying to recovery OBS CP05				

Daily Science Report

Category	Code	Start	End	Duration
Transit From Prospect	DM_TF	Thu 16. Feb 19:30	Thu 16. Feb 24:00	4.500
Demobilising, In Transit from prospect for demobilisation ashore.				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

16-Feb	Hours	% Percent
Acquisition	**5.933**	**24.722**
Production Infill	4.800	20.000
Production Prime	1.133	4.722
Chargeable Standby	**4.867**	**20.278**
Client Request	4.867	20.278
Demobilisation	**13.200**	**55.000**
Recovery	8.700	36.250
Transit From Prospect	4.500	18.750
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**12.359**
At Anchor	26.483	2.691
Deployment	13.700	1.392
Mob Ashore	74.833	7.605
Transit to Prospect	6.600	0.671
DownTime	**50.583**	**5.141**
Cetacean	33.050	3.359
HSE	13.400	1.362
Source	1.933	0.196
Vessel	2.200	0.224
Chargeable Standby	**25.450**	**2.586**
Cetacean	0.550	0.056
Client Request	4.917	0.500
Reconfiguration	0.250	0.025
Source Reconfig	0.250	0.025
Transit	1.900	0.193
Weather	17.833	1.812
Acquisition	**773.150**	**78.572**
Infill Line Change	7.200	0.732
Prime Line Change	116.850	11.875
Production Infill	16.133	1.640
Production Prime	632.967	64.326
Demobilisation	**13.200**	**1.341**
Recovery	8.700	0.884
Transit From Prospect	4.500	0.457
Total	984.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 16 Feb

Navigation:
rGPS String 3 Not operational and String #2 is intermittent, both issues seem to be located in the bundle.

Information Technology (IT):
FBB - Dome elevation motor belt still using Temporary fix. HSN - Has intermittent issues related to it's Slip Ring failing and is worse when the ship is moving more in the big swells.

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:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Order for part has been submitted.

Daily Comment Summaries - Personnel Onboard

Thu 16 Feb

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Jorge Gaete Hydrographic and Oceanographic Service of the Chilean Navy Observer from the Chile

Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

97%

Prime Lines Completed

103%

Preplot Lines	Complete	Incomplete	Pending
35	36	0	0

Daily Science Report

Percentages Charged	
Prime	97.15% of 4837.80 km (Sail Line)

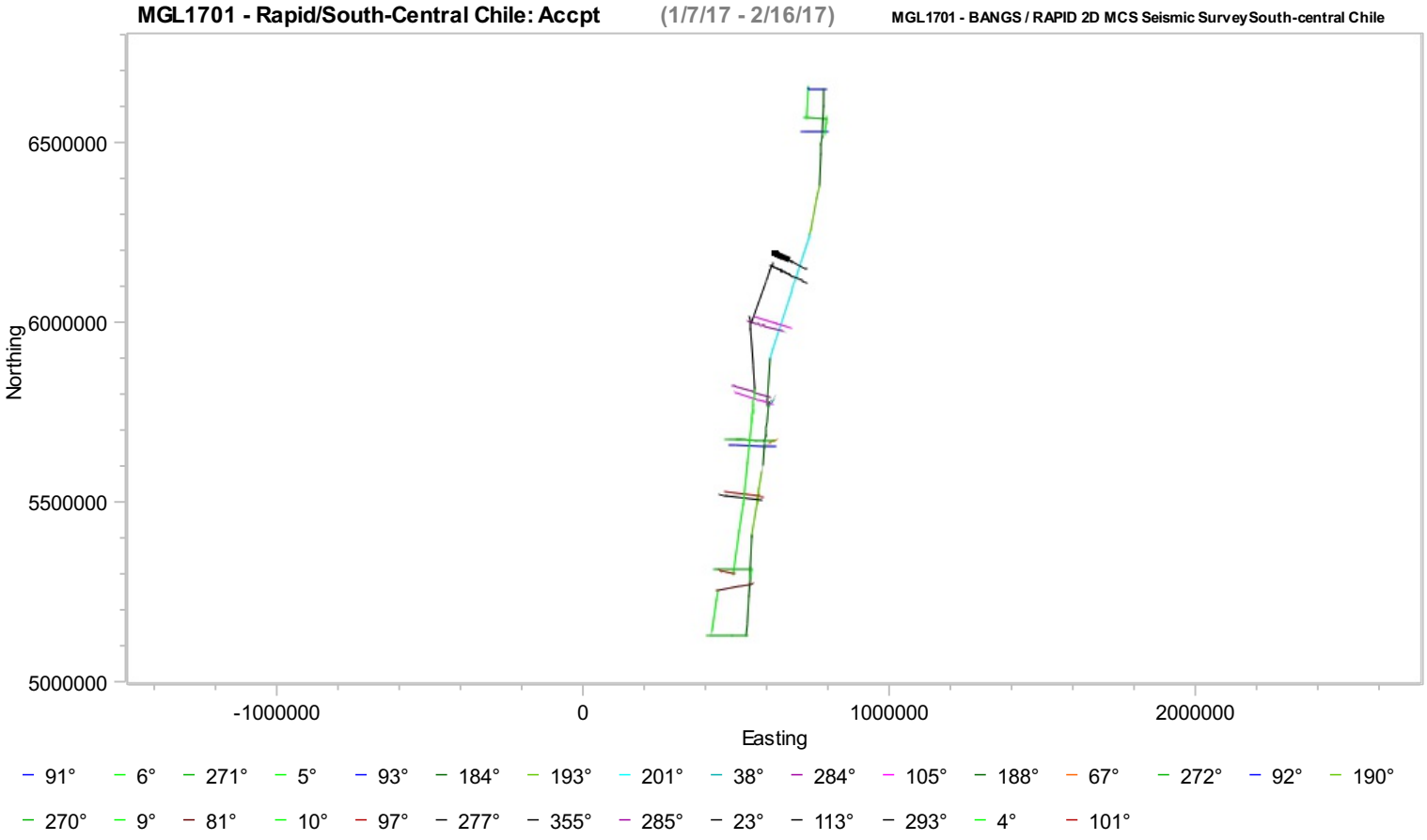
Average Daily Production	
Average Accepted Daily Production	134.28 km
Average Charged Daily Production	134.28 km

