Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

5/30/2021

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Sun 30 May

Continue to rig Tail buoy - adding AIS and generator.
Installed all 4 GPS pods on the gun arrays. Jumpers run and secured to the buoy ropes.
Installed all PIs on the gun arrays
Completed front end stress member and clamp arrangements - clamps will swivel now
Sorted out leftover air lines and labeled and stowed in half high
Sorted out old GPS jumpers and stowed away
Ran both boats; FRB ran fine. The work boat developed a fuel problem shortly after deployment and needed to be towed back with the FRB
Stowed new hydraulic blocks. Protected with spray lube and shrink wrap for storage
Both compressors was tested today and they seems to be ok - during the testing we were able to blow the water out of the gun umbilicals .
Attached 1" air lines to gun umbilicals.

Daily Comment Summaries - Plan for Tomorrow

Sun 30 May

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Mob Ashore	MB_MA	Sun 30. May 00:00	Sun 30. May 24:00	24.000
Mobilising Ashore.				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

30-May	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, MCS 15000m 37.5m)

Category	Hours	%Percent
Mobilisation	**24.000**	**100.000**
Mob Ashore	24.000	100.000
Total	24.000	

5/30/2021

Basic Project Details

MCS 15000m 37.5m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km) - Prime: Full Fold, Infill: Unknown

MCS 15000m 37.5m

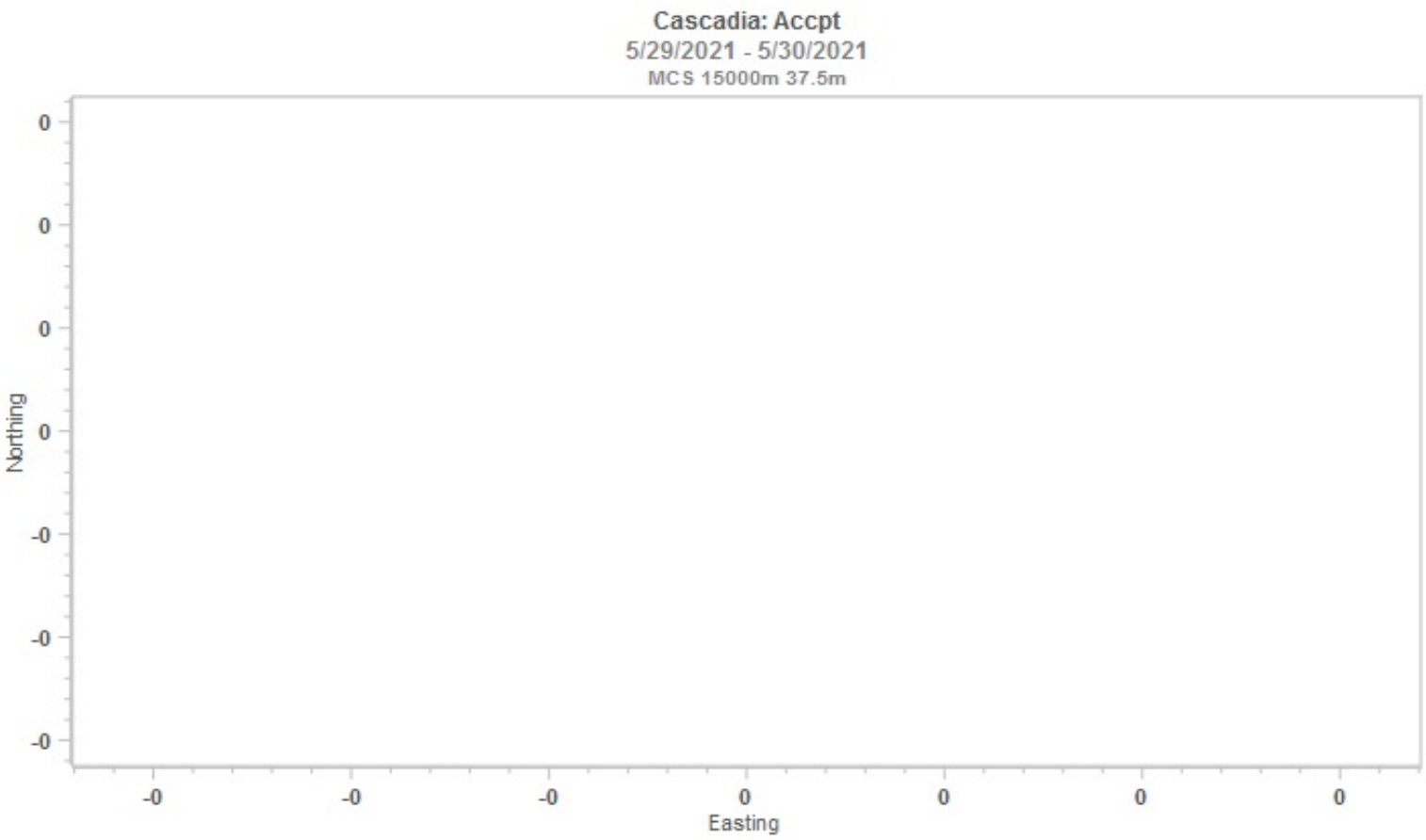
Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0.00**			

Production Totals (Accpt km) - Prime: Full Fold, Infill: Unknown

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	0.00	0.00	0.00	0.00
Combined	**0.00**	**0.00**	**0.00**	**0.00**

5/30/2021



Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 30 May

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

Daily Comment Summaries - Personnel Onboard

Sun 30 May

Technical Staff On-board the Langseth
Shaun Shaver L-DEO OMO Chief Science Officer
Tom Spoto L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Marine Science Technician - Source
Alan Thompson L-DEO OMO Science Officer - Nav
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - OBS
Michael Coufal - Contractor - Source
Ray Hatton - Contractor - Source
Jacob Greenberg - Contractor - Source
Mark Walker - Contractor - Compressor Mechanic

5/30/2021

PSO Staff On-board the Langseth
Amanda Dubuque - RPS - Lead PSO
Cassandra Frey - RPS
Edgar Brunett - RPS
Felipe Rodriguez - RPS
Leonardo De La Ros - RPS

Science Party On-board the Langseth
Suzanne Carbotte - LDEO - PI
Shuoshuo Han - UTIG - Co-PI
Brian Boston - LDEO - Co-PI
Bhargav Boddupalli - UTIG - Scientist
Hanchao Jian - WHOI - Scientist
Jeff Beeson - OSU/NOAA - Scientist
Madeleine Lucas - UW - Scientist
Vashan Wright - WHOI - Scientist
Michelle Lee - LDEO - Student

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

5/31/2021

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Mon 31 May

The day was spent alongside in Newport Oregon.
Completed preparing the tail buoy for deployment
Tested all the guns, DIs and NFH, all tested good.
Secured wires inside the gun reels.
Recorded gun serial numbers for Gun Link maintenance
Putting the final touches on the gun arrays; securing jumpers and hoses
Repaired both remote boxes for the PAM and Maggie reels
Removed plastic wrap from level winder worm gears and greased
Securing the vessel for sea
Working on fleet broad band, it is causing interference with the other satellite dome
Science Party and PSOs arrived today. Orientations completed.

Daily Comment Summaries - Plan for Tomorrow

Mon 31 May

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Mob Ashore	MB_MA	Mon 31. May 00:00	Mon 31. May 24:00	24.000
Mobilizing Ashore.				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

31-May	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, MCS 15000m 37.5m)

Category	Hours	%Percent
Mobilisation	**48.000**	**100.000**
Mob Ashore	48.000	100.000
Total	48.000	

5/31/2021

Basic Project Details

MCS 15000m 37.5m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km) - Prime: Full Fold, Infill: Unknown

MCS 15000m 37.5m

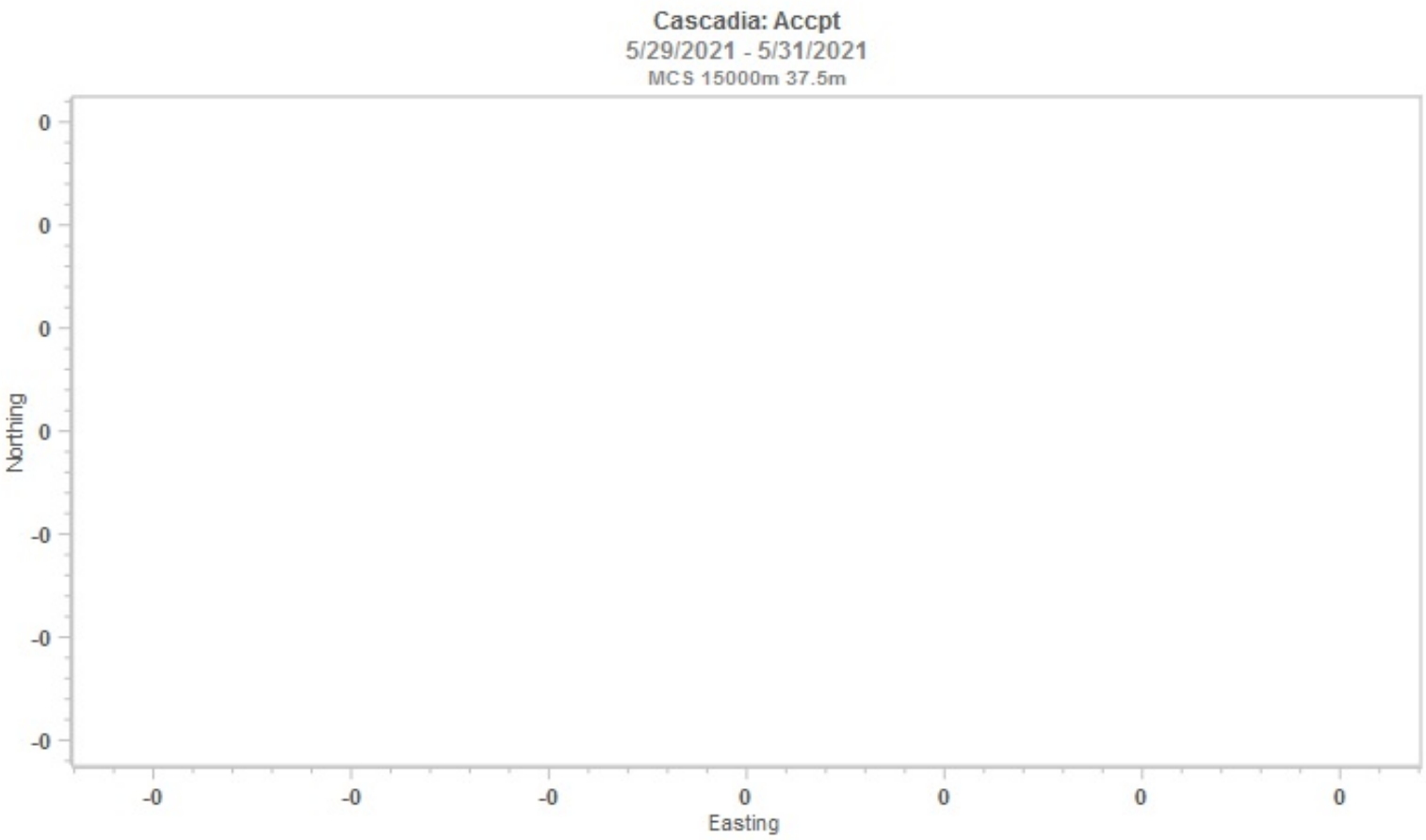
Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0.00**			

Production Totals (Accpt km) - Prime: Full Fold, Infill: Unknown

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	0.00	0.00	0.00	0.00
Combined	**0.00**	**0.00**	**0.00**	**0.00**

5/31/2021



Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 31 May

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

Daily Comment Summaries - Personnel Onboard

Mon 31 May

Technical Staff On-board the Langseth
Shaun Shaver L-DEO OMO Chief Science Officer
Tom Spoto L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Marine Science Technician - Source
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Michael Coufal - Contractor - Source
Ray Hatton - Contractor - Source
Jacob Greenberg - Contractor - Source
Mark Walker - Contractor - Compressor Mechanic

5/31/2021

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Hanchao Jian - WHOI - Scientist
Jeff Beeson - OSU/NOAA - Scientist
Madeleine Lucas - UW - Scientist
Vashan Wright - WHOI - Scientist
Michelle Lee - LDEO - Student

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End
Departmental Meeting	Mtgs_Dept	Mon 31. May 13:30	Mon 31. May 13:45
Tool box meeting prior to moving tail buoy to streamer deck			
Safety Induction Tours	Trng_SIT	Mon 31. May 18:25	Mon 31. May 19:25
HSE - Safety Induction Tour			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

6/1/2021

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Tue 01 Jun

Moved TES and TAPU from reel #4 to reel #2 in preparation for deployment
Removed section 26261 from the tail of streamer #4 to the spare reel (break in channel line)
Setup paravane booms to spread out PAM and Maggie cables
Setup XBT tube for launching
PSO presentation to students
PI presentation to students and CSO
PSO presentation to CSO, PI's and tech
Preparing vessel for departure

Daily Comment Summaries - Plan for Tomorrow

Tue 01 Jun

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Mob Ashore	MB_MA	Tue 1. Jun 00:00	Tue 1. Jun 24:00	24.000
Mobilizing Ashore in Newport Oregon.				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

1-Jun	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, MCS 15000m 37.5m)

Category	Hours	%Percent
Mobilisation	**72.000**	**100.000**
Mob Ashore	72.000	100.000
Total	72.000	

Basic Project Details

MCS 15000m 37.5m

General Details

Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

6/1/2021

MCS 15000m 37.5m					
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km) - Prime: Full Fold, Infill: Unknown

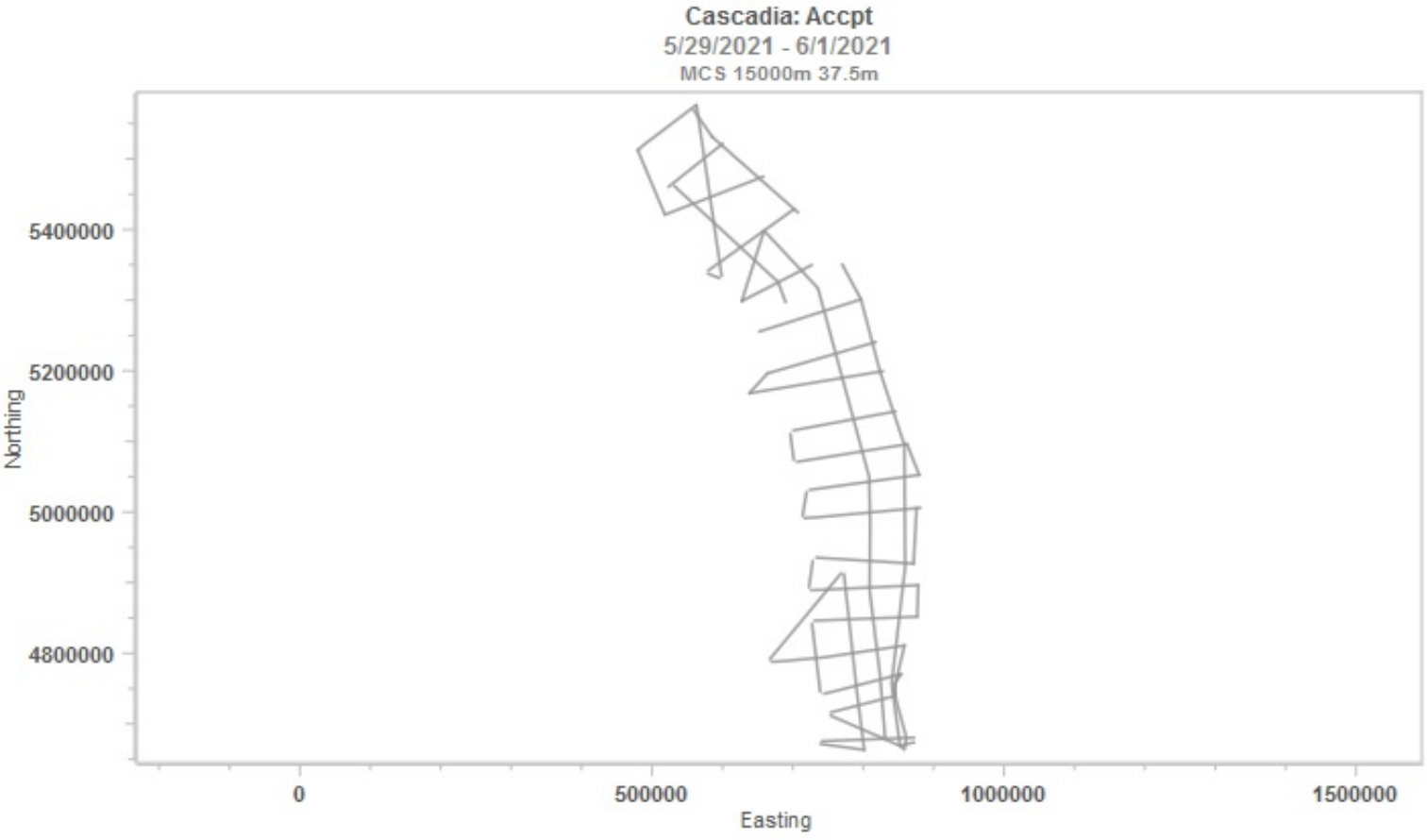
MCS 15000m 37.5m

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0.00**			

Production Totals (Accpt km) - Prime: Full Fold, Infill: Unknown

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	0.00	0.00	0.00	0.00
Combined	**0.00**	**0.00**	**0.00**	**0.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 01 Jun

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

Daily Comment Summaries - Personnel Onboard

Tue 01 Jun

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Brian Boston - LDEO - Co-PI
Bhargav Boddupalli - UTIG - Scientist
Hanchao Jian - WHOI - Scientist
Jeff Beeson - OSU/NOAA - Scientist
Madeleine Lucas - UW - Scientist
Vashan Wright - WHOI - Scientist
Michelle Lee - LDEO - Student
Liam Moser - WHOI - Student

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End
Departmental Meeting	Mtgs_Dept	Tue 1. Jun 14:20	Tue 1. Jun 14:35
Tool box meeting to refresh everyone on transferring streamer from one reel to another.			
Other Training	Trng_OT	Tue 1. Jun 19:00	Tue 1. Jun 19:45
PSO training session with scientists			
Other Training	Trng_OT	Tue 1. Jun 20:05	Tue 1. Jun 20:45

6/1/2021

Category	Code	Start	End
Cascadia training from Suzanne - Cruise overview			
Other Training	Trng_OT	Tue 1. Jun 22:40	Tue 1. Jun 23:40
PSO training with CSO, PI, co-PI, Tech and PSO leaders. Discussed all the rules and regulations. They will follow up with the questions asked during the meeting.			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

6/2/2021

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Mob Ashore	MB_MA	Wed 2. Jun 00:00	Wed 2. Jun 01:50	1.833
Mobilizing Ashore. Departed Newport Oregon				
Transit to Prospect	MB_TT	Wed 2. Jun 01:50	Wed 2. Jun 10:44	8.900
In transit to prospect, for mobilizing deployment.Stopped to perform calibration test on the multibeam.				
Testing	MB_TE	Wed 2. Jun 10:44	Wed 2. Jun 11:19	0.583
Mobilization - Testing Multibeam calibration test				
Transit to Prospect	MB_TT	Wed 2. Jun 11:19	Wed 2. Jun 13:39	2.333
Completed Multibeam calibration and we are heading to the lay out point.				
Deployment	MB_DP	Wed 2. Jun 13:39	Wed 2. Jun 24:00	10.350
Mobilizing offshore, deploying streamer. Trouble shooting tail buoy and streamer #1 at the start of deployment. Streamer #2 seems to have a bad HAU at the head of the cable which is not allowing us to power it up. We are breaking and testing the streamer during deployment using the deck lead. The Bird line is good so we can see the streamer depth during deployment. At 21:30 we had deployed the 6km from reel #2 and transfered to reel #4. We started developing loops in reel #4 due to it being put on the reel by hand. This has caused us to have to slow the deployment rate to keep from bird nesting the reel. At the end of the day we had made good, but slow progress on reel #4. The plan will be to lay out until we reach the bad section, move it to the spare reel and then lay out to the last active. At the point we will move over to reel #3 and add 3 km and then move back to reel #4 so that we can tension and tow off the newly installed lead-in.				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

2-Jun	Hours	%Percent
Mobilisation	**24.000**	**100.000**
Deployment	10.350	43.125
Mob Ashore	1.833	7.639
Testing	0.583	2.431
Transit to Prospect	11.233	46.806
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m)

Category	Hours	%Percent
Mobilisation	**96.000**	**100.000**
Deployment	10.350	10.781
Mob Ashore	73.833	76.910
Testing	0.583	0.608
Transit to Prospect	11.233	11.701
Total	96.000	

Basic Project Details

MCS 15000m 37.5m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km) - Prime: Full Fold, Infill: Unknown

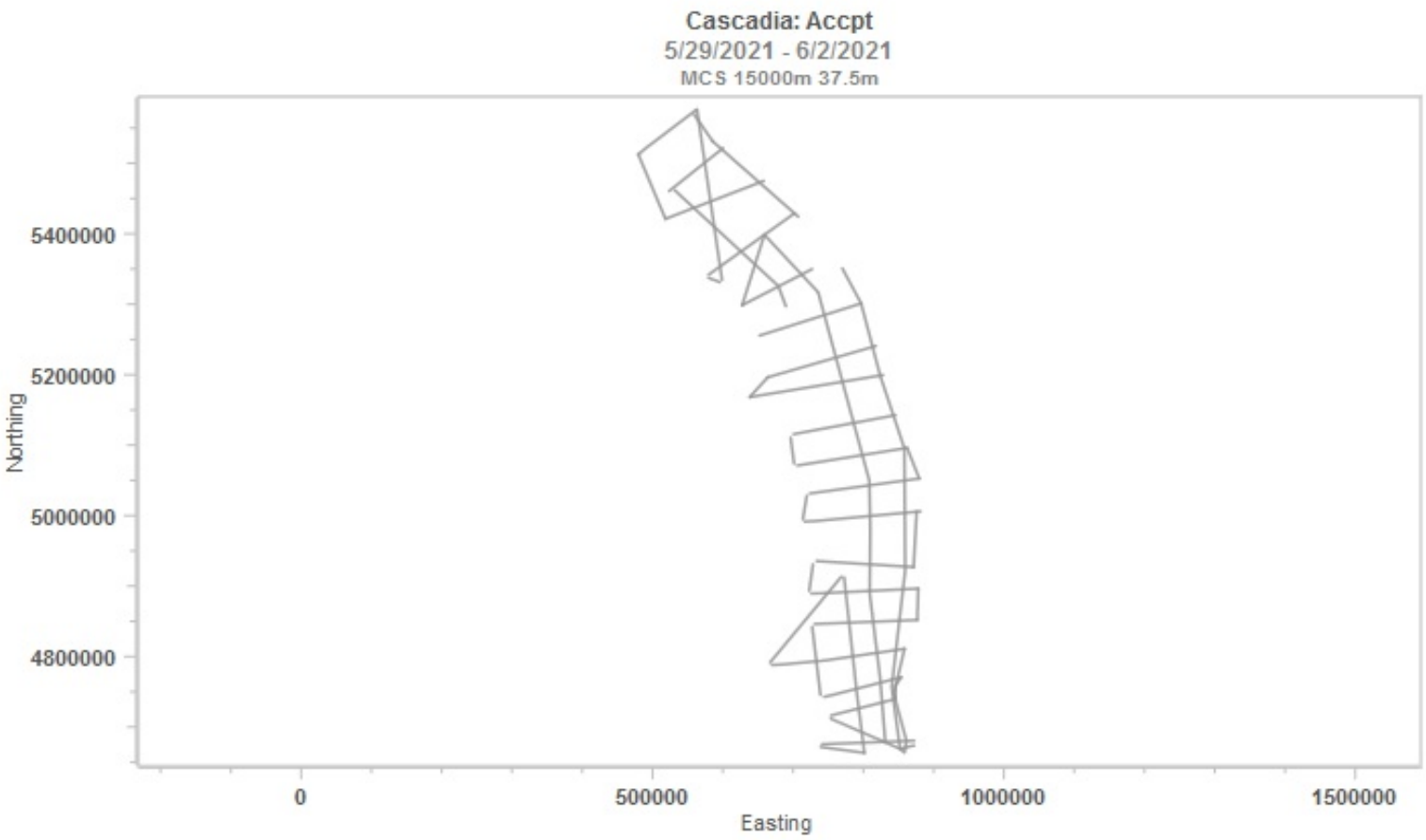
MCS 15000m 37.5m

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0.00**			

Production Totals (Accpt km) - Prime: Full Fold, Infill: Unknown

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	0.00	0.00	0.00	0.00
Combined	**0.00**	**0.00**	**0.00**	**0.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End
Fire Drill	Drls_Fi	Wed 2. Jun 17:30	Wed 2. Jun 17:45
HSE - Fire Drill - All crew mustered			
Abandon Ship Drill	Drls_AS	Wed 2. Jun 17:45	Wed 2. Jun 18:00
HSE - Abandon Ship Drill			
Security Drill	Drls_Sec	Wed 2. Jun 17:45	Wed 2. Jun 18:00
HSE - Security Drill			
Security Drill	Drls_Sec	Wed 2. Jun 18:00	Wed 2. Jun 18:05
HSE - Security Drill			
Departmental Meeting	Mtgs_Dept	Wed 2. Jun 21:30	Wed 2. Jun 22:30
Tool box meeting prior to transferring from reel #2 to reel #4			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

6/3/2021

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Thu 03 Jun

Spent the day completing streamer deployment
PAM & Maggie were deployed.
Gun arrays 1,2 & most of #4 were deployed before the end of the day

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Deployment	MB_DP	Thu 3. Jun 00:00	Thu 3. Jun 20:10	20.167
Continue to deploy off of streamer reel #4. When we reached the last active we moved over to reel #3 with the intention to add 3km and then move back to reel #4 and tow from there. However when they hooked back up to #4 and started to deploy the lead in they noticed that it was starting to loop as well. So they slowly deployed until the last full wrap on the drum and found that the end of the lead in going into the reel was turned back on it's self and did not look safe to go any further. At that point the decision was made to recover 3k back on to reel #4 under tension and swap back to reel #3 for the final 6k and to tow from. At some point during this time, the bird line went bad and that had to be trouble shot. The bad section was located and removed from the streamer. From there deployment continued without incident. Total time for streamer deployment 31 hr 30 min				
Deployment	MB_DP	Thu 3. Jun 20:10	Thu 3. Jun 20:45	0.583
Deploying Pam Cable and Maggie				
Deployment	MB_DP	Thu 3. Jun 20:45	Thu 3. Jun 22:14	1.483
Start deploying source - Array #1 fully deployed				
Testing	MB_TE	Thu 3. Jun 22:14	Thu 3. Jun 22:30	0.267
Mobilisation - Testing				
Deployment	MB_DP	Thu 3. Jun 22:30	Thu 3. Jun 23:55	1.417
Start deploying Gun String #2 - Gun String #2 being deployed at the end of the day				
Deployment	MB_DP	Thu 3. Jun 23:55	Thu 3. Jun 24:00	0.083
Start deploying Gun String #4 - Gun String #4 being deployed at the end of the day				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

3-Jun	Hours	%Percent
Mobilisation	**24.000**	**100.000**
Deployment	23.733	98.889
Testing	0.267	1.111
Day's Total	**24.000**	**100.000**

6/3/2021

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m)

Category	Hours	%Percent
Mobilisation	**120.000**	**100.000**
Deployment	34.083	28.403
Mob Ashore	73.833	61.528
Testing	0.850	0.708
Transit to Prospect	11.233	9.361
Total	120.000	

Basic Project Details

MCS 15000m 37.5m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km) - Prime: Full Fold, Infill: Unknown

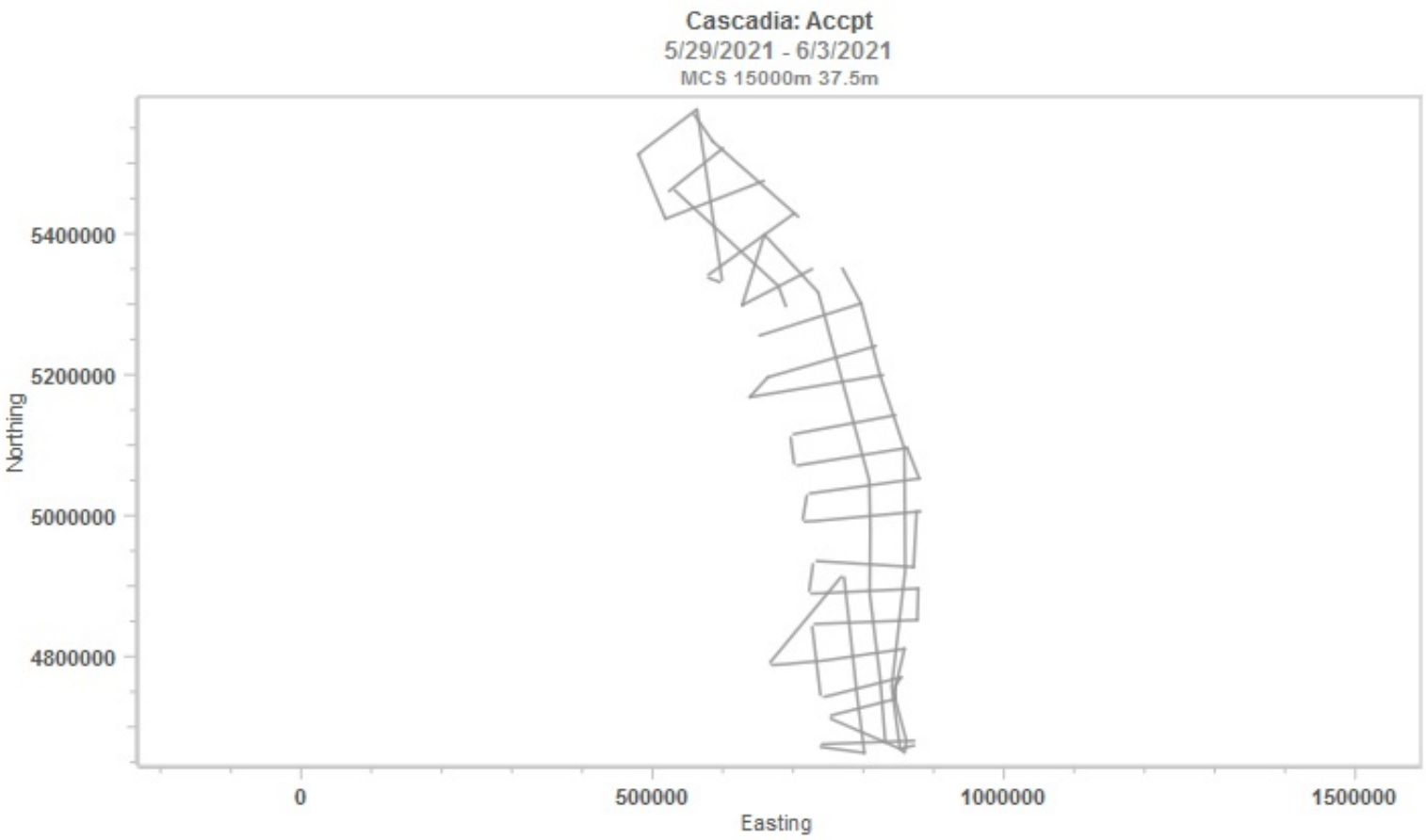
MCS 15000m 37.5m

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0.00**			

Production Totals (Accpt km) - Prime: Full Fold, Infill: Unknown

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	0.00	0.00	0.00	0.00
Combined	**0.00**	**0.00**	**0.00**	**0.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 03 Jun

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

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End
Departmental Meeting	Mtgs_Dept	Thu 3. Jun 20:30	Thu 3. Jun 21:30
Tool Box meeting - Gun Deployment Explained the deployment process with the new contractor mechanics. Brian is working over to assist Tom and the contractors.			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

6/4/2021 Revision 1

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Fri 04 Jun

In production all day
1 XBT launch

Daily Comment Summaries - Plan for Tomorrow

Fri 04 Jun

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Deployment	MB_DP	Fri 4. Jun 00:00	Fri 4. Jun 01:15	1.250
Continue deployment of array #4 - Array #4 deployed				
Deployment	MB_DP	Fri 4. Jun 01:15	Fri 4. Jun 02:53	1.633
Deployment of array #3 - Array #3 deployed				
Testing	MB_TE	Fri 4. Jun 02:53	Fri 4. Jun 04:34	1.683
Testing / Ramp up of guns while heading to FSP				
Production Prime	AC_PP	Fri 4. Jun 04:34	Fri 4. Jun 24:00	19.433
SOL Seq 1 Line:1001 Block=Cascadia FGSP=962 Hdg=259.4° Prime MSP Seq 1 Line:1001 Block=Cascadia LGSP=4983 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

4-Jun	Hours	%Percent
Acquisition	**19.433**	**80.972**
Production Prime	19.433	80.972
Mobilisation	**4.567**	**19.028**
Deployment	2.883	12.014
Testing	1.683	7.014
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m)

Category	Hours	%Percent
Mobilisation	**124.567**	**86.505**
Deployment	36.967	25.671
Mob Ashore	73.833	51.273

Daily Science Report

6/4/2021 Revision 1

Category	Hours	%Percent
Testing	2.533	1.759
Transit to Prospect	11.233	7.801
Acquisition	**19.433**	**13.495**
Production Prime	19.433	13.495
Total	144.000	

Basic Project Details

MCS 15000m 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by interval) - Full Fold

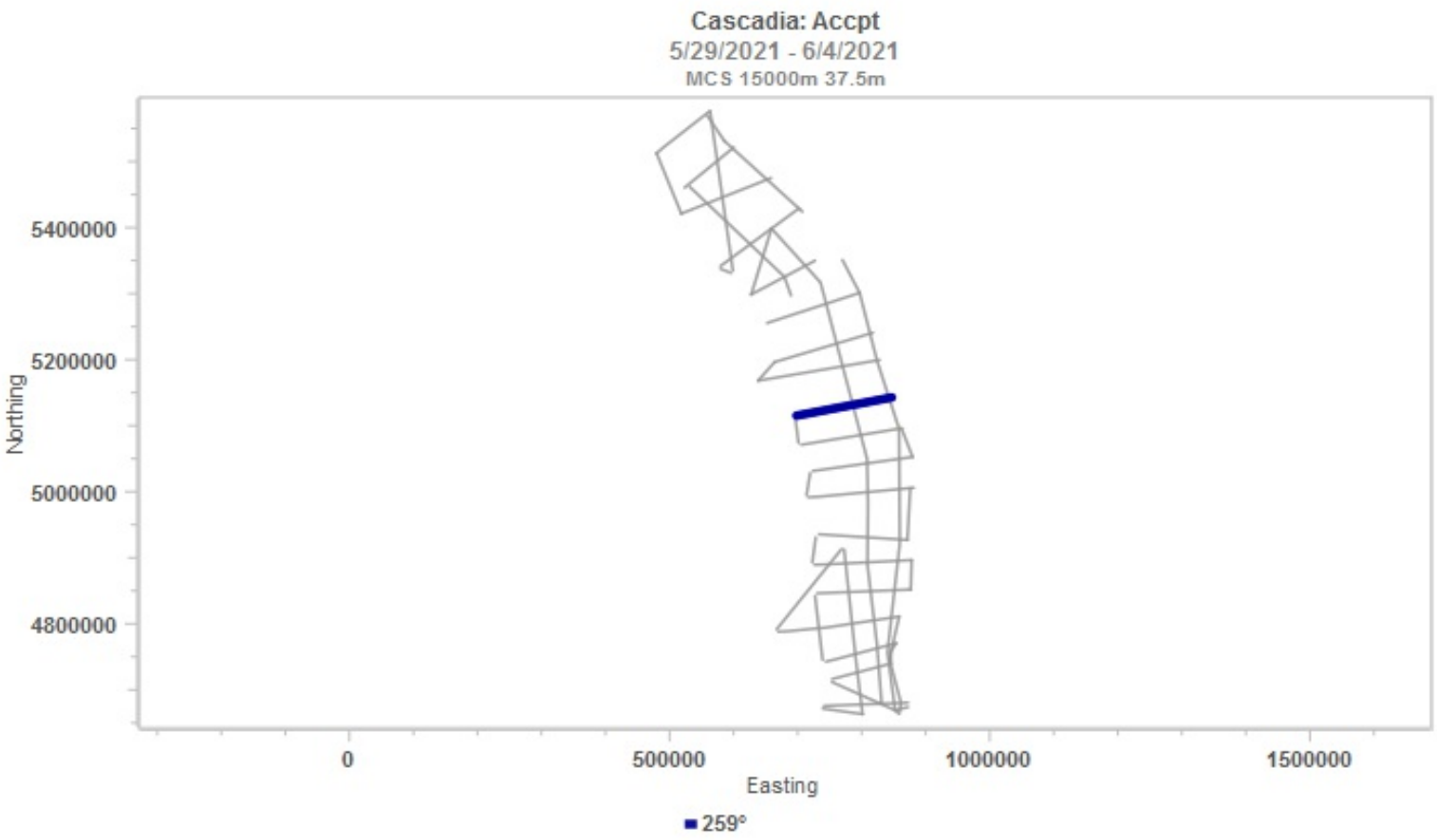
MCS 15000m 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
1	1001	259.4	962	4983	Prime	150.79	4.190	Part	Midnight
Total						**150.79**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	150.79	150.79	150.79	150.79
Combined	**150.79**	**150.79**	**150.79**	**150.79**



Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 04 Jun

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

Daily Comment Summaries - Personnel Onboard

Fri 04 Jun

Technical Staff On-board the Langseth
Shaun Shaver L-DEO OMO Chief Science Officer
Tom Spoto L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Marine Science Technician - Source
Alan Thompson L-DEO OMO Science Officer - Nav
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - OBS
Michael Coufal - Contractor - Source
Ray Hatton - Contractor - Source
Jacob Greenberg - Contractor - Source
Mark Walker - Contractor - Compressor Mechanic

PSO Staff On-board the Langseth
Amanda Dubuque - RPS - Lead PSO
Cassandra Frey - RPS
Edgar Brunett - RPS
Felipe Rodriguez - RPS
Leonardo De La Ros - RPS

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Brian Boston - LDEO - Co-PI
Bhargav Boddupalli - UTIG - Scientist
Hanchao Jian - WHOI - Scientist
Jeff Beeson - OSU/NOAA - Scientist
Madeleine Lucas - UW - Scientist
Vashan Wright - WHOI - Scientist
Michelle Lee - LDEO - Student

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

6/5/2021 Revision 1

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Sat 05 Jun

In production on line MGL2104TD09D10
During the line we had a air leak on array. Array 1 and 2 were recovered and repairs made.

Daily Comment Summaries - Plan for Tomorrow

Sat 05 Jun

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sat 5. Jun 00:00	Sat 5. Jun 00:01	0.017
SOL Seq 1 Line:1001 Block=Cascadia FGSP=4984 Hdg=259.4° Prime EOL Seq 1 Line:1001 Block=Cascadia LGSP=4988 Complete				
Prime Line Change	AC_PLC	Sat 5. Jun 00:01	Sat 5. Jun 00:15	0.233
Nominal Prime line change.				
Production Prime	AC_PP	Sat 5. Jun 00:15	Sat 5. Jun 05:45	5.500
SOL Seq 2 Line:1001_02 Block=Cascadia FGSP=918 Hdg=172.5° Prime EOL Seq 2 Line:1001_02 Block=Cascadia LGSP=2045 Complete				
Prime Line Change	AC_PLC	Sat 5. Jun 05:45	Sat 5. Jun 05:54	0.150
Nominal Prime line change.				
Production Prime	AC_PP	Sat 5. Jun 05:54	Sat 5. Jun 24:00	18.100
SOL Seq 3 Line:1002 Block=Cascadia FGSP=911 Hdg=81.1° Prime MSP Seq 3 Line:1002 Block=Cascadia LGSP=4585 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

5-Jun	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	0.383	1.597
Production Prime	23.617	98.403
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m)

Category	Hours	%Percent
Mobilisation	**124.567**	**74.147**
Deployment	36.967	22.004
Mob Ashore	73.833	43.948
Testing	2.533	1.508
Transit to Prospect	11.233	6.687
Acquisition	**43.433**	**25.853**
Prime Line Change	0.383	0.228
Production Prime	43.050	25.625
Total	168.000	

Basic Project Details

MCS 15000m 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by interval) - Full Fold

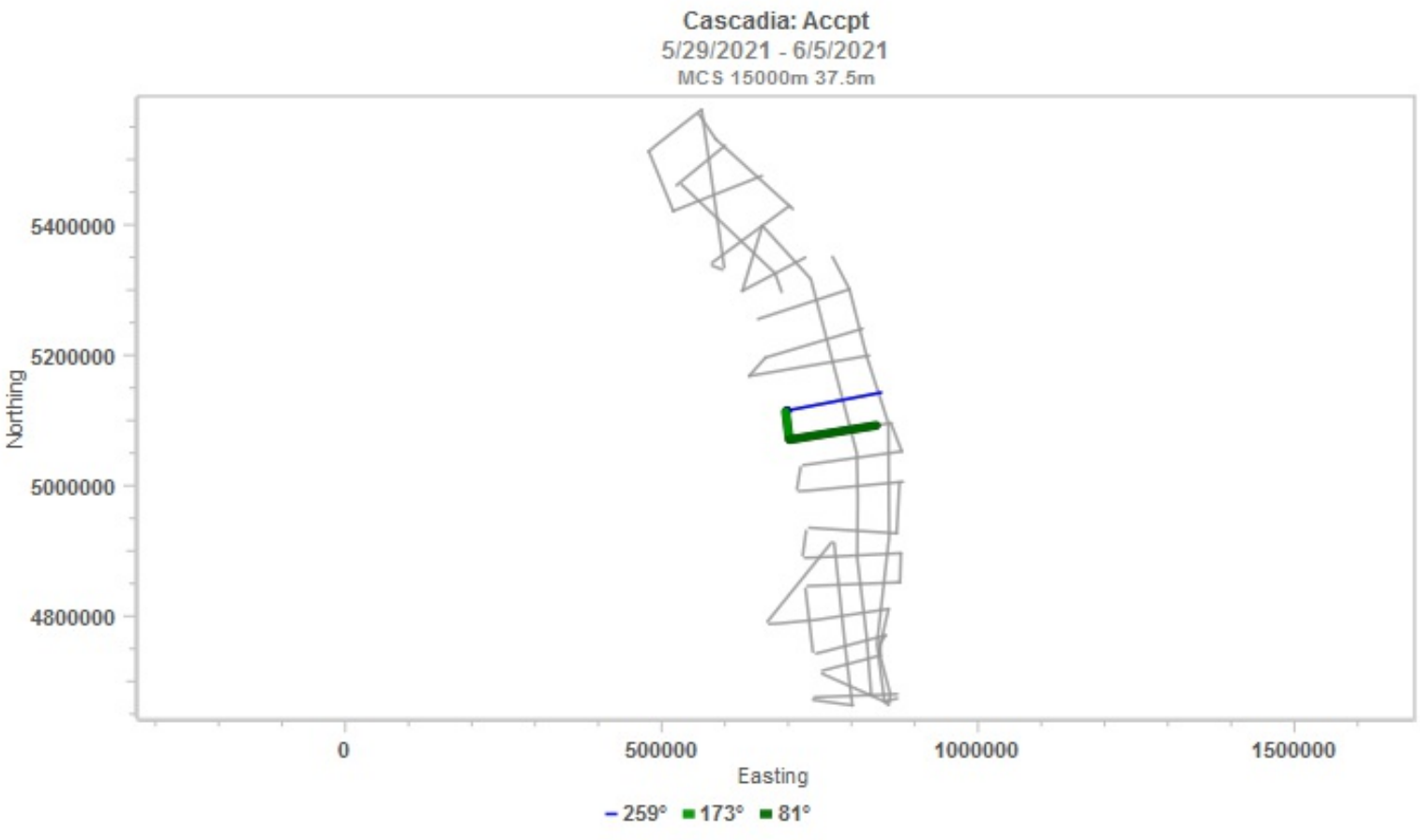
MCS 15000m 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
1	1001	259.4	4984	4988	Prime	0.19	4.191	Complete	Complete
2	1001_02	172.5	918	2045	Prime	42.26	4.149	Complete	Complete
3	1002	81.1	911	4585	Prime	137.78	4.110	Part	Midnight
Total						**180.22**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	180.22	331.01	331.01	331.01
Combined	**180.22**	**331.01**	**331.01**	**331.01**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 05 Jun

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

Daily Comment Summaries - Personnel Onboard

Sat 05 Jun

Technical Staff On-board the Langseth
Shaun Shaver L-DEO OMO Chief Science Officer
Tom Spoto L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Marine Science Technician - Source
Alan Thompson L-DEO OMO Science Officer - Nav
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - OBS
Michael Coufal - Contractor - Source
Ray Hatton - Contractor - Source
Jacob Greenberg - Contractor - Source
Mark Walker - Contractor - Compressor Mechanic

PSO Staff On-board the Langseth
Amanda Dubuque - RPS - Lead PSO
Cassandra Frey - RPS
Edgar Brunett - RPS
Felipe Rodriguez - RPS
Leonardo De La Ros - RPS

Science Party On-board the Langseth
Suzanne Carbotte - LDEO - PI
Shuoshuo Han - UTIG - Co-PI
Brian Boston - LDEO - Co-PI
Bhargav Boddupalli - UTIG - Scientist
Hanchao Jian - WHOI - Scientist
Jeff Beeson - OSU/NOAA - Scientist
Madeleine Lucas - UW - Scientist
Vashan Wright - WHOI - Scientist
Michelle Lee - LDEO - Student

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

6/6/2021

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Sun 06 Jun

In production all day

Daily Comment Summaries - Plan for Tomorrow

Sun 06 Jun

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sun 6. Jun 00:00	Sun 6. Jun 02:33	2.550
SOL Seq 3 Line:1002 Block=Cascadia FGSP=4586 Hdg=81.1° Prime EOL Seq 3 Line:1002 Block=Cascadia LGSP=5097 Complete				
Cetacean	SB_CT	Sun 6. Jun 02:33	Sun 6. Jun 03:32	0.983
Chargeable standby due to close proximity of Cetaceans.				
Production Prime	AC_PP	Sun 6. Jun 03:32	Sun 6. Jun 08:47	5.250
SOL Seq 4 Line:1002_03 Block=Cascadia FGSP=1109 Hdg=158.3° Prime EOL Seq 4 Line:1002_03 Block=Cascadia LGSP=2211 Complete				
Prime Line Change	AC_PLC	Sun 6. Jun 08:47	Sun 6. Jun 08:55	0.133
Nominal Prime line change.				
Production Prime	AC_PP	Sun 6. Jun 08:55	Sun 6. Jun 24:00	15.083
SOL Seq 5 Line:1003 Block=Cascadia FGSP=1053 FCSP=N/A Hdg=262.3° Prime MSP Seq 5 Line:1003 Block=Cascadia LGSP=3920 LCSP=3920 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

6-Jun	Hours	% Percent
Acquisition	**23.017**	**95.903**
Prime Line Change	0.133	0.556
Production Prime	22.883	95.347
Chargeable Standby	**0.983**	**4.097**
Cetacean	0.983	4.097
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m)

Category	Hours	% Percent
Chargeable Standby	**0.983**	**0.512**
Cetacean	0.983	0.512
Mobilisation	**124.567**	**64.878**
Deployment	36.967	19.253
Mob Ashore	73.833	38.455
Testing	2.533	1.319
Transit to Prospect	11.233	5.851
Acquisition	**66.450**	**34.609**
Prime Line Change	0.517	0.269

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

6/6/2021

Category	Hours	% Percent
Production Prime	65.933	34.340
Total	192.000	

Basic Project Details

MCS 15000m 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by interval) - Full Fold

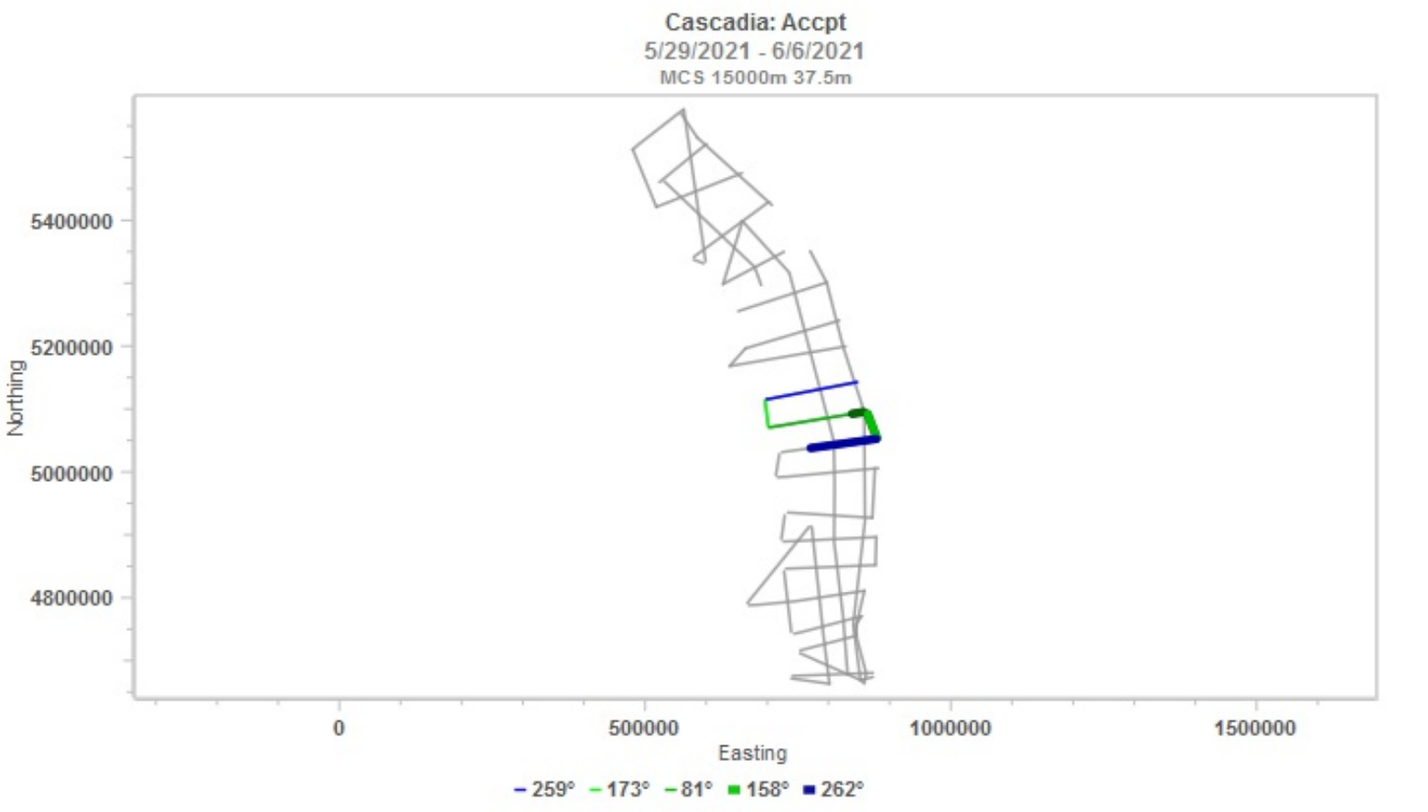
MCS 15000m 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
3	1002	81.1	4586	5068	Prime	18.11	4.076	Complete	Complete
4	1002_03	158.3	1109	2211	Prime	41.32	4.250	Complete	Complete
5	1003	262.3	1053	3920	Prime	107.51	3.849	Part	Midnight
Total						**166.95**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	166.95	497.96	497.96	497.96
Combined	**166.95**	**497.96**	**497.96**	**497.96**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 06 Jun

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

Daily Comment Summaries - Personnel Onboard

Sun 06 Jun

Technical Staff On-board the Langseth
Shaun Shaver L-DEO OMO Chief Science Officer
Tom Spoto L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Marine Science Technician - Source
Alan Thompson L-DEO OMO Science Officer - Nav
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - OBS
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Hanchao Jian - WHOI - Scientist
Jeff Beeson - OSU/NOAA - Scientist
Madeleine Lucas - UW - Scientist
Vashan Wright - WHOI - Scientist
Michelle Lee - LDEO - Student

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Mon 07 Jun

During most of seq 6 the weather was bad causing streamer ballast issues.
At the start of seq 7 gun strings #2 & #3 became tangled and had to be turned off so they could be moved
The weather greatly improved while shooting seq #7
At 21:20 we had to shut down on seq #7 due to a pod of whales and one eventually entering the exclusion zone

Daily Comment Summaries - Plan for Tomorrow

Mon 07 Jun

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Mon 7. Jun 00:00	Mon 7. Jun 07:23	7.383
SOL Seq 5 Line:1003 Block=Cascadia FGSP=3921 Hdg=262.3° Prime EOL Seq 5 Line:1003 Block=Cascadia LGSP=6453 Complete				
Prime Line Change	AC_PLC	Mon 7. Jun 07:23	Mon 7. Jun 07:26	0.050
Nominal Prime line change.				
Production Prime	AC_PP	Mon 7. Jun 07:26	Mon 7. Jun 12:19	4.883
SOL Seq 6 Line:1003_04 Block=Cascadia FGSP=946 Hdg=189.5° Prime EOL Seq 6 Line:1003_04 Block=Cascadia LGSP=1953 Complete				
Prime Line Change	AC_PLC	Mon 7. Jun 12:19	Mon 7. Jun 12:22	0.050
Nominal Prime line change.				
Production Prime	AC_PP	Mon 7. Jun 12:22	Mon 7. Jun 21:20	8.967
SOL Seq 7 Line:1004 Block=Cascadia FGSP=1050 FCSP=N/AHdg=87.5° Prime MSP Seq 7 Line:1004 Block=Cascadia LGSP=2955 LCSP=2955 Midnight				
Cetacean	DT_CT	Mon 7. Jun 21:20	Mon 7. Jun 22:17	0.950
NTBP Seq 7 1004 Block=Cascadia FSP=2956 LSP=3167				
Production Prime	AC_PP	Mon 7. Jun 22:17	Mon 7. Jun 24:00	1.717
SOL Seq 7 Line:1004 Block=Cascadia FGSP=3168 FCSP=N/AHdg=87.5° Prime MSP Seq 7 Line:1004 Block=Cascadia LGSP=3534 LCSP=3534 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

7-Jun	Hours	%Percent
Acquisition	**23.050**	**96.042**
Prime Line Change	0.100	0.417
Production Prime	22.950	95.625
DownTime	**0.950**	**3.958**
Cetacean	0.950	3.958
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m)

Category	Hours	%Percent
DownTime	**0.950**	**0.440**
Cetacean	0.950	0.440
Chargeable Standby	**0.983**	**0.455**
Cetacean	0.983	0.455
Mobilisation	**124.567**	**57.670**
Deployment	36.967	17.114
Mob Ashore	73.833	34.182
Testing	2.533	1.173
Transit to Prospect	11.233	5.201
Acquisition	**89.500**	**41.435**
Prime Line Change	0.617	0.285
Production Prime	88.883	41.150
Total	216.000	

Basic Project Details

MCS 15000m 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by interval) - Full Fold

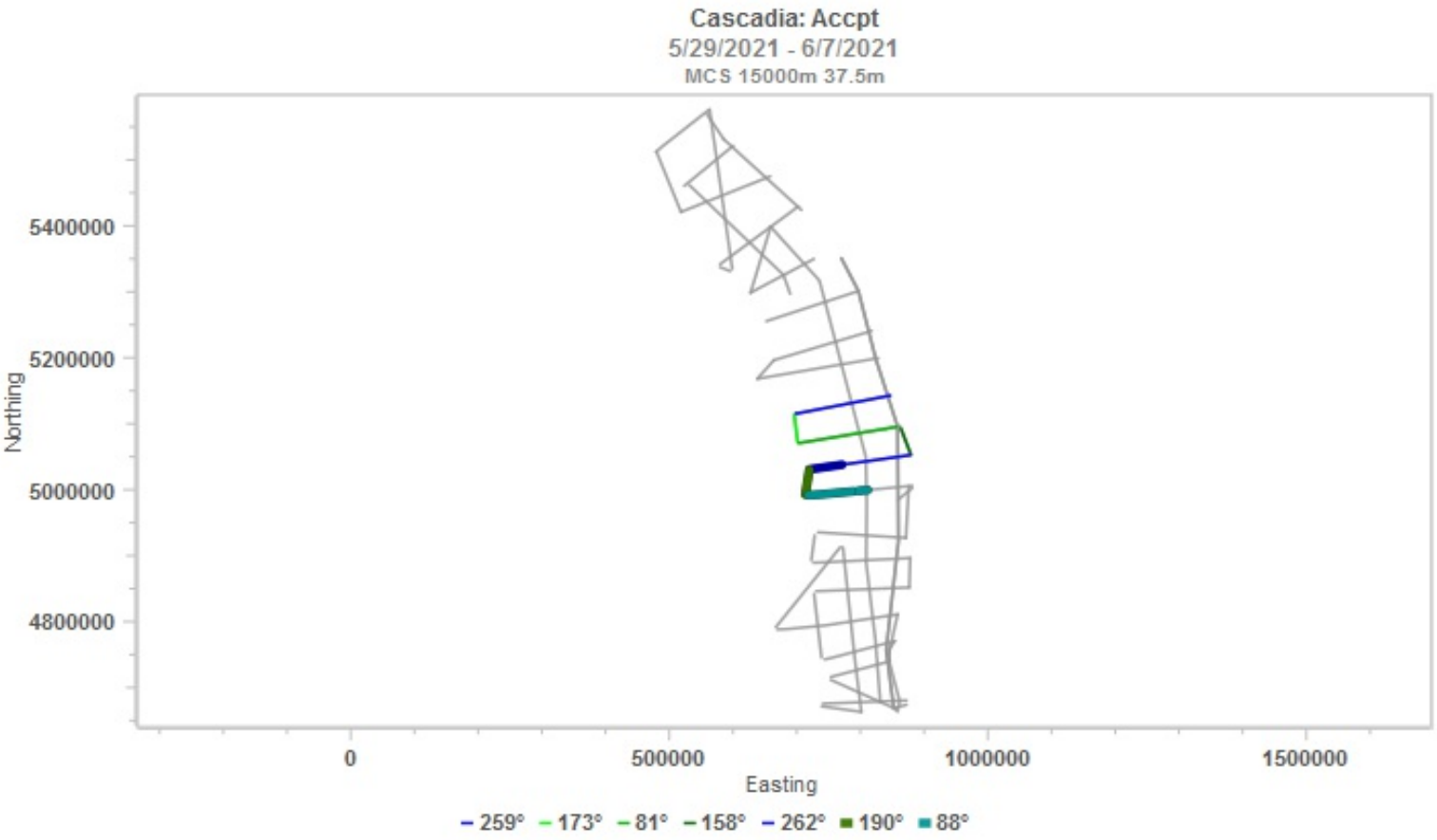
MCS 15000m 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
5	1003	262.3	3921	5278	Prime	50.92	3.808	Complete	Complete
6	1003_04	189.5	946	1953	Prime	37.76	4.175	Complete	Complete
7	1004	87.5	1050	3534	Prime	85.24	4.308	Part	Midnight
NTBP: 2956 - 3167 (not chgd)									
Total						**173.93**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	173.93	173.93	671.89	671.89
Combined	**173.93**	**173.93**	**671.89**	**671.89**



Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 07 Jun

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

Daily Comment Summaries - Personnel Onboard

Mon 07 Jun

Technical Staff On-board the Langseth
Shaun Shaver L-DEO OMO Chief Science Officer
Tom Spoto L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Marine Science Technician - Source
Alan Thompson L-DEO OMO Science Officer - Nav
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - OBS
Michael Coufal - Contractor - Source
Ray Hatton - Contractor - Source
Jacob Greenberg - Contractor - Source
Mark Walker - Contractor - Compressor Mechanic

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Edgar Brunett - RPS
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Leonardo De La Ros - RPS

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Madeleine Lucas - UW - Scientist
Vashan Wright - WHOI - Scientist
Michelle Lee - LDEO - Student

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Tue 08 Jun

Adjustments made to acquisition order
Subarrays 1 and 2 tangled on stbd turn from TD12S01 to S01a causing damage and required to be recovered
Fishing gear causing high tension on streamer. All source subarrays recovered to make repairs to streamer.
Magnetometer was crossed and tangled with lead-in
At end of day recovering streamer and removing large amounts of fishing gear. No fishing hooks, just buoys attached by rope to sea floor crab traps. Traps not recoverable due to high tension on their ropes.

Daily Comment Summaries - Plan for Tomorrow

Tue 08 Jun

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Tue 8. Jun 00:00	Tue 8. Jun 09:18	9.300
SOL Seq 7 Line:1004 Block=Cascadia FGSP=3535 Hdg=87.5° Prime EOL Seq 7 Line:1004 Block=Cascadia LGSP=5405 Complete				
Prime Line Change	AC_PLC	Tue 8. Jun 09:18	Tue 8. Jun 10:25	1.117
Nominal Prime line change.				
Production Prime	AC_PP	Tue 8. Jun 10:25	Tue 8. Jun 13:45	3.333
SOL Seq 8 Line:TD12S01 Block=Cascadia FGSP=1098 Hdg=231.3° Prime EOL Seq 8 Line:TD12S01 Block=Cascadia LGSP=1783 Complete				
Prime Line Change	AC_PLC	Tue 8. Jun 13:45	Tue 8. Jun 13:51	0.100
Nominal Prime line change.				
Production Prime	AC_PP	Tue 8. Jun 13:51	Tue 8. Jun 19:47	5.933
SOL Seq 9 Line:PS01ABlock=Cascadia FGSP=9452 Hdg=179.6° Prime EOL Seq 9 Line:PS01ABlock=Cascadia LGSP=8309 Complete				
Cetacean	DT_CT	Tue 8. Jun 19:47	Tue 8. Jun 19:50	0.050
NTBP Seq 9 PS01ABlock=Cascadia FSP=8308 LSP=8257				
Fishing	NC_FS	Tue 8. Jun 19:50	Tue 8. Jun 20:35	0.750
Fishing gear stuck on streamer - Begin to recover in sea equipment - Recover PAM cable				

Category	Code	Start	End	Duration
Fishing	NC_FS	Tue 8. Jun 20:35	Tue 8. Jun 21:30	0.917
Fishing gear stuck on streamer - Begin to recover in sea equipment - Guns and Maggie on board, begin streamer recovery.				
Fishing	NC_FS	Tue 8. Jun 21:30	Tue 8. Jun 24:00	2.500
Fishing gear stuck on streamer -Recovering Streamer - End of Day				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

8-Jun	Hours	%Percent
Acquisition	**19.783**	**82.431**
Prime Line Change	1.217	5.069
Production Prime	18.567	77.361
DownTime	**0.050**	**0.208**
Cetacean	0.050	0.208
Non-Chargeable StandBy	**4.167**	**17.361**
Fishing	4.167	17.361
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m)

Category	Hours	%Percent
DownTime	**1.000**	**0.417**
Cetacean	1.000	0.417
Chargeable Standby	**0.983**	**0.410**
Cetacean	0.983	0.410
Mobilisation	**124.567**	**51.903**
Deployment	36.967	15.403
Mob Ashore	73.833	30.764
Testing	2.533	1.056
Transit to Prospect	11.233	4.681
Non-Chargeable StandBy	**4.167**	**1.736**
Fishing	4.167	1.736
Acquisition	**109.283**	**45.535**
Prime Line Change	1.833	0.764
Production Prime	107.450	44.771
Total	240.000	

Basic Project Details

MCS 15000m 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					

MCS 15000m 37.5m					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by interval) - Full Fold

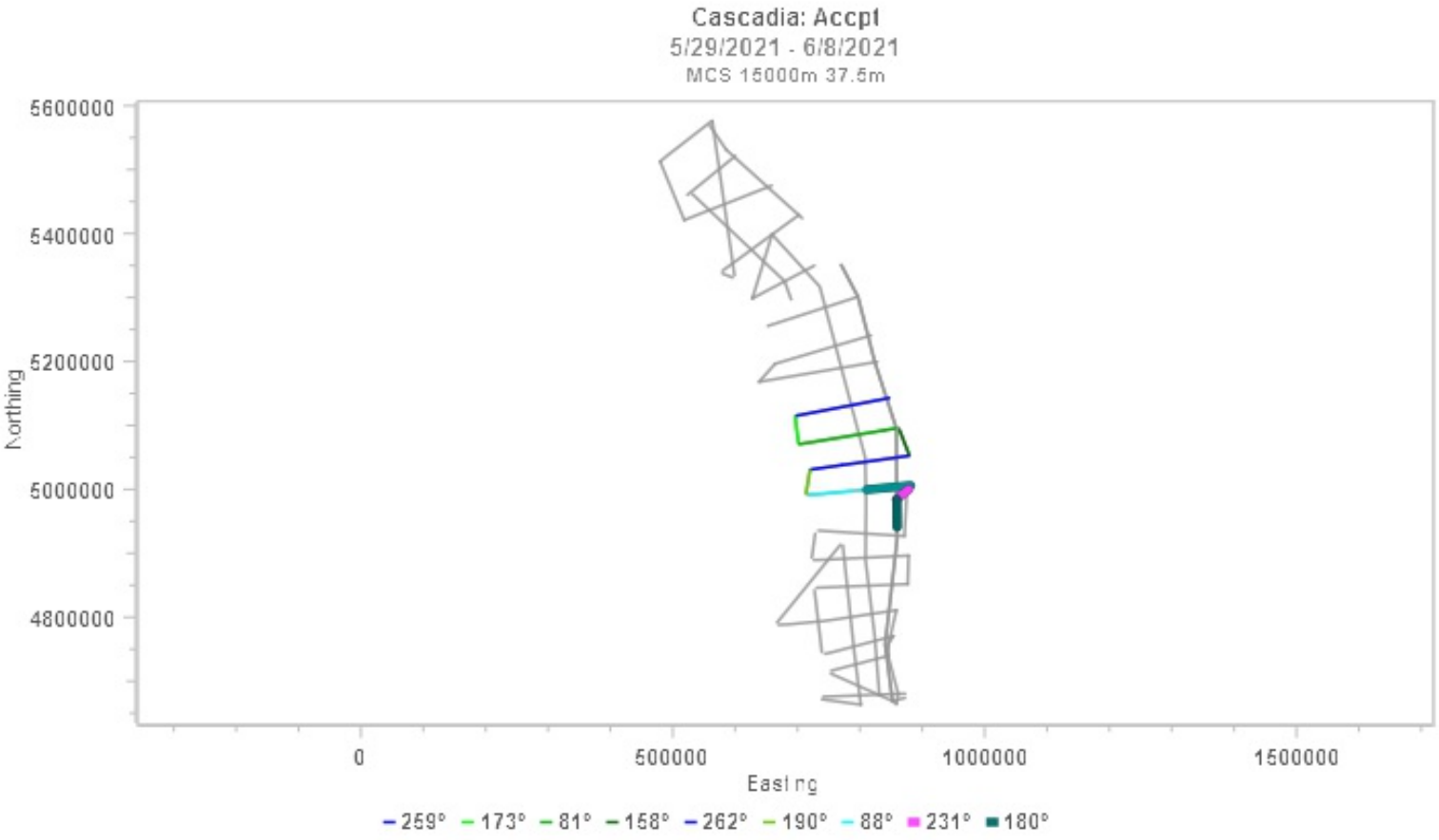
MCS 15000m 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
7	1004	87.5	3535	5405	Prime	70.16	4.199	Complete	Complete
8	TD12S01	231.3	1098	1783	Prime	25.69	4.161	Complete	Complete
9	PS01A	179.6	9452	8308	Prime	42.86	3.904	Complete	Complete
NTBP: 8307 - 8257 (not chgd)									
Total						**138.71**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	138.71	312.64	810.60	810.60
Combined	**138.71**	**312.64**	**810.60**	**810.60**



Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 08 Jun

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

Daily Comment Summaries - Personnel Onboard

Tue 08 Jun

Technical Staff On-board the Langseth
Shaun Shaver L-DEO OMO Chief Science Officer
Tom Spoto L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Marine Science Technician - Source
Alan Thompson L-DEO OMO Science Officer - Nav
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - OBS
Michael Coufal - Contractor - Source
Ray Hatton - Contractor - Source
Jacob Greenberg - Contractor - Source
Mark Walker - Contractor - Compressor Mechanic

PSO Staff On-board the Langseth
Amanda Dubuque - RPS - Lead PSO
Cassandra Frey - RPS
Edgar Brunett - RPS
Felipe Rodriguez - RPS
Leonardo De La Ros - RPS

Science Party On-board the Langseth
Suzanne Carbotte - LDEO - PI
Shuoshuo Han - UTIG - Co-PI
Brian Boston - LDEO - Co-PI
Bhargav Boddupalli - UTIG - Scientist
Hanchao Jian - WHOI - Scientist
Jeff Beeson - OSU/NOAA - Scientist
Madeleine Lucas - UW - Scientist
Vashan Wright - WHOI - Scientist
Michelle Lee - LDEO - Student

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Wed 09 Jun

Recovering streamer and clearing fishing gear. Fishing gear appears attached to sea floor traps, no hooks, buoys and rope attached to heavy objects.
Removed fishing gear as far back as bird 41
1 bird lost at sea, 4 SRD's deployed, 2 birds wings damaged. 5 birds flagged motor failures were heavily covered in fishing gear.
Began redeploying streamer and moving birds to fwd collars due to comms failure on aft comms line.
Streamer failed to power from bypass at 18:30, recovered up to module 694, water in connector, cleared and began redeploying
More fishing gear spotted ~21:09, began divert to port to avoid.
Module 2410 replaced due to overload fault, now able to power up streamer on reel 3 all the way to tail. All birds communicating good
Almost to head float on deployment at end of UTC day..