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

Date	Vessel	First - Last Sequence	Production
Thu 16 Feb	Marcus G Langseth	45 - 45	46.88
Total Production:			**46.88**

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	0.00	233.55	2146.54	4672.61
Infill	37.99	104.62	104.62	127.91
Prime, Reshoot	8.89	21.90	21.90	27.19
Combined	46.88	360.07	2273.06	4827.71
Total				
Prime	0.00	233.55	2146.54	4672.61
Infill	37.99	104.62	104.62	127.91
Prime, Reshoot	8.89	21.90	21.90	27.19
Combined	**46.88**	**360.07**	**2273.06**	**4827.71**



Daily Science Report

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL1701	**Job No:**	MGL1701
Block:	MGL1701 - Rapid/South-Central Chile	**Vessel:**	Marcus G Langseth
Client Contact:	Dr. Nathan Bangs	**Supervisor:**	Paul Ljunggren
Consultancy:		**Party Chiefs:**	Robert Steinhaus /David Martinson/ Todd Jensvold
Job No:		**Client Reps:**	

Daily Comment Summaries - Daily Summary

Fri 17 Feb

The vessel started the day in transit to Valparaiso, Chile. At 10:50 UTC the vessel arrived at the Pilots station and at 11:58 UTC the vessel was secured alongside, where it remained for the remainder of the day de-mobilizing from MGL1701

Daily Comment Summaries - Plan for Tomorrow

Fri 17 Feb

The Vessel will start the day alongside Valparaiso, Chile De-Mobilizing from MGL1701. At ~09:30 UTC the vessel will get underway to relocate to the anchorage to continue the rest of day De-Mobilizing.

Timing Diary (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Code	Start	End	Duration
Transit From Prospect	DM_TF	Fri 17. Feb 00:00	Fri 17. Feb 11:58	11.967
Demobilising, In Transit from prospect for demobilisation ashore.				
Demob Ashore	DM_DA	Fri 17. Feb 11:58	Fri 17. Feb 24:00	12.033
Demobilising ashore.				

Timing Day By Day (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

17-Feb	Hours	% Percent
Demobilisation	**24.000**	**100.000**
Demob Ashore	12.033	50.139
Transit From Prospect	11.967	49.861
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MGL1701 - BANGS / RAPID 2D MCS Seismic Survey South-central Chile)

Category	Hours	% Percent
Mobilisation	**121.617**	**12.065**
At Anchor	26.483	2.627
Deployment	13.700	1.359
Mob Ashore	74.833	7.424
Transit to Prospect	6.600	0.655
DownTime	**50.583**	**5.018**
Cetacean	33.050	3.279
HSE	13.400	1.329
Source	1.933	0.192
Vessel	2.200	0.218
Chargeable Standby	**25.450**	**2.525**
Cetacean	0.550	0.055
Client Request	4.917	0.488
Reconfiguration	0.250	0.025
Source Reconfig	0.250	0.025
Transit	1.900	0.188
Weather	17.833	1.769
Demobilisation	**37.200**	**3.690**

Daily Science Report

Category	Hours	% Percent
Demob Ashore	12.033	1.194
Recovery	8.700	0.863
Transit From Prospect	16.467	1.634
Acquisition	**773.150**	**76.701**
Infill Line Change	7.200	0.714
Prime Line Change	116.850	11.592
Production Infill	16.133	1.601
Production Prime	632.967	62.794
Total	1008.000	

Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 17 Feb

Navigation:
rGPS String 3 Not operational and String #2 is intermittent, both issues seem to be located in the bundle.

Information Technology (IT):
FBB - Dome elevation motor belt still using Temporary fix. HSN - Has intermittent issues related to it's Slip Ring failing and is worse when the ship is moving more in the big swells.

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:
Port (3cm) radar is not operational. Stbd Compressor has a high temp alarm showing up on cylinder #11.
Science Workboat stbd engine will not start due to a failure in the key/start assembly. STBD Engine has been test with port key assembly and checks out fine. Order for part has been submitted.

Daily Science Report

Daily Comment Summaries - Personnel Onboard

Fri 17 Feb

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Survey Progress (MGL1701 - Rapid/South-Central Chile)

Percentage of Prime Charged

97%

Prime Lines Completed

103%

Preplot Lines	Complete	Incomplete	Pending
35	36	0	0

Percentages Charged	
Prime	97.15% of 4837.80 km (Sail Line)

Average Daily Production	
Average Accepted Daily Production	130.55 km
Average Charged Daily Production	130.55 km

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

Date	Vessel	First - Last Sequence	Production

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

Charged km	Day	Week	Month	Project
Marcus G Langseth				
Prime	0.00	233.55	2146.54	4672.61
Infill	0.00	104.62	104.62	127.91
Prime, Reshoot	0.00	21.90	21.90	27.19
Combined	0.00	360.07	2273.06	4827.71
Total				
Prime	0.00	233.55	2146.54	4672.61

Daily Science Report

Charged km	Day	Week	Month	Project
Infill	0.00	104.62	104.62	127.91
Prime, Reshoot	0.00	21.90	21.90	27.19
Combined	**0.00**	**360.07**	**2273.06**	**4827.71**