Daily Comment Summaries - Plan for Tomorrow

Wed 09 Jun

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Fishing	NC_FS	Wed 9. Jun 00:00	Wed 9. Jun 07:45	7.750
Fishing gear stuck on streamer -Streamer recovered - Begin deployment				
Fishing	NC_FS	Wed 9. Jun 07:45	Wed 9. Jun 13:00	5.250
Fishing gear stuck on streamer - Deploying streamer from reel #2, Transfer to reel #3 complete				
Fishing	NC_FS	Wed 9. Jun 13:00	Wed 9. Jun 23:23	10.383
Fishing gear stuck on streamer -Trouble shoot streamer problems caused by tension.				
Fishing	NC_FS	Wed 9. Jun 23:23	Wed 9. Jun 23:28	0.083
Trouble shoot streamer problems caused by tension. - Streamer fixed. Power good all birds communicating.				
Fishing	NC_FS	Wed 9. Jun 23:28	Wed 9. Jun 24:00	0.533
Continue deployment - End of day				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

9-Jun	Hours	%Percent
Non-Chargeable StandBy	**24.000**	**100.000**
Fishing	24.000	100.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m)

Category	Hours	%Percent
DownTime	**1.000**	**0.379**
Cetacean	1.000	0.379
Chargeable Standby	**0.983**	**0.372**
Cetacean	0.983	0.372
Mobilisation	**124.567**	**47.184**
Deployment	36.967	14.003
Mob Ashore	73.833	27.967
Testing	2.533	0.960
Transit to Prospect	11.233	4.255
Non-Chargeable StandBy	**28.167**	**10.669**
Fishing	28.167	10.669
Acquisition	**109.283**	**41.395**
Prime Line Change	1.833	0.694
Production Prime	107.450	40.701
Total	264.000	

Basic Project Details

MCS 15000m 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km) - Full Fold

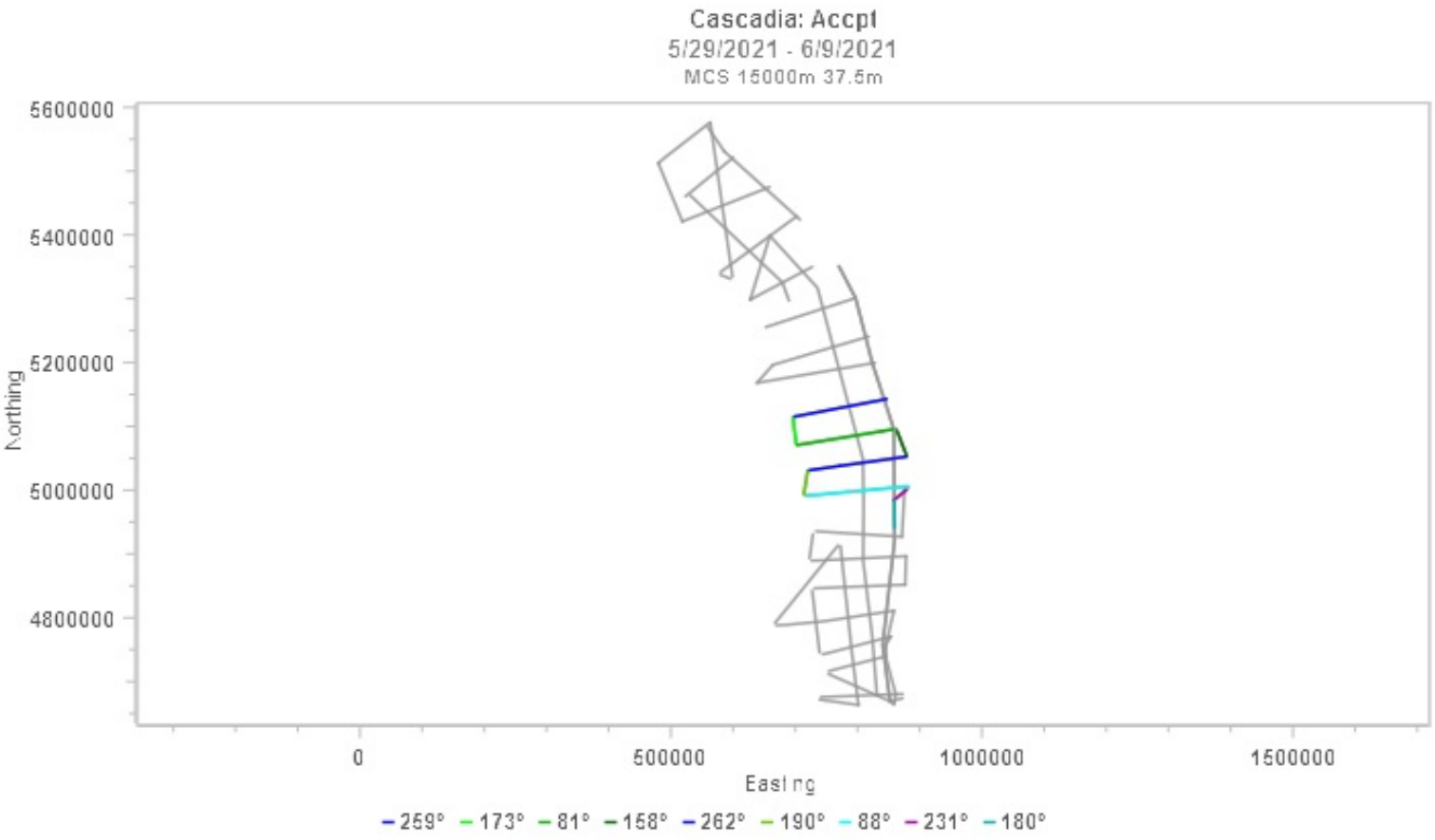
MCS 15000m 37.5m

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0.00**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	0.00	312.64	810.60	810.60
Combined	**0.00**	**312.64**	**810.60**	**810.60**



Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 09 Jun

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

Daily Comment Summaries - Personnel Onboard

Wed 09 Jun

Technical Staff On-board the Langseth
Shaun Shaver L-DEO OMO Chief Science Officer
Tom Spoto L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Marine Science Technician - Source
Alan Thompson L-DEO OMO Science Officer - Nav
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - OBS
Michael Coufal - Contractor - Source
Ray Hatton - Contractor - Source
Jacob Greenberg - Contractor - Source
Mark Walker - Contractor - Compressor Mechanic

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Edgar Brunett - RPS
Felipe Rodriguez - RPS
Leonardo De La Ros - RPS

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Hanchao Jian - WHOI - Scientist
Jeff Beeson - OSU/NOAA - Scientist
Madeleine Lucas - UW - Scientist
Vashan Wright - WHOI - Scientist
Michelle Lee - LDEO - Student

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Thu 10 Jun

Streamer deployment completed and arrays 1,2,4 deployed. Array 3 went over array 4 umbilical during deployment
Shot test line during transit, piror to starting line MGL2104PS01B. All arrays were operational after the start of line.
It appears that we have a crab trap hung on bird 50 but we are able to keep the streamer from going too deep.

Daily Comment Summaries - Plan for Tomorrow

Thu 10 Jun

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Fishing	NC_FS	Thu 10. Jun 00:00	Thu 10. Jun 00:25	0.417
Streamer fully deployed to tow point				
Fishing	NC_FS	Thu 10. Jun 00:25	Thu 10. Jun 01:03	0.633
Standby due to crab pots in our path, unable to turn around towards the line.				
Fishing	NC_FS	Thu 10. Jun 01:03	Thu 10. Jun 01:20	0.283
Deploying PAM - PAM operational				
Fishing	NC_FS	Thu 10. Jun 01:20	Thu 10. Jun 01:42	0.367
Deploying array #4				
Fishing	NC_FS	Thu 10. Jun 01:42	Thu 10. Jun 01:57	0.250
Deploying Maggie				
Fishing	NC_FS	Thu 10. Jun 01:57	Thu 10. Jun 02:44	0.783
Deploying array #1				
Fishing	NC_FS	Thu 10. Jun 02:44	Thu 10. Jun 03:32	0.800
Deploying array #2				
Fishing	NC_FS	Thu 10. Jun 03:32	Thu 10. Jun 05:26	1.900
Replacing bad float section on array #3 prior to deployment. Begin ramp up 04:43 - Ramp up complete - 05:04 Start test line MGL2104Test2 while transiting to MGL2104PS01B During the deployment of array #3 it crossed over array #4 umbilical and #3 & #4 arrays needed to be recovered to get them apart. Both arrays were fully deployed shortly after the start of line MGL2104PS01B				
Production Prime	AC_PP	Thu 10. Jun 05:26	Thu 10. Jun 06:43	1.283

Category	Code	Start	End	Duration
SOL Seq 10 Line:MGL2104Test2 Block=Cascadia FGSP=2027 Hdg=358.2° Prime EOL Seq 10 Line:MGL2104Test2 Block=Cascadia LGSP=4287 Complete				
Fishing	NC_FS	Thu 10. Jun 06:43	Thu 10. Jun 09:01	2.300
Continue transit to start on line MGL2104PS01B During this time we were also untangling gun arrays #3 & #4				
Production Prime	AC_PP	Thu 10. Jun 09:01	Thu 10. Jun 24:00	14.983
SOL Seq 11 Line:MGL2104PS01B Block=Cascadia FGSP=1071 FCSP=N/AHdg=186.1° Prime MSP Seq 11 Line:MGL2104PS01B Block=Cascadia LGSP=4165 LCSP=4165 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

10-Jun	Hours	%Percent
Acquisition	**16.267**	**67.778**
Production Prime	16.267	67.778
Non-Chargeable StandBy	**7.733**	**32.222**
Fishing	7.733	32.222
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m)

Category	Hours	%Percent
DownTime	**1.000**	**0.347**
Cetacean	1.000	0.347
Chargeable Standby	**0.983**	**0.341**
Cetacean	0.983	0.341
Mobilisation	**124.567**	**43.252**
Deployment	36.967	12.836
Mob Ashore	73.833	25.637
Testing	2.533	0.880
Transit to Prospect	11.233	3.900
Non-Chargeable StandBy	**35.900**	**12.465**
Fishing	35.900	12.465
Acquisition	**125.550**	**43.594**
Prime Line Change	1.833	0.637
Production Prime	123.717	42.957
Total	288.000	

Basic Project Details

MCS 15000m 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					

MCS 15000m 37.5m					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by interval) - Full Fold

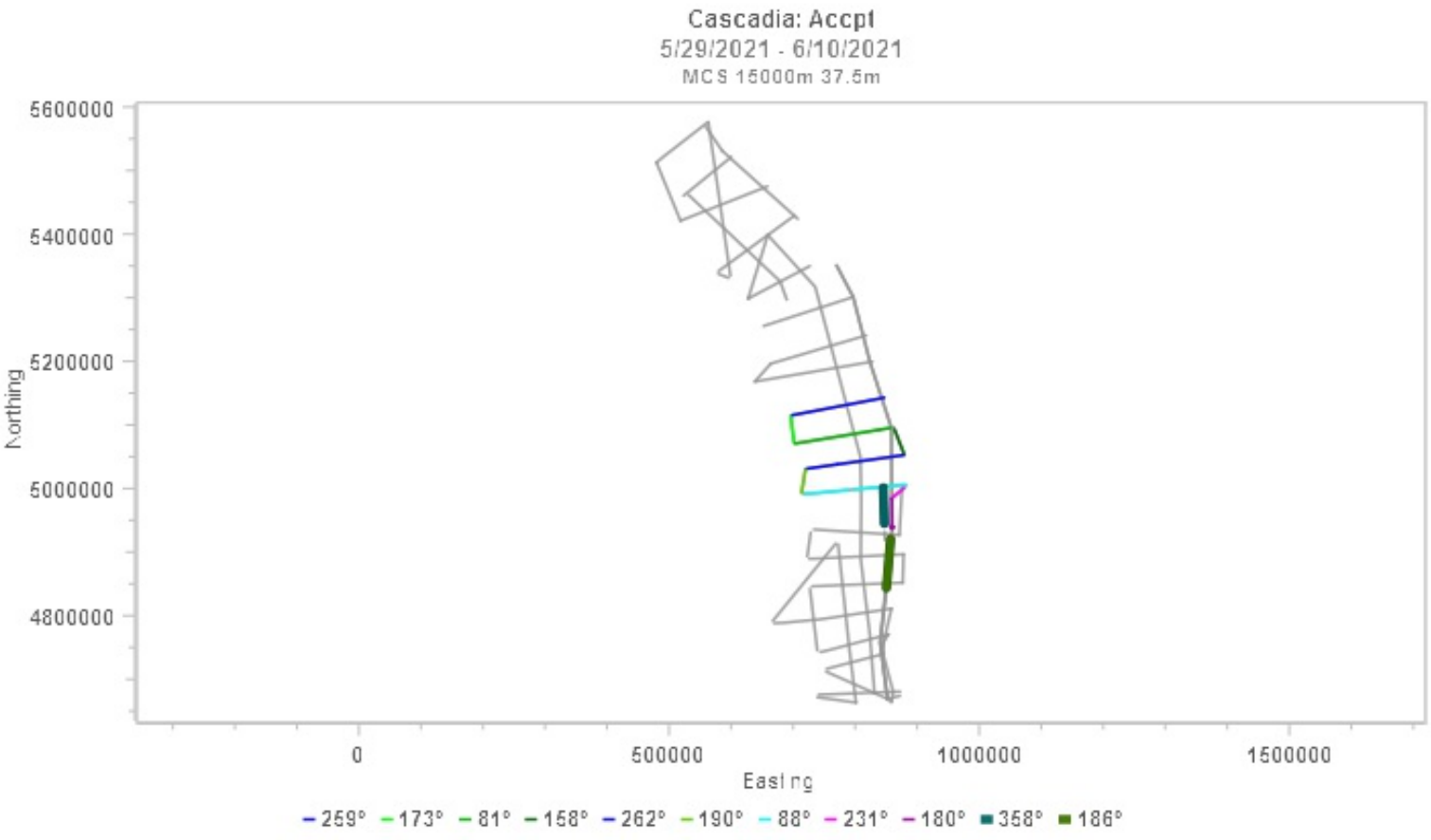
MCS 15000m 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
10	MGL2104Test2	358.2	2027	4287	Prime	84.75	35.658	Complete	Complete
11	MGL2104PS01B	186.1	1071	4165	Prime	116.02	4.181	Part	Midnight
Total						**200.77**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	200.77	513.45	1011.41	1011.41
Combined	**200.77**	**513.45**	**1011.41**	**1011.41**



Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 10 Jun

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

Daily Comment Summaries - Personnel Onboard

Thu 10 Jun

Technical Staff On-board the Langseth
Shaun Shaver L-DEO OMO Chief Science Officer
Tom Spoto L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Marine Science Technician - Source
Alan Thompson L-DEO OMO Science Officer - Nav
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Gilles Guerin L-DEO OMO Marine Science Technician - OBS
Michael Coufal - Contractor - Source
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Jeff Beeson - OSU/NOAA - Scientist
Madeleine Lucas - UW - Scientist
Vashan Wright - WHOI - Scientist
Michelle Lee - LDEO - Student

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End
MOB Drill	Drls_MOB	Thu 10. Jun 17:30	Thu 10. Jun 18:00
HSE - MOB Drill - All crew mustered. Marine crew lowered the FRB to the embarkation level. Captain gave briefing on the personal locater beacons.			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Fri 11 Jun

18:37 streamer parted
Begin recovering gear
19:11 Maggie onboard
20:05 array #3 onboard
20:24 PAM & Maggie onboard
20:31 Array #4 onboard
21:22 Array #2 onboard
21:38 Array #1 onboard
22:07 Leadin and head float on board
Begin transit to last known position of the streamer

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Fri 11. Jun 00:00	Fri 11. Jun 18:44	18.733
SOL Seq 11 Line:MGL2104PS01B Block=Cascadia FGSP=5748 Hdg=186.1° Prime EOL Seq 11 Line:MGL2104PS01B Block=Cascadia LGSP=11097 Complete				
Streamers	DT_ST	Fri 11. Jun 18:44	Fri 11. Jun 24:00	5.267
Streamer parted - see comments for timing details for today				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

11-Jun	Hours	%Percent
Acquisition	**18.733**	**78.056**
Production Prime	18.733	78.056
DownTime	**5.267**	**21.944**
Streamers	5.267	21.944
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m)

Category	Hours	%Percent
DownTime	**6.267**	**2.009**
Cetacean	1.000	0.321
Streamers	5.267	1.688
Chargeable Standby	**0.983**	**0.315**

Category	Hours	%Percent
Cetacean	0.983	0.315
Mobilisation	**124.567**	**39.925**
Deployment	36.967	11.848
Mob Ashore	73.833	23.665
Testing	2.533	0.812
Transit to Prospect	11.233	3.600
Non-Chargeable StandBy	**35.900**	**11.506**
Fishing	35.900	11.506
Acquisition	**144.283**	**46.245**
Prime Line Change	1.833	0.588
Production Prime	142.450	45.657
Total	312.000	

Basic Project Details

MCS 15000m 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by interval) - Full Fold

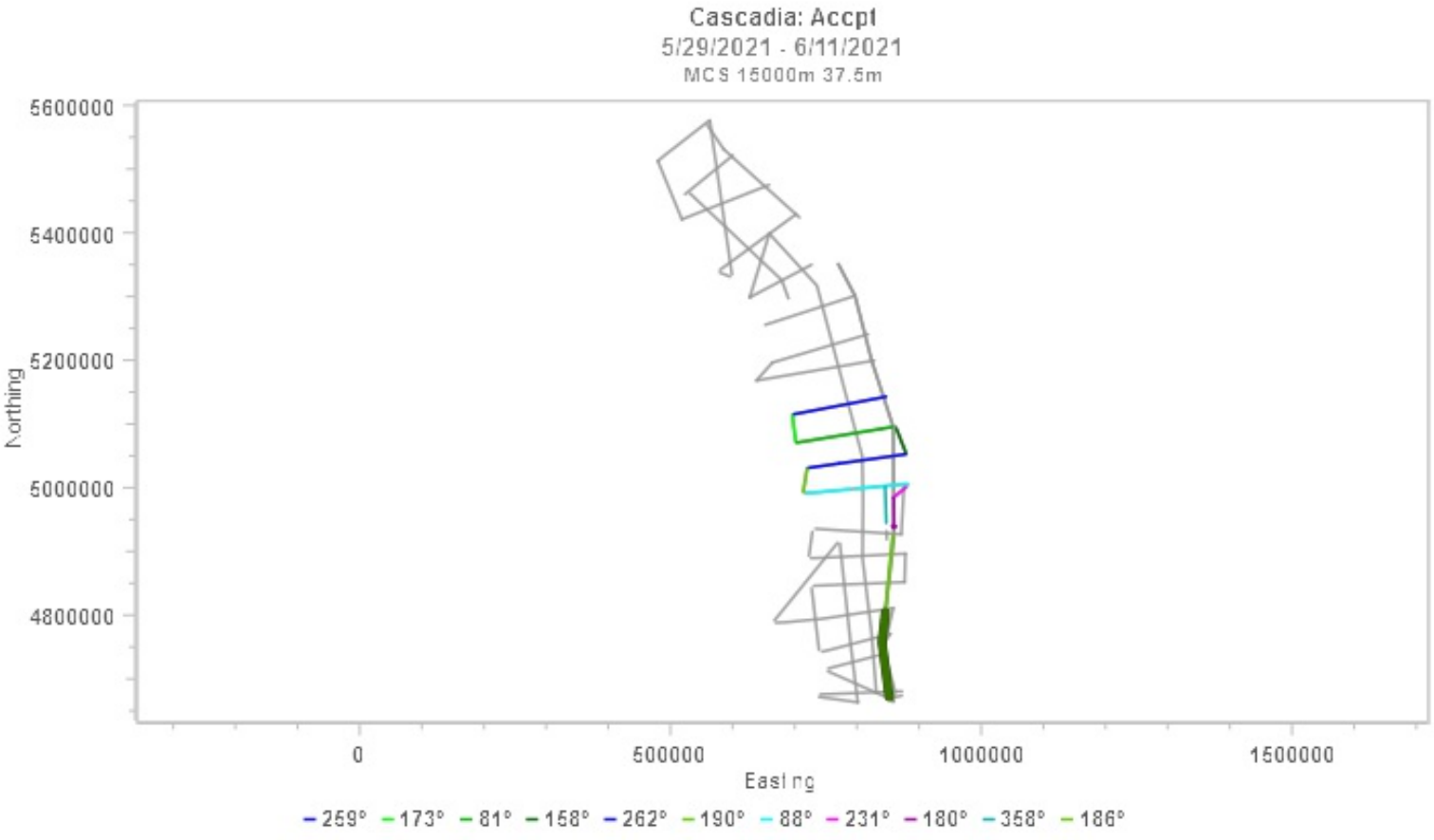
MCS 15000m 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
11	MGL2104PS01B	186.1	5748	11097	Prime	200.62	6.126	Complete	Complete
Total						**200.62**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	200.62	779.96	1277.93	1277.93
Combined	**200.62**	**779.96**	**1277.93**	**1277.93**



Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 11 Jun

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

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Streamers	DT_ST	Sat 12. Jun 00:00	Sat 12. Jun 24:00	24.000

01:00 Tailbouy AIS working
02:00 Tailbouy visual
02:40 Streamer tow rope attached
03:00 Streamer secured on reel #2 for towing
03:00 Towing streamer away from trawling vessels and to deeper water.
07:00 - Toolbox meeting to discuss streamer recovery plan
11:15 - Toolbox meeting after reaching safe area to start recovery.Tail buoy recovery plan and securing streamer to remove bad section from reel.
12:17 Tailbouy on board
Moving bad section to spare reel
18:00 - 6k of streamer recovered on reel #2
24:00 - end of day still transferring streamer from reel #2 to #3. Stopped a couple time to fault find. Found 1 bad LAUM - 6k streamer on reel #3 powers up good.

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

12-Jun	Hours	%Percent
DownTime	**24.000**	**100.000**
Streamers	24.000	100.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m)

Category	Hours	%Percent
DownTime	**30.267**	**9.008**
Cetacean	1.000	0.298
Streamers	29.267	8.710
Chargeable Standby	**0.983**	**0.293**
Cetacean	0.983	0.293
Mobilisation	**124.567**	**37.073**
Deployment	36.967	11.002
Mob Ashore	73.833	21.974
Testing	2.533	0.754
Transit to Prospect	11.233	3.343

Category	Hours	%Percent
Non-Chargeable StandBy	**35.900**	**10.685**
Fishing	35.900	10.685
Acquisition	**144.283**	**42.941**
Prime Line Change	1.833	0.546
Production Prime	142.450	42.396
Total	336.000	

Basic Project Details

MCS 15000m 37.5m

General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km) - Full Fold

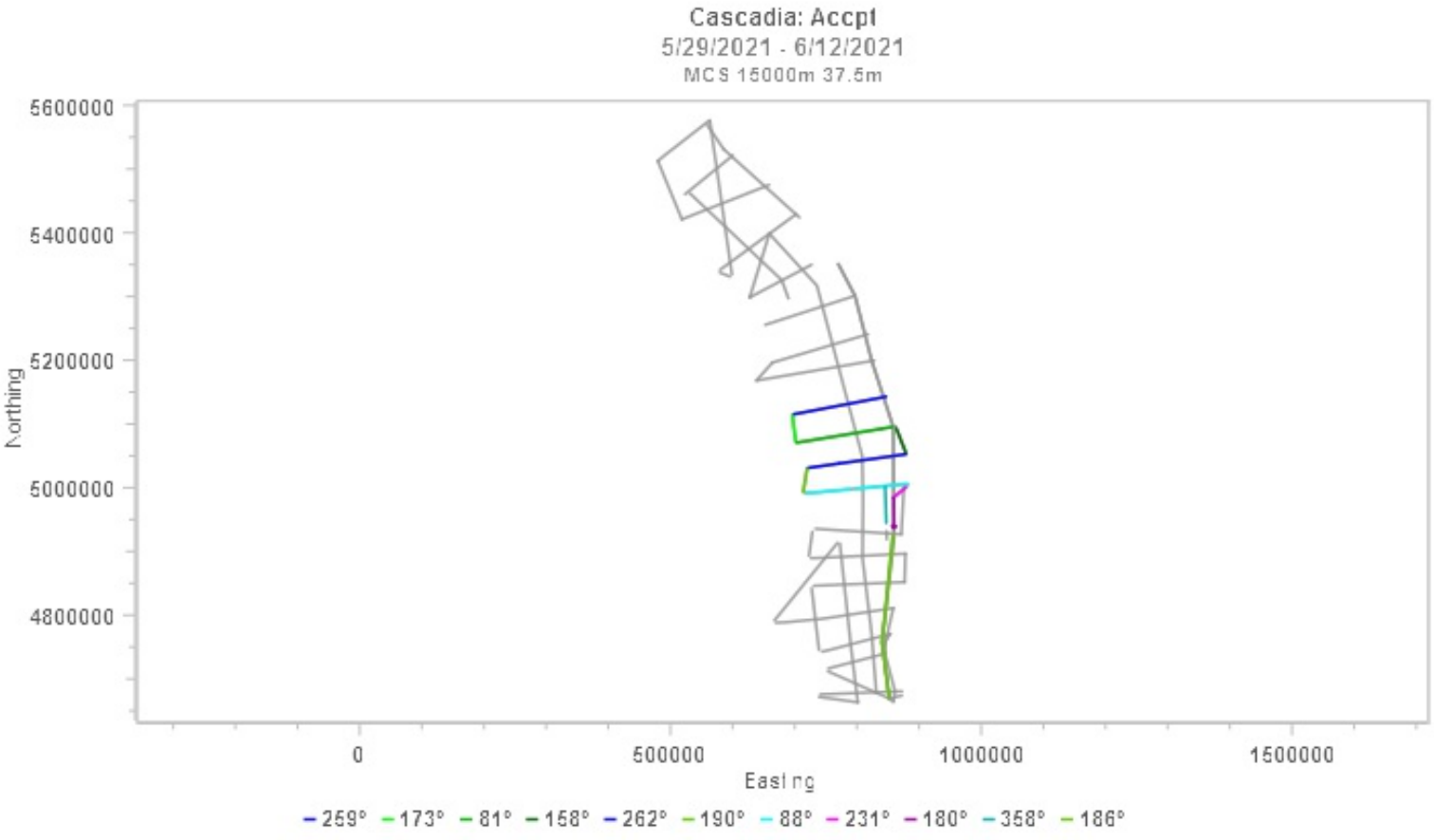
MCS 15000m 37.5m

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0.00**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	0.00	779.96	1277.93	1277.93
Combined	**0.00**	**779.96**	**1277.93**	**1277.93**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End
Departmental Meeting	Mtgs_Dept	Sat 12. Jun 07:00	Sat 12. Jun 07:30
Toolbox meeting to discuss streamer recovery plan.			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Streamers	DT_ST	Sun 13. Jun 00:00	Sun 13. Jun 24:00	24.000

03:02 - Complete transfer of streamer from reel #2 to reel #3.
04:07 Begin recovery of backwards streamer on reel #2. Had to make a turn before recovery due to sea state and vessel crab.
06:48 - Complete recovery and start transfer to reel #4.
13:58 - All streamer recovered
Building birds and sorting out SRDs
20:39 - Tailbuoy in the water begin deployment from reel #3.
24:00 - Day ended deploying and testing streamer from reel #3.

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

13-Jun	Hours	%Percent
DownTime	**24.000**	**100.000**
Streamers	24.000	100.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m)

Category	Hours	%Percent
DownTime	**54.267**	**15.074**
Cetacean	1.000	0.278
Streamers	53.267	14.796
Chargeable Standby	**0.983**	**0.273**
Cetacean	0.983	0.273
Mobilisation	**124.567**	**34.602**
Deployment	36.967	10.269
Mob Ashore	73.833	20.509
Testing	2.533	0.704
Transit to Prospect	11.233	3.120
Non-Chargeable StandBy	**35.900**	**9.972**
Fishing	35.900	9.972
Acquisition	**144.283**	**40.079**

Category	Hours	%Percent
Prime Line Change	1.833	0.509
Production Prime	142.450	39.569
Total	360.000	

Basic Project Details

MCS 15000m 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km) - Full Fold

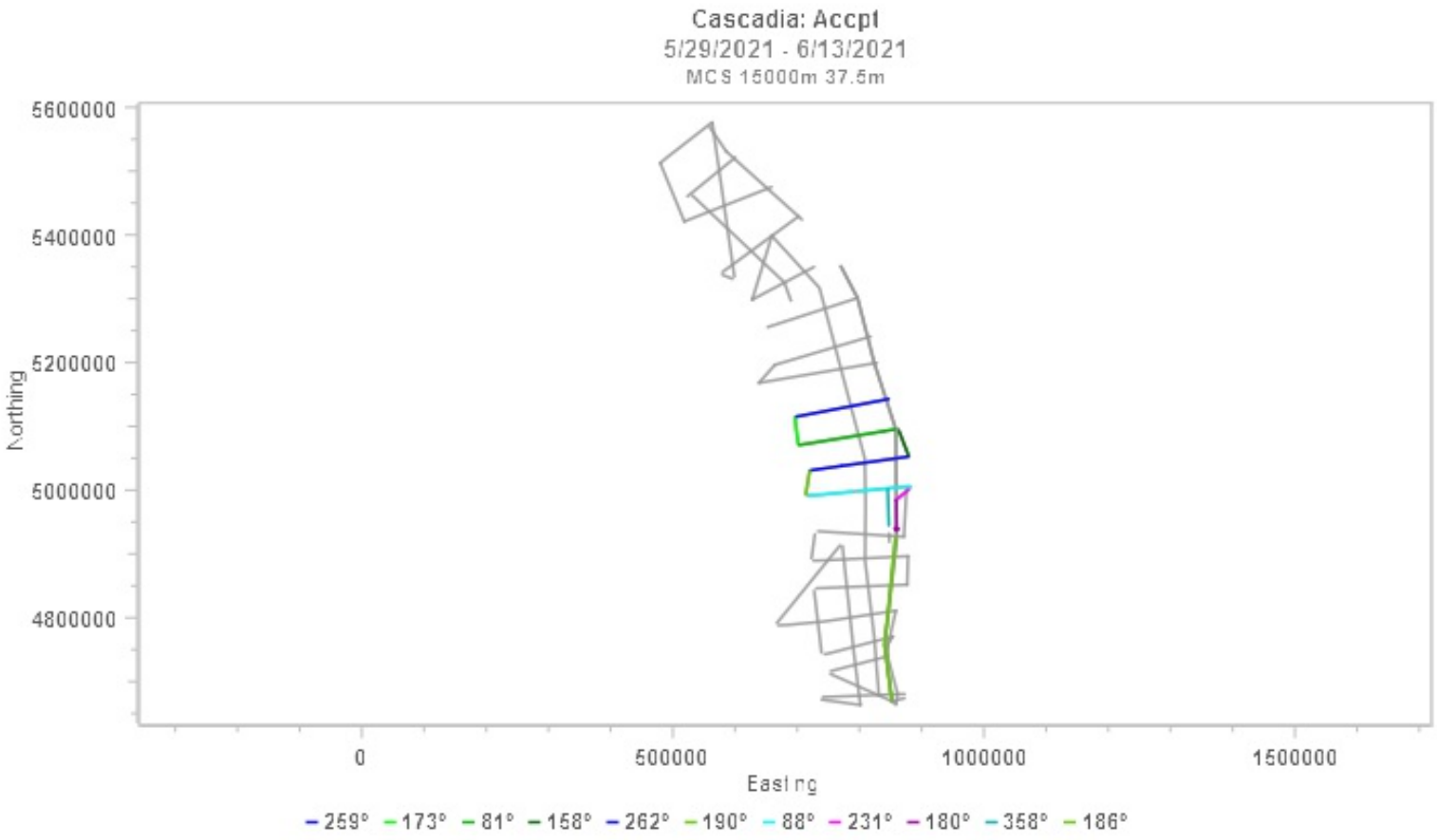
MCS 15000m 37.5m

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0.00**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	0.00	779.96	1277.93	1277.93
Combined	**0.00**	**779.96**	**1277.93**	**1277.93**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Streamers	DT_ST	Mon 14. Jun 00:00	Mon 14. Jun 24:00	24.000

Continue to deploy streamer from reel #3
02:19 - 5.3k deployed from reel #3 transferring to reel #4
02:36 begin deploying from reel #4
05:30 - 6k deployed from reel #4
5:40 - Transferring 7 sections from reel #2 to reel #3 to build full 12k.
07:15 - Transfer from reel #2 to #3 complete.
Deploying remaining section from reel #4 to hook up to 7 sections on reel #3 to complete the 12k of streamer.
Deployed the full 12k.
09:49 - Lost comms with birds 7k back, begin troubleshooting
13:38 recovered 7k and continue troubleshooting bird and power problems.
15:29 water found in LAUM streamer powering up but still no birds.
17:55 replaced another LAUM during troubleshooting - still have problem with bird line
22:20 problem no longer seen ? Begin deployment
24:00 End of day - still deploying

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

14-Jun	Hours	%Percent
DownTime	**24.000**	**100.000**
Streamers	24.000	100.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m)

Category	Hours	%Percent
DownTime	**78.267**	**20.382**
Cetacean	1.000	0.260
Streamers	77.267	20.122
Chargeable Standby	**0.983**	**0.256**
Cetacean	0.983	0.256
Mobilisation	**124.567**	**32.439**
Deployment	36.967	9.627
Mob Ashore	73.833	19.227
Testing	2.533	0.660

Category	Hours	%Percent
Transit to Prospect	11.233	2.925
Non-Chargeable StandBy	**35.900**	**9.349**
Fishing	35.900	9.349
Acquisition	**144.283**	**37.574**
Prime Line Change	1.833	0.477
Production Prime	142.450	37.096
Total	384.000	

Basic Project Details

MCS 15000m 37.5m

General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km) - Full Fold

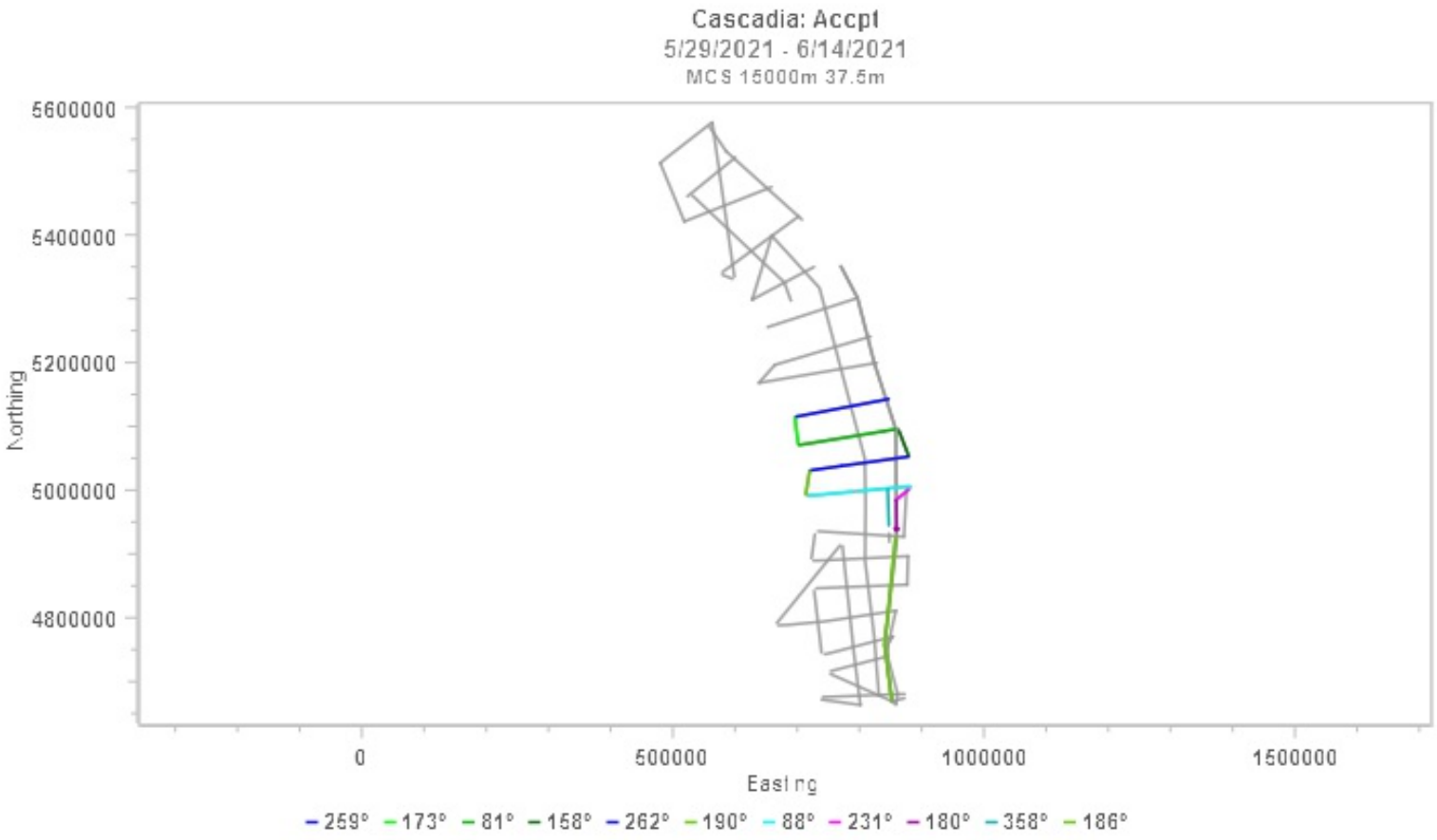
MCS 15000m 37.5m

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0.00**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	0.00	0.00	1277.93	1277.93
Combined	**0.00**	**0.00**	**1277.93**	**1277.93**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Streamers	DT_ST	Tue 15. Jun 00:00	Tue 15. Jun 21:35	21.583
Continue trouble shooting and testing. In the end 5 sections were changed out, 1 at 4k from the front due to some skin damage, that may our may not have happened during the event. 1 section was damaged while recovering on to reel #2 backwards, it caught on the pad eye that holds the net at the bottom of the stairs from the paravane deck. That pad eye has been removed. 3 sections were changed out at the front end and seem to be where most of our problems were. 16:05 the streamer was fully deployed. 17:02 PAM & Maggie were deployed 17:44 begin source deployment 18:50 Arrays 1 & 2 deployed and starting a turn towards line 21:10 Arrays 3 & 4 deployed 21:12 begin ramp up 21:33 ramp up complete 21:35 SOL PS03 (line 06 going south)				
Production Prime	AC_PP	Tue 15. Jun 21:35	Tue 15. Jun 24:00	2.417
SOL Seq 12 Line:1011 Block=Cascadia FGSP=8193 FCSP=N/AHdg=172.8° Prime MSP Seq 12 Line:1011 Block=Cascadia LGSP=7659 LCSP=7659 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

15-Jun	Hours	%Percent
Acquisition	**2.417**	**10.069**
Production Prime	2.417	10.069
DownTime	**21.583**	**89.931**
Streamers	21.583	89.931
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m)

Category	Hours	%Percent
DownTime	**99.850**	**24.473**
Cetacean	1.000	0.245
Streamers	98.850	24.228
Chargeable Standby	**0.983**	**0.241**
Cetacean	0.983	0.241
Mobilisation	**124.567**	**30.531**

Category	Hours	%Percent
Deployment	36.967	9.060
Mob Ashore	73.833	18.096
Testing	2.533	0.621
Transit to Prospect	11.233	2.753
Non-Chargeable StandBy	**35.900**	**8.799**
Fishing	35.900	8.799
Acquisition	**146.700**	**35.956**
Prime Line Change	1.833	0.449
Production Prime	144.867	35.507
Total	408.000	

Basic Project Details

MCS 15000m 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by interval) - Full Fold

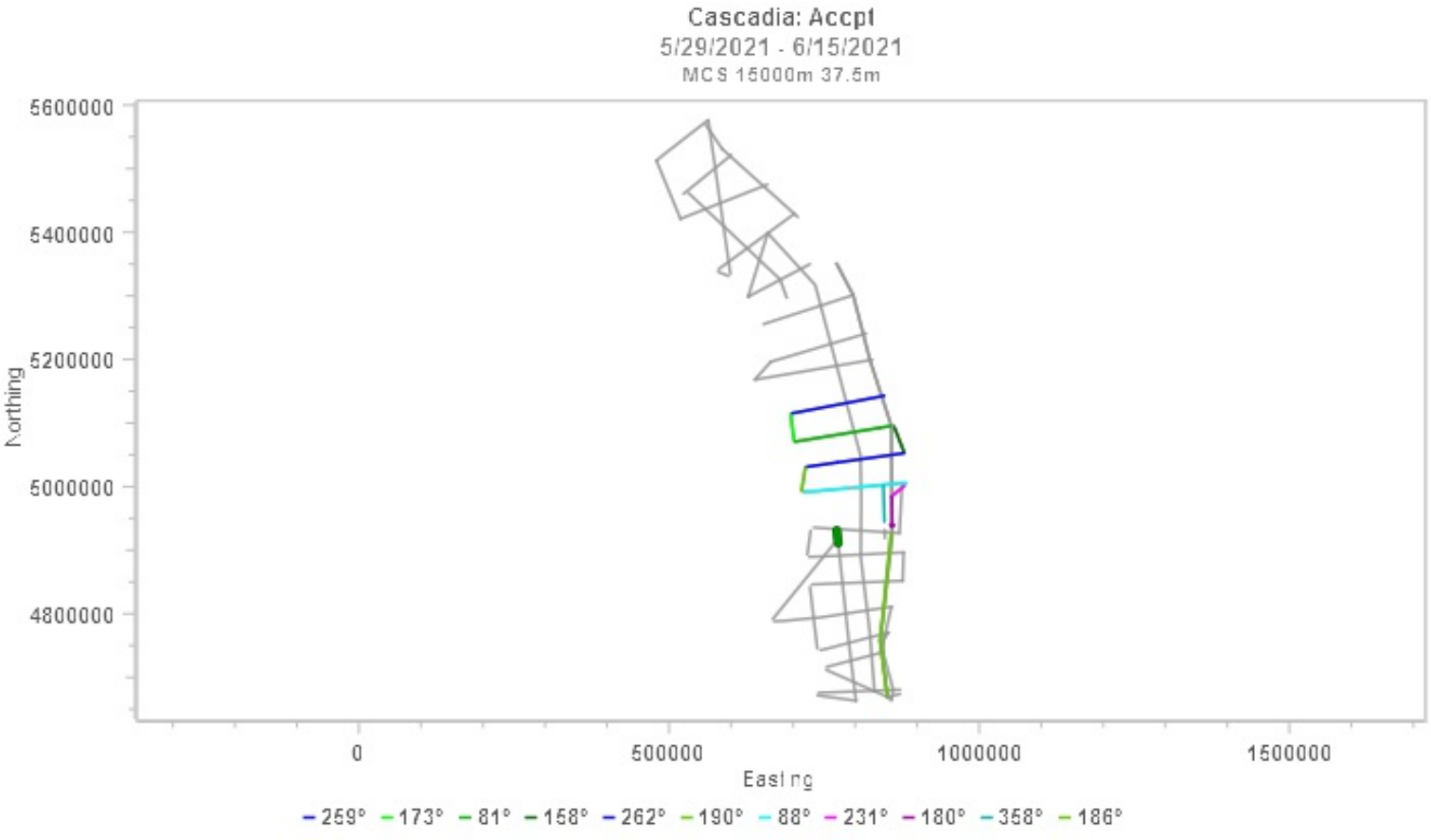
MCS 15000m 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
12	1011	172.8	8193	7659	Prime	20.02	4.474	Part	Midnight
Total						**20.02**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	20.02	20.02	1297.95	1297.95
Combined	**20.02**	**20.02**	**1297.95**	**1297.95**



Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 15 Jun

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

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Wed 16 Jun

In Production 24 hours

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Wed 16. Jun 00:00	Wed 16. Jun 24:00	24.000
SOL Seq 12 Line:1011 Block=Cascadia FGSP=7658 FCSP=N/AHdg=172.8° Prime MSP Seq 12 Line:1011 Block=Cascadia LGSP=2860 LCSP=2860 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

16-Jun	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, MCS 15000m 37.5m)

Category	Hours	%Percent
DownTime	**99.850**	**23.113**
Cetacean	1.000	0.231
Streamers	98.850	22.882
Chargeable Standby	**0.983**	**0.228**
Cetacean	0.983	0.228
Mobilisation	**124.567**	**28.835**
Deployment	36.967	8.557
Mob Ashore	73.833	17.091
Testing	2.533	0.586
Transit to Prospect	11.233	2.600
Non-Chargeable StandBy	**35.900**	**8.310**
Fishing	35.900	8.310
Acquisition	**170.700**	**39.514**
Prime Line Change	1.833	0.424

Category	Hours	%Percent
Production Prime	168.867	39.090
Total	432.000	

Basic Project Details

MCS 15000m 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by interval) - Full Fold

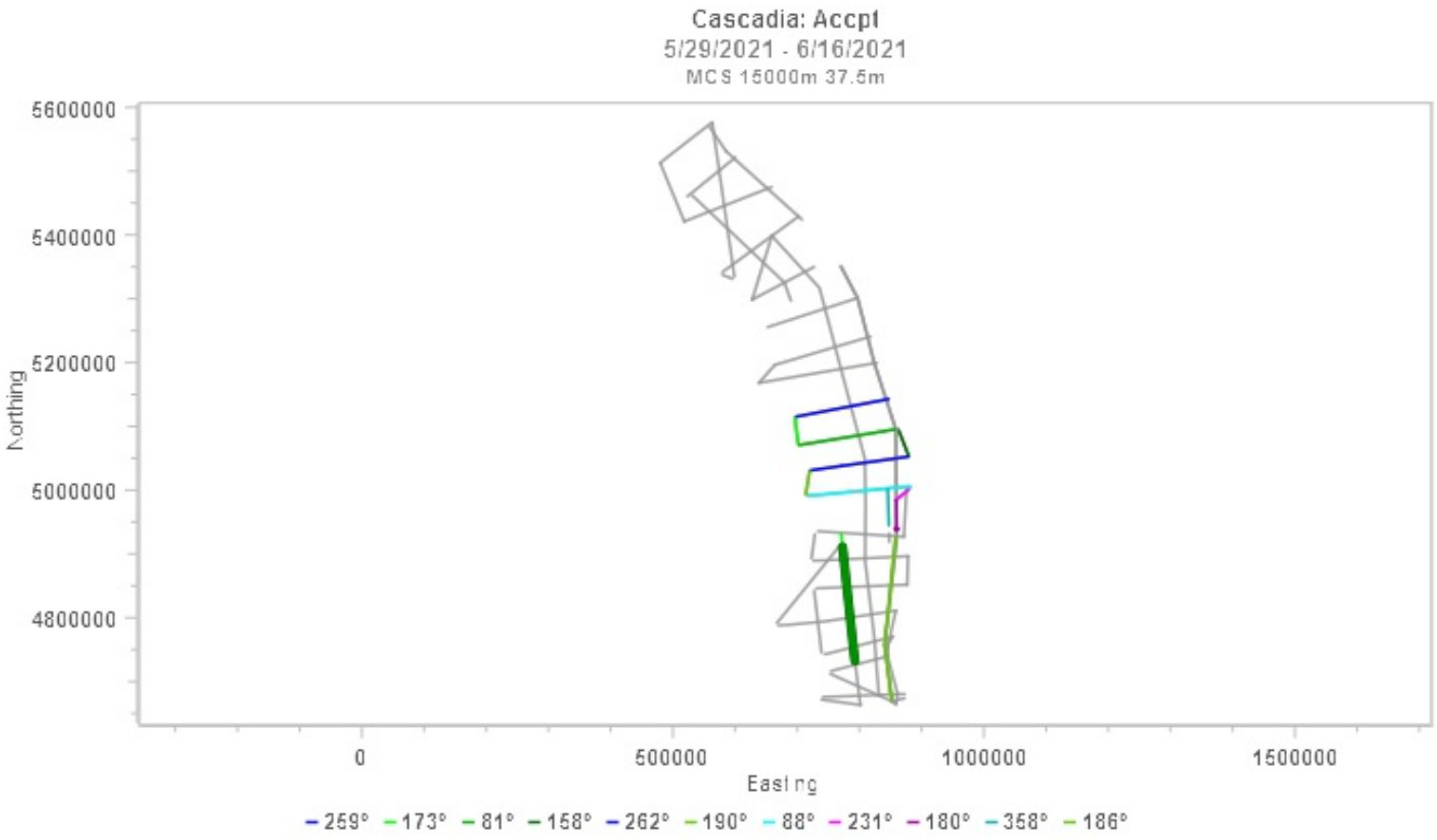
MCS 15000m 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
12	1011	172.8	7658	2860	Prime	179.96	4.088	Part	Midnight
Total						**179.96**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	179.96	199.99	1477.91	1477.91
Combined	**179.96**	**199.99**	**1477.91**	**1477.91**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Thu 17 Jun

Good day of production
Weather poor most of the day

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 15000m 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Thu 17. Jun 00:00	Thu 17. Jun 05:41	5.683
SOL Seq 12 Line:1011 Block=Cascadia FGSP=2859 Hdg=172.8° Prime EOL Seq 12 Line:1011 Block=Cascadia LGSP=1063 Complete				
Prime Line Change	AC_PLC	Thu 17. Jun 05:41	Thu 17. Jun 06:02	0.350
Nominal Prime line change.				
Production Prime	AC_PP	Thu 17. Jun 06:02	Thu 17. Jun 24:00	17.967
SOL Seq 14 Line:1010 Block=Cascadia FGSP=4484 FCSP=N/A Hdg=87.9° Prime MSP Seq 14 Line:1010 Block=Cascadia LGSP=2355 LCSP=2355 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m)

17-Jun	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	0.350	1.458
Production Prime	23.650	98.542
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m)

Category	Hours	%Percent
DownTime	**99.850**	**21.897**
Cetacean	1.000	0.219
Streamers	98.850	21.678
Chargeable Standby	**0.983**	**0.216**
Cetacean	0.983	0.216
Mobilisation	**124.567**	**27.317**
Deployment	36.967	8.107

Category	Hours	%Percent
Mob Ashore	73.833	16.192
Testing	2.533	0.556
Transit to Prospect	11.233	2.463
Non-Chargeable StandBy	**35.900**	**7.873**
Fishing	35.900	7.873
Acquisition	**194.700**	**42.697**
Prime Line Change	2.183	0.479
Production Prime	192.517	42.219
Total	456.000	

Basic Project Details

MCS 15000m 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	1	Chans Per Cable:	1200	Front Depth:	12 m
Tail Depth:	12 m	Length:	15000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by interval) - Full Fold

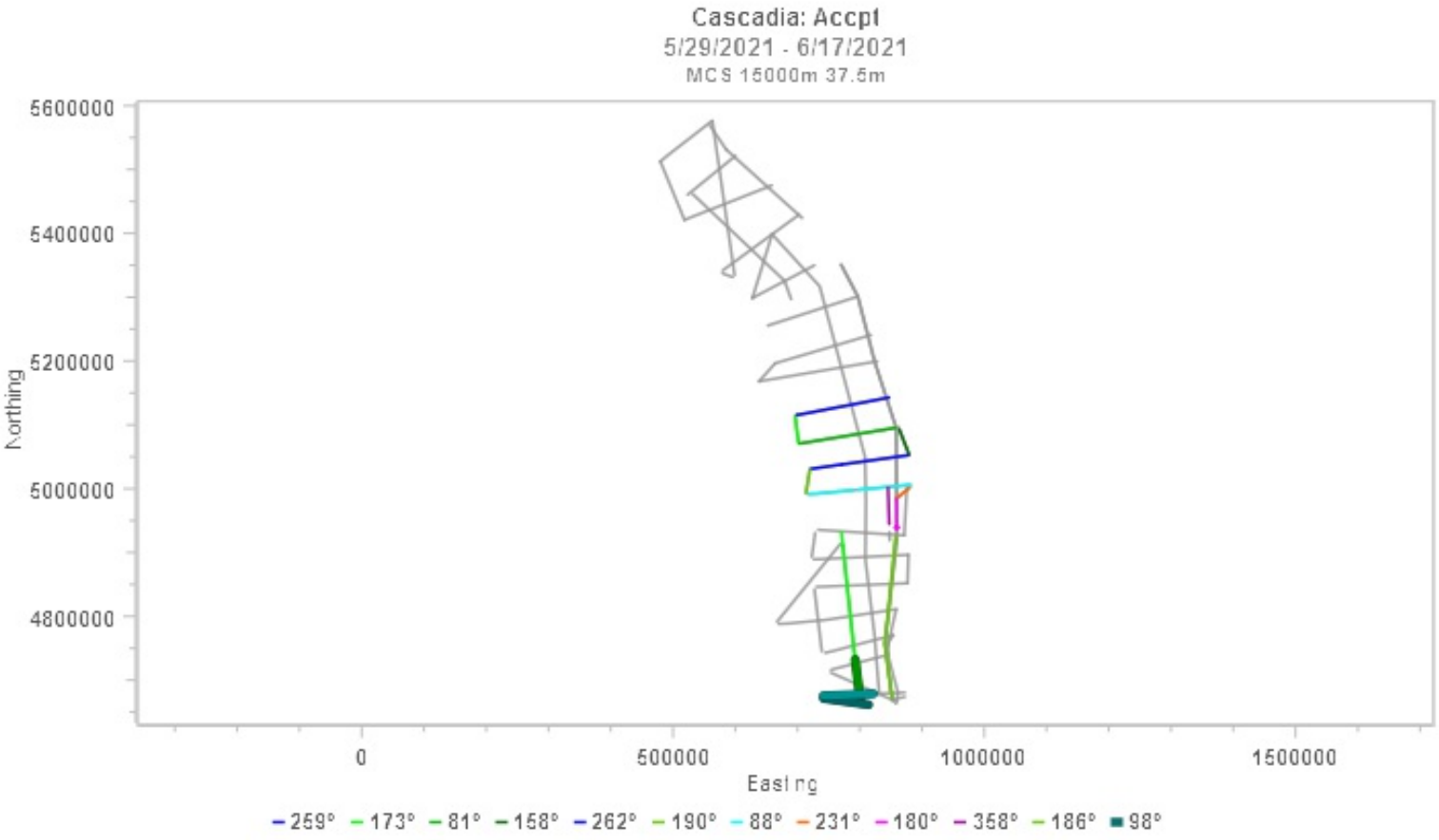
MCS 15000m 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
12	1011	172.8	2859	1063	Prime	67.39	4.498	Complete	Complete
13	1010_11	97.7	1074	3007	Prime	72.49	5.325	Complete	Complete
14	1010	87.9	4484	2355	Prime	79.84	2.399	Part	Midnight
Total						**219.71**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m

Accepted km	Day	Week	Month	Project
Prime	219.71	419.70	1697.63	1697.63
Combined	**219.71**	**419.70**	**1697.63**	**1697.63**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Fri 18 Jun

In production throughout the day. At the start of seq 16 gun 1-1 started to auto fire, the pressure was dropped in an effort to stop the
auto fire but it was unsuccessful. Weather conditions and vessel crab angle would not allow recovery. The following line change the
weather had increased to 4m and it was deemed to dangerous to recover. Continue production using arrays 2-4.

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Fri 18. Jun 00:00	Fri 18. Jun 05:04	5.067
SOL Seq 14 Line:1010 Block=Cascadia FGSP=2354 Hdg=87.9° Prime EOL Seq 14 Line:1010 Block=Cascadia LGSP=1291 Complete				
Prime Line Change	AC_PLC	Fri 18. Jun 05:04	Fri 18. Jun 05:41	0.617
Nominal Prime line change.				
Production Prime	AC_PP	Fri 18. Jun 05:41	Fri 18. Jun 14:32	8.850
SOL Seq 15 Line:10T09 Block=Cascadia FGSP=1404 Hdg=345.9° Prime EOL Seq 15 Line:10T09 Block=Cascadia LGSP=3951 Complete				
Prime Line Change	AC_PLC	Fri 18. Jun 14:32	Fri 18. Jun 14:36	0.067
Nominal Prime line change.				
Production Prime	AC_PP	Fri 18. Jun 14:36	Fri 18. Jun 24:00	9.400
SOL Seq 16 Line:1009 Block=Cascadia FGSP=1034 Hdg=255.7° Prime MSP Seq 16 Line:1009 Block=Cascadia LGSP=3046 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

18-Jun	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	0.683	2.847
Production Prime	23.317	97.153
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
DownTime	**99.850**	**20.802**
Cetacean	1.000	0.208
Streamers	98.850	20.594
Chargeable Standby	**0.983**	**0.205**
Cetacean	0.983	0.205
Mobilisation	**124.567**	**25.951**
Deployment	36.967	7.701
Mob Ashore	73.833	15.382
Testing	2.533	0.528
Transit to Prospect	11.233	2.340
Non-Chargeable StandBy	**35.900**	**7.479**
Fishing	35.900	7.479
Acquisition	**218.700**	**45.562**
Prime Line Change	2.867	0.597
Production Prime	215.833	44.965
Total	480.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

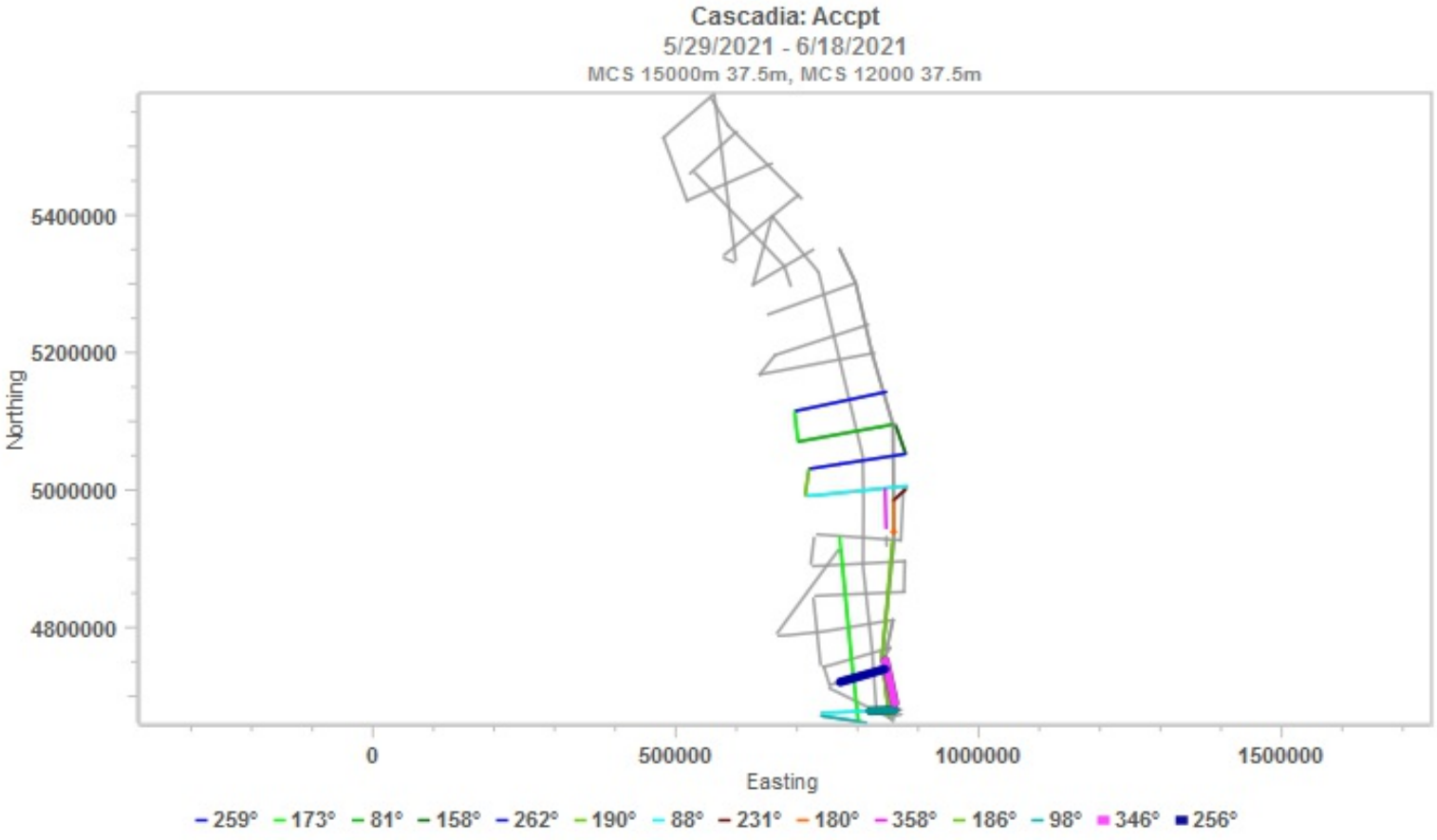
MCS 15000m 37.5m, MCS 12000 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
14	1010	87.9	2354	1291	Prime	39.90	2.807	Complete	Complete
15	10T09	345.9	1404	3951	Prime	95.55	5.827	Complete	Complete
16	1009	255.7	1034	3046	Prime	75.49	4.334	Part	Midnight
Total						**210.94**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

Accepted km	Day	Week	Month	Project
Prime	210.94	630.75	1908.68	1908.68
Combined	**210.94**	**630.75**	**1908.68**	**1908.68**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Sat 19 Jun

In Production all day
Magnetometer lost at 07:09
Compressors shut down for 12 minutes during line - Oil level tripped due to vessel rolling
Array #4 - gun 4-1 auto fire / array disabled
Arrays #1 & #2 recovered to fix auto fire on gun 1-1
Arrays #1 & #2 deployed all guns working

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sat 19. Jun 00:00	Sat 19. Jun 02:38	2.633
SOL Seq 16 Line:1009 Block=Cascadia FGSP=3047 Hdg=255.7° Prime EOL Seq 16 Line:1009 Block=Cascadia LGSP=3609 Complete				
Prime Line Change	AC_PLC	Sat 19. Jun 02:38	Sat 19. Jun 03:20	0.700
Nominal Prime line change.				
Production Prime	AC_PP	Sat 19. Jun 03:20	Sat 19. Jun 04:57	1.617
SOL Seq 17 Line:09T08 Block=Cascadia FGSP=1001 Hdg=339.9° Prime EOL Seq 17 Line:09T08 Block=Cascadia LGSP=1248 Incomplete				
Prime Line Change	AC_PLC	Sat 19. Jun 04:57	Sat 19. Jun 05:00	0.050
Nominal Prime line change.				
Production Prime	AC_PP	Sat 19. Jun 05:00	Sat 19. Jun 07:50	2.833
SOL Seq 18 Line:09T08 Block=Cascadia FGSP=1249 Hdg=339.9° Prime EOL Seq 18 Line:09T08 Block=Cascadia LGSP=2592 Complete				
Prime Line Change	AC_PLC	Sat 19. Jun 07:50	Sat 19. Jun 07:54	0.067
Nominal Prime line change.				
Production Prime	AC_PP	Sat 19. Jun 07:54	Sat 19. Jun 23:29	15.583
SOL Seq 19 Line:1008 Block=Cascadia FGSP=951 Hdg=77.6° Prime EOL Seq 19 Line:1008 Block=Cascadia LGSP=3989 Complete				
Prime Line Change	AC_PLC	Sat 19. Jun 23:29	Sat 19. Jun 23:47	0.300

Category	Code	Start	End	Duration
Nominal Prime line change.				
Production Prime	AC_PP	Sat 19. Jun 23:47	Sat 19. Jun 24:00	0.217
SOL Seq 20 Line:08T12 Block=Cascadia FGSP=1045 FCSP=N/AHdg=14.6° Prime MSP Seq 20 Line:08T12 Block=Cascadia LGSP=1083 LCSP=1083 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

19-Jun	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	1.117	4.653
Production Prime	22.883	95.347
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
DownTime	**99.850**	**19.812**
Cetacean	1.000	0.198
Streamers	98.850	19.613
Chargeable Standby	**0.983**	**0.195**
Cetacean	0.983	0.195
Mobilisation	**124.567**	**24.716**
Deployment	36.967	7.335
Mob Ashore	73.833	14.649
Testing	2.533	0.503
Transit to Prospect	11.233	2.229
Non-Chargeable StandBy	**35.900**	**7.123**
Fishing	35.900	7.123
Acquisition	**242.700**	**48.155**
Prime Line Change	4.717	0.936
Production Prime	237.983	47.219
Total	504.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					

MCS 12000 37.5m					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

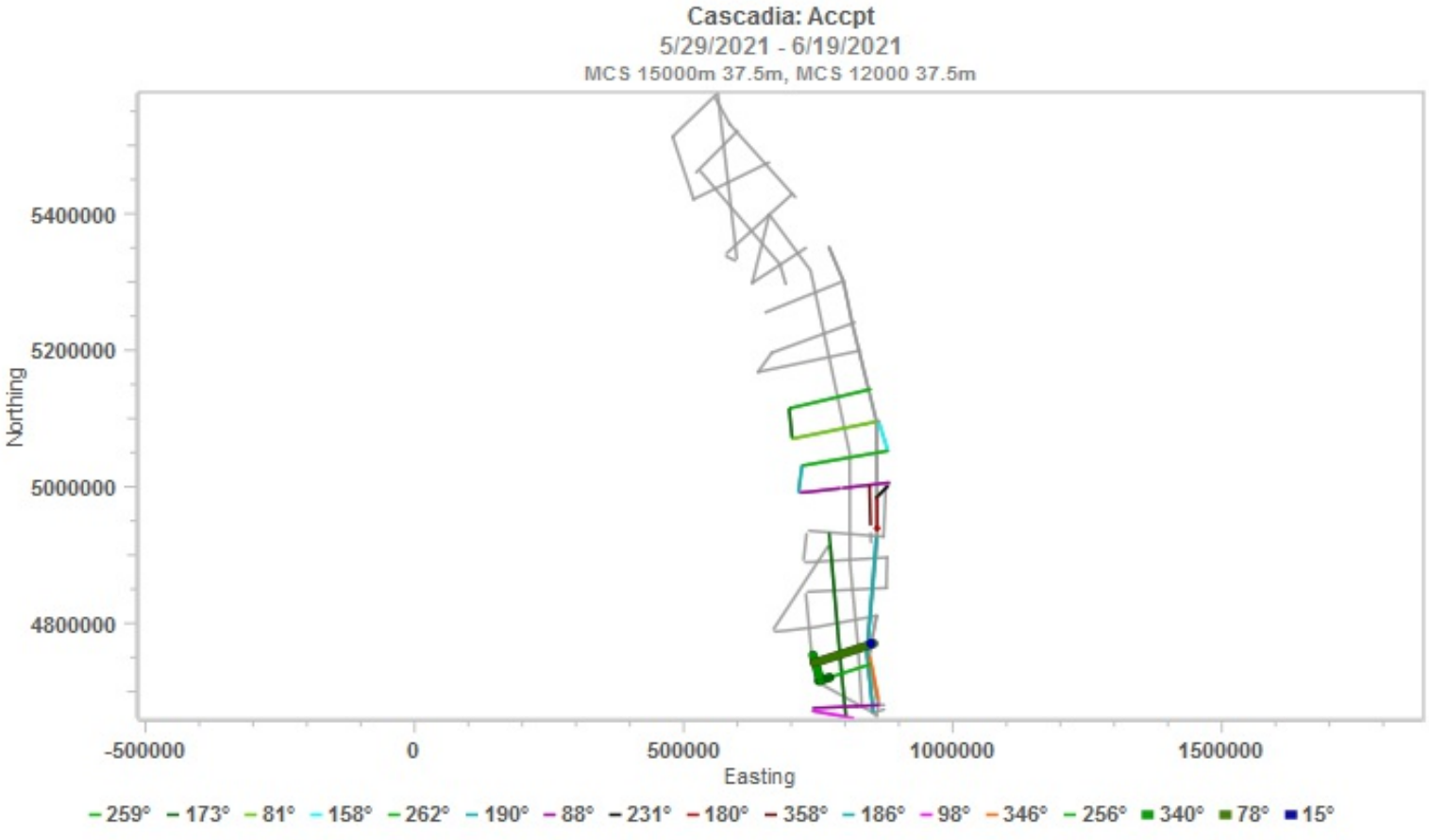
MCS 15000m 37.5m, MCS 12000 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
16	1009	255.7	3047	3609	Prime	21.11	4.333	Complete	Complete
17	09T08	339.9	1001	1248	Prime	9.30	3.094	Complete	Incomplete
18	09T08	339.9	1249	2592	Prime	50.40	9.431	Complete	Complete
19	1008	77.6	951	3989	Prime	113.96	3.947	Complete	Complete
20	08T12	14.6	1045	1083	Prime	1.46	3.551	Part	Midnight
Total						**196.24**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

Accepted km	Day	Week	Month	Project
Prime	196.24	826.99	2104.91	2104.91
Combined	**196.24**	**826.99**	**2104.91**	**2104.91**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Sun 20 Jun

In Production all day
Winds are down to 25 knots

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sun 20. Jun 00:00	Sun 20. Jun 05:48	5.800
SOL Seq 20 Line:08T12 Block=Cascadia FGSP=1084 Hdg=14.6° Prime EOL Seq 20 Line:08T12 Block=Cascadia LGSP=2030 Complete				
Prime Line Change	AC_PLC	Sun 20. Jun 05:48	Sun 20. Jun 06:42	0.900
Nominal Prime line change.				
Production Prime	AC_PP	Sun 20. Jun 06:42	Sun 20. Jun 21:37	14.917
SOL Seq 21 Line:1012 Block=Cascadia FGSP=6249 Hdg=264.7° Prime EOL Seq 21 Line:1012 Block=Cascadia LGSP=2398 Complete				
Prime Line Change	AC_PLC	Sun 20. Jun 21:37	Sun 20. Jun 22:15	0.633
Nominal Prime line change.				
Production Prime	AC_PP	Sun 20. Jun 22:15	Sun 20. Jun 24:00	1.750
SOL Seq 22 Line:1007_08 Block=Cascadia FGSP=2350 FCSP=N/AHdg=353.1° Prime MSP Seq 22 Line:1007_08 Block=Cascadia LGSP=1993 LCSP=1993 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

20-Jun	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	1.533	6.389
Production Prime	22.467	93.611
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
DownTime	**99.850**	**18.911**
Cetacean	1.000	0.189
Streamers	98.850	18.722
Chargeable Standby	**0.983**	**0.186**
Cetacean	0.983	0.186
Mobilisation	**124.567**	**23.592**
Deployment	36.967	7.001
Mob Ashore	73.833	13.984
Testing	2.533	0.480
Transit to Prospect	11.233	2.128
Non-Chargeable StandBy	**35.900**	**6.799**
Fishing	35.900	6.799
Acquisition	**266.700**	**50.511**
Prime Line Change	6.250	1.184
Production Prime	260.450	49.328
Total	528.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

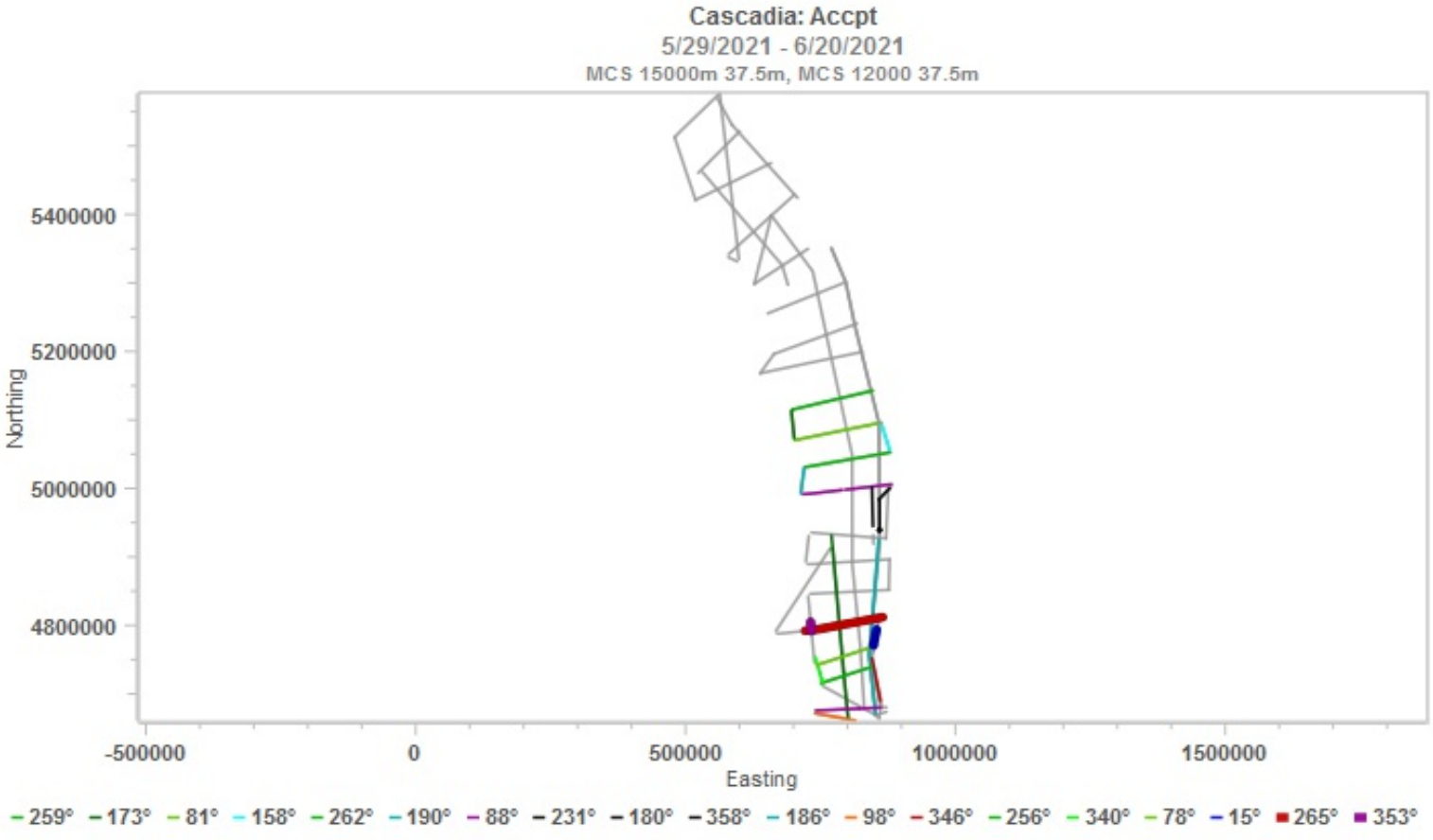
MCS 15000m 37.5m, MCS 12000 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
20	08T12	14.6	1084	2030	Prime	35.51	3.315	Complete	Complete
21	1012	264.7	6249	2398	Prime	144.45	5.227	Complete	Complete
22	1007_08	353.1	2350	1993	Prime	13.42	4.131	Part	Midnight
Total						**193.39**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

Accepted km	Day	Week	Month	Project
Prime	193.39	1020.37	2298.30	2298.30
Combined	**193.39**	**1020.37**	**2298.30**	**2298.30**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Mon 21. Jun 00:00	Mon 21. Jun 04:46	4.767
SOL Seq 22 Line:1007_08 Block=Cascadia FGSP=1992 Hdg=353.1° Prime EOL Seq 22 Line:1007_08 Block=Cascadia LGSP=1053 Complete				
Prime Line Change	AC_PLC	Mon 21. Jun 04:46	Mon 21. Jun 05:36	0.833
Nominal Prime line change.				
Production Prime	AC_PP	Mon 21. Jun 05:36	Mon 21. Jun 23:17	17.683
SOL Seq 23 Line:1007 Block=Cascadia FGSP=4890 Hdg=87.7° Prime EOL Seq 23 Line:1007 Block=Cascadia LGSP=1347 Complete				
Prime Line Change	AC_PLC	Mon 21. Jun 23:17	Mon 21. Jun 23:30	0.217
Nominal Prime line change.				
Production Prime	AC_PP	Mon 21. Jun 23:30	Mon 21. Jun 24:00	0.500
SOL Seq 24 Line:TD15D14 Block=Cascadia FGSP=1001 Hdg=358.4° Prime MSP Seq 24 Line:TD15D14 Block=Cascadia LGSP=1105 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

21-Jun	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	1.050	4.375
Production Prime	22.950	95.625
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
DownTime	**99.850**	**18.089**
Cetacean	1.000	0.181
Streamers	98.850	17.908
Chargeable Standby	**0.983**	**0.178**
Cetacean	0.983	0.178

Category	Hours	%Percent
Mobilisation	**124.567**	**22.566**
Deployment	36.967	6.697
Mob Ashore	73.833	13.376
Testing	2.533	0.459
Transit to Prospect	11.233	2.035
Non-Chargeable StandBy	**35.900**	**6.504**
Fishing	35.900	6.504
Acquisition	**290.700**	**52.663**
Prime Line Change	7.300	1.322
Production Prime	283.400	51.341
Total	552.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

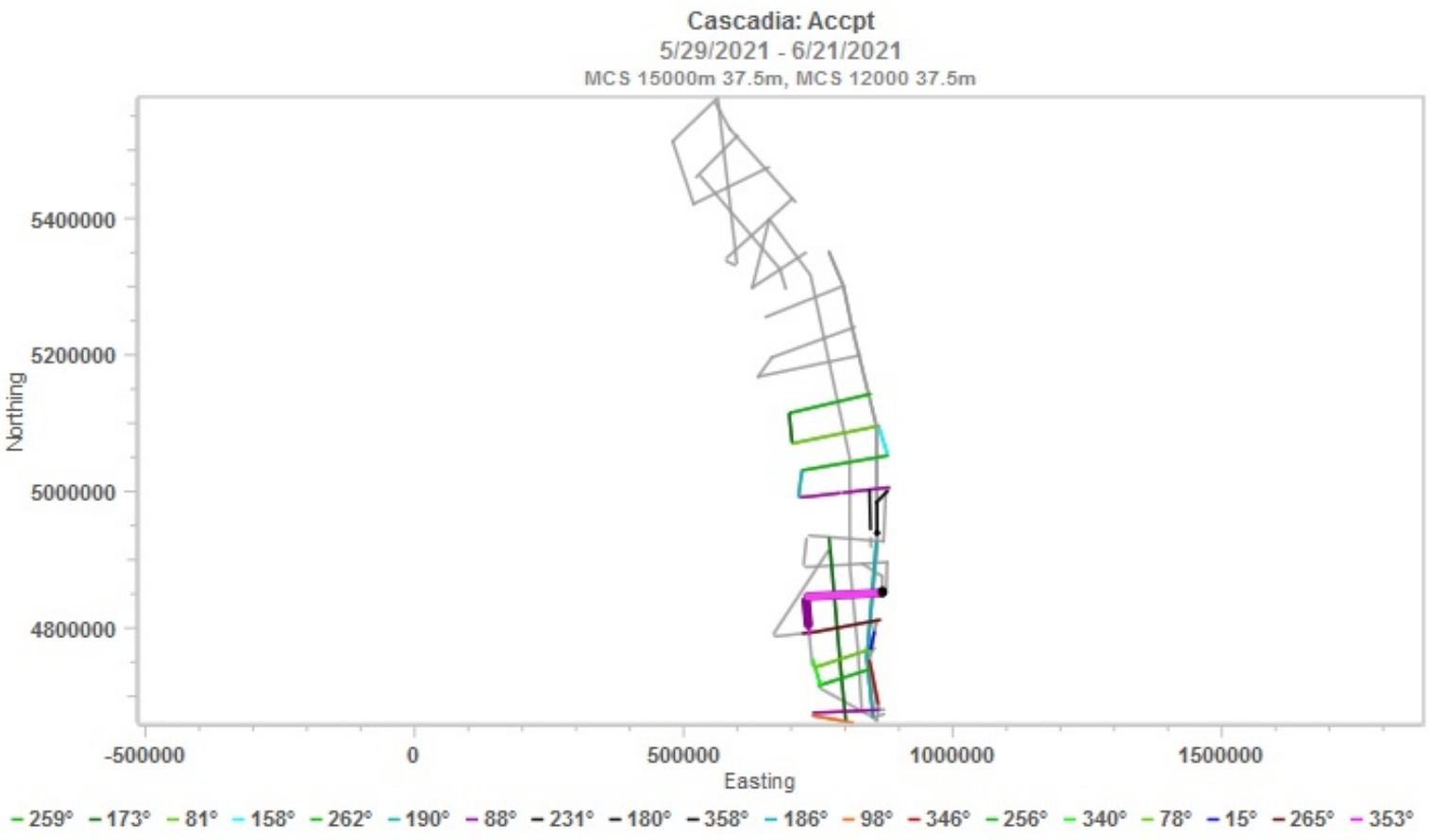
MCS 15000m 37.5m, MCS 12000 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
22	1007_08	353.1	1992	1053	Prime	35.25	4.030	Complete	Complete
23	1007	87.7	4890	1347	Prime	132.90	4.057	Complete	Complete
24	TD15D14	358.4	1001	1105	Prime	3.94	4.212	Part	Midnight
Total						**172.09**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

Accepted km	Day	Week	Month	Project
Prime	172.09	172.09	2470.39	2470.39
Combined	**172.09**	**172.09**	**2470.39**	**2470.39**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Tue 22 Jun

In Production all day
Lost Maggie recovered while picking up array #4
Arrays #3 & #4 recovered for repairs - back to full volume
Maggie deployed at 11:50

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Tue 22. Jun 00:00	Tue 22. Jun 02:12	2.200
SOL Seq 24 Line:TD15D14 Block=Cascadia FGSP=1106 Hdg=358.4° Prime EOL Seq 24 Line:TD15D14 Block=Cascadia LGSP=1585 Complete				
Prime Line Change	AC_PLC	Tue 22. Jun 02:12	Tue 22. Jun 02:15	0.050
Nominal Prime line change.				
Production Prime	AC_PP	Tue 22. Jun 02:15	Tue 22. Jun 07:28	5.217
SOL Seq 25 Line:TD15D14ABlock=Cascadia FGSP=1001 Hdg=296.6° Prime EOL Seq 25 Line:TD15D14ABlock=Cascadia LGSP=2092 Complete				
Prime Line Change	AC_PLC	Tue 22. Jun 07:28	Tue 22. Jun 07:32	0.067
Nominal Prime line change.				
Production Prime	AC_PP	Tue 22. Jun 07:32	Tue 22. Jun 20:36	13.067
SOL Seq 26 Line:1006 Block=Cascadia FGSP=3816 Hdg=267.3° Prime EOL Seq 26 Line:1006 Block=Cascadia LGSP=959 Complete				
Prime Line Change	AC_PLC	Tue 22. Jun 20:36	Tue 22. Jun 21:04	0.467
Nominal Prime line change.				
Production Prime	AC_PP	Tue 22. Jun 21:04	Tue 22. Jun 24:00	2.933
SOL Seq 27 Line:1005_06 Block=Cascadia FGSP=2015 FCSP=N/AHdg=8.1° Prime MSP Seq 27 Line:1005_06 Block=Cascadia LGSP=1376 LCSP=1376 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

22-Jun	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	0.583	2.431
Production Prime	23.417	97.569
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
DownTime	**99.850**	**17.335**
Cetacean	1.000	0.174
Streamers	98.850	17.161
Chargeable Standby	**0.983**	**0.171**
Cetacean	0.983	0.171
Mobilisation	**124.567**	**21.626**
Deployment	36.967	6.418
Mob Ashore	73.833	12.818
Testing	2.533	0.440
Transit to Prospect	11.233	1.950
Non-Chargeable StandBy	**35.900**	**6.233**
Fishing	35.900	6.233
Acquisition	**314.700**	**54.635**
Prime Line Change	7.883	1.369
Production Prime	306.817	53.267
Total	576.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

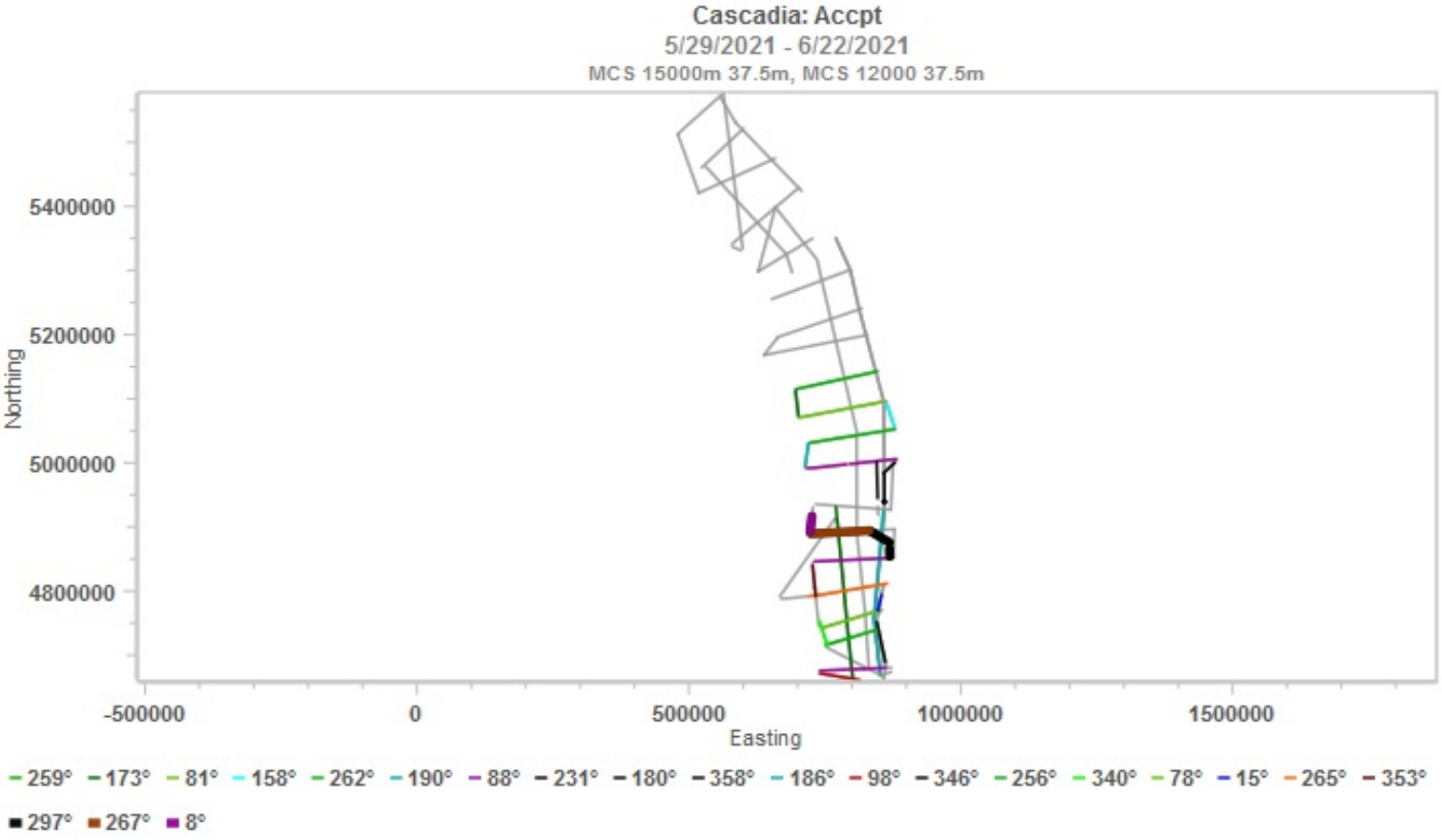
MCS 15000m 37.5m, MCS 12000 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
24	TD15D14	358.4	1106	1585	Prime	18.00	4.380	Complete	Complete
25	TD15D14A	296.6	1001	2092	Prime	40.95	4.235	Complete	Complete
26	1006	267.3	3816	959	Prime	107.17	4.427	Complete	Complete
27	1005_06	8.1	2015	1376	Prime	24.00	4.411	Part	Midnight
Total						**190.12**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

Accepted km	Day	Week	Month	Project
Prime	190.12	362.21	2660.51	2660.51
Combined	**190.12**	**362.21**	**2660.51**	**2660.51**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Wed 23 Jun

In Production all day
2 marine mammal shut downs

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Wed 23. Jun 00:00	Wed 23. Jun 02:09	2.150
SOL Seq 27 Line:1005_06 Block=Cascadia FGSP=1375 Hdg=8.1° Prime EOL Seq 27 Line:1005_06 Block=Cascadia LGSP=900 Complete				
Prime Line Change	AC_PLC	Wed 23. Jun 02:09	Wed 23. Jun 02:32	0.383
Nominal Prime line change.				
Production Prime	AC_PP	Wed 23. Jun 02:32	Wed 23. Jun 18:22	15.833
SOL Seq 28 Line:1005 Block=Cascadia FGSP=4636 Hdg=93.5° Prime EOL Seq 28 Line:1005 Block=Cascadia LGSP=1251 Complete We had 1 shut down for marine mammals during this sequence - 12:37 - 13:05				
Prime Line Change	AC_PLC	Wed 23. Jun 18:22	Wed 23. Jun 18:27	0.083
Nominal Prime line change.				
Production Prime	AC_PP	Wed 23. Jun 18:27	Wed 23. Jun 24:00	5.550
SOL Seq 29 Line:PS01ABlock=Cascadia FGSP=8000 FCSP=N/AHdg=352.3° Prime MSP Seq 29 Line:PS01ABlock=Cascadia LGSP=9976 LCSP=9976 Midnight We had 1 shut down for marine mammals during this sequence 21:55 - 22:28				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

23-Jun	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	0.467	1.944
Production Prime	23.533	98.056
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
DownTime	**99.850**	**16.642**
Cetacean	1.000	0.167
Streamers	98.850	16.475
Chargeable Standby	**0.983**	**0.164**
Cetacean	0.983	0.164
Mobilisation	**124.567**	**20.761**
Deployment	36.967	6.161
Mob Ashore	73.833	12.306
Testing	2.533	0.422
Transit to Prospect	11.233	1.872
Non-Chargeable StandBy	**35.900**	**5.983**
Fishing	35.900	5.983
Acquisition	**338.700**	**56.450**
Prime Line Change	8.350	1.392
Production Prime	330.350	55.058
Total	600.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

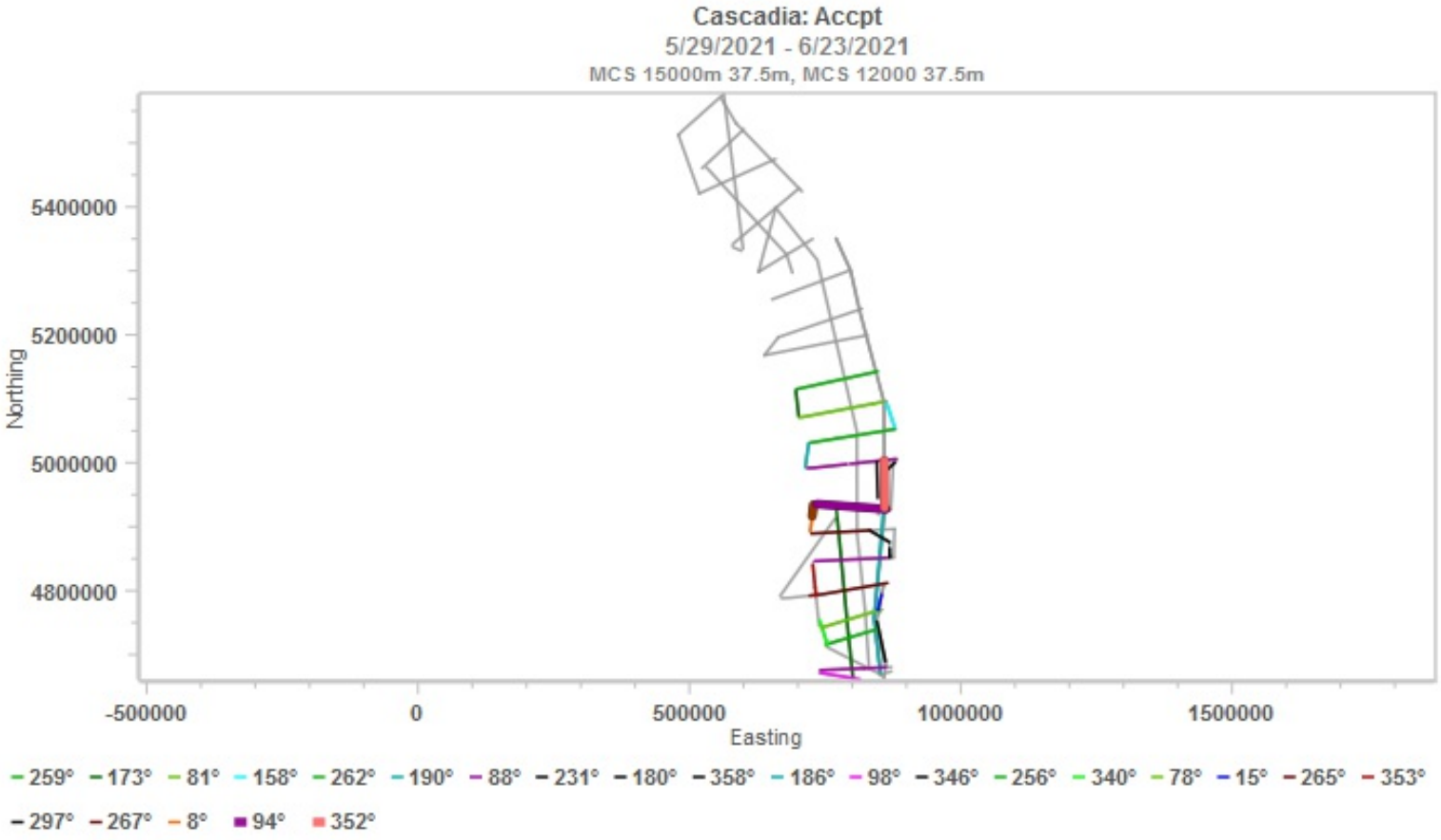
MCS 15000m 37.5m, MCS 12000 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
27	1005_06	8.1	1375	900	Prime	17.85	4.441	Complete	Complete
28	1005	93.5	4636	1251	Prime	126.97	4.329	Complete	Complete
29	PS01A	352.3	8000	9976	Prime	74.14	7.209	Part	Midnight
Total						**218.96**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

Accepted km	Day	Week	Month	Project
Prime	218.96	581.18	2879.47	2879.47
Combined	**218.96**	**581.18**	**2879.47**	**2879.47**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Thu 24 Jun

In Production 24hrs
Had to come off line for buoy NDBC_46029 and a crab pot directly afterwards
Rachel Carson is with us and proving to be very helpful spotting crab pots and communicating with fishing vessels
We will stop shooting at dark this evening.

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Thu 24. Jun 00:00	Thu 24. Jun 24:00	24.000
SOL Seq 29 Line:PS01ABlock=Cascadia FGSP=9977 FCSP=N/AHdg=352.3° Prime MSP Seq 29 Line:PS01ABlock=Cascadia LGSP=15122 LCSP=15122 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

24-Jun	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, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
DownTime	**99.850**	**16.002**
Cetacean	1.000	0.160
Streamers	98.850	15.841
Chargeable Standby	**0.983**	**0.158**
Cetacean	0.983	0.158
Mobilisation	**124.567**	**19.963**
Deployment	36.967	5.924
Mob Ashore	73.833	11.832
Testing	2.533	0.406
Transit to Prospect	11.233	1.800
Non-Chargeable StandBy	**35.900**	**5.753**
Fishing	35.900	5.753

Category	Hours	%Percent
Acquisition	**362.700**	**58.125**
Prime Line Change	8.350	1.338
Production Prime	354.350	56.787
Total	624.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

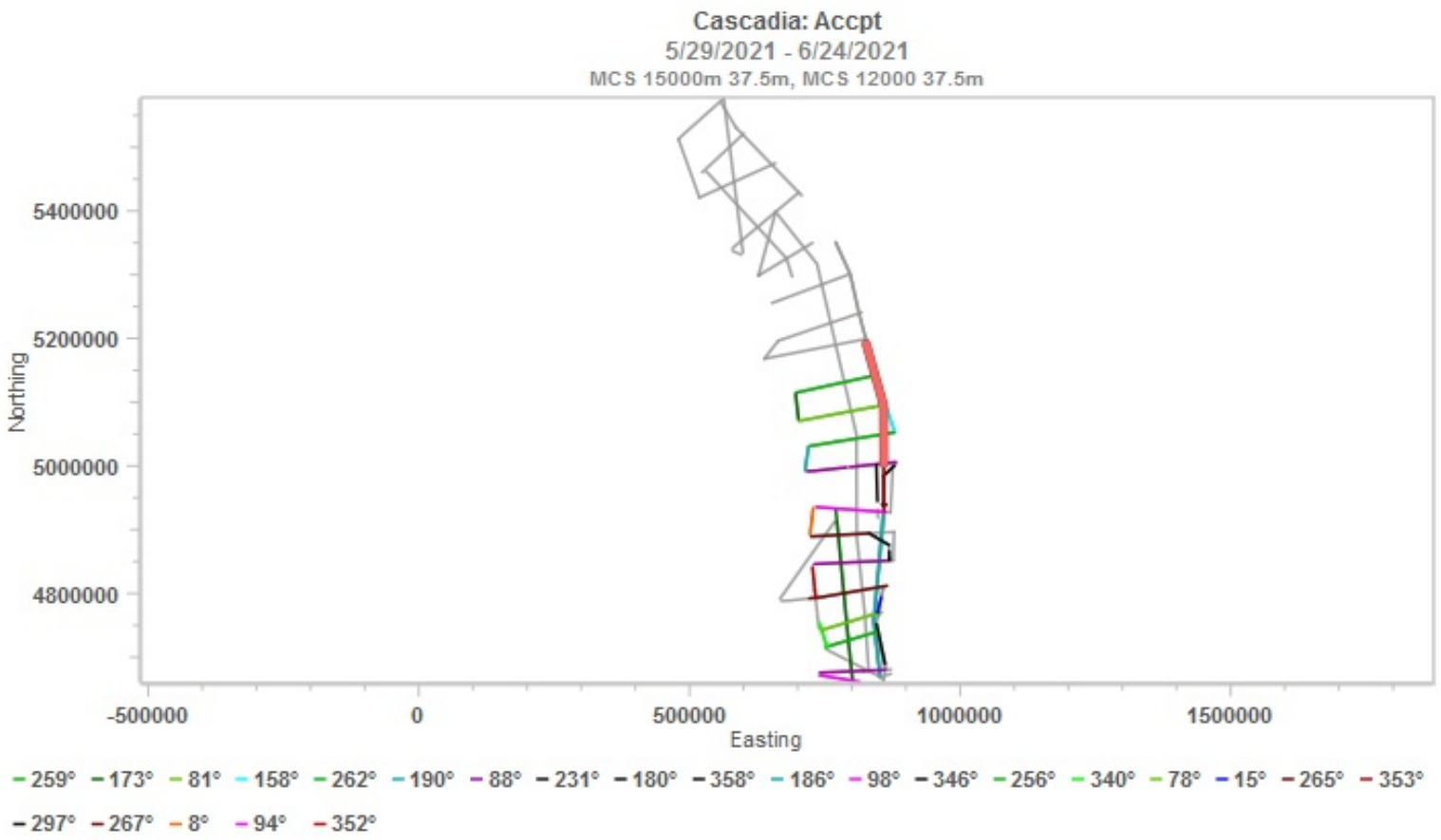
MCS 15000m 37.5m, MCS 12000 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
29	PS01A	352.3	9977	15122	Prime	192.97	4.880	Part	Midnight
Total						**192.97**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

Accepted km	Day	Week	Month	Project
Prime	192.97	774.15	3072.45	3072.45
Combined	**192.97**	**774.15**	**3072.45**	**3072.45**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Fri 25 Jun

Started production at 05:37 local time after the night time shut down.
In production until the streamer developed leakage causing us to have to abort the line and recover.
We had 1 marine mammal shut down prior to the end of line - but did not get fully ramped up before the streamer leakage started.

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Fri 25. Jun 00:00	Fri 25. Jun 04:45	4.750
SOL Seq 29 Line:PS01ABlock=Cascadia FGSP=15123 Hdg=352.3° Prime EOL Seq 29 Line:PS01ABlock=Cascadia LGSP=16173 Complete				
Cetacean	SB_CT	Fri 25. Jun 04:45	Fri 25. Jun 12:37	7.867
Chargeable standby due to daylight only shooting area as per permit requirements.				
Production Prime	AC_PP	Fri 25. Jun 12:37	Fri 25. Jun 21:38	9.017
SOL Seq 30 Line:PS01ABlock=Cascadia FGSP=15162 Hdg=352.3° Prime EOL Seq 30 Line:PS01ABlock=Cascadia LGSP=16937 Complete				
Streamers	DT_ST	Fri 25. Jun 21:38	Fri 25. Jun 24:00	2.367
Downtime due to streamers - Streamer developed leakage causing the streamer power to trip. Recovering source at the end of the day				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

25-Jun	Hours	%Percent
Acquisition	**13.767**	**57.361**
Production Prime	13.767	57.361
Chargeable Standby	**7.867**	**32.778**
Cetacean	7.867	32.778
DownTime	**2.367**	**9.861**
Streamers	2.367	9.861
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
DownTime	**102.217**	**15.774**
Cetacean	1.000	0.154
Streamers	101.217	15.620
Chargeable Standby	**8.850**	**1.366**
Cetacean	8.850	1.366
Mobilisation	**124.567**	**19.223**
Deployment	36.967	5.705
Mob Ashore	73.833	11.394
Testing	2.533	0.391
Transit to Prospect	11.233	1.734
Non-Chargeable StandBy	**35.900**	**5.540**
Fishing	35.900	5.540
Acquisition	**376.467**	**58.097**
Prime Line Change	8.350	1.289
Production Prime	368.117	56.808
Total	648.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

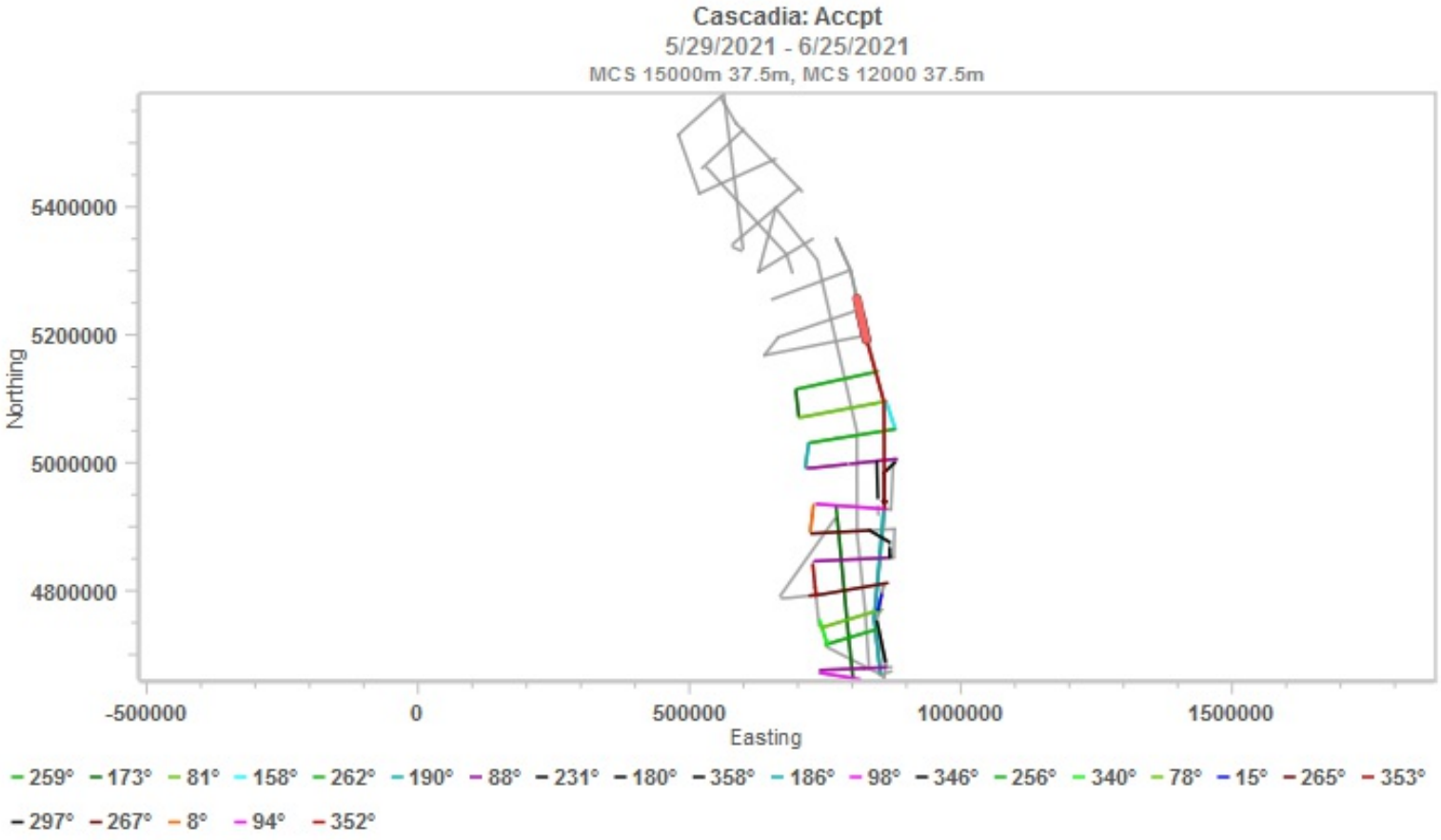
MCS 15000m 37.5m, MCS 12000 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
29	PS01A	352.3	15123	16173	Prime	39.41	4.825	Complete	Complete
30	PS01A	352.3	15162	16937	Prime	66.60	3.986	Complete	Complete
Total						**106.01**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

Accepted km	Day	Week	Month	Project
Prime	106.01	880.16	3178.46	3178.46
Combined	**106.01**	**880.16**	**3178.46**	**3178.46**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Sat 26 Jun

The day was spent trouble shooting multiple leakage and section breaks in the streamer.
04:29 Source and Head Float on board - begin to recover streamer slowly under very high tension.
2 large amounts of fishing gear were found near the end of the streamer, we had to go back to bird 37. (10k back)
The day ended deploying and trouble shooting.

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Fishing	NC_FS	Sat 26. Jun 00:00	Sat 26. Jun 24:00	24.000
Fishing gear caught on streamer causing leakage from the hi tension				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

26-Jun	Hours	%Percent
Chargeable Standby	**0.000**	**0.000**
Fishing	0.000	0.000
Non-Chargeable StandBy	**24.000**	**100.000**
Fishing	24.000	100.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
DownTime	**99.850**	**14.859**
Cetacean	1.000	0.149
Streamers	98.850	14.710
Chargeable Standby	**11.217**	**1.669**
Cetacean	8.850	1.317
Fishing	2.367	0.352
Mobilisation	**124.567**	**18.537**
Deployment	36.967	5.501
Mob Ashore	73.833	10.987
Testing	2.533	0.377
Transit to Prospect	11.233	1.672

Category	Hours	%Percent
Non-Chargeable StandBy	**59.900**	**8.914**
Fishing	59.900	8.914
Acquisition	**376.467**	**56.022**
Prime Line Change	8.350	1.243
Production Prime	368.117	54.779
Total	672.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km) - Full Fold

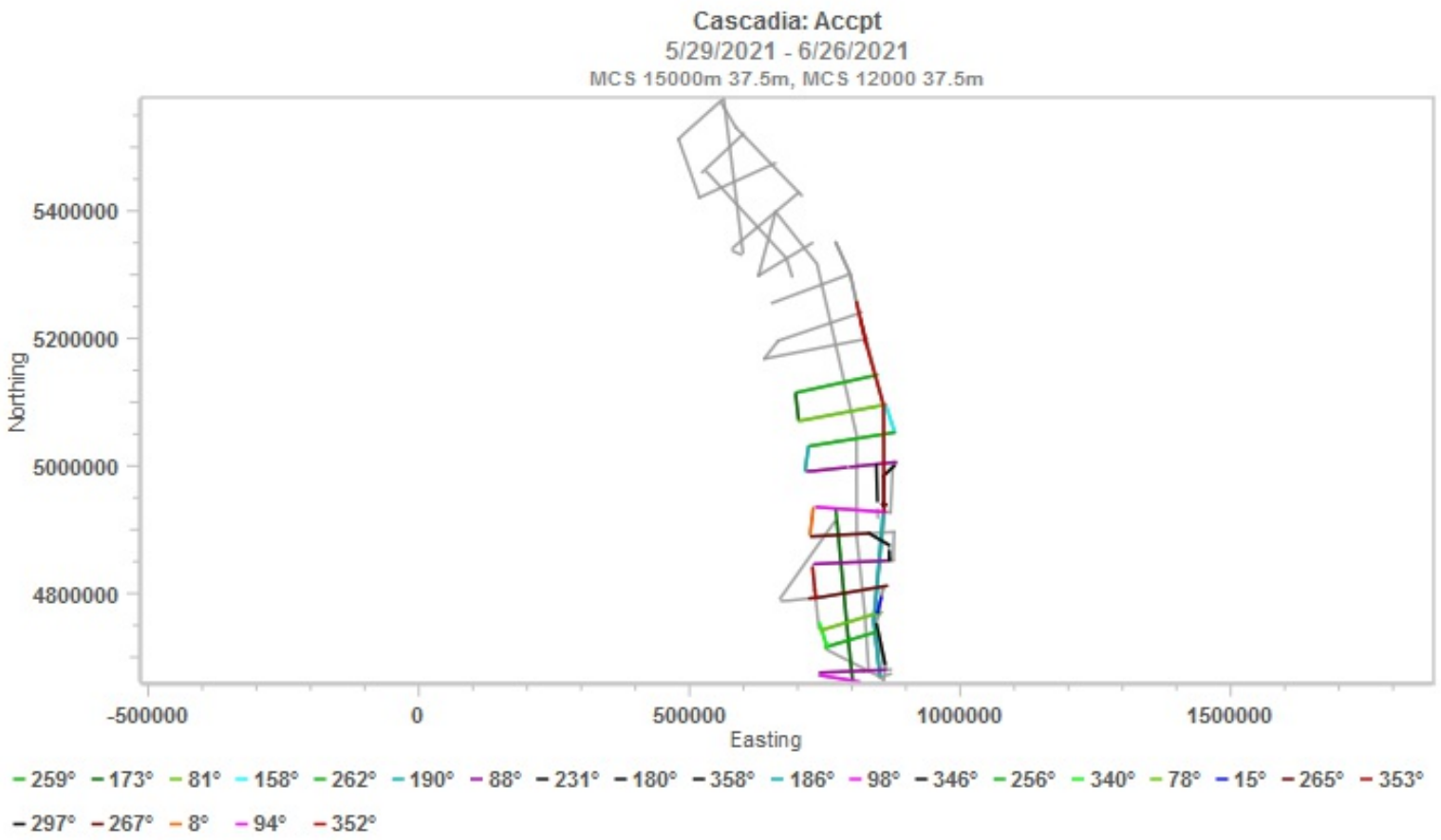
MCS 15000m 37.5m, MCS 12000 37.5m

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0.00**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

Accepted km	Day	Week	Month	Project
Prime	0.00	880.16	3178.46	3178.46
Combined	**0.00**	**880.16**	**3178.46**	**3178.46**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Sun 27 Jun

Continue deploying and breaking the streamer at almost every LAUM with stops in between.
We reached bird #4 and it all looked good, but as we started to deploy the power dropped again and we had to recover 4 sections to the next LAUM.
In the end we had to replace the following equipment.
4 LAUM (1 from spares with incompatible software error)
5 sections(2 were from the 1st incident off of reel #2)

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Fishing	SB_FS	Sun 27. Jun 00:00	Sun 27. Jun 09:18	9.300
Fishing gear caught on streamer causing leakage from the hi tension				
Production Prime	AC_PP	Sun 27. Jun 09:18	Sun 27. Jun 24:00	14.700
SOL Seq 31 Line:PS05-31 Block=Cascadia FGSP=1359 FCSP=N/AHdg=339.6° Prime MSP Seq 31 Line:PS05-31 Block=Cascadia LGSP=4986 LCSP=4986 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

27-Jun	Hours	%Percent
Acquisition	**14.700**	**61.250**
Production Prime	14.700	61.250
Chargeable Standby	**9.300**	**38.750**
Fishing	9.300	38.750
Non-Chargeable StandBy	**0.000**	**0.000**
Fishing	0.000	0.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
DownTime	**99.850**	**14.346**
Cetacean	1.000	0.144
Streamers	98.850	14.203
Chargeable Standby	**20.517**	**2.948**
Cetacean	8.850	1.272

Category	Hours	%Percent
Fishing	11.667	1.676
Mobilisation	**124.567**	**17.898**
Deployment	36.967	5.311
Mob Ashore	73.833	10.608
Testing	2.533	0.364
Transit to Prospect	11.233	1.614
Non-Chargeable StandBy	**59.900**	**8.606**
Fishing	59.900	8.606
Acquisition	**391.167**	**56.202**
Prime Line Change	8.350	1.200
Production Prime	382.817	55.002
Total	696.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

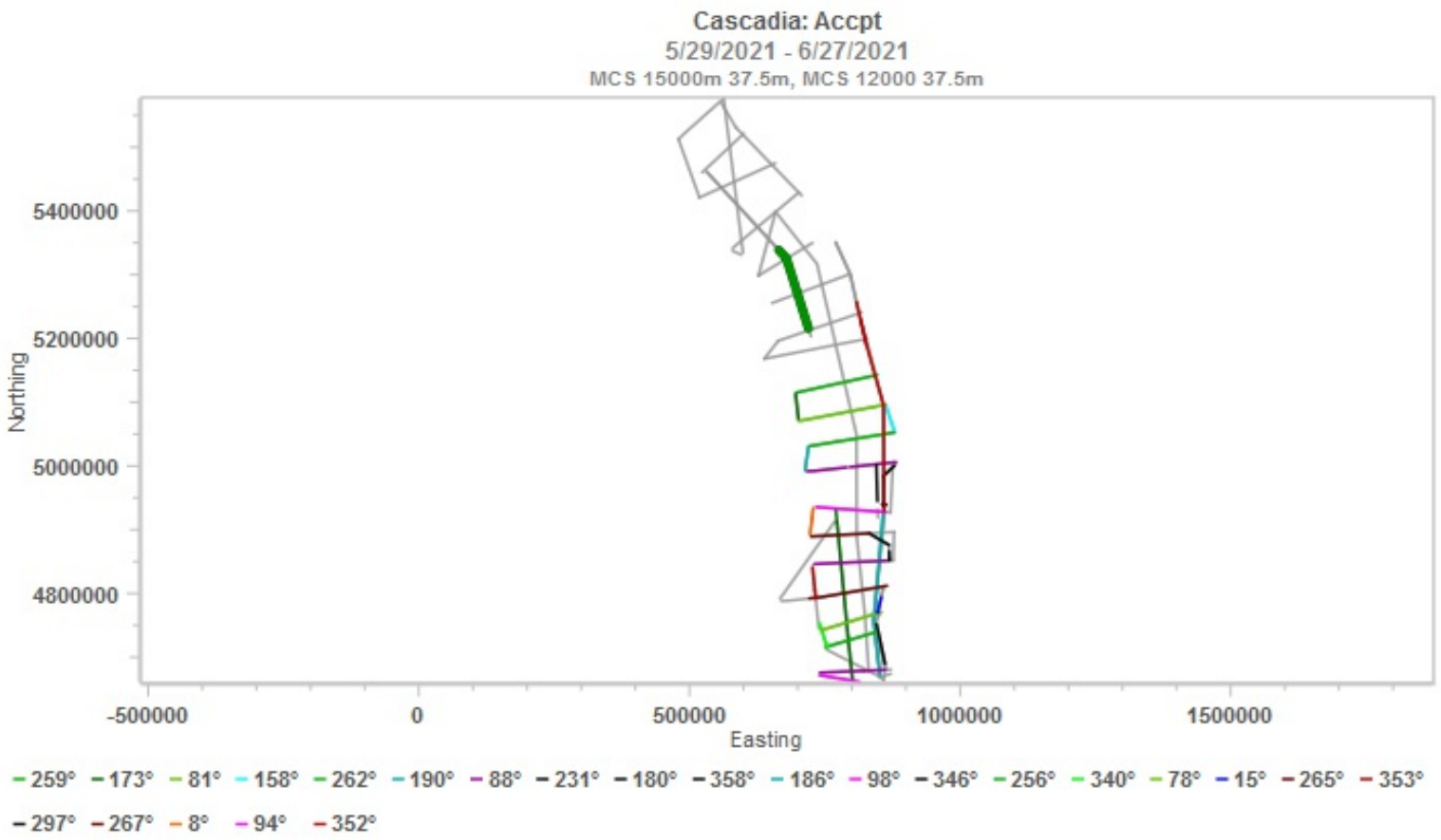
MCS 15000m 37.5m, MCS 12000 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
31	PS05-31	339.6	1359	4986	Prime	136.05	4.996	Part	Midnight
Total						**136.05**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

Accepted km	Day	Week	Month	Project
Prime	136.05	1016.21	3314.51	3314.51
Combined	**136.05**	**1016.21**	**3314.51**	**3314.51**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Mon 28 Jun

In production until we had to shut down for whales for 3hr 40min

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Mon 28. Jun 00:00	Mon 28. Jun 14:34	14.567
SOL Seq 31 Line:PS05-31 Block=Cascadia FGSP=4987 Hdg=339.6° Prime EOL Seq 31 Line:PS05-31 Block=Cascadia LGSP=9984 Complete				
Prime Line Change	AC_PLC	Mon 28. Jun 14:34	Mon 28. Jun 17:08	2.567
Nominal Prime line change.				
Production Prime	AC_PP	Mon 28. Jun 17:08	Mon 28. Jun 20:04	2.933
SOL Seq 32 Line:1018 Block=Cascadia FGSP=3621 Hdg=51.8° Prime EOL Seq 32 Line:1018 Block=Cascadia LGSP=2963 Incomplete EOL early due to several large pod of whales				
Cetacean	SB_CT	Mon 28. Jun 20:04	Mon 28. Jun 23:44	3.667
Chargeable standby due to close proximity of Cetaceans. Several large pods of whales				
Production Prime	AC_PP	Mon 28. Jun 23:44	Mon 28. Jun 24:00	0.267
SOL Seq 32 Line:1018 Block=Cascadia FGSP=2143 FCSP=N/A Hdg=51.8° Prime MSP Seq 32 Line:1018 Block=Cascadia LGSP=2086 LCSP=2086 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

28-Jun	Hours	%Percent
Acquisition	**20.333**	**84.722**
Prime Line Change	2.567	10.694
Production Prime	17.767	74.028
Chargeable Standby	**3.667**	**15.278**
Cetacean	3.667	15.278
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
DownTime	**99.850**	**13.868**
Cetacean	1.000	0.139
Streamers	98.850	13.729
Chargeable Standby	**24.183**	**3.359**
Cetacean	12.517	1.738
Fishing	11.667	1.620
Mobilisation	**124.567**	**17.301**
Deployment	36.967	5.134
Mob Ashore	73.833	10.255
Testing	2.533	0.352
Transit to Prospect	11.233	1.560
Non-Chargeable StandBy	**59.900**	**8.319**
Fishing	59.900	8.319
Acquisition	**411.500**	**57.153**
Prime Line Change	10.917	1.516
Production Prime	400.583	55.637
Total	720.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

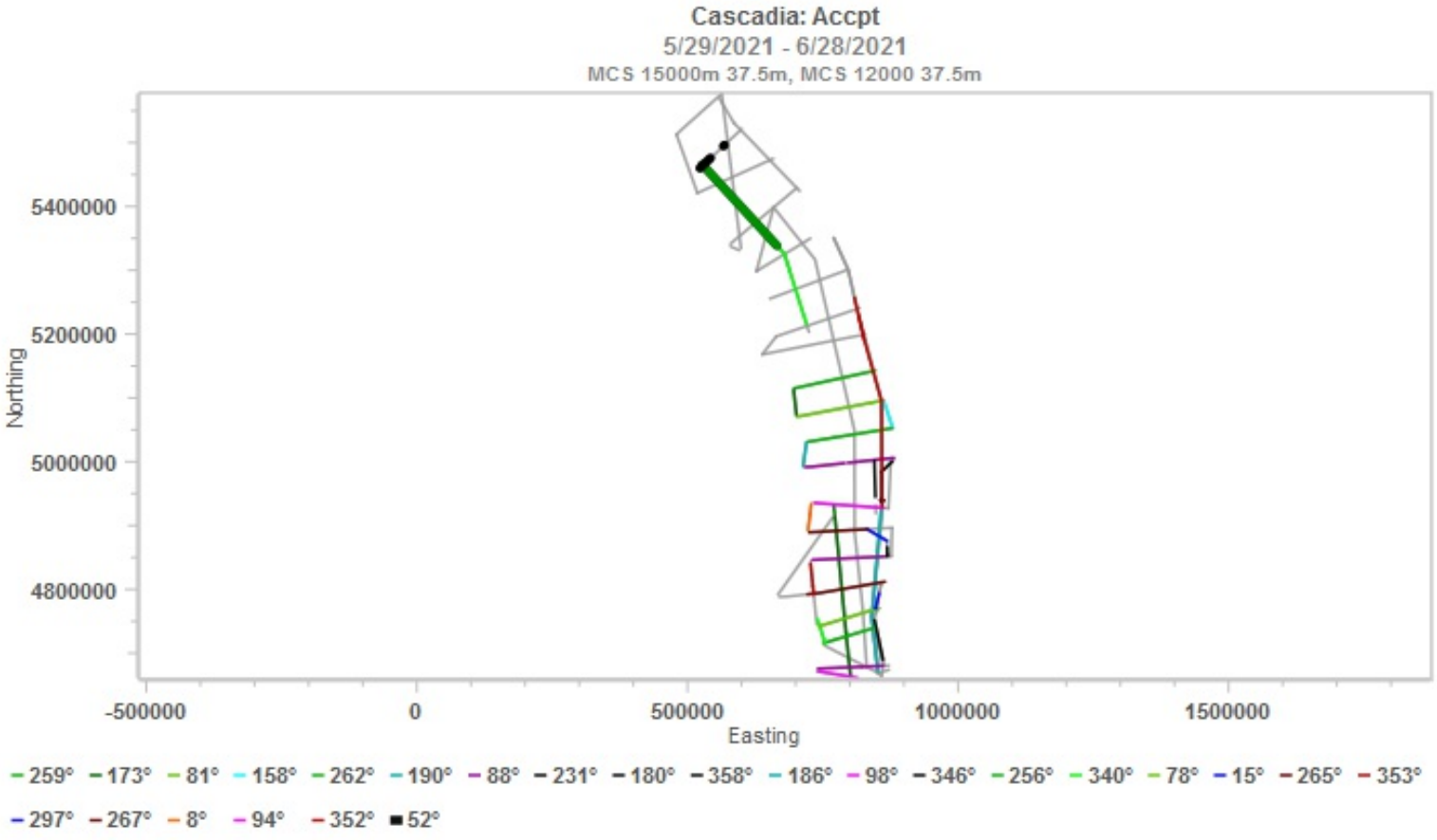
MCS 15000m 37.5m, MCS 12000 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
31	PS05-31	339.6	4987	9984	Prime	187.42	5.967	Complete	Complete
32	1018	51.8	3621	2086	Prime	26.89	4.524	Part	Midnight
NTBP: 2962 - 2144 (not chgd)									
Total						**214.31**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

Accepted km	Day	Week	Month	Project
Prime	214.31	214.31	3528.82	3528.82
Combined	**214.31**	**214.31**	**3528.82**	**3528.82**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Tue 29 Jun

In production.
The morning start up was delayed by 6 hrs because of fog not allowing the PSO to clearly provide clearance.
We also had 1 additional shut down for marine mammals that lasted 1 hr 5 min

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Tue 29. Jun 00:00	Tue 29. Jun 04:55	4.917
SOL Seq 32 Line:1018 Block=Cascadia FGSP=2085 Hdg=51.8° Prime EOL Seq 32 Line:1018 Block=Cascadia LGSP=1000 Complete				
Cetacean	SB_CT	Tue 29. Jun 04:55	Tue 29. Jun 18:57	14.033
Chargeable standby due to daylight shooting only.				
Production Prime	AC_PP	Tue 29. Jun 18:57	Tue 29. Jun 24:00	5.050
SOL Seq 33 Line:2104PS02 Block=Cascadia FGSP=2112 Hdg=130° Prime MSP Seq 33 Line:2104PS02 Block=Cascadia LGSP=3236 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

29-Jun	Hours	%Percent
Acquisition	**9.967**	**41.528**
Production Prime	9.967	41.528
Chargeable Standby	**14.033**	**58.472**
Cetacean	14.033	58.472
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
Chargeable Standby	**27.550**	**3.703**
Cetacean	27.550	3.703
Mobilisation	**124.567**	**16.743**
Deployment	36.967	4.969
Mob Ashore	73.833	9.924
Testing	2.533	0.341

Category	Hours	%Percent
Transit to Prospect	11.233	1.510
Non-Chargeable StandBy	**170.417**	**22.905**
Fishing	170.417	22.905
Acquisition	**421.467**	**56.649**
Prime Line Change	10.917	1.467
Production Prime	410.550	55.181
Total	744.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

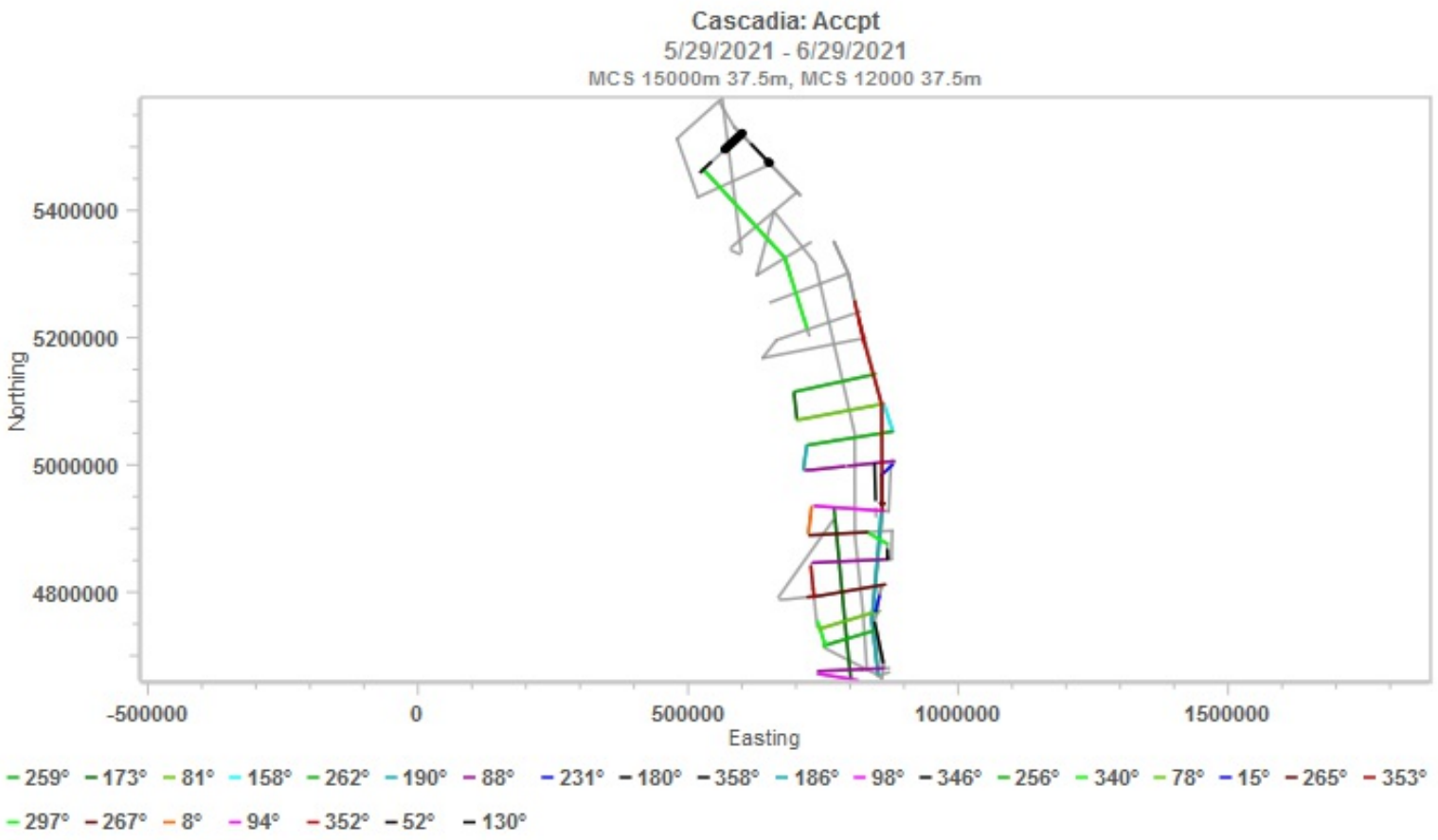
MCS 15000m 37.5m, MCS 12000 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
32	1018	51.8	2085	1000	Prime	40.73	4.493	Complete	Complete
33	2104PS02	130.0	3237	3284	Prime	1.80	4.422	Complete	Complete
Total						**42.52**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

Accepted km	Day	Week	Month	Project
Prime	42.52	299.02	3613.54	3613.54
Combined	**42.52**	**299.02**	**3613.54**	**3613.54**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Wed 30 Jun

In Production
During the turn on to line TD03D04 arrays all came together. We slowed the vessel and turned and they came apart, unfortunately one of the air lines on array #2 was damaged when it was close to array #3. Once the line started we waited until it was safe to recover array #2 to make repairs.
Seas are 3m with wind gusts to 25 mph.
Maggie is safely onboard.

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Wed 30. Jun 00:00	Wed 30. Jun 00:19	0.317
SOL Seq 33 Line:2104PS02 Block=Cascadia FGSP=3237 Hdg=130° Prime EOL Seq 33 Line:2104PS02 Block=Cascadia LGSP=3284 Complete				
Prime Line Change	AC_PLC	Wed 30. Jun 00:19	Wed 30. Jun 00:28	0.150
Nominal Prime line change.				
Production Prime	AC_PP	Wed 30. Jun 00:28	Wed 30. Jun 17:38	17.167
SOL Seq 34 Line:1016 Block=Cascadia FGSP=1240 Hdg=248.9° Prime EOL Seq 34 Line:1016 Block=Cascadia LGSP=5000 Complete				
Prime Line Change	AC_PLC	Wed 30. Jun 17:38	Wed 30. Jun 20:19	2.683
Nominal Prime line change. Hard time getting started due to weather and guns near lead in.				
Production Prime	AC_PP	Wed 30. Jun 20:19	Wed 30. Jun 24:00	3.683
SOL Seq 35 Line:TD03D04 Block=Cascadia FGSP=1288 FCSP=N/AHdg=142.6° Prime MSP Seq 35 Line:TD03D04 Block=Cascadia LGSP=1995 LCSP=1995 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

30-Jun	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	2.833	11.806
Production Prime	21.167	88.194
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
Chargeable Standby	**27.550**	**3.587**
Cetacean	27.550	3.587
Mobilisation	**124.567**	**16.220**
Deployment	36.967	4.813
Mob Ashore	73.833	9.614
Testing	2.533	0.330
Transit to Prospect	11.233	1.463
Non-Chargeable StandBy	**170.417**	**22.190**
Fishing	170.417	22.190
Acquisition	**445.467**	**58.003**
Prime Line Change	13.750	1.790
Production Prime	431.717	56.213
Total	768.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

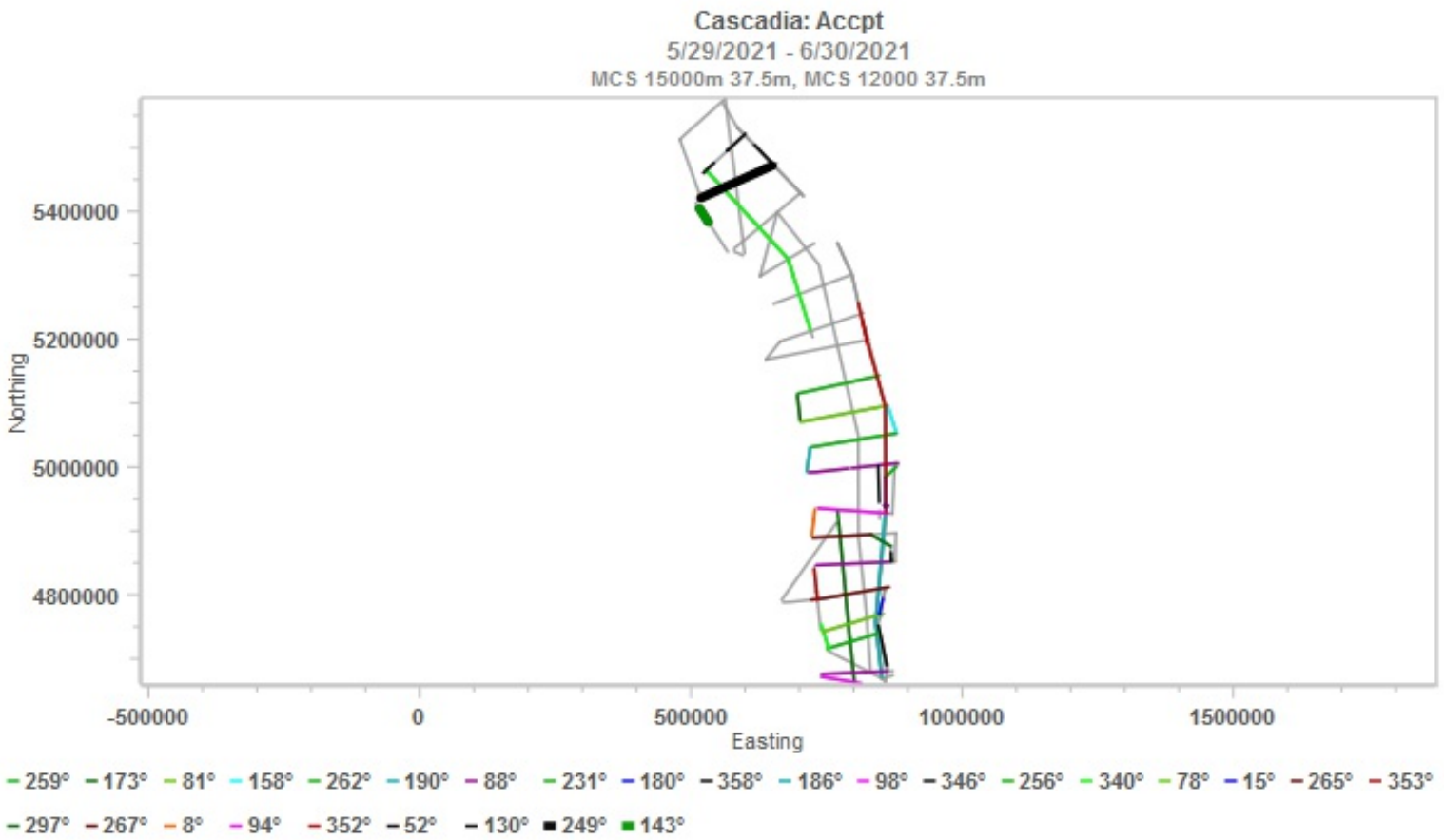
MCS 15000m 37.5m, MCS 12000 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
34	1016	248.9	1240	5000	Prime	141.04	4.435	Complete	Complete
35	TD03D04	142.6	1288	1995	Prime	26.55	3.887	Part	Midnight
Total						**167.59**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

Accepted km	Day	Week	Month	Project
Prime	167.59	466.61	3781.13	3781.13
Combined	**167.59**	**466.61**	**3781.13**	**3781.13**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Thu 01 Jul

In Production
Array #2 was recovered to fix an air leak and then deployed
Weather still poor

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Thu 1. Jul 00:00	Thu 1. Jul 07:12	7.200
SOL Seq 35 Line:TD03D04 Block=Cascadia FGSP=1996 Hdg=142.6° Prime EOL Seq 35 Line:TD03D04 Block=Cascadia LGSP=3618 Complete				
Prime Line Change	AC_PLC	Thu 1. Jul 07:12	Thu 1. Jul 07:36	0.400
Nominal Prime line change.				
Production Prime	AC_PP	Thu 1. Jul 07:36	Thu 1. Jul 24:00	16.400
SOL Seq 36 Line:1015 Block=Cascadia FGSP=770 Hdg=53.8° Prime MSP Seq 36 Line:1015 Block=Cascadia LGSP=4234 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

1-Jul	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	0.400	1.667
Production Prime	23.600	98.333
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
Chargeable Standby	**27.550**	**3.479**
Cetacean	27.550	3.479
Mobilisation	**124.567**	**15.728**
Deployment	36.967	4.668
Mob Ashore	73.833	9.322
Testing	2.533	0.320

Category	Hours	%Percent
Transit to Prospect	11.233	1.418
Non-Chargeable StandBy	**170.417**	**21.517**
Fishing	170.417	21.517
Acquisition	**469.467**	**59.276**
Prime Line Change	14.150	1.787
Production Prime	455.317	57.489
Total	792.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

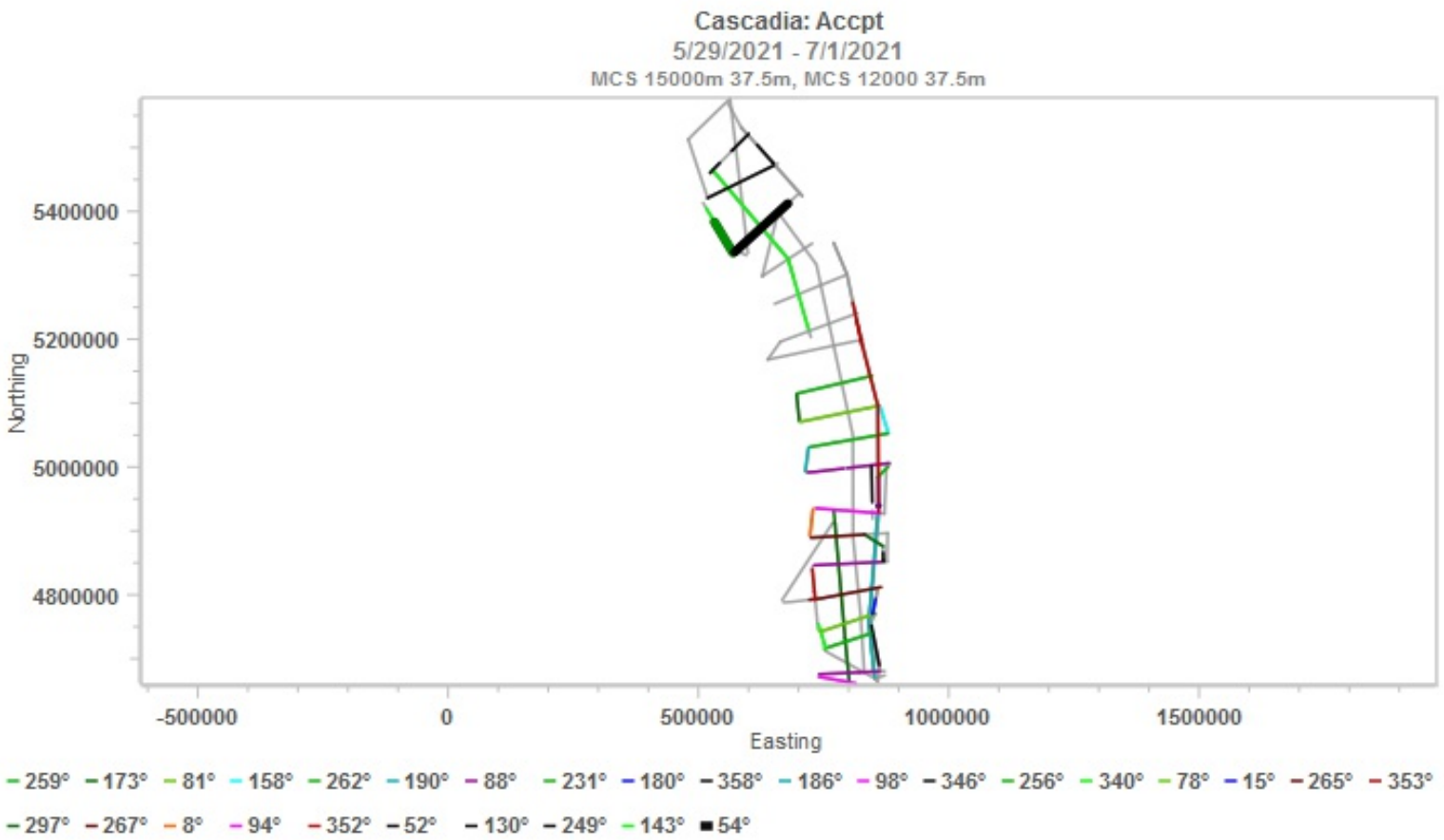
MCS 15000m 37.5m, MCS 12000 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
35	TD03D04	142.6	1996	3618	Prime	60.86	4.335	Complete	Complete
36	1015	53.8	770	4234	Prime	129.94	4.277	Part	Midnight
Total						**190.80**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

Accepted km	Day	Week	Month	Project
Prime	190.80	657.41	190.80	3971.93
Combined	**190.80**	**657.41**	**190.80**	**3971.93**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Fri 02 Jul

In Production
Array #2 recovered due to air leak, repairs made and redeployed
Array #3 recovered due to air leak, currently waiting for lead-in to straighten out to deploy.
Weather still poor

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Fri 2. Jul 00:00	Fri 2. Jul 00:26	0.433
SOL Seq 36 Line:1015 Block=Cascadia FGSP=4235 Hdg=53.8° Prime EOL Seq 36 Line:1015 Block=Cascadia LGSP=4321 Complete				
Prime Line Change	AC_PLC	Fri 2. Jul 00:26	Fri 2. Jul 00:46	0.333
Nominal Prime line change.				
Production Prime	AC_PP	Fri 2. Jul 00:46	Fri 2. Jul 22:32	21.767
SOL Seq 37 Line:2104PS07 Block=Cascadia FGSP=880 Hdg=314.1° Prime EOL Seq 37 Line:2104PS07 Block=Cascadia LGSP=4514 Complete				
Prime Line Change	AC_PLC	Fri 2. Jul 22:32	Fri 2. Jul 24:00	1.467
Nominal Prime line change.				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

2-Jul	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	1.800	7.500
Production Prime	22.200	92.500
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
Chargeable Standby	**27.550**	**3.376**
Cetacean	27.550	3.376
Mobilisation	**124.567**	**15.266**

Category	Hours	%Percent
Deployment	36.967	4.530
Mob Ashore	73.833	9.048
Testing	2.533	0.310
Transit to Prospect	11.233	1.377
Non-Chargeable StandBy	**170.417**	**20.884**
Fishing	170.417	20.884
Acquisition	**493.467**	**60.474**
Prime Line Change	15.950	1.955
Production Prime	477.517	58.519
Total	816.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

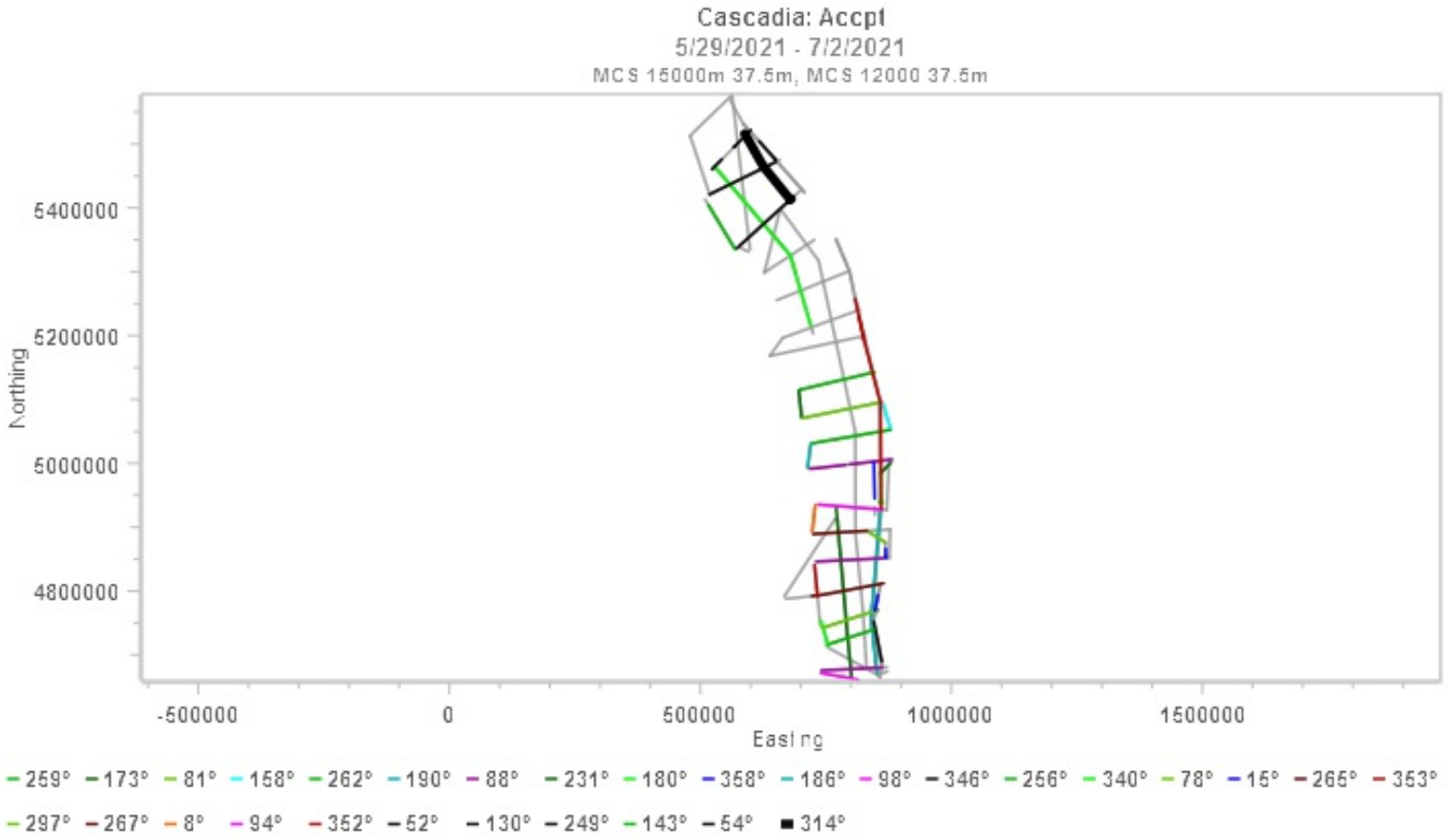
MCS 15000m 37.5m, MCS 12000 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
36	1015	53.8	4235	4321	Prime	3.26	4.271	Complete	Complete
37	2104PS07	314.1	880	4514	Prime	136.31	3.381	Complete	Complete
Total						**139.57**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

Accepted km	Day	Week	Month	Project
Prime	139.57	796.99	330.38	4111.50
Combined	**139.57**	**796.99**	**330.38**	**4111.50**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Sat 03 Jul

In Production
Completed repairs on Array #3 and deployed during seq 38
Array #3 recovered again due to air line chaffing - Recovered and deployed between seq 39 & 40
Weather poor

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Prime Line Change	AC_PLC	Sat 3. Jul 00:00	Sat 3. Jul 00:55	0.917
Nominal Prime line change.				
Production Prime	AC_PP	Sat 3. Jul 00:55	Sat 3. Jul 08:17	7.367
SOL Seq 38 Line:1018 Block=Cascadia FGSP=1737 Hdg=231.8° Prime EOL Seq 38 Line:1018 Block=Cascadia LGSP=3280 Complete				
Prime Line Change	AC_PLC	Sat 3. Jul 08:17	Sat 3. Jul 09:27	1.167
Nominal Prime line change.				
Production Prime	AC_PP	Sat 3. Jul 09:27	Sat 3. Jul 17:27	8.000
SOL Seq 39 Line:TD02S04 Block=Cascadia FGSP=971 Hdg=41.6° Prime EOL Seq 39 Line:TD02S04 Block=Cascadia LGSP=2493 Complete				
Prime Line Change	AC_PLC	Sat 3. Jul 17:27	Sat 3. Jul 18:12	0.750
Nominal Prime line change.				
Production Prime	AC_PP	Sat 3. Jul 18:12	Sat 3. Jul 24:00	5.800
SOL Seq 40 Line:1014 Block=Cascadia FGSP=2657 FCSP=N/A Hdg=171.5° Prime MSP Seq 40 Line:1014 Block=Cascadia LGSP=3949 LCSP=3949 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

3-Jul	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	2.833	11.806
Production Prime	21.167	88.194
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
Chargeable Standby	**27.550**	**3.280**
Cetacean	27.550	3.280
Mobilisation	**124.567**	**14.829**
Deployment	36.967	4.401
Mob Ashore	73.833	8.790
Testing	2.533	0.302
Transit to Prospect	11.233	1.337
Non-Chargeable StandBy	**170.417**	**20.288**
Fishing	170.417	20.288
Acquisition	**517.467**	**61.603**
Prime Line Change	18.783	2.236
Production Prime	498.683	59.367
Total	840.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

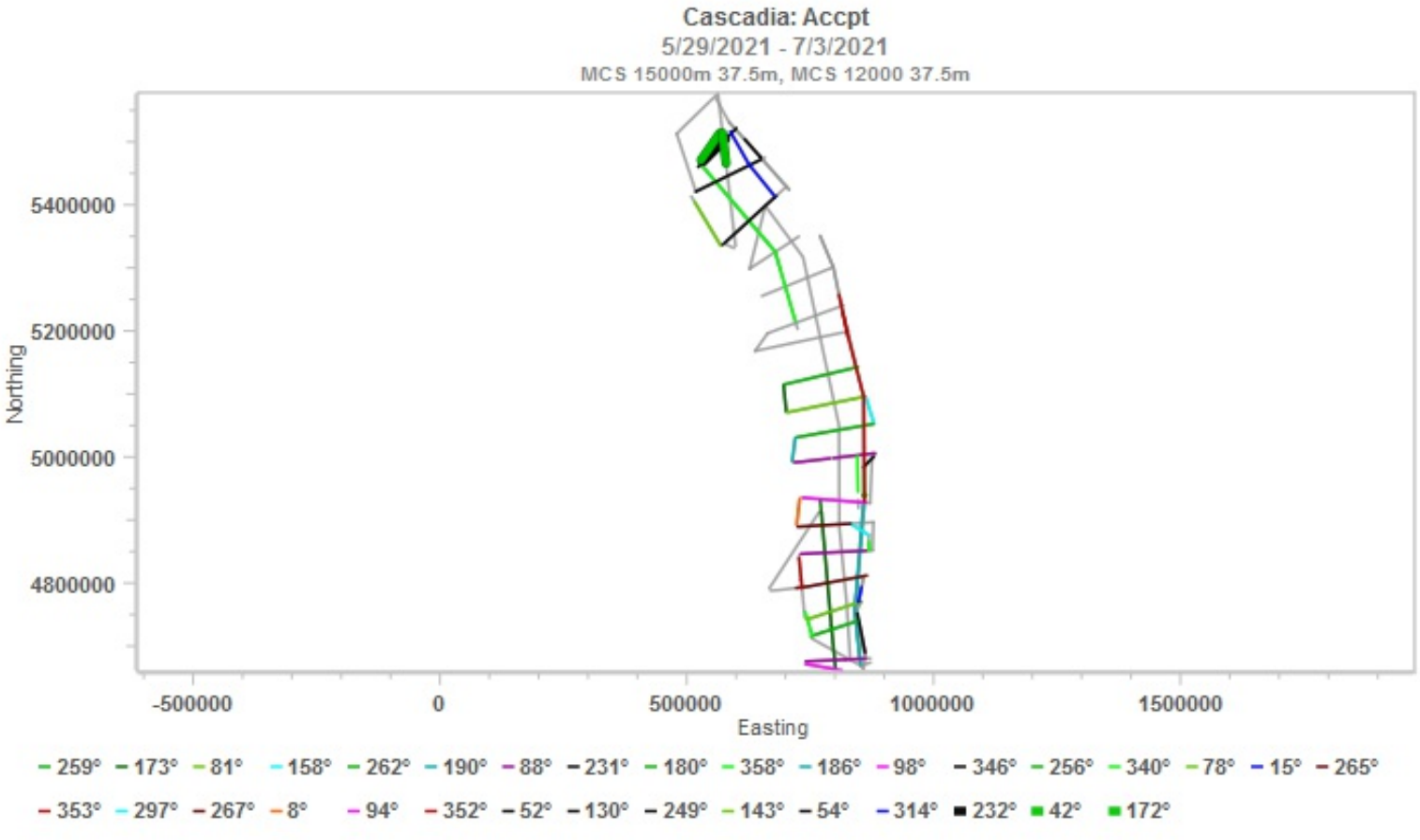
Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
38	1018	231.8	1737	3280	Prime	57.90	4.241	Complete	Complete
39	TD02S04	41.6	971	2493	Prime	57.11	3.852	Complete	Complete
40	1014	171.5	2657	3949	Prime	48.49	4.511	Part	Midnight
Total						**163.50**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 37.5m, MCS 12000 37.5m

Accepted km	Day	Week	Month	Project
Prime	163.50	960.49	493.88	4275.00

Accepted km	Day	Week	Month	Project
Combined	**163.50**	**960.49**	**493.88**	**4275.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Sun 04 Jul

IN Production
Gun 3-3 had an auto fire and had to be recovered
Weather still poor but there are signs of improvement

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sun 4. Jul 00:00	Sun 4. Jul 16:36	16.600
SOL Seq 40 Line:1014 Block=Cascadia FGSP=3950 Hdg=171.5° Prime EOL Seq 40 Line:1014 Block=Cascadia LGSP=7647 Complete				
Prime Line Change	AC_PLC	Sun 4. Jul 16:36	Sun 4. Jul 16:43	0.117
Nominal Prime line change.				
Production Prime	AC_PP	Sun 4. Jul 16:43	Sun 4. Jul 21:36	4.883
SOL Seq 41 Line:TS04D05 Block=Cascadia FGSP=919 Hdg=143.3° Prime EOL Seq 41 Line:TS04D05 Block=Cascadia LGSP=1951 Complete				
Prime Line Change	AC_PLC	Sun 4. Jul 21:36	Sun 4. Jul 22:13	0.617
Nominal Prime line change.				
Production Prime	AC_PP	Sun 4. Jul 22:13	Sun 4. Jul 24:00	1.783
SOL Seq 42 Line:1023 Block=Cascadia FGSP=4089 FCSP=N/AHdg=63° Prime MSP Seq 42 Line:1023 Block=Cascadia LGSP=3735 LCSP=3735 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

4-Jul	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	0.733	3.056
Production Prime	23.267	96.944
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
Chargeable Standby	**27.550**	**3.189**
Cetacean	27.550	3.189
Mobilisation	**124.567**	**14.417**
Deployment	36.967	4.279
Mob Ashore	73.833	8.546
Testing	2.533	0.293
Transit to Prospect	11.233	1.300
Non-Chargeable StandBy	**170.417**	**19.724**
Fishing	170.417	19.724
Acquisition	**541.467**	**62.670**
Prime Line Change	19.517	2.259
Production Prime	521.950	60.411
Total	864.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

MCS 15000m 50m, MCS 15000m 37.5m, MCS 12000 37.5m, MCS 12000 50m

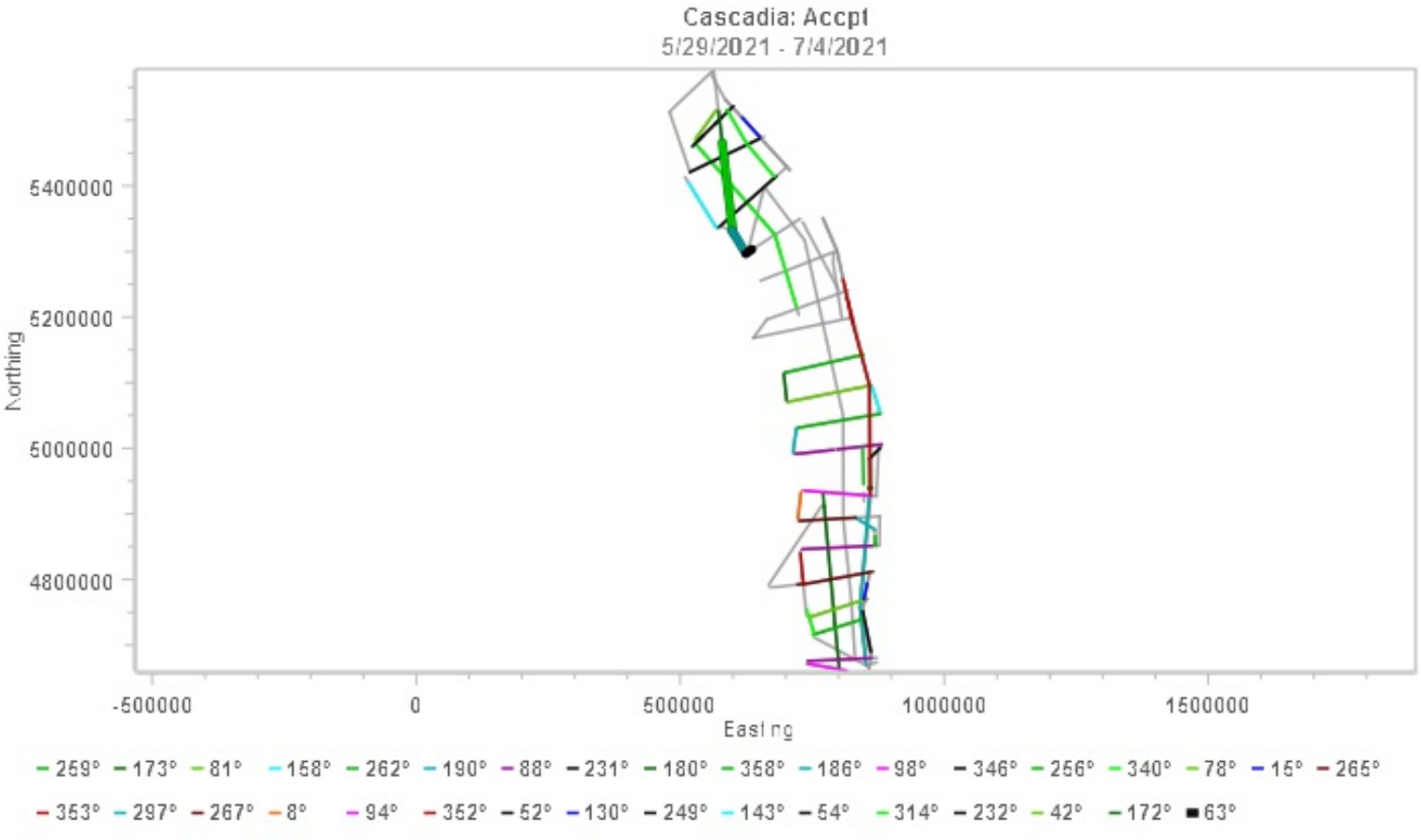
Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
40	1014	171.5	3950	7647	Prime	138.67	4.511	Complete	Complete
41	TS04D05	143.3	919	1951	Prime	38.74	4.279	Complete	Complete
42	1023	63.0	4089	3735	Prime	13.31	4.019	Part	Midnight
Total						**190.72**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 50m, MCS 15000m 37.5m, MCS 12000 37.5m, MCS 12000 50m

Accepted km	Day	Week	Month	Project
Prime	190.72	1151.21	684.60	4465.73

Accepted km	Day	Week	Month	Project
Combined	**190.72**	**1151.21**	**684.60**	**4465.73**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Mon 05 Jul

In Production
Weather starting to ease a bit.
Maggie deployed this morning

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Mon 5. Jul 00:00	Mon 5. Jul 12:14	12.233
SOL Seq 42 Line:1023 Block=Cascadia FGSP=3734 Hdg=63° Prime EOL Seq 42 Line:1023 Block=Cascadia LGSP=1001 Complete				
Prime Line Change	AC_PLC	Mon 5. Jul 12:14	Mon 5. Jul 12:56	0.700
Nominal Prime line change.				
Production Prime	AC_PP	Mon 5. Jul 12:56	Mon 5. Jul 24:00	11.067
SOL Seq 43 Line:TD05D07 Block=Cascadia FGSP=916 FCSP=N/AHdg=146.7° Prime MSP Seq 43 Line:TD05D07 Block=Cascadia LGSP=3404 LCSP=3404 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

5-Jul	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	0.700	2.917
Production Prime	23.300	97.083
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
Chargeable Standby	**27.550**	**3.102**
Cetacean	27.550	3.102
Mobilisation	**124.567**	**14.028**
Deployment	36.967	4.163
Mob Ashore	73.833	8.315
Testing	2.533	0.285

Category	Hours	%Percent
Transit to Prospect	11.233	1.265
Non-Chargeable StandBy	**170.417**	**19.191**
Fishing	170.417	19.191
Acquisition	**565.467**	**63.679**
Prime Line Change	20.217	2.277
Production Prime	545.250	61.402
Total	888.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

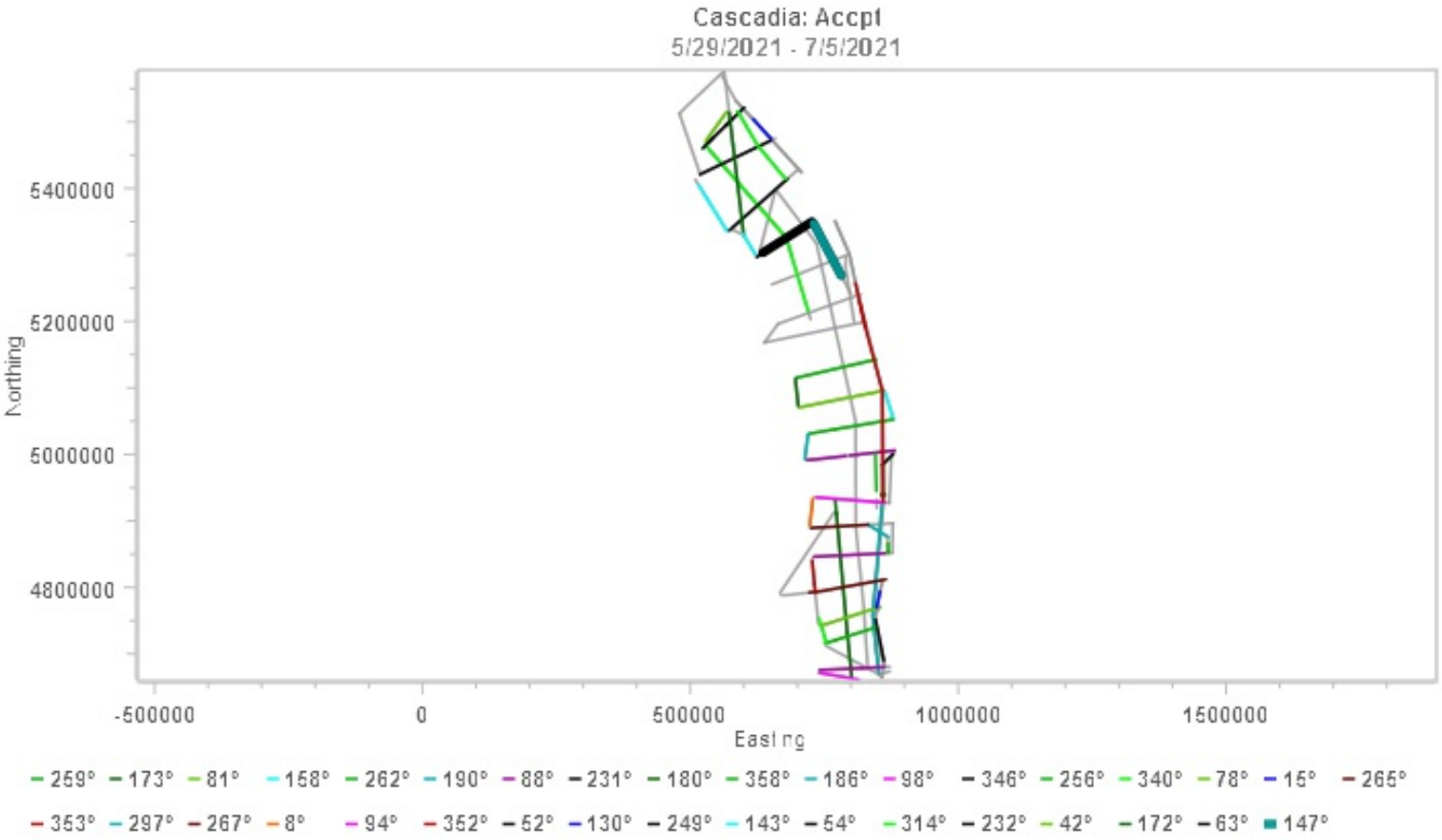
MCS 15000m 50m, MCS 15000m 37.5m, MCS 12000 37.5m, MCS 12000 50m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
42	1023	63.0	3734	1001	Prime	102.52	4.461	Complete	Complete
43	TD05D07	146.7	916	3404	Prime	93.34	4.552	Part	Midnight
Total						**195.86**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 50m, MCS 15000m 37.5m, MCS 12000 37.5m, MCS 12000 50m

Accepted km	Day	Week	Month	Project
Prime	195.86	195.86	880.46	4661.59
Combined	**195.86**	**195.86**	**880.46**	**4661.59**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Tue 06 Jul

In Production
Weather calming a bit

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Tue 6. Jul 00:00	Tue 6. Jul 04:22	4.367
SOL Seq 43 Line:TD05D07 Block=Cascadia FGSP=2489 Hdg=146.7° Prime EOL Seq 43 Line:TD05D07 Block=Cascadia LGSP=4382 Complete				
Prime Line Change	AC_PLC	Tue 6. Jul 04:22	Tue 6. Jul 05:11	0.817
Nominal Prime line change.				
Production Prime	AC_PP	Tue 6. Jul 05:11	Tue 6. Jul 20:19	15.133
SOL Seq 44 Line:1022 Block=Cascadia FGSP=5113 Hdg=253.8° Prime EOL Seq 44 Line:1022 Block=Cascadia LGSP=1713 Complete				
Prime Line Change	AC_PLC	Tue 6. Jul 20:19	Tue 6. Jul 20:58	0.650
Nominal Prime line change.				
Production Prime	AC_PP	Tue 6. Jul 20:58	Tue 6. Jul 23:21	2.383
SOL Seq 45 Line:1021_22 Block=Cascadia FGSP=1987 Hdg=169.5° Prime EOL Seq 45 Line:1021_22 Block=Cascadia LGSP=1469 Complete				
Prime Line Change	AC_PLC	Tue 6. Jul 23:21	Tue 6. Jul 24:00	0.650
Nominal Prime line change.				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

6-Jul	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	2.117	8.819
Production Prime	21.883	91.181
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
Chargeable Standby	**27.550**	**3.021**
Cetacean	27.550	3.021
Mobilisation	**124.567**	**13.659**
Deployment	36.967	4.053
Mob Ashore	73.833	8.096
Testing	2.533	0.278
Transit to Prospect	11.233	1.232
Non-Chargeable StandBy	**170.417**	**18.686**
Fishing	170.417	18.686
Acquisition	**589.467**	**64.635**
Prime Line Change	22.333	2.449
Production Prime	567.133	62.186
Total	912.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

MCS 15000m 50m, MCS 15000m 37.5m, MCS 12000 37.5m, MCS 12000 50m

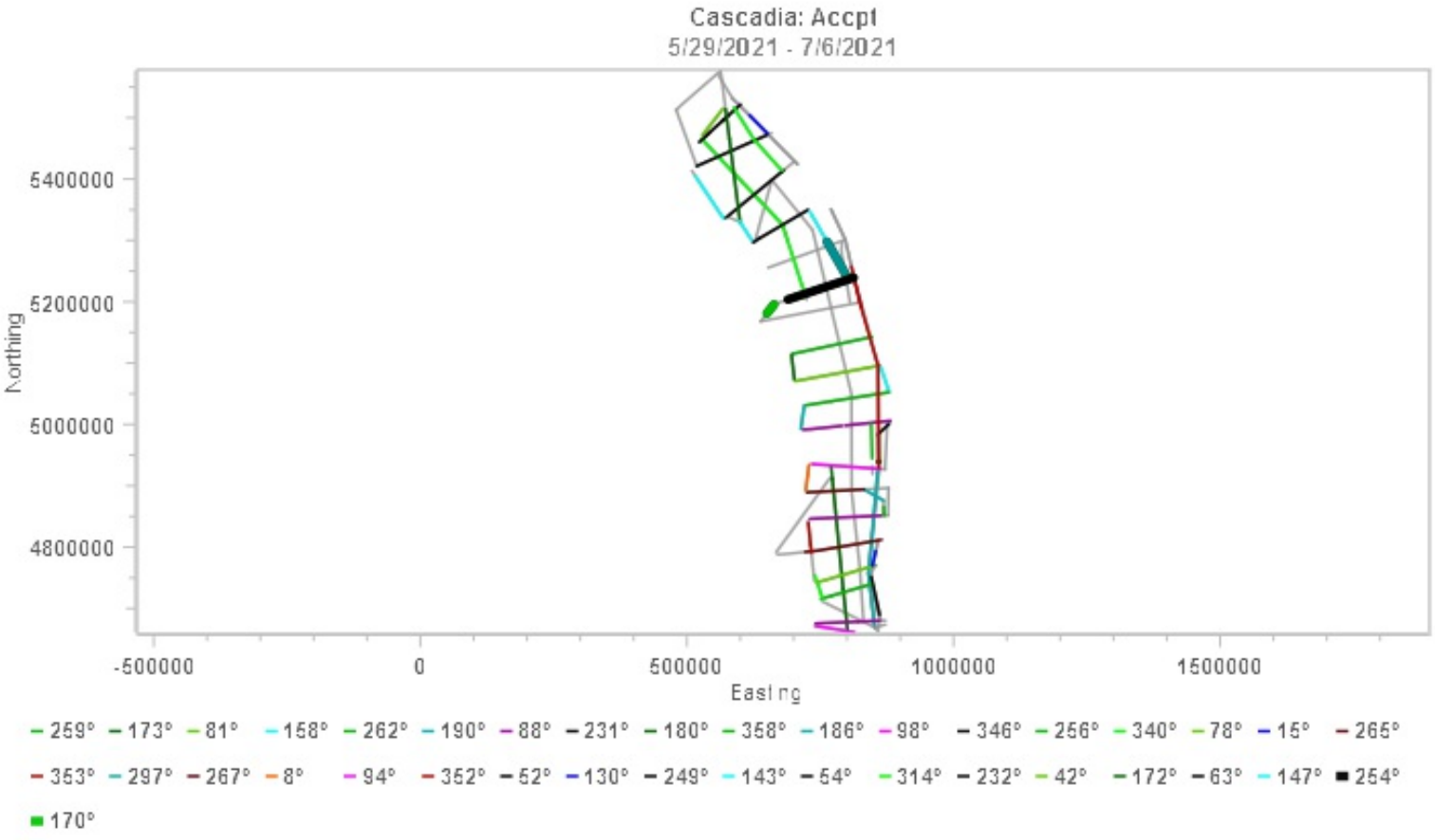
Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
43	TD05D07	146.7	2489	4382	Prime	71.02	4.547	Complete	Complete
44	1022	253.8	5113	1713	Prime	127.54	4.549	Complete	Complete
45	1021_22	169.5	1987	1469	Prime	19.46	4.401	Complete	Complete
Total						**218.03**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 50m, MCS 15000m 37.5m, MCS 12000 37.5m, MCS 12000 50m

Accepted km	Day	Week	Month	Project
Prime	218.03	379.54	1064.14	4845.26

Accepted km	Day	Week	Month	Project
Combined	**218.03**	**379.54**	**1064.14**	**4845.26**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Wed 07 Jul

In Production
Weather is nice !!

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Wed 7. Jul 00:00	Wed 7. Jul 14:59	14.983
SOL Seq 46 Line:1021 Block=Cascadia FGSP=5080 Hdg=80.6° Prime EOL Seq 46 Line:1021 Block=Cascadia LGSP=1771 Complete				
Prime Line Change	AC_PLC	Wed 7. Jul 14:59	Wed 7. Jul 15:27	0.467
Nominal Prime line change.				
Production Prime	AC_PP	Wed 7. Jul 15:27	Wed 7. Jul 24:00	8.550
SOL Seq 47 Line:TD08D06 Block=Cascadia FGSP=999 FCSP=N/AHdg=348.9° Prime MSP Seq 47 Line:TD08D06 Block=Cascadia LGSP=2827 LCSP=2827 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

7-Jul	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	0.467	1.944
Production Prime	23.533	98.056
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
Chargeable Standby	**27.550**	**2.943**
Cetacean	27.550	2.943
Mobilisation	**124.567**	**13.308**
Deployment	36.967	3.949
Mob Ashore	73.833	7.888
Testing	2.533	0.271
Transit to Prospect	11.233	1.200

Category	Hours	%Percent
Non-Chargeable StandBy	**170.417**	**18.207**
Fishing	170.417	18.207
Acquisition	**613.467**	**65.541**
Prime Line Change	22.800	2.436
Production Prime	590.667	63.105
Total	936.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

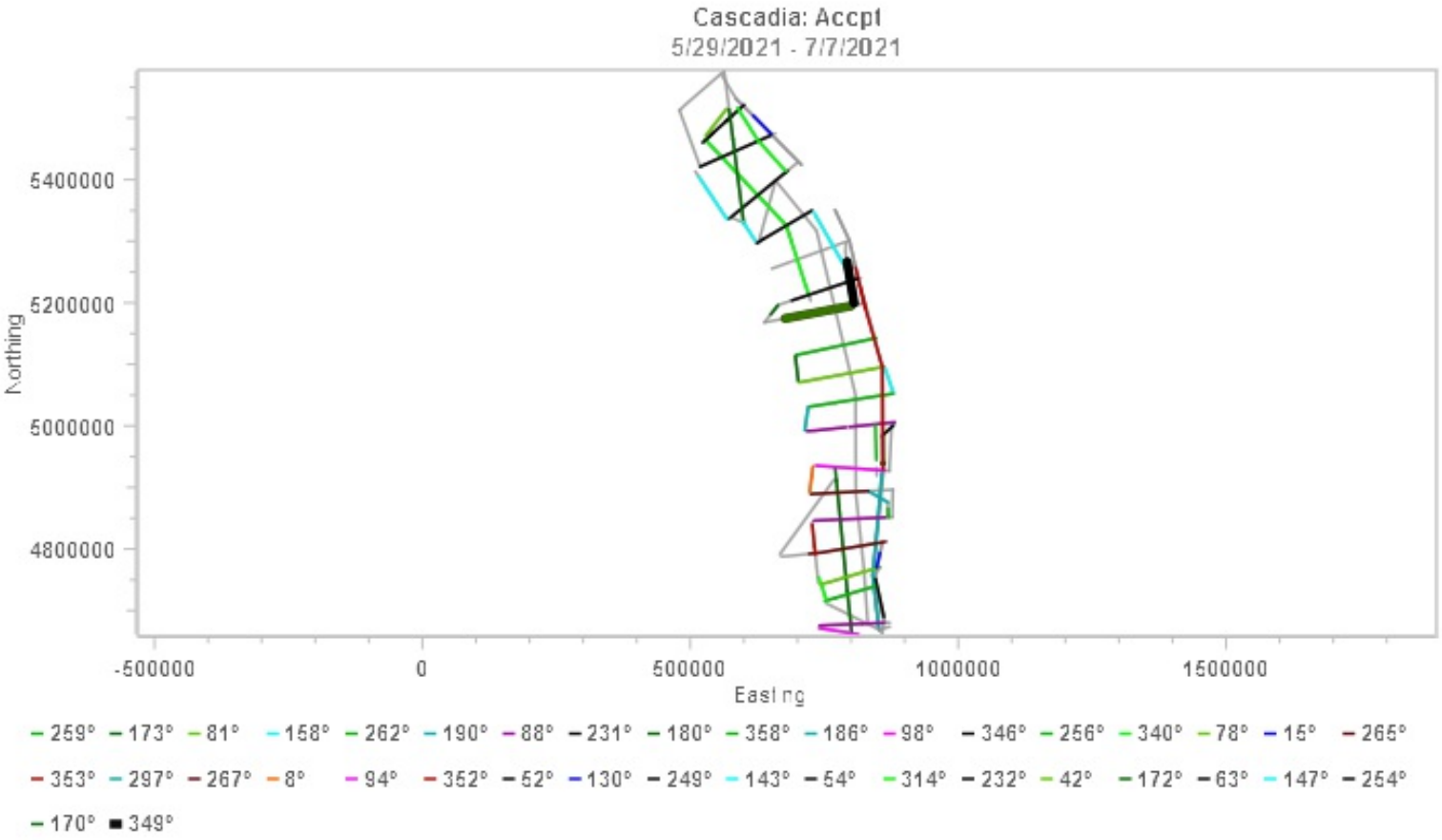
MCS 15000m 50m, MCS 15000m 37.5m, MCS 12000 37.5m, MCS 12000 50m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
46	1021	80.6	5080	1771	Prime	124.12	4.472	Complete	Complete
47	TD08D06	348.9	999	2827	Prime	68.59	4.329	Part	Midnight
Total						**192.71**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 50m, MCS 15000m 37.5m, MCS 12000 37.5m, MCS 12000 50m

Accepted km	Day	Week	Month	Project
Prime	192.71	572.25	1256.85	5037.97
Combined	**192.71**	**572.25**	**1256.85**	**5037.97**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Thu 08 Jul

In Production
Weather gray but calm

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Thu 8. Jul 00:00	Thu 8. Jul 03:42	3.700
SOL Seq 47 Line:TD08D06 Block=Cascadia FGSP=2828 Hdg=348.9° Prime EOL Seq 47 Line:TD08D06 Block=Cascadia LGSP=3627 Complete				
Prime Line Change	AC_PLC	Thu 8. Jul 03:42	Thu 8. Jul 04:37	0.917
Nominal Prime line change.				
Production Prime	AC_PP	Thu 8. Jul 04:37	Thu 8. Jul 18:34	13.950
SOL Seq 48 Line:1020 Block=Cascadia FGSP=4888 Hdg=252.3° Prime EOL Seq 48 Line:1020 Block=Cascadia LGSP=1723 Complete				
Prime Line Change	AC_PLC	Thu 8. Jul 18:34	Thu 8. Jul 21:07	2.550
Nominal Prime line change.				
Production Prime	AC_PP	Thu 8. Jul 21:07	Thu 8. Jul 24:00	2.883
SOL Seq 49 Line:PD06C Block=Cascadia FGSP=1325 FCSP=N/AHdg=72.5° Prime MSP Seq 49 Line:PD06C Block=Cascadia LGSP=1915 LCSP=1915 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

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

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
Chargeable Standby	**27.550**	**2.870**
Cetacean	27.550	2.870
Mobilisation	**124.567**	**12.976**
Deployment	36.967	3.851
Mob Ashore	73.833	7.691
Testing	2.533	0.264
Transit to Prospect	11.233	1.170
Non-Chargeable StandBy	**170.417**	**17.752**
Fishing	170.417	17.752
Acquisition	**637.467**	**66.403**
Prime Line Change	26.267	2.736
Production Prime	611.200	63.667
Total	960.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

MCS 15000m 50m, MCS 15000m 37.5m, MCS 12000 37.5m, MCS 12000 50m

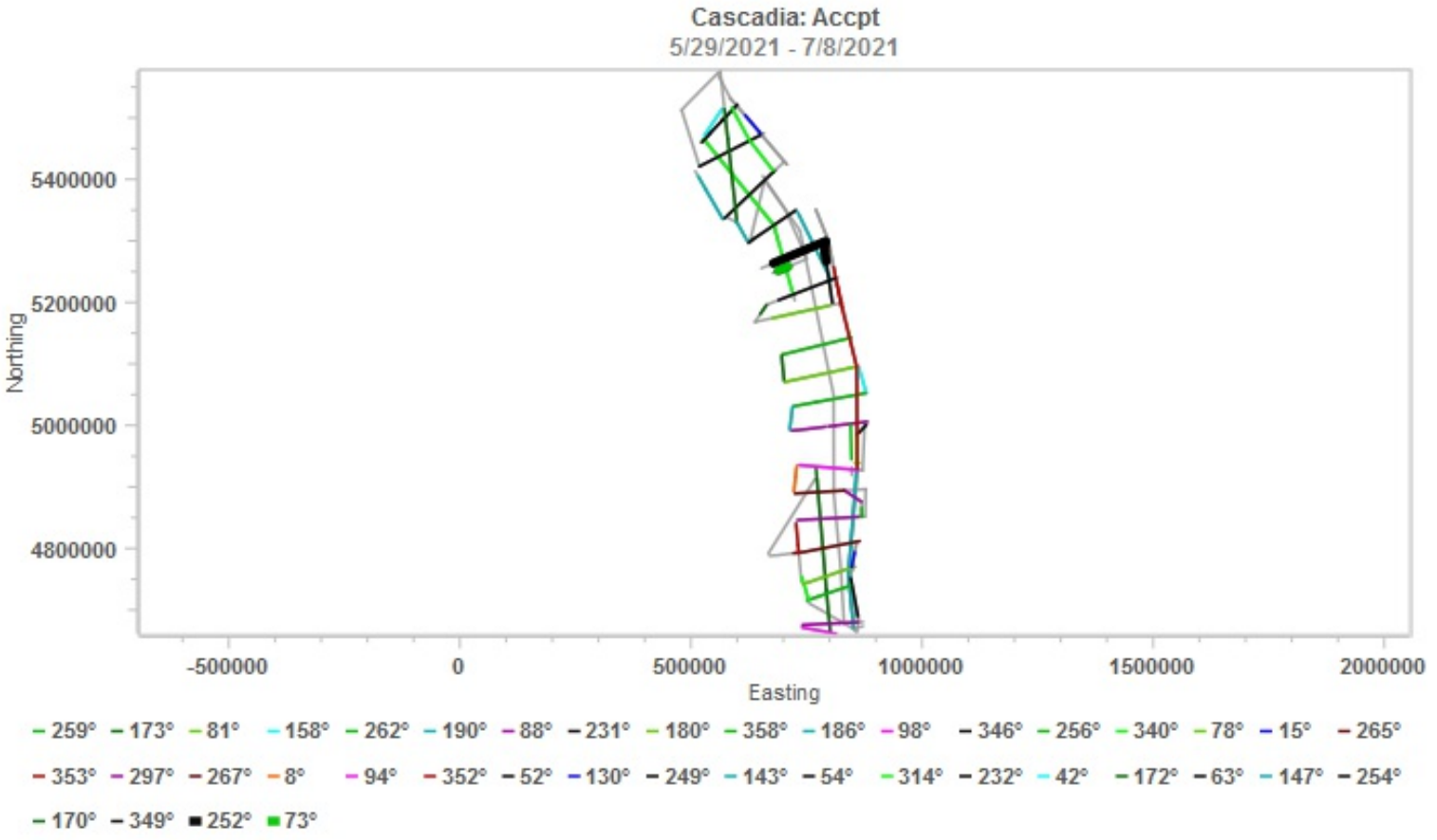
Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
47	TD08D06	348.9	2828	3627	Prime	30.00	4.344	Complete	Complete
48	1020	252.3	4888	1723	Prime	118.72	4.594	Complete	Complete
49	PD06C	72.5	1325	1915	Prime	22.16	4.143	Part	Midnight
Total						**170.89**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 50m, MCS 15000m 37.5m, MCS 12000 37.5m, MCS 12000 50m

Accepted km	Day	Week	Month	Project
Prime	170.89	743.14	1427.74	5208.86

Accepted km	Day	Week	Month	Project
Combined	**170.89**	**743.14**	**1427.74**	**5208.86**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Fri 09 Jul

In Production on the last line
Weather good

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Fri 9. Jul 00:00	Fri 9. Jul 06:25	6.417
SOL Seq 49 Line:PD06C Block=Cascadia FGSP=1916 Hdg=72.5° Prime EOL Seq 49 Line:PD06C Block=Cascadia LGSP=3349 Complete				
Prime Line Change	AC_PLC	Fri 9. Jul 06:25	Fri 9. Jul 06:57	0.533
Nominal Prime line change.				
Production Prime	AC_PP	Fri 9. Jul 06:57	Fri 9. Jul 24:00	17.050
SOL Seq 50 Line:S06C Block=Cascadia FGSP=993 Hdg=329.4° Prime MSP Seq 50 Line:S06C Block=Cascadia LGSP=4869 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

9-Jul	Hours	%Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	0.533	2.222
Production Prime	23.467	97.778
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
Chargeable Standby	**27.550**	**2.800**
Cetacean	27.550	2.800
Mobilisation	**124.567**	**12.659**
Deployment	36.967	3.757
Mob Ashore	73.833	7.503
Testing	2.533	0.257
Transit to Prospect	11.233	1.142

Category	Hours	%Percent
Non-Chargeable StandBy	**170.417**	**17.319**
Fishing	170.417	17.319
Acquisition	**661.467**	**67.222**
Prime Line Change	26.800	2.724
Production Prime	634.667	64.499
Total	984.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

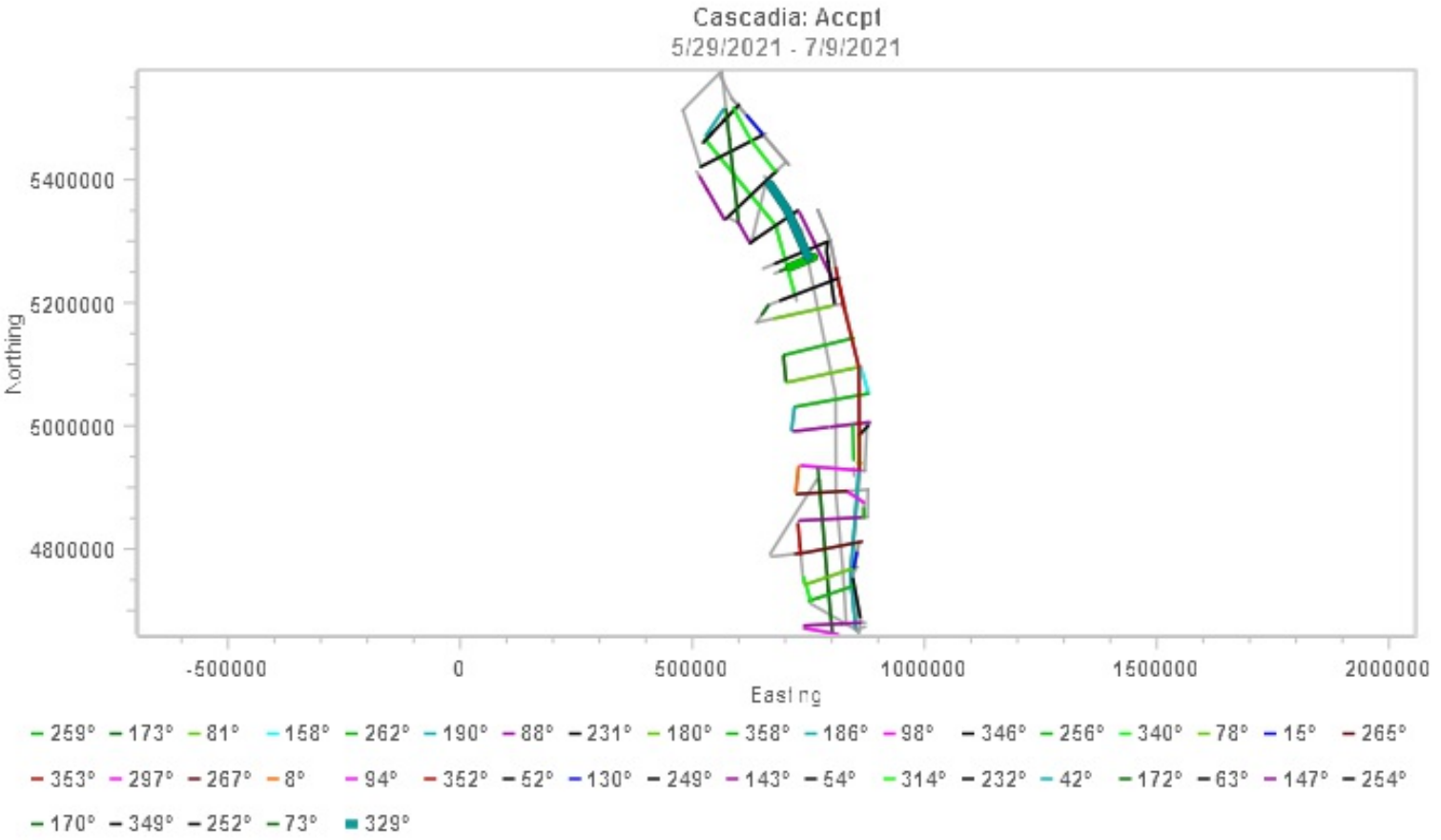
MCS 15000m 50m, MCS 15000m 37.5m, MCS 12000 37.5m, MCS 12000 50m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
49	PD06C	72.5	1916	3349	Prime	53.77	4.407	Complete	Complete
50	S06C	329.4	993	4869	Prime	145.39	4.603	Part	Midnight
Total						**199.16**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 50m, MCS 15000m 37.5m, MCS 12000 37.5m, MCS 12000 50m

Accepted km	Day	Week	Month	Project
Prime	199.16	942.30	1626.90	5408.02
Combined	**199.16**	**942.30**	**1626.90**	**5408.02**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	United States National Science Foundation	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2104	**Job No:**	MGL2104
Block:	Cascadia	**Vessel:**	Marcus G Langseth
Client Contact:	Suzanne Carbotte	**Supervisor:**	Sean Higgins
Consultancy:		**Party Chiefs:**	Shaun Shaver
Job No:		**Client Reps:**	Suzanne Carbotte

Daily Comment Summaries - Daily Summary

Sat 10 Jul

Completed the project and recovered all in sea equipment.
Begin transit to sea buoy
End of trip safety meeting held with entire tech department and contractors

Daily Comment Summaries - Plan for Tomorrow

Timing Diary (Marcus G Langseth, MCS 12000 37.5m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sat 10. Jul 00:00	Sat 10. Jul 01:30	1.500
SOL Seq 50 Line:S06C Block=Cascadia FGSP=4870 Hdg=329.4° Prime EOL Seq 50 Line:S06C Block=Cascadia LGSP=5212 Complete				
Recovery	DM_RC	Sat 10. Jul 01:30	Sat 10. Jul 22:25	20.917
Demobilizing offshore, recovering outboard equipment. 2 hr 23 Min - Recover guns, Maggie and Pam 5hr 10 min - Recover 1st 7km of streamer 3hr 45 min - Deploy and fix leadin #4 and move 1 bad section to spares reel 5hr - transfer streamer from reel #2 to reel #4 3hr 25min - recover remaining 5km of streamer				
Transit From Prospect	DM_TF	Sat 10. Jul 22:25	Sat 10. Jul 24:00	1.583
Demobilizing, In Transit from prospect for demobilization ashore.				

Timing Day By Day (Marcus G Langseth, MCS 12000 37.5m)

10-Jul	Hours	%Percent
Acquisition	**1.500**	**6.250**
Production Prime	1.500	6.250
Demobilisation	**22.500**	**93.750**
Recovery	20.917	87.153
Transit From Prospect	1.583	6.597
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 37.5m, MCS 12000 37.5m)

Category	Hours	%Percent
Chargeable Standby	**27.550**	**2.733**
Cetacean	27.550	2.733

Category	Hours	%Percent
Mobilisation	**124.567**	**12.358**
Deployment	36.967	3.667
Mob Ashore	73.833	7.325
Testing	2.533	0.251
Transit to Prospect	11.233	1.114
Non-Chargeable StandBy	**170.417**	**16.906**
Fishing	170.417	16.906
Acquisition	**662.967**	**65.771**
Prime Line Change	26.800	2.659
Production Prime	636.167	63.112
Demobilisation	**22.500**	**2.232**
Recovery	20.917	2.075
Transit From Prospect	1.583	0.157
Total	1008.000	

Basic Project Details

MCS 12000 37.5m					
General Details					
Record length:	15000 ms	Sample rate:	2 ms	Shotpoint interval:	37.5 m
CoS to CNG:	190 m	Fold Coverage:	0		
Cable Details					
No of Cables:	1	Chans Per Cable:	960	Front Depth:	12 m
Tail Depth:	12 m	Length:	12000 m	Group interval:	12.5 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	2000 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

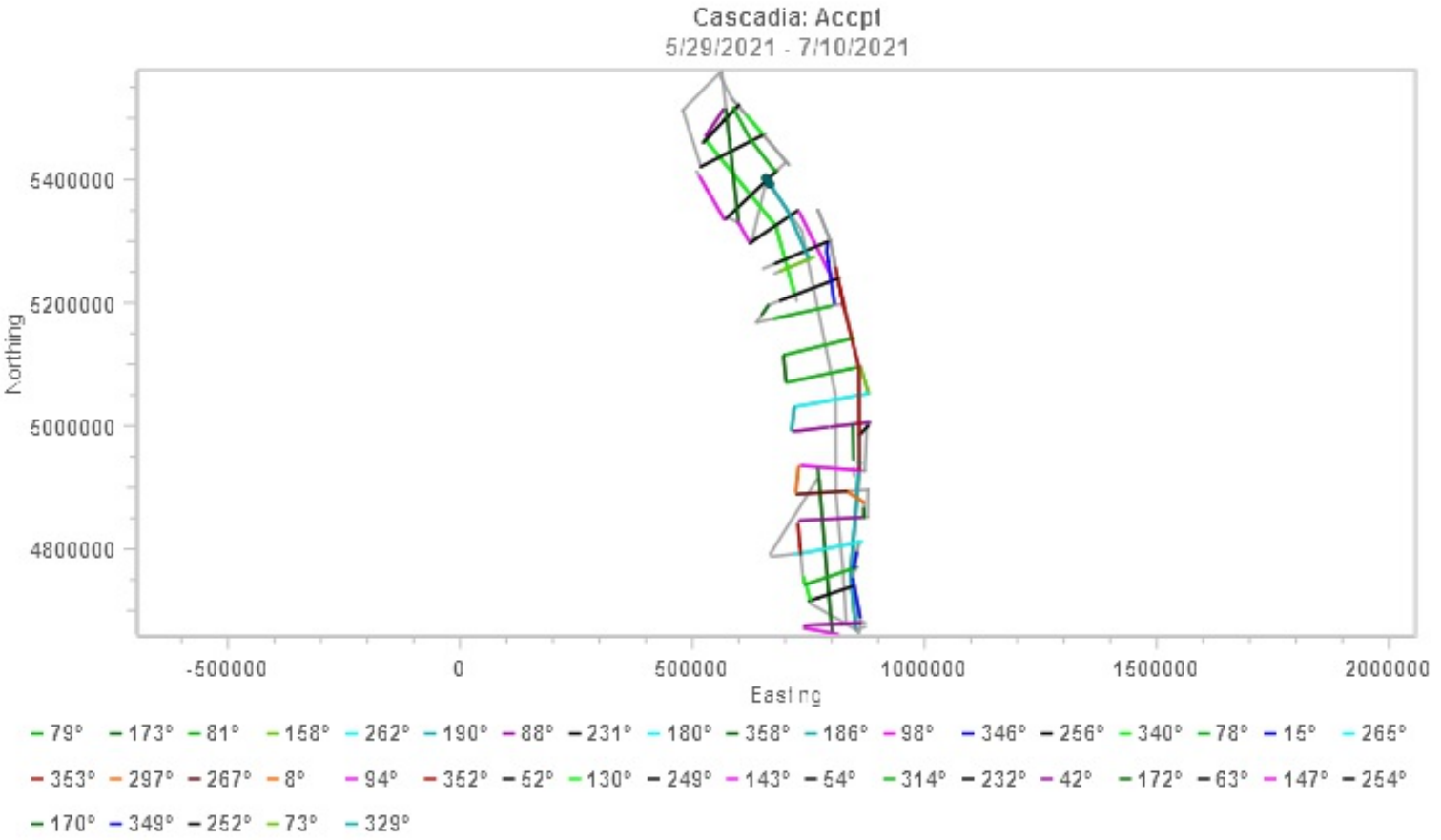
MCS 15000m 37.5m, MCS 12000 37.5m

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
50	S06C	329.4	4870	5212	Prime	12.86	4.605	Complete	Complete
Total						**12.86**			

Production Totals (Accpt km by interval) - Full Fold

MCS 15000m 50m, MCS 15000m 37.5m, MCS 12000 37.5m, MCS 12000 50m

Accepted km	Day	Week	Month	Project
Prime	12.86	955.16	1639.76	5420.89
Combined	**12.86**	**955.16**	**1639.76**	**5420.89**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Comment Summaries - Personnel Onboard

HSE Events Diary (Marcus G Langseth)

Category	Code	Start	End
Full Safety Meeting	Mtgs_FS	Sat 10. Jul 19:00	Sat 10. Jul 19:25
HSE - Full Safety Meeting Held safety meeting with all the techs and contractors. Topics of discussion: COVID plan once we get to port Safe lifting during resupply in port PPE - all crew doing a very good job wearing PPE Back deck safety during the final phase of streamer recovery.			
Departmental Meeting	Mtgs_Dept	Sat 10. Jul 19:30	Sat 10. Jul 19:40
Toolbox meeting prior to final recovery of streamer with students